

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
<p>New stabilization structures for existing primary residential structures allowed only where no alternatives (including relocation or reconstruction of existing structures), are feasible, and less expensive than the proposed stabilization measure, and then only if no net loss of ecological functions will result. WAC 173-26-221(2)(c)(ii)(D)</p>		
Critical Saltwater Habitats. WAC 173-26-221(2)(c)(iii)		
<p>Prohibition on new docks, bulkheads, bridges, fill, floats, jetties, utility crossings and other human-made structures that intrude into or over critical saltwater habitats, except where:</p> <ul style="list-style-type: none"> public need is clearly demonstrated; avoidance of impacts is not feasible or would result in unreasonable cost; the project include appropriate mitigation; and the project is consistent with resource protection and species recovery. <p>Private, non-commercial docks for individual residential or community use allowed if it is infeasible to avoid impacts by alternative alignment or location and the project results in no net loss of ecological functions. WAC 173-26-221(2)(c)(iii)(C)</p>		
<p>Where inventory of critical saltwater habitat has not been done, all over water and near-shore developments in marine and estuarine waters require habitat assessment of site and adjacent beach sections. WAC 173-26-221(2)(c)(iii)(C)</p>		
Critical Freshwater Habitats. WAC 173-26-221(2)(c)(iv)		
<p>Requirements that ensure new development within stream channel, channel migration zone, wetlands, floodplain, hyporheic zone, does not cause a net loss of ecological functions. WAC 173-26-221(2)(c)(iv)(C)(I) and WAC 173-26-221(2)(c)(iv)(B)(II)</p>		
<p>Authorization of appropriate restoration projects is facilitated. WAC 173-26-221(2)(c)(iv)(C)(III)</p>		
<p>Regulations protect hydrologic connections between water bodies, water courses, and associated wetlands. WAC 173-26-221(2)(c)(iv)(C)(IV)</p>		
Flood Hazard Reduction. WAC 173-26-221(3)		
<p>New development within the channel migration zone or floodway limited to uses and activities listed in WAC 173-26-221(3)(b) and (3)(c)(i)</p>		
<p>New structural flood hazard reduction measures allowed only:</p> <ul style="list-style-type: none"> where demonstrated to be necessary, and when non-structural methods are infeasible and mitigation is accomplished. landward of associated wetlands and buffer areas except where no alternative exists as documented in a geotechnical analysis. WAC 173-26-221(3)(c)(ii) & (iii) 		
<p>New publicly funded dikes or levees required to dedicate and improve public access (see exceptions). WAC 173-26-221(3)(c)(iv)</p>		

