

Table 2-2 Aquatic Habitat Guidelines Documents

Note: Tables 2-2, 2-3, and 2-4 each include a column showing the RCW 34.05.271 category indicating the level of peer review for each document. Refer to Table 5-1 for key to categories.

DOCUMENT CITATION	SUMMARY	RELATED HPA ACTIVITIES	34.05.271 RCW CATEGORY
Marine Shoreline Design Guidelines , 2014, by Johannessen, J., A. MacLennan, A. Blue, J. Waggoner, S. Williams, W. Gerstel, R. Barnard, R. Carman, and H. Shipman (WDFW) (available at wdfw.wa.gov/publications/01583/)	These guidelines are specific to shore armor – the construction of bulkheads and seawalls in Puget Sound. Created to inform responsible management of Puget Sound shores for the benefit of landowners and shared natural resources. Provides a comprehensive framework for site assessment and alternatives analysis to determine the need for shore protection and identify the technique that best suits the conditions at a given site. For use by project designers, planners, contractors, and landowners.	<ul style="list-style-type: none"> • Common saltwater construction provisions • Bank protection in saltwater areas 	iii (External peer review)
Water Crossing Design Guidelines (formerly Design of road culverts for fish passage), 2013, prepared by Bob Barnard, Ken Bates, Bruce Heiner, Pat Klavas, Don Ponder, Pad Smith and Pat Powers (WDFW) (available at wdfw.wa.gov/publications/01501/)	This document promotes water crossing selection and design process intended to have the least effect on the natural processes that create and support the stream structure in which fish live and migrate. The geomorphic approach to design is generally based on readily-measured characteristics of the natural channel in the adjacent reaches. Five different water crossing design methods are covered including no-slope culverts, stream simulation culverts, bridges, temporary culverts, and hydraulic design fishways.	<ul style="list-style-type: none"> • Common freshwater construction requirements • Water crossing structures • Fish passage improvement structures 	iii
Stream Habitat Restoration Guidelines , 2012, by Michelle Cramer (WDFW) (available at wdfw.wa.gov/publications/01374/)	This document includes design criteria and practical considerations for the design of stream restoration projects including site, reach, and watershed assessment, problem identification, general approaches to restoring stream and riparian habitat, factors to consider in identifying and selecting an approach, approaches to solving common restoration objectives, and stream and riparian habitat restoration techniques. Watershed processes and conditions that shape stream channels, stream ecology, geomorphology, hydrology, hydraulics, planting considerations and erosion control, and construction considerations are also presented in the main text and appendices.	<ul style="list-style-type: none"> • Channel relocation and realignment • Large woody material placement, repositioning, and removal in freshwater areas 	iii
Integrated Streambank Protection Guidelines (ISPG) , 2003, prepared by Michelle Cramer, P.E., and Ken Bates, P.E (WDFW) and Dale Miller; Karin Boyd; Lisa Fotherby, Ph.D., P.E.; Peter Skidmore and Todd Hoitsma, (Inter-Fluve, Inc.) (available at wdfw.wa.gov/publications/00046/)	This document includes design considerations for integrated stream bank protection: mechanisms and causes of failure (general bank erosion, scour, avulsion, mass failure, subsurface entrainment), shear, vertical distribution of shear, habitat, risk, site- and reach-based assessment, channel form, channel process (equilibrium and disequilibrium). Mitigation considerations: duration and extent of impacts (construction, lost habitat, etc.), lost opportunity, emergency bank protection. Project design includes decision-making matrices for selecting appropriate solutions.	<ul style="list-style-type: none"> • Common freshwater construction requirements • Streambank protection and lake shoreline stabilization 	iii
Protecting Nearshore Habitat and Functions in Puget Sound , June 2010 Revised Edition, by EnviroVision, Herrera Environmental, and Aquatic Habitat Guidelines Working Group (available at wdfw.wa.gov/publications/00047/)	This document is specific to shoreline modifications - a variety of structures and activities intended to adapt the shoreline environment for human use. Summarizes current science on important nearshore habitats and processes, data and recommendations to support avoidance and minimization of impacts and mitigating cumulative impacts.	<ul style="list-style-type: none"> • Common saltwater construction provisions • Bank protection in saltwater areas • Residential and public recreational docks, piers, ramps, floats, watercraft lifts and buoys in saltwater areas 	iii