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<p>Removal of gravel for flood control allowed only if biological and geomorphological study demonstrates a long-term benefit to flood hazard reduction, no net loss of ecological functions, and extraction is part of a comprehensive flood management solution. WAC 173-26-221(3)(c)(v)</p>		
<p>Public Access. WAC 173-26-221(4)</p>		
<p>Policies and regulations protect and enhance both physical and visual access. WAC 173-26-221(4)(d)(i)</p>		
<p>Public entities are required to incorporate public access measures as part of each development project, unless access is incompatible with safety, security, or environmental protection. WAC 173-26-221(4)(d)(ii)</p>		
<p>Non-water-dependent uses (including water-enjoyment, water-related uses) and subdivisions of land into more than four parcels include standards for dedication and improvement of public access. WAC 173-26-221(4)(d)(iii)</p>		
<p>Maximum height limits, setbacks, and view corridors minimize impacts to existing views from public property or substantial numbers of residences. WAC 173-26-221(4)(d)(iv); RCW 90.58.320</p>		
<p>Vegetation Conservation (Clearing and Grading). WAC 173-26-221(5)</p>		
<p>Vegetation standards implement the principles in WAC 173-26-221(5)(b). Methods to do this may include setback or buffer requirements, clearing and grading standards, regulatory incentives, environment designation standards, or other master program provisions. WAC 173-26-221(5)(c)</p>		
<p>Selective pruning of trees for safety and view protection is allowed and removal of noxious weeds is authorized. WAC 173-26-221(5)(c)</p>		
<p>Water Quality. WAC 173-26-221(6)</p>		
<p>Provisions protect against adverse impacts to water quality and storm water quantity and ensure mutual consistency between SMP and other regulations addressing water quality. WAC 173-26-221(6)</p>		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
SHORELINE MODIFICATIONS		
<p>SMP: (a) allows structural shoreline modifications only where demonstrated to be necessary to support or protect an allowed primary structure or a legally existing shoreline use that is in danger of loss or substantial damage or are necessary for mitigation or enhancement;</p> <p>(b) limits shoreline modifications in number and extent;</p> <p>(c) allows only shoreline modifications that are appropriate to the specific type of shoreline and environmental conditions for which they are proposed;</p> <p>(d) gives preference to those types of shoreline modifications that have a lesser impact on ecological functions. Policies promote "soft" over "hard" shoreline modification measures</p> <p>(f) incorporates all feasible measures to protect ecological shoreline functions and ecosystem-wide processes as modifications occur;</p> <p>(g) requires mitigation sequencing.</p> <p>WAC 173-26-231(2); WAC 173-26-231(3)(a)(ii) and (iii);</p>		
Shoreline Stabilization. WAC 173-26-231(3)(a)		
<p>Definition: structural and nonstructural methods to address erosion impacts to property and dwellings, businesses, or structures caused by natural processes, such as current, flood, tides, wind, or wave action. WAC 173-26-231(3)(a)(i)</p> <p>Definition of new stabilization measures include enlargement of existing structures. WAC 173-26-231(3)(a)(iii)(C), last bullet; WAC 173-26-231(3)(a)(iii)(B)(i), 5th bullet</p>		
<p>Standards setting forth circumstances under which shoreline alteration is permitted, and for the design and type of protective measures and devices. WAC 173-26-231(3)(a)(ii)</p>		
<p>New development (including newly created parcels) required to be designed and located to prevent the need for future shoreline stabilization, based upon geotechnical analysis.</p> <p>New development on steep slopes and bluffs required to be set back to prevent need for future shoreline stabilization during life of the project, based upon geotechnical analysis.</p> <p>New development that would require shoreline stabilization which causes significant impacts to adjacent or down-current properties and shoreline areas is prohibited. WAC 173-26-231(3)(a)(iii)(A)</p>		
<p>New structural stabilization measures are not allowed except when necessity is demonstrated. Specific requirements for <i>how to demonstrate need</i> are established for:</p> <p>(I) existing primary structures;</p> <p>(II) new non-water-dependent development including Single Family Residences;</p> <p>(III) water-dependent development; and</p> <p>(IV) ecological restoration/toxic clean-up remediation projects.</p> <p>WAC 173-26-231(3)(a)(iii)(B)</p>		
<p>Replacement of existing stabilization structures is based on demonstrated need. Waterward encroachment of replacement structure only allowed for residences occupied prior to January 1, 1992, or for soft shoreline stabilization measures that provide restoration of ecological functions. WAC 173-26-231(3)(a)(iii)(C)</p>		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
<p>Geotechnical reports prepared to demonstrate need include estimates of rate of erosion and urgency (damage within 3 years) and evaluate alternative solutions. WAC 173-26-231(3)(a)(iii)(D)</p>		
<p>Shoreline stabilization structures are limited to the minimum size necessary. WAC 173-26-231(3)(a)(iii)(E)</p>		
<p>Public access required as part of publicly financed shoreline erosion control measures. WAC 173-26-231(3)(a)(iii)(E)</p>		
<p>Impacts to sediment transport required to be avoided or minimized. WAC 173-26-231(3)(a)(iii)(E)</p>		
<p>Piers and Docks. WAC 173-26-231(3)(b)</p>		
<p>New piers and docks: allowed only for water-dependent uses or public access restricted to the minimum size necessary to serve a proposed water-dependent use. permitted only when specific need is demonstrated (except for docks accessory to single-family residences). Note: Docks associated with single family residences are defined as water dependent uses provided they are designed and intended as a facility for access to watercraft. WAC 173-26-231(3)(b)</p>		
<p>When permitted, new residential development of more than two dwellings required to provide joint use or community docks, rather than individual docks. WAC 173-26-231(3)(b)</p>		
<p>Design and construction of all piers and docks required to avoid, minimize and mitigate for impacts to ecological processes and functions and be constructed of approved materials. WAC 173-26-231(3)(b)</p>		
<p>Fill. WAC 173-26-231(3)(c)</p>		
<p>Definition of "fill" consistent with WAC 173-26-020(14)</p>		
<p>Location, design, and construction of all fills protect ecological processes and functions, including channel migration. WAC 173-26-231(3)(c)</p>		
<p>Fill waterward of the OHWM allowed only by shoreline conditional use permit, for: water-dependent use; public access; cleanup and disposal of contaminated sediments as part of an interagency environmental clean-up plan; disposal of dredged material in accordance with DNR Dredged Material Management Program; expansion or alteration of transportation facilities of statewide significance currently located on the shoreline (if alternatives to fill are shown not feasible); mitigation action, environmental restoration, beach nourishment or enhancement project. WAC 173-26-231(3)(c)</p>		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
Breakwaters, Jetties, and Weirs. WAC 173-26-231(3)(d)		
Structures waterward of the ordinary high-water mark allowed only for water-dependent uses, public access, shoreline stabilization, or other specific public purpose. WAC 173-26-231(3)(d)		
Shoreline conditional use permit required for all structures except protection/restoration projects. WAC 173-26-231(3)(d)		
Protection of critical areas and appropriate mitigation required. WAC 173-26-231(3)(d)		
Dunes Management. WAC 173-26-231(3)(e)		
Development setbacks from dunes prevent impacts to the natural, functional, ecological, and aesthetic qualities of the dunes. WAC 173-26-231(3)(e)		
Dune modifications allowed only when consistent with state and federal flood protection standards and result in no net loss of ecological processes and functions. WAC 173-26-231(3)(e)		
Dune modification to protect views of the water shall be allowed only on properties subdivided and developed prior to the adoption of the master program and where the view is completely obstructed for residences or water-enjoyment uses and where it can be demonstrated that the dunes did not obstruct views at the time of original occupancy. WAC 173-26-231(3)(e)		
Dredging and Dredge Material Disposal. WAC 173-26-231(3)(f)		
Dredging and dredge material disposal avoids or minimizes significant ecological impacts. Impacts which cannot be avoided are mitigated. WAC 173-26-231(3)(f)		
New development siting and design avoids the need for new and maintenance dredging. WAC 173-26-231(3)(f)		
Dredging to establish, expand, relocate or reconfigure navigation channels allowed only where needed to accommodate existing navigational uses and then only when significant ecological impacts are minimized and when mitigation is provided. WAC 173-26-231(3)(f)		
Maintenance dredging of established navigation channels and basins restricted to maintaining previously dredged and/or existing authorized location, depth, and width. WAC 173-26-231(3)(f)		
Dredging for fill materials prohibited except for projects associated with MTCA or CERCLA habitat restoration, or any other significant restoration effort approved by a shoreline CUP. Placement of fill must be <i>waterward</i> of OHWM. WAC 173-26-231(3)(f)		
Uses of dredge material that benefits shoreline resources are addressed. If applicable, addressed through implementation of regional interagency dredge material management plans or watershed plan. WAC 173-26-231(3)(f)		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
<p>Disposal within river channel migration zones discouraged, and in limited instances when allowed, require CUP. (Note: not intended to address discharge of dredge material into the flowing current of the river or in deep water within the channel where it does not substantially effect the geo-hydrologic character of the channel migration zone). WAC 173-26-231(3)(f)</p>		
Shoreline Habitat and Natural Systems Enhancement Projects. WAC 173-26-231(3)(g)		
<p>Provisions that foster habitat and natural system enhancement projects, provided the primary purpose is restoration of the natural character and functions of the shoreline, and only when consistent with implementation of the restoration plan developed pursuant to WAC 173-26-201(2)(f)</p>		
SPECIFIC SHORELINE USES		
Agriculture. WAC 173-26-241(3)(a)		
<p>Use of agriculture related terms is consistent with the specific meanings provided in WAC 173-26-020. WAC 173-26-241(3)(a)(ii) and (iv)</p>		
<p>Provisions address new agricultural activities, conversion of agricultural lands to other uses, and other development not meeting the definition of agricultural activities.</p> <p>Provisions assure that development in support of agricultural uses is: (A) consistent with the environment designation; and (B) located and designed to assure no net loss of ecological functions and not have a significant adverse impact on other shoreline resources and values. WAC 173-26-241(3)(a)(ii) & (v)</p>		
<p>Shoreline substantial development permit is required for all agricultural development not specifically exempted by the provisions of RCW 90.58.030(3)(e)(iv)</p>		
<p>Conversion of agricultural land to non-agricultural uses is consistent with the environment designation, and regulations applicable to the proposed use do not result in a net loss of ecological functions. WAC 173-26-241(3)(a)(vi)</p>		
Aquaculture. WAC 173-26-241(3)(b)		
<p>Location and design requirements for aquaculture facilities avoid: loss of ecological functions, impacts to eelgrass and macroalgae, significant conflict with navigation and water-dependent uses, the spreading of disease, introduction of non-native species, or impacts to shoreline aesthetic qualities. Impacts to functions are mitigated. WAC 173-26-241(3)(b)</p>		
Boating Facilities. WAC 173-26-241(3)(c)		
<p>Definition: Boating facility standards do not apply to docks serving four or fewer SFRs. WAC 173-26-241(3)(c)</p>		
<p>Boating facilities restricted to suitable locations. WAC 173-26-241(3)(c)(i)</p>		
<p>Provisions ensuring health, safety, and welfare requirements are met. WAC 173-26-241(3)(c)(ii)</p>		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
Provisions to avoid or mitigate aesthetic impacts . See WAC 173-26-241(3)(c)(iii)		
Public access required in new boating facilities. WAC 173-26-241(3)(c)(iv)		
Impacts of live-aboard vessels are limited. WAC 173-26-241(3)(c)(v)		
Provisions assuring no net loss of ecological functions as a result of development of boating facilities while providing public recreational opportunities. WAC 173-26-241(3)(c)(vi)		
Navigation rights are protected. WAC 173-26-241(3)(c)(vii)		
Extended moorage on waters of the state without a lease or permission is restricted, and mitigation of impacts to navigation and access is required. WAC 173-26-241(3)(c)(viii)		
Commercial Development. WAC 173-26-241(3)(d)		
Preference given first to water-dependent uses, then to water-oriented commercial uses. WAC 173-26-241(3)(d)		
Water-enjoyment and water-related commercial uses required to provide public access and ecological restoration where feasible and avoid impacts to existing navigation, recreation, and public access. WAC 173-26-241(3)(d)		
New non-water-oriented commercial uses prohibited unless they are part of a mixed-use project, navigation is severely limited, and the use provides a significant public benefit with respect to SMA objectives. WAC 173-26-241(3)(d)		
Non-water-dependent commercial uses over water prohibited except in existing structures, and where necessary to support water-dependent uses. WAC 173-26-241(3)(d)		
Forest Practices. WAC 173-26-241(3)(e)		
Forest practices not covered by the Forest Practices Act, especially Class IV-General forest practices involving conversions to non-forest use result in no net loss of ecological functions and avoid impacts to navigation, recreation and public access. WAC 173-26-241(3)(e)		
SMP limits removal of trees on shorelines of statewide significance (RCW 90.58.150). Exceptions to this standard require shorelines conditional use permit. WAC 173-26-241(3)(e)		
Industry. WAC 173-26-241(3)(f)		
Preference given first to water-dependent uses, then to water-oriented industrial uses. WAC 173-26-241(3)(f)		
Location, design, and construction of industrial uses and redevelopment required to assure no net loss of ecological functions. WAC 173-26-241(3)(f)		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
Industrial uses and redevelopment encouraged to locate where environmental cleanup and restoration can be accomplished. WAC 173-26-241(3)(f)		
Public access required unless such a requirement would interfere with operations or create hazards to life or property. WAC 173-26-241(3)(f)		
New non-water-oriented industrial uses prohibited unless they are part of a mixed-use project, navigation is severely limited, and the use provides a significant public benefit with respect to SMA objectives. WAC 173-26-241(3)(f)		
In-Stream Structures. WAC 173-26-241(3)(g)		
Definition: structure is waterward of the ordinary high water mark and either causes or has the potential to cause water impoundment or the diversion, obstruction, or modification of water flow. WAC 173-26-241(3)(g)		
In-stream structures protect and preserve ecosystem-wide processes, ecological functions, and cultural resources, including, fish and fish passage, wildlife and water resources, shoreline critical areas, hydrogeological processes, and natural scenic vistas. WAC 173-26-241(3)(g)		
Mining. WAC 173-26-241(3)(h)		
Policies and regulations for new mining projects: <ul style="list-style-type: none"> require design and operation to avoid and mitigate for adverse impacts during the course of mining and reclamation achieve no net loss of ecological functions based on required final reclamation give preference to proposals that create, restore or enhance habitat for priority species are coordinated with state Surface Mining Reclamation Act requirements. assure subsequent use of reclaimed sites is consistent with environment designation and SMP standards. See WAC 173-26-241(3)(h)(ii)(A) – (C)		
Mining waterward of OHWM is prohibited unless: (I) Removal of specified quantities of materials in specified locations will not adversely impact natural gravel transport; (II) The mining will not significantly impact priority species and the ecological functions upon which they depend; and (III) these determinations are integrated with relevant SEPA requirements. WAC 173-26-241(3)(h)(ii)(D)		
Renewal, extension, or reauthorization of in-stream and gravel bar mining activities require review for compliance with these new guidelines requirements. WAC 173-26-241(3)(h)(ii)(D)(IV)		
Mining within the Channel Migration Zone requires a shoreline conditional use permit. WAC 173-26-241(3)(h)(ii)(E)		
Recreational Development. WAC 173-26-241(3)(i)		
Definition includes both commercial and public recreation developments. WAC 173-26-241(3)(i)		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
Priority given to recreational development for access to and use of the water. WAC 173-26-241(3)(i)		
Location, design and operation of facilities are consistent with purpose of environment designations in which they are allowed. WAC 173-26-241(3)(i)		
Recreational development achieves no net loss of ecological processes and functions. WAC 173-26-241(3)(i)		
Residential Development. WAC 173-26-241(3)(j)		
Definition includes single-family residences, multifamily development, and the creation of new residential lots through land division. WAC 173-26-241(3)(j)		
Single-family residences identified as a priority use only when developed in a manner consistent with control of pollution and prevention of damage to the natural environment. WAC 173-26-241(3)(j)		
No net loss of ecological functions assured with specific standards for setback of structures sufficient to avoid future stabilization, buffers, density, shoreline stabilization, and on-site sewage disposal. WAC 173-26-241(3)(j)		
New over-water residences and floating homes prohibited. Appropriate accommodation for existing floating or over-water homes. WAC 173-26-241(3)(j)		
New multiunit residential development (including subdivision of land for more than four parcels) required to provide community and/or public access in conformance to local public access plans. WAC 173-26-241(3)(j)		
New (subdivided) lots required to be designed, configured and developed to: (i) Prevent the loss of ecological functions at full build-out; (ii) Prevent the need for new shoreline stabilization or flood hazard reduction measures; and (iii) Be consistent with applicable SMP environment designations and standards. WAC 173-26-241(3)(j)		
Transportation Facilities. WAC 173-26-241(3)(k)		
Proposed transportation and parking facilities required to plan, locate, and design where routes will have the least possible adverse effect on unique or fragile shoreline features, will not result in a net loss of shoreline ecological functions or adversely impact existing or planned water dependent uses. WAC 173-26-241(3)(k)		
Circulation system plans include systems for pedestrian, bicycle, and public transportation where appropriate. WAC 173-26-241(3)(k)		
Parking allowed only as necessary to support an authorized shoreline use and which minimize environmental and visual impacts of parking facilities. WAC 173-26-241(3)(k)		

STATE RULE (WAC) REQUIREMENTS	LOCATION	COMMENTS
Utilities. WAC 173-26-241(3)(l)		
Design, location and maintenance of utilities required to assure no net loss of ecological functions. WAC 173-26-241(3)(l)		
Utilities required to be located in existing rights-of-ways whenever possible. WAC 173-26-241(3)(l)		
Utility production and processing facilities and transmission facilities required to be located outside of SMA jurisdiction, unless no other feasible option exists. WAC 173-26-241(3)(l)		
SMP ADMINISTRATIVE PROVISIONS		
The statement: "All proposed uses and development occurring within shoreline jurisdiction must conform to chapter 90.58 RCW, the Shoreline Management Act and this master program" whether or not a permit is required. WAC 173-26-191(2)(a)(iii)(A)		
Administrative provisions ensure permit procedures and enforcement are conducted in a manner consistent with relevant constitutional limitations on regulation of private property. WAC 173-26-186(5) and WAC 191(2)(a)(iii)(A)		
Identification of specific uses and development that require a shoreline conditional use permit (CUP). Standards for reviewing CUPs and variances conform to WAC 173-27. WAC 191(2)(a)(iii)(B) and WAC 173-26-241(2)(b)		
Administrative, enforcement, and permit review procedures conform to the SMA and state rules (see RCW 90.58.140, 143, 210 and 220 and WAC 173-27). WAC 191(2)(a)(iii)(C), WAC 173-26-201(3)(d)(vi)		
Mechanism for tracking, and periodically evaluating the cumulative effects of all project review actions in shoreline areas. WAC 173-26-191(2)(a)(iii)(D)		
SMP definitions are consistent with all definitions in WAC 173-26-020, and other relevant WACs.		