DOCUMENT CITATION	SUMMARY	RELATED HPA ACTIVITIES	34.05.271 RCW CATEGORY
<p>Land Use Planning for Salmon, Steelhead and Trout: A land use planner's guide to salmonid habitat protection and recovery, October 2009, by Katie Knight (available at wdfw.wa.gov/publications/00033/)</p>	<p>This document provides guidance for protecting salmon habitat through GMA and SMA plans and regulations. Document translates current best available science into planning tools, including model policies and regulations to protect salmonids and prevent further degradation or loss of habitat. For use by land use planners of local jurisdictions.</p>	<ul style="list-style-type: none"> • Freshwater habitats of special concern • Common freshwater construction provisions • Large woody material placement, repositioning, and removal in freshwater areas • Channel relocation and realignment • Water crossings • Saltwater habitats of special concern • Common saltwater construction provisions • Streambank protection and lake shoreline stabilization • Bank protection in saltwater areas • Residential and public recreational docks, piers, ramps, floats, watercraft lifts and buoys in saltwater areas 	<p>iii</p>
<p>Fishway Guidelines for Washington State (draft), 2000, prepared by Ken Bates (WDFW) (available at wdfw.wa.gov/publications/00048/)</p>	<p>This document includes pre-design data requirements and considerations, design considerations for fishway entrances (entrance pool and transportation channel design), auxiliary water systems (diffuser and water supply source), fish ladders (pool and weir fishways, vertical slot fishways, roughened channels, hybrid fishways), fishway exit, tributary fish passage, upstream juvenile fish passage, flap gates, fishway flow control. Design considerations: types and applications of screen styles (drums, fixed plate, traveling, pump screens, infiltration galleries), screen design criteria, hydraulic design, fish bypass systems, debris management.</p>	<ul style="list-style-type: none"> • Fish passage improvement structures 	<p>iii</p>
<p>Fish Protection Screen Guidelines for Washington State (draft), 2000, by Ken Bates (WDFW) and Bryan Nordlund (NMFS) (available at wdfw.wa.gov/publications/00050/wdfw00050.pdf)</p>	<p>This document provides design criteria and practical considerations for the design of fish protection screens including applications for hydroelectric facilities, irrigation, municipal, and industrial water withdrawal projects. The major objective of the fish screen guidelines is to highlight important design elements that should be considered in the design of fish screens at water diversion projects to provide the safe downstream passage of migrating juvenile salmonids.</p>	<ul style="list-style-type: none"> • Common freshwater construction provisions • Water diversions and intakes 	<p>iii</p>