APPENDIX D

BRIEF HISTORY OF THE SHORELINE MANAGEMENT ACT AND GUIDELINE ADOPTION AND REVISION

1970

Washington Environmental Council collects enough signatures to send Initiative 43 to the Legislature

1971

Legislature adopts an alternative shoreline management law that is based on the initiative. Through an emergency clause, the law took effect on June 1, 1971; as directed in that law, Ecology began developing regulatory guidelines to help local governments implement the Shoreline Management Act of 1971.

July 1972

Department of Ecology formally adopts shoreline management guidelines. The guidelines provide details to help cities and counties craft local “shoreline master programs” (ordinances) that manage shoreline areas consistent with the policy of the SMA.

November 1972

Both Initiative 43 and the legislature’s alternative law (listed as Initiative 43-B), appear on the ballot (*general elections were still being held only in even numbered years at that time*). Initiative 43-B is adopted, thus affirming the law adopted by the legislature the previous year.

July 1974

The deadline for all cities and counties to adopt shoreline master programs (two years after Ecology adopts or amends the states shoreline management guidelines). About 20% of the local governments met the deadline; 95% completed master programs

by 1979 (the last county to adopt an SMP was Stevens County, in September 1999; a few very small cities have never completed a master program). Many local governments revised and updated their master programs over the years to make them even more protective than state guidelines, while others have never been updated.

1990

Legislature passes the Growth Management Act.

1991-94

In response to local government requests, Ecology develops and implements the Shorelands-Growth Management Project to help local governments integrate SMA with GMA. While the two laws are found to be generally compatible, there are procedural, technical and legal questions; the conclusion is the two laws need to be amended to make them work better together. This issue is presented to the Governor's Regulatory Reform Task Force in 1994.

1995

In response to Governor's Regulatory Reform Task Force recommendations, the legislature enacts a law that makes a variety of changes in both the SMA and GMA, and directs Ecology to review the SMA guidelines every five years.

1996

Ecology conducts four focus groups on issues and concerns related to the shoreline guidelines, and conducted a public-opinion poll of 840 residents to assess public views of shoreline management issues. Also convened a broad-based Shorelines Policy Advisory Group to draft revised guidelines; the preliminary draft was then circulated for comment to local governments, and other interested parties.

January 1997

Local governments and port districts ask Ecology to put the guidelines rule development on hold until the Land-Use Study Commission (LUSC) is consulted. Ecology agrees.

July-October 1997

A subcommittee of the LUSC holds 7 public meetings to address SMA/GMA integration issues. The work group reached no consensus but issued a report with directions for achieving more "efficient and effective" shoreline regulations; and related legislation and documenting the need for updated guidelines.

May 1998

With endorsement of the Governor and the Joint Natural Resources Cabinet, Ecology establishes a broad-based Shorelines Guidelines Commission, which held 19 public meetings, reviewed two drafts of the guidelines, and issued a final report in February 1999, advising Ecology to proceed with a broader rule adoption process.

April 1999

Ecology begins the first round of "official" public comment on shoreline management guidelines – the first update in 27 years. Initially, the comment period was set to end in June and include four public hearings; due to extensive public interest, five more hearings were added and the comment period was extended by another 45 days.

Fall 1999

After receiving about 2,500 comments, Ecology decides to withdraw the draft guidelines, rewrite them, and submit them for a new round of public comment in 2000.

December 1999

An unofficial, revised draft is circulated to local officials, legislators and other interested parties for review and comment throughout the 2000 legislative session.

June 2000

Department of Ecology formally begins public comment on a revised set of draft guidelines. The proposal would have established two options for cities and counties in updating their shoreline master programs: Path A responded to local governments that wanted more flexibility in meeting the standards of the Shoreline Management Act; Path B contained more-

specific measures for protecting shoreline functions and had been blessed by federal fish agencies as meeting endangered-species requirements.

November 29, 2000

Ecology adopts new shoreline management guidelines.

December 2000

The Association of Washington Business (representing a coalition of business organizations, cities and counties) and the Washington Aggregates & Concrete Association appeal the new guidelines to the Shoreline Hearings Board. The Washington Environmental Council leads an environmental coalition that intervenes in support of the guidelines.

August 27, 2001

In a split decision, The Shoreline Hearings Board rules that Ecology failed to properly conduct the review process and that certain provisions of Path B exceeded statutory authority. The ruling invalidates the new guidelines, but does not invalidate Ecology's repeal of the previous guidelines – thus leaving the state with no shoreline guidelines, although local master programs are still in effect.

September 25, 2001

Based Ecology Director Tom Fitzsimmons' belief that mediation could be successful, Governor and Attorney General convene mediation talks aimed at reaching a legal settlement (the parties all filed appeals to the SHB ruling to preserve their standing in court). The parties to the lawsuit appoint representatives to a steering committee that does the negotiating. Former State Supreme Court Justice Richard Guy, land-use attorney Dick Settle, and Bill Ross serve as mediators.

December 20, 2002

The negotiators sign and enter an agreement containing:

- 1) new guidelines to propose for rule-making;
- 2) a package of legislation to propose in 2003 (e.g., replace the 2-year update schedule for local governments with a phased-in schedule – through 2014 and provide \$2 million in the 2003-05 budget for a first small group of cities and counties to get started); and
- 3) how to conclude the lawsuit.

(Source: WDOE, 12/13/02)

Appendix E.

Additional Description of Selected Species Identified as Threatened or Endangered.

Chinook Salmon (*Oncorhynchus tshawytscha*)

Among chinook salmon, two distinct types have evolved:

The stream-type chinook is found most commonly in headwater streams.

The ocean-type chinook is commonly found in coastal streams.