Table 2-3 White Papers Developed in Support of Aquatic Habitat Guidelines

DOCUMENT CITATION	SUMMARY	RELATED HPA ACTIVITIES	34.05.271 RCW CATEGORY
White Paper - <i>Protection of Marine Riparian Functions in Puget Sound</i> , Washington, 2009, prepared by Washington Sea Grant (available at wdfw.wa.gov/publications/00693/)	This document summarizes the literature review and scientific and technical information on riparian areas and makes recommendations to help protect marine riparian functions from common human activities.	<ul style="list-style-type: none"> • Saltwater habitats of special concern • Common saltwater construction provisions 	iii
White Paper - <i>Marine and Estuarine Shoreline Modification Issues</i> , 2001, prepared by Gregory Williams and Ronald Thom, Battelle Marine Sciences Laboratory (available at wdfw.wa.gov/publications/00054/)	This white paper provides an assessment of the literature associated with design and ecological considerations associated for hard and soft structural shoreline stabilization (bulkheads, rock revetments, groins, jetties, beach nourishment, biotechnology), non-structural stabilization (setbacks, vegetation management, and ground/surface water management), estuary and shoreline restoration, tidegates, outfalls, and artificial reefs.	<ul style="list-style-type: none"> • Saltwater habitats of special concern • Common saltwater construction provisions • Bank protection in saltwater areas • Artificial aquatic habitat structures • Outfall and tide and flood gate structures in saltwater areas 	iii
White Paper - <i>Over-water Structures: Marine Issues</i> , 2001, prepared by Barbara Nightingale and Charles Simenstad, University of Washington, School of Aquatic and Fishery Sciences, Seattle, Washington (available at wdfw.wa.gov/publications/00051/)	This white paper examines and summarizes the literature associated with the following structures: docks, piers, floats, rafts, log rafts, boat ramps, hoists, launches, boat houses, houseboats and associated moorings, marinas, driving and removing pilings, trash booms and trash racks, work barges, and dolphins.	<ul style="list-style-type: none"> • Common saltwater construction provisions • Residential and public recreational docks, piers, ramps, floats, watercraft lifts and buoys in saltwater areas • Marinas and terminals in saltwater areas 	iii
White Paper - <i>Over-water Structures: Freshwater Issues</i> , 2001, prepared by José Carrasquero (Herrera Environmental Consultants) (available at wdfw.wa.gov/publications/00052/)	This white paper examines and summarizes the literature associated with the following structures: docks, piers, floats, rafts, log rafts, boat ramps, hoists, launches, boat houses, houseboats and associated moorings, marinas, driving and removing pilings, trash booms and trash racks, work barges, and dolphins.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Residential and public recreational docks, piers, ramps, floats, watercraft lifts and buoys in freshwater areas • Marinas and terminals in freshwater areas 	iii
White Paper - <i>Treated Wood Issues in Marine and Freshwater Environments</i> , 2001, prepared by Ted Posten, Battelle Marine Sciences Laboratory (available at wdfw.wa.gov/publications/00053/)	This white paper examines and summarizes research on chemical contaminants in treated wood and the potential for adverse impact to fish life. The assessment focused on field-oriented studies that evaluate the spatial and temporal distribution of toxic constituents used in treated wood.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Streambank protection and lake shoreline stabilization • Residential and public recreational docks, piers, ramps, floats, watercraft lifts and buoys in freshwater areas • Marinas and terminals in freshwater areas • Common saltwater construction provisions • Bank protection in saltwater areas • Residential and public recreational docks, piers, ramps, floats, watercraft lifts and buoys in saltwater areas • Marinas and terminals in saltwater areas 	iii
White Paper - <i>Channel Design</i> , 2001, prepared by Dale Miller (Inter-Fluve, Inc.) (Available at wdfw.wa.gov/publications/00057/)	This white paper examines and summarizes the state of current knowledge and technology pertaining to channel design methods and practices including design and ecological considerations for new channels, habitat restoration and mitigation, channel relocation and realignment, channel modification for habitat and stability, placement of large woody debris (including removal and relocation), placement of boulders (including smaller rocks and substrate), off-channel ponds (rearing and other), off-channel channels (new floodplains, high-flow bypass), gradient control structures, habitat enhancement activities and structures.	<ul style="list-style-type: none"> • Common construction provisions in freshwater areas • Channel relocation and realignment • Large woody material placement, repositioning, and removal in freshwater areas 	iii

DOCUMENT CITATION	SUMMARY	RELATED HPA ACTIVITIES	34.05.271 RCW CATEGORY
White Paper - <i>Ecological Issues in Floodplain and Riparian Corridors</i> . 2001 prepared by Susan Bolton and Jeff Shellberg, University of Washington (available at wdfw.wa.gov/publications/00058/)	This white paper examines and summarizes the literature pertaining to the current state of knowledge on the physical and biological effects of alluvial river channelization, channel confinement, and various channel and floodplain modifications.	<ul style="list-style-type: none"> • Streambank protection and lake shoreline stabilization • Channel relocation and realignment • Large woody material placement, repositioning, and removal in freshwater areas 	iii
White Paper - <i>Dredging Activities: Marine Issues</i> . 2001 prepared by Barbara Nightingale and Charles Simenstad, University of Washington (available at wdfw.wa.gov/publications/00055/)	This white paper examines and summarizes the literature pertaining to the current state of knowledge on the hydrologic, ecological, and biological effects (physical and chemical) of construction and maintenance dredging in saltwater areas associated with navigation channels, marinas, sediment clean-up, as well as other commercial developments.	<ul style="list-style-type: none"> • Dredging in saltwater areas 	iii
White Paper - <i>Dredging and Gravel Removal in Marine and Freshwater Environments</i> , 2002 prepared by G. Mathias Kondolf, Matt Smeltzer, and Lisa Kimball (Center for Environmental Design Research)(available at wdfw.wa.gov/publications/00056/)	This white paper examines and summarizes the literature pertaining to the current state of knowledge on the hydrologic and ecological effects of in-channel bar scalping, risks and avulsions associated with floodplain pits, freshwater dredging, instream sediment sumps and gravel pits, gravel removal.	<ul style="list-style-type: none"> • Dredging in freshwater areas • Sand and gravel removal 	iii

Table 2-4 White papers and two peer review documents consolidated into the Compiled White Paper for Hydraulic Project Approval Habitat Conservation Plan

DOCUMENT CITATION	SUMMARY	RELATED HPA ACTIVITIES	34.05.271 RCW CATEGORY
Bank Protection and Stabilization White Paper (draft) , 2006, by Jones & Stokes Associates, Anchor Environmental, L.L.C., and R2 Resource Consultants (available at wdfw.wa.gov/publications/00996/)	Compiles and summarizes existing scientific information on bank protection and stabilization projects including hard approaches, soft approaches and integrated approaches.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Streambank protection and lake shoreline stabilization • Common saltwater construction provisions • Bank protection in saltwater areas 	iii
Overwater Structures and Non-Structural Piling White Paper , 2006, prepared by Jones & Stokes Associates, Anchor Environmental, L.L.C., and R2 Resource Consultants (available at wdfw.wa.gov/publications/00995/)	Compiles and summarizes existing scientific information on docks, piers, floats, ramps, wharfs, ferry terminals and other structures that are supported above or float on the water. This includes all structural or supporting pilings. Non-structural pilings are individual, non-structural pilings, power poles, transmission lines, conduits, etc. Pilings are driven into the stream, lake, and ocean bed.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Residential and public recreational docks, piers, ramps, floats, watercraft lifts and buoys in freshwater areas • Common saltwater construction provisions • Residential and public recreational docks, piers, ramps, floats, watercraft lifts and buoys in saltwater areas. 	iii
Water Crossings White Paper , prepared for Washington Department of Fish and Wildlife by Jones & Stokes Associates, in association with Anchor Environmental, L.L.C. and R2 Resource Consultants (2006) (available at wdfw.wa.gov/publications/00994/)	Compiles and summarizes existing scientific information on water crossings and utility lines.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Water crossings • Utility crossings in freshwater areas 	iii
Shoreline Modifications White Paper (draft) , 2007, by Herrera Environmental Consultants, Inc. (available at wdfw.wa.gov/publications/01003/)	Compiles and summarizes existing scientific information on jetties, breakwaters, groins, and bank barbs.	<ul style="list-style-type: none"> • Common saltwater construction provisions • Marinas and terminals in saltwater areas. 	iii
Marinas and Shipping/Ferry Terminals White Paper (draft) , 2007, by Herrera Environmental Consultants, Inc. (available at wdfw.wa.gov/publications/00997/)	Compiles and summarizes existing scientific information on marina and terminal structures and the area of alteration.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Marinas and terminals in freshwater areas • Common saltwater construction provisions • Marinas and terminals in saltwater areas 	iii
Fish Passage White Paper (draft) , prepared for Washington Department of Fish and Wildlife by Herrera Environmental Consultants, Inc. in consultation with K. Bates (Working draft 2008, not to be cited)	Compiles and summarizes existing scientific information on construction, maintenance, and operation of fish passage structures.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Fish passage improvement structures 	iii
Fish Screens White Paper (draft) , prepared for Washington Department of Fish and Wildlife by Herrera Environmental Consultants, Inc. (Working draft March 2008, not to be cited)	Compiles and summarizes existing scientific information on construction and maintenance of fish screens.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Water diversions and intakes 	iii
Channel modifications (draft) , 2007, prepared by Herrera Environmental Consultants, Inc. (available at wdfw.wa.gov/publications/01002/)	Compiles and summarizes existing scientific information on channel modification projects including dredging, gravel mining and scalping, sediment capping and channel creation and alignment.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Dredging in freshwater areas • Sand and gravel removal • Channel relocation and realignment • Common saltwater construction provisions • Dredging in saltwater areas 	iii