The difference between these life-history types is physical, with both genetic and morphological foundations (USACE 2001a). Chinook salmon remain in the ocean for 3 to 4 years before returning to their parent streams to spawn. Adult female chinook typically prepare a spawning bed, called a redd, in a stream area with suitable gravel composition (between 1.3 and 10 centimeters in diameter), water depth, and velocity. Redds vary widely in size and location within the stream or river. The adult female chinook may deposit eggs in four or five nesting pockets within a single redd. After laying the eggs, the adult chinook guards the redd from 4 to 25 days before dying. Chinook salmon eggs hatch within 33 to 178 days after deposition, depending on water temperatures, dissolved oxygen concentrations, and other physical and chemical factors. Stream flow, gravel quality, and silt load all significantly influence the survival of developing chinook salmon eggs. The alevin reside in the nests for 2 to 3 weeks while absorbing their yolk sacs. Juvenile chinook may spend from 3 months to 2 years in freshwater after emergence and before migrating to estuarine areas as smolts, then into the ocean to feed and mature. The timing and duration of freshwater rearing are related to genetic and environmental determinants and vary highly

in life-history types (Ricker 1972; Healy 1991). Juvenile chinook salmon feed primarily on aquatic insect larvae and terrestrial insects, typically in the near-shore areas. The juvenile fry rear in their natal streams for varying lengths of time depending on hatch date, water temperature, and behavioral characteristics (i.e., stream-type or ocean-type). In general, juvenile stream-type chinook remain in freshwater until their second spring, whereas ocean-type juveniles migrate downstream to estuarine and marine areas during the first few months after hatching. Ocean-type chinook tend to use estuaries and coastal areas more extensively for juvenile rearing than do stream-type chinook. Fall chinook fry usually feed for a short time, then undergo smoltification and migrate to the ocean. Some fry rear for a year, especially juveniles in systems with lakes, before smoltification and migration to the Pacific Ocean (Wydoski and Whitney 1979; Emmet et al. 1991). During downstream migration, low dissolved-oxygen concentrations and high water temperatures can hamper the swimming ability of juveniles. Juveniles that remain in stream systems for longer periods move upstream to take advantage of better water quality conditions and to escape extreme flow events. Juvenile preference for winter habitat has not been well studied. Use of the main channel, side channels, overhanging banks with cobble substrate, and backwater areas have all been reported (Healy 1991).

Status of Puget Sound Chinook Salmon

The Puget Sound chinook salmon was listed as a threatened species by the NOAA Marine Fisheries Service on March 24, 1999. This identified *evolutionarily significant unit* includes all naturally spawned populations of chinook salmon from rivers and streams flowing into Puget Sound, from the North Fork Nooksack River

to the Elwha River on the Olympic Peninsula.

Occurrence in WRIA 3

The Skagit River supports what was historically the largest chinook population in Puget Sound. Spawning in the Skagit occurs in the main stem to the Gorge Dam and in the larger tributaries: the Sauk and Suiattle rivers, and the Finney, Bacon, Day, Illabot, Goodell, Buck, and Sulphur creeks. Chinook habitat in the Skagit basin has been affected by main stem flow fluctuations resulting from dams, glacial siltation, and floods. Five of the 22 independent populations identified by the Puget Sound Technical Recovery Team for the Puget Sound chinook evolutionarily significant unit (Lower Skagit River, Upper Skagit River, Cascade River, Lower Sauk River, and Upper Sauk River) use habitats within WRIA 3 for all or some of their life stages. Populations in the higher-elevation watersheds migrate through WRIA 3 to access spawning habitat. The Puget Sound Technical Recovery Team concludes that these independent populations, which serve as the foundation or primary building blocks of the evolutionarily significant unit, should be given the highest priority both for their protection and for activities that aid in their recovery.

Adult chinook return to the Skagit basin from April through September in three peaks: a spring peak from April through June, a summer peak from June through August, and a fall peak in September and October. Summer/fall chinook stocks are managed as an aggregate in the Skagit basin, and spring chinook stocks are managed independently (WDF et al. 1993). Six stocks have been identified in the Skagit basin as a whole: the lower Skagit, upper Skagit, lower Sauk, upper Sauk, Suiattle, and upper

Cascade stock units. Each of these is summarized in greater detail below.

The lower Skagit main stem and tributaries stock is considered a native stock with wild production. The status of this stock is depressed based upon a long-term declining trend and a short-term severe trend in escapement levels. Escapement for this stock of fall chinook from 1974 through 1991 ranged from 1,200 to 5,500 fish each year, with an average of 2,800. Spawning takes place in the Skagit main stem and associated tributaries downstream from the mouth of the Sauk River during October.

The upper Skagit main stem and tributaries stock consists of a summer-run chinook. The stock is considered a native stock with wild production. The status of this stock is healthy. Escapement for this stock from 1974 through 1991 ranged from 3,300 to 12,900 fish each year, with an average of 7,500. Spawning takes place in the Skagit main stem and associated tributaries upstream of the Sauk River in September through early October.

The lower Sauk stock consists of summer-run fish. The stock is considered a native stock with wild production. The status of this stock is depressed based upon chronically low escapement levels. Between 1974 and 1991, escapement for this stock ranged from 400 to 2,700 fish each year, with an average of 1,150. Spawning takes place below river mile 39.7 of the Sauk River in September through early October.

The upper Sauk stock consists of spring-run fish. The stock is considered a native stock with wild production. The status of this stock is healthy. Between 1968 and 1991, escapement for this stock ranged from 100 to 1,800 fish each year, with an average of 600. Spawning takes place in the Sauk River main stem between Darrington and river mile 39.7 in late July through early September. The Suiattle stock consists of

spring-run fish. The stock is considered a native stock with wild production. The status of this stock is depressed based upon chronically low escapement levels. Between 1968 and 1991, escapement for this stock ranged from 300 to 1,800 fish each year, with an average of 650. Spawning takes place in the main stem of the Suiattle River and its tributaries in late July through early September.

The upper Cascade stock consists of spring-run fish. The stock is considered a native stock with wild production. The status of this stock and escapement numbers are unknown. Spawning takes place in the main stem of the Cascade River between river miles 6 and 19 in late July through early September. During migration to spawning sites, all stocks could pass through portions of the main stem Skagit River within the study areas, and portions of the study areas could be used for rearing, refuge, and feeding. Estuarine and near-shore areas could be used during the summer and fall when chinook migrate to salt water after their first or second year spent in freshwater. No chinook stocks are documented as spawning in the lower Skagit River, north Fidalgo Island, or Nookachamps study areas.

Critical Habitat in WRIA 3

WRIA 3 comprises Unit 5 (Lower Skagit Subbasin) of the proposed designation of critical habitat for Puget Sound chinook. This subbasin contains two occupied watersheds encompassing approximately 447 square miles (1,157.7 square km). Fish distribution and habitat use includes approximately 149 miles (239.8 km) of occupied riverine/estuarine habitat in the watersheds. The rivers in WRIA 3 that are included in the proposed critical habitat designation include the following: North Fork Skagit River, Skagit River, East Fork Nookachamps Creek, Day Creek, and Grandy Creek. Also included in WRIA 3 is

a portion of the nearshore areas defined in Unit 19.