DOCUMENT CITATION	SUMMARY	RELATED HPA ACTIVITIES	34.05.271 RCW CATEGORY
Flow Control Structures White paper (draft), prepared for Washington Department of Fish and Wildlife by Herrera Environmental Consultants, Inc. (Working draft December 2007, not to be cited)	Compiles and summarizes existing scientific information on flow control structures.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Outfalls in freshwater areas • Water diversions and intakes • Common saltwater construction provisions • Outfalls and tide and flood gate structures in saltwater areas 	iii
Habitat Modifications (draft), 2007, by Herrera Environmental Consultants, Inc. (available at wdfw.wa.gov/publications/00998/)	Compiles and summarizes existing scientific information on beaver dam removal and modification, large woody debris placement, movement and removal, spawning substrate augmentation, in-channel and off-channel habitat creation and modification, riparian planting, restoration and enhancement, wetland creation, restoration and enhancement, beach nourishment, reef creation, restoration and enhancement, and eelgrass and other aquatic vegetation creation, restoration and enhancement.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Beaver dam management • Saltwater habitats of special concern • Common saltwater construction provisions • Artificial aquatic habitat structures 	iii
Peer Review of White Papers Prepared in 2006 for the Hydraulic Project Approval Habitat Conservation Plan: Small-Scale Mineral Prospecting, Overwater Structures and Non-Structural Pilings, Bank Protection and Stabilization, and Water Crossings , 2007, prepared by Duane Phinney, PH2 Consulting Services LLC (available at wdfw.wa.gov/publications/01005/)	Five to seven experts in each topic were selected to conduct the review. Those comments for each white paper were combined and provided to each reviewer of that white paper. A meeting was convened for each white paper after reviewers had time to review the comments of other reviewers. Discussion of important topics for each white paper at these post-review meetings elicited additional comments.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Streambank protection and lake shoreline stabilization • Residential and public recreational docks, piers, ramps, floats, watercraft lifts and buoys in freshwater areas • Mineral prospecting • Common saltwater construction provisions • Residential and public recreational docks, piers, ramps, floats, watercraft lifts and buoys in saltwater areas • Bank protection in saltwater areas 	Not applicable – this is a document in which peer-review comments are provided, and not a science reference itself
Peer Review of White Papers Prepared in 2007 for the Hydraulic Project Approval Habitat Conservation Plan: Channel Modifications, Fish Passage, Flow Control Structures, Habitat Modifications, Fish Screens, Marinas And Shipping/Ferry Terminals, and Shoreline Modifications , 2007, prepared by Duane Phinney, PH2 Consulting Services LLC (available at wdfw.wa.gov/publications/01004/)	Three to five experts reviewed individual white papers. (Two to four Washington Department of Transportation experts reviewed five of the white papers. This is considered as one review.) Those comments for each white paper were combined by white paper section and provided to each reviewer of that white paper. The Peer Review Coordinator subsequently convened a post-review meeting for each white paper.	<ul style="list-style-type: none"> • Common freshwater construction provisions • Marinas and terminals in freshwater areas • Fish passage improvement structures • Water diversions and intakes • Dredging in freshwater areas • Sand and gravel removal • Channel relocation and realignment • Beaver dam management • Outfalls in freshwater areas • Common saltwater construction provisions • Saltwater habitats of special concern • Marinas and terminals in saltwater areas • Dredging in saltwater areas • Artificial aquatic habitat structures • Outfalls and tide and flood gate structures in saltwater areas 	Not applicable, see above

Table 2-6 Summary of Alternatives to Hydraulic Project Regulations (chapter 220-660 WAC)

Note: Provisions of the Rule change alternatives (Alts. 2, 3, and 4) are detailed relative to the no-action alternative (Alternative 1) as represented in the current Hydraulic Code Rules (chapter 220-110 WAC). Provisions of existing rule are not provided on this table. Provisions denoted with * are provisions that are inconsistent with current statute, and would require legislation.

WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
Technical provisions E 220-110-040 E 220-110-230 P 220-660-090	Combines the introductions to the freshwater and saltwater technical provision sections into a single introduction section; no substantive changes to the existing language.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Purpose E 220-110-010 P 220-660-010	Purpose statement intent remains the same, but narrative is restated in a more concise manner.	Same as Alt. 2 (Minor or no comments)	Amends the language to limit HPA authority to projects waterward of the ordinary high water line.
Instructions for using chapter E New section P 220-660-020	Describes how an applicant would follow the common technical provisions for hydraulic projects and how the department uses the provisions to condition HPAs; also refers applicants to WDFW guidance documents for help.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Definitions E 220-110-020 P 220-660-030	<p>Forty-six new definitions are added including the following:</p> <ul style="list-style-type: none"> • The proposed definition of “Fish habitat” means habitat that is used by fish life at any life stage at any time of the year, including potential habitat that is likely to be used by fish life and that could reasonably be recovered by restoration or management, including off-channel habitat. • The definitions of freshwater area, saltwater area, and watercourse are amended to include surface water connected wetlands that provide or maintain fish habitat. • Definitions for maintenance, repair, rehabilitation and replacement are added. These terms are used in the mitigation section to clarify when compensatory mitigation is required or when work must comply with current standards. • Unimpeded fish passage is defined. “Unimpeded fish passage” means the free movement of all fish species at any mobile life stage around or through a human-made or natural structure. 	Same as Alt. 2 (Minor or no comments)	<p>Retains the Alternative 2 definitions except for the following changes:</p> <ul style="list-style-type: none"> • Amend the definition of fish habitat to the following: “Fish habitat” means habitat, which is used by fish life at any life stage at any time of the year. • Remove “wetlands” from the definitions of “freshwater area”, “saltwater area” and “watercourse”. • Delete the definitions of maintenance, repair, rehabilitation and replacement and proposes all these activities should be considered maintenance. • Delete unimpeded from the “unimpeded fish passage”.
Applicability of hydraulic project approval authority E 220-110-035 P 220-660-040	Outdated language transferring hydraulic code authority to DNR for forest practices hydraulic projects in non-fish waters is removed because of the integration of all hydraulic code authority in DNR forest practices. Portable boat hoists and scientific instruments are added to the list of exempt project types.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)