Occurrence in WRIA 10

Within the Puyallup basin, chinook populations have been divided into three distinct stocks based on run and spawning timing and the location of spawning grounds: White River spring, White River summer/fall, and Puyallup River fall (Meyers et al. 1998). White River spring chinook salmon spawn in September, whereas the White River summer/fall chinook spawn in October. Fish arriving at the fish trap in Buckley prior to August 15 are considered spring chinook, and those arriving afterward are considered summer/fall chinook. The White River summer/fall run may be the end of the spring run, and thus the two stocks defined for this river may be indistinguishable. Additional research is required to determine whether the runs are distinct (Meyers et al. 1998).

The origin of the White River spring stock is native stock reared in a hatchery setting (Hupp Springs and White River hatcheries). A small population of native natural spawners still returns to the river. These fish are transported from the fish trap at Buckley to the upper river above the Mud Mountain Dam. The status of the White River spring stock is considered critical based on chronically low spawner escapements (Meyers et al. 1998). From 1978 through 1981, escapement levels into the Hupp Springs hatchery ranged from 10 to 500 fish a year, with an average of 137 fish yearly. Releases of spring chinook into the White River ranged from 5,296 to 269,394 fish between 1987 and 1991 (Meyers et al. 1998). Stock origin of the White River summer/fall chinook is unknown but is thought to be native. Stock status is unknown. Yearly releases of fall chinook into the White River ranged from 1,827,238

to 4,381,242 fish between 1982 and 1991. Two of the 22 independent populations identified by the Puget Sound Technical Recovery Team for the Puget Sound chinook evolutionarily significant unit (White River and Puyallup River), utilize habitats within WRIA 10 for all or some of their life stages. These independent populations, which serve as the foundation or primary building blocks of the evolutionarily significant unit, should be given the highest priority both for their protection and for activities that aid in their recovery.

Critical Habitat in WRIA 10

WRIA 10 comprises Unit 12 (Puyallup River subbasin) of the proposed designation of critical habitat for Puget Sound chinook. This subbasin contains five watersheds occupied by this evolutionarily significant unit, and these watersheds encompass approximately 996 square miles (256.4 square km). Fish distribution and habitat use include approximately 243 miles (391.1 km) of occupied riverine/estuarine habitat in the watersheds. The following rivers in WRIA 10 are included in the proposed critical habitat designation: Puyallup River, White River, Boise Creek, South Prairie Creek, Carbon River, Clearwater River, Greenwater River, Upper White River, and West Fork White River. Also included in WRIA 10 is a portion of the nearshore areas defined in Unit 19 of the critical habitat designation.

Occurrence in WRIA 15

Chinook salmon are found in most rivers in the Puget Sound region, including WRIA 15 water bodies. WDF et al. (1993) recognizes 27 distinct stocks of chinook salmon: eight spring-run, four summer-run, and 15 summer/fall- and fall-run stocks. Chinook salmon occur in several streams within WRIA 15. Spawning, rearing, and migration occur in small streams tributary to Dyes Inlet, Sinclair Inlet, and Hood Canal. Late-run chinook are present in Gorst Creek and

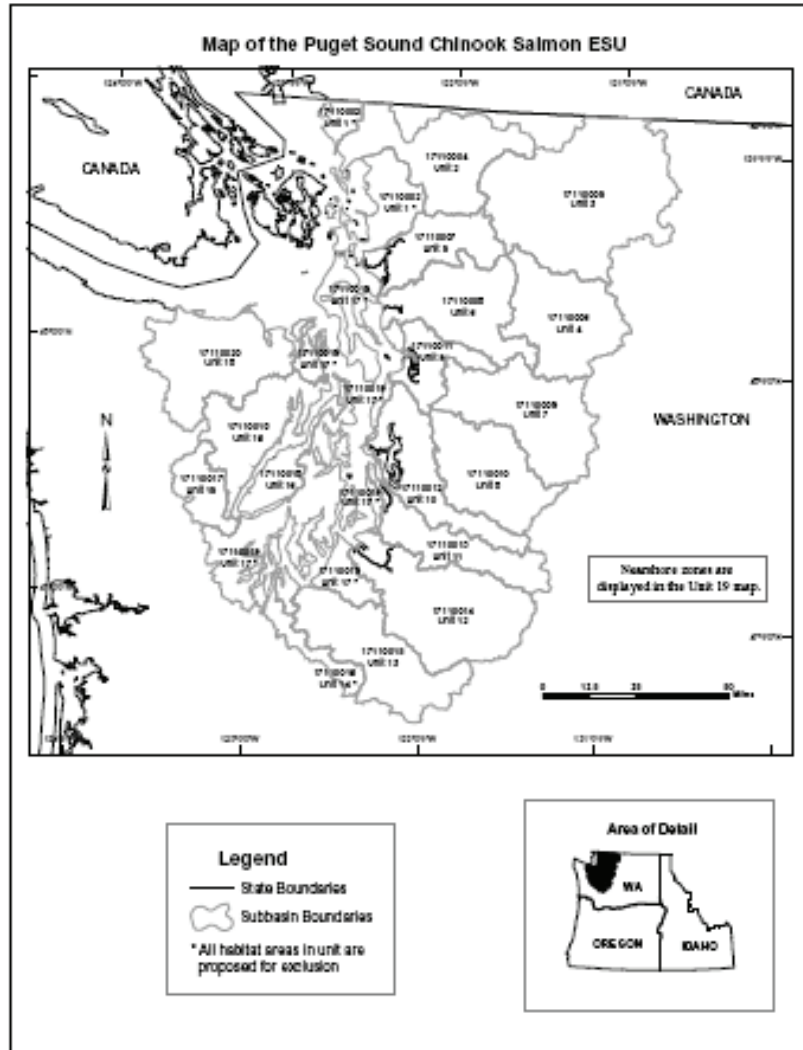
other tributaries, where spawning and rearing occurs (Streamnet 2002).

Critical Habitat in WRIA 15

WRIA 15 comprises Unit 17 (Kitsap Subbasin) of the critical habitat for Puget Sound chinook. This subbasin contains four occupied watersheds encompassing approximately 721 square miles (1,867 square km). Fish distribution and habitat use includes approximately 56 miles (90.1 km) of occupied riverine/ estuarine habitat in the watersheds. All habitats in this unit have been proposed for exclusion from the critical habitat designation for Puget Sound chinook.

The following excerpt from the Federal Register describes the chinook salmon populations that constitute this evolutionarily significant unit (69 FR 239, December 14, 2004):

The Puget Sound chinook ESU [evolutionarily significant unit] 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. 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.

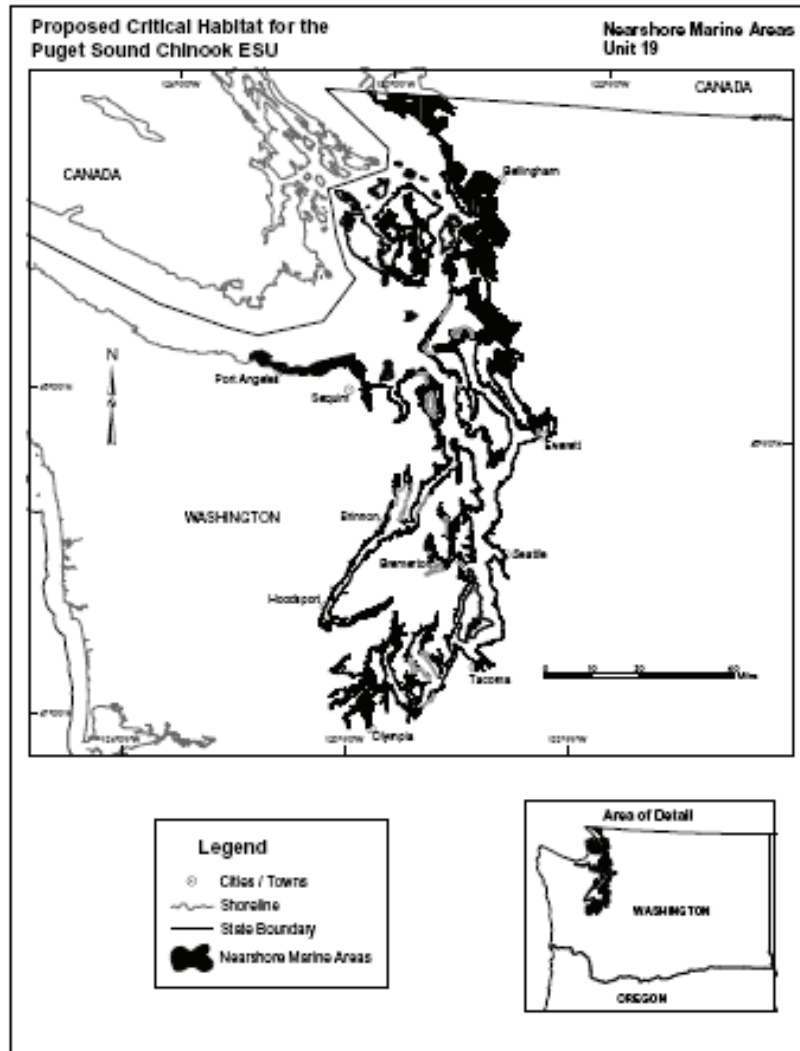


independent populations. It is not clear whether these smaller streams are occupied due to recent hatchery releases or whether historically they supported small satellite “sink” populations that were dependent on larger independent “source” populations (Ruckelshaus et al. 2001, 2002 and 2004; B. Graeber, NMFS, personal communication).

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

Most chinook salmon in this evolutionarily significant unit exhibit an ocean-type life history. The proportion between juvenile types varies substantially from year to year and appears to be environmentally mediated rather than genetically determined. Puget Sound stocks generally mature between ages 3 and 4 years and exhibit similar, coastally oriented ocean migration patterns. Fifteen Washington counties are included in this evolutionarily significant unit – Clallam, Grays Harbor, Island, Jefferson, King, Kitsap, Kittitas, Lewis, Mason, Pierce, San Juan, Skagit, Snohomish, Thurston, and Whatcom.

Although it is somewhat outdated, the 1992 salmon and steelhead stock inventory (SASSI) classified four of the 28 chinook stocks within the Puget Sound evolutionarily significant unit as critical. Seven of the stocks are classified as depressed, ten are healthy, and seven are of unknown classification because data are insufficient (WDFW 1994). The population decline of Puget Sound chinook salmon can be generally attributed to overfishing, poorly designed hatchery programs, water quality degradation, and loss of spawning habitat due to the effects of urbanization on streams and rivers (WDF et al. 1993).



Limiting Factors Affecting the Evolutionarily Significant Unit

The limiting factors affecting Puget Sound chinook salmon are the same as those described for bull trout (under USFWS jurisdiction). Bull trout are the most sensitive of the salmonids addressed in this biological assessment (USFWS 1998b), and it is assumed that limiting factors for bull trout are less limiting for more tolerant salmonid species such as chinook salmon.

Critical Habitat

On April 30, 2002, the U.S. District Court for the District of Columbia approved a NOAA Marine Fisheries Service consent

decree withdrawing a February 2000 critical habitat designation for Puget Sound chinook salmon and 18 other chinook salmon evolutionarily significant units. On December 14, 2004, NOAA Fisheries published a proposed rule to designate critical habitat for 13 salmon and steelhead evolutionarily significant units in the Pacific Northwest, including Puget Sound chinook.

In general, the proposed critical habitat includes stream reaches, estuaries, and nearshore marine areas where Puget Sound chinook have been observed or where biologists with local expertise presume them to occur. The proposed critical habitat also includes areas that possess factors essential to support one or more of the life stages of salmon. Critical habitat for this evolutionarily significant unit has been divided into 19 units. A summary of each of the units defined in the Federal Register (Federal Register 2005c) is provided below.

Unit 1. Strait of Georgia Subbasin

This subbasin contains three occupied watersheds encompassing approximately 428 square miles (1,109 square km). Fish distribution and habitat use include approximately 71 miles (114.3 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 2. Nooksack Subbasin

This subbasin contains five occupied watersheds encompassing approximately 795 square miles (2,059 square km). Fish distribution and habitat use include approximately 256 miles (412 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 3. Upper Skagit Subbasin

This subbasin contains eight watersheds, five of which are occupied and encompass approximately 999 square miles (2,587 square km). Fish distribution and habitat use include approximately 105 miles (169 km)

of occupied riverine/estuarine habitat in the watersheds.

Unit 4. Sauk Subbasin

This subbasin contains four occupied watersheds encompassing approximately 741 square miles (1,919.2 square km). Fish distribution and habitat use include approximately 118 miles (189.9 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 5. Lower Skagit Subbasin

This subbasin contains two occupied watersheds encompassing approximately 447 square miles (1,157.7 square km). Fish distribution and habitat use include approximately 149 miles (239.8 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 6. Stillaguamish Subbasin

This subbasin contains three occupied watersheds encompassing approximately 704 square miles (1,823.3 square km). Fish distribution and habitat use include approximately 132 miles (212.4 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 7. Skykomish Subbasin

This subbasin contains five occupied watersheds encompassing approximately 853 square miles (2,209.3 square km). Fish distribution and habitat use include approximately 153 miles (246.2 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 8. Snoqualmie Subbasin

This subbasin contains four watersheds, two of which are occupied and encompass approximately 504 square miles (1,305.3 square km). Fish distribution and habitat include approximately 90 miles (144.8 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 9. Snohomish Subbasin

This subbasin contains two occupied watersheds encompassing approximately 278 square miles (720 square km). Fish

distribution and habitat use include approximately 101 miles (162.5 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 10. Lake Washington Subbasin

This subbasin contains four occupied watersheds encompassing approximately 619 square miles (1,603.2 square km). Fish distribution and habitat use include approximately 190 miles (307.4 km) of occupied riverine/estuarine habitat in these watersheds. Lake Washington contains approximately 40 square miles (103.6 square km) of lake habitat. Three of the small tributaries in the southern portion of the lake were also identified as providing important rearing habitat.

Unit 11. Duwamish Subbasin

This subbasin contains three occupied watersheds encompassing approximately 487 square miles (1,261.3 square km). Fish distribution and habitat use include approximately 171 miles (275.2 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 12. Puyallup Subbasin

This subbasin contains five watersheds occupied by this evolutionarily significant unit, and these watersheds encompass approximately 996 square miles (256.4 square km). Fish distribution and habitat use include approximately 243 miles (391.1 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 13. Nisqually Subbasin

This subbasin contains three watersheds, two of which are occupied by this evolutionarily significant unit and encompass approximately 472 square miles (1,222.5 square km). Fish distribution and habitat use include approximately 82 miles (132.0 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 14. Deschutes Subbasin

This subbasin contains two occupied watersheds encompassing approximately

168 square miles (435.1 square km). Fish distribution and habitat use include approximately 53 miles (85.3 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 15. Skokomish Subbasin

This subbasin contains a single watershed encompassing approximately 248 square miles (642.3 square km). Fish distribution and habitat use include approximately 72 miles (115.9 km) of occupied riverine/estuarine habitat in the watershed.

Unit 16. Hood Canal Subbasin

This subbasin contains six occupied watersheds encompassing approximately 605 square miles (1,567sq km). Fish distribution and habitat use include approximately 59 miles (95.0 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 17. Kitsap Subbasin

This subbasin contains four occupied watersheds encompassing approximately 721 square miles (1,867 square km). Fish distribution and habitat use include approximately 56 miles (90.1 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 18. Dungeness/Elwha Subbasin

This subbasin contains five watersheds, three of which are occupied, encompassing approximately 695 square miles (1,800 square km). Fish distribution and habitat use include approximately 47 miles (75.6 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 19. Nearshore Marine Areas

Critical habitat in these areas includes the zone from extreme high water out to a depth of 30 meters and adjacent to watersheds occupied by the evolutionarily significant unit (described above). The extent of critical habitat for the Puget Sound chinook evolutionarily significant unit is most easily understood by viewing the maps available on the NOAA Fisheries website:

<http://www.nwr.noaa.gov/1salmon/salmesa/crithab/ckpugfrnmaps.pdf> .

Chum Salmon (*Oncorhynchus keta*)

In general, summer-run chum salmon are most abundant in the northern part of the species range, where they spawn in the main stems of rivers. Farther south, water temperatures and stream flows during late summer and early fall become unfavorable for salmonids. These conditions do not improve until the arrival of fall rains in late October or early November. Summer-run chum salmon populations from Washington State must return to freshwater and spawn during periods of peak (high) water temperature, suggesting an adaptation to specialized environmental conditions that allow this life-history strategy to persist in an otherwise inhospitable environment. Therefore, these populations contribute substantially to the ecological and genetic diversity of the species as a whole.

Status of Hood Canal Summer-Run Chum Salmon

The Hood Canal summer-run chum salmon evolutionarily significant unit includes the following WRIs: east Kitsap (WRIA 15), Skokomish-Dosewallips (WRIA 16), Quilcene-Snow (WRIA 17), and Elwha-Dungeness (WRIA 18). The chum salmon was proposed as threatened for the Hood Canal drainages in March 1998; the official listing was recorded on March 25, 1999 and covers all Hood Canal drainages. This evolutionarily significant unit includes summer-run chum salmon populations in Hood Canal in Puget Sound, and in Discovery and Sequim bays on the Strait of Juan de Fuca. The unit may also include summer-run fish in the Dungeness River. The existence of the Dungeness River run is

unknown. In addition, NOAA Fisheries proposed that eight artificial propagation programs also be considered part of the evolutionarily significant unit (69 FR 33101; June 14, 2004):

Quilcene National Fish Hatchery, 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 evolutionarily significant unit: 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).

In Hood Canal, summer chum are a unique stock of fish, isolated from other Puget Sound stocks by distinct spatial and temporal separation. Electrophoretic studies conducted by the Washington Department of Fish and Wildlife confirm distinct genetic differences between the Hood Canal and Puget Sound chum stocks. Hood Canal summer chum spawn primarily in the Dosewallips, Duckabush, Hamma Hamma, and Big Quilcene Rivers (WDFW 1994).

Limiting Factors Affecting Hood Canal Summer-Run Chum Salmon

The limiting factors affecting the Hood Canal summer-run chum salmon are the same as those described for bull trout.

Because bull trout are the most sensitive of the salmonids addressed here (Meyers et al. 1998), it is assumed that limiting factors for bull trout are limiting for more tolerant salmonid species such as chum salmon.

Critical Habitat

On April 30, 2002, the U.S. District Court for the District of Columbia approved a NOAA Marine Fisheries Service consent decree withdrawing a February 2000 critical habitat designation for the Hood Canal summer-run chum salmon and 18 other salmonid evolutionarily significant units. On December 14, 2004, NOAA Fisheries published a proposed rule to designate critical habitat for 13 salmon and steelhead evolutionarily significant units in the Pacific Northwest, including Hood Canal summer-run chum.

In general, the proposed critical habitat includes stream reaches, estuarine, and nearshore marine areas where Hood Canal summer-run chum have actually been observed or where biologists with local area expertise presume them to occur. The proposed critical habitat also includes areas that possess factors essential to support one or more of the life stages of salmon.

Critical habitat for this evolutionarily significant unit has been divided into five units. A summary of each of the units defined in the Federal Register document (Federal Register 2005c) is provided below.

Unit 1. Skokomish Subbasin

This subbasin contains a single occupied watershed encompassing approximately 245 square miles (635 square km). Fish distribution and habitat use includes approximately 13 miles (20.9 km) of occupied riverine/estuarine habitat in the subbasin/watershed.

Unit 2. Hood Canal Subbasin

This subbasin contains seven occupied watersheds encompassing approximately 715 square

miles (1,852 square km). Fish distribution and habitat use includes approximately 50 miles (80.5 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 3. Kitsap Subbasin

This subbasin contains a single occupied watershed encompassing approximately 82 square miles (212.4 square km). Fish distribution and habitat use includes approximately 1 mile (1.6 km) of occupied riverine/estuarine habitat in the watershed.

Unit 4. Dungeness-Elwha Subbasin

This subbasin contains three occupied watersheds encompassing approximately 350 square miles (906 square km). Fish distribution and habitat use includes approximately 19 miles (30.6 km) of occupied riverine/estuarine habitat in the watersheds.

Unit 5. Nearshore Marine Areas

Critical habitat in these areas includes that zone from extreme high water out to a depth of 30 meters and adjacent to watersheds occupied by the evolutionarily significant unit (described above). The extent of Hood Canal summer-run chum ESU critical habitat is most easily accessed and understood by viewing the maps available on the following NOAA Fisheries website: <http://www.nwr.noaa.gov/1salmon/salmesa/crithab/cmhcsfrnmaps.pdf>.