* Requires Statutory change

WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
<p>Procedures E 220-110-030 E 220-110-031 P 220-660-050</p>	<p>Modifies current rules to reflect statutory and policy changes including:</p> <ul style="list-style-type: none"> • Maintains ability to issue “general” or “simplified” HPAs for repair and maintenance projects because these are typically routine in nature and can be pre-conditioned, reserving limited resources for projects that pose higher risk to fish life. • Establishes procedures for applying for two new HPA types established by statute: fish habitat enhancement project (FHEP) and chronic danger HPAs. • Clarifies the procedures for applying for existing HPA types including standard, emergency, imminent danger, expedited, and pamphlet HPAs. Two new standard HPA types, “general HPAs” and “model HPAs” are proposed to streamline the permitting process for low risk hydraulic projects. • Limits multi-site HPAs to five sites, unless the department makes an exception, to ensure site visits can be conducted with the 45-day review period. • Delays issuing HPAs for a minimum of 7 days to allow the Tribes and other entities an opportunity to comment on complete HPA applications. • Allows subsequent minor modifications to an existing HPA permit provided the modifications do not adversely affect fish life. Clarifies how the department processes HPA applications. 	<p>Retains the Alternative 2 language except for the following changes:</p> <ul style="list-style-type: none"> • Remove the ability to issue “general” or “model” HPAs due to concerns that the opportunity for a meaningful and useful individual project review is removed to achieve streamlining. • Delay issuing HPAs for a minimum of 20 days to allow the Tribes and other entities an opportunity to comment on the complete HPA application. • Provide Tribes an opportunity to comment on emergency, imminent danger, expedited, and HPAs with minor modifications before they are issued. * • Allow one minor modification to an existing HPA permit, provided modifications do not adversely affect fish life. • Create a pamphlet for the removal of impacted fine grained sediments and sand from spawning gravel stream beds deposited there as a result of surface water runoff discharge into streams. * • Eliminate the \$150 application fee for restoration projects. * • Authorize additional types of fish habitat enhancement projects. * 	<p>Retains the Alternative 2 language except for the following changes:</p> <ul style="list-style-type: none"> • Remove the limit on the number of sites covered in a multi-site HPA. • Add more flexibility on how an emergency, imminent danger or chronic danger is declared, and additional positions authorized to make these declarations to improve the efficiency and ease for government agencies to receive HPAs. *
<p>Integration of hydraulic projects approvals and forest practices applications E 220-110-085 P 220-660-060</p>	<p>Retains the existing section that was added in 2013 to implement SB 6406. The amendment required the integration of Hydraulic Code Rule fish protection standards (Title 220 WAC) into the forest practices rules for hydraulic projects in fish-bearing waters on forest land. The rules stipulate how the department will work with DNR and the applicant.</p>	<p>Same as Alt. 2 (Minor or no comments)</p>	<p>The Alternative 2 language would be replaced by a new section that repeats the all of the rules applicable to forest practices.</p>
<p>Changes to hydraulic project approval technical provisions E 220-110-032 P 220-660-070</p>	<p>Retains the 1994 rule language that allows the department to add, modify and delete technical provisions when certain criteria are demonstrated. Language is also added to allow the department to modify and delete technical provision that are not possible to comply with due to geological, engineering or environmental constraints or safety concerns;</p>	<p>Same as Alt. 2 (Minor or no comments)</p>	<p>Retains the Alternative 2 language except for the following change:</p> <ul style="list-style-type: none"> • Remove this clause "loss of or injury to fish or shellfish, or the loss or permanent degradation of the habitat that supports the fish and shellfish populations" and replace it with "will be protective of fish life."

* Requires Statutory change

WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
Mitigation requirements for hydraulic projects E New Section P 220-660-080	Incorporates statutes and policies adopted since 1994 and includes the following: <ul style="list-style-type: none"> Establishes the baseline for measuring impacts as the existing habitat condition. Does not require compensatory mitigation for maintenance projects (routine, repair, rehabilitation, and replacement) unless the maintenance work caused a new impact not associated with the original work. Requires design and construction of rehabilitation and replacement projects to comply with the proposed rules. 	Retains the Alternative 2 language except for the following changes: <ul style="list-style-type: none"> Require compensatory mitigation for cumulative impacts.* Require compensatory mitigation for maintaining or repairing a structure that currently diminishes habitat and/or perpetuates impacts into the future. Require the same mitigation for rehabilitation or replacement of structurally deficient or functionally obsolete structures that is required for new structures (including mitigation). 	Retains Alternative 2 language except for the following changes: <ul style="list-style-type: none"> Do not require compensatory mitigation for routine maintenance, repair, rehabilitation, or replacement of the structure even if new impacts to fish life occurred as a result of the work. Delete the provision "mitigation must compensate for temporal loss, uncertainty of performance, and differences in habitat functions, type, and value" because these values are difficult to quantify.
Freshwater habitats of special concern E New section P 220-660-100	Identifies freshwater habitats of special concern for priority fish species. This habitat requires protective measures for priority fish species due to their population status or sensitivity to habitat alteration.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Authorized work times in freshwater areas E New section P 220-660-110	Specifies the criteria the department will follow to determine when work should occur. The criteria include life history stages of fish life present, the expected impact of the work, BMPs proposed by the project proponent, weather, and other conditions. Requires the department to publish the times when spawning salmonids and their eggs and fry are least likely to be in freshwaters of Washington.	Retains Alternative 2 provisions except the following: <ul style="list-style-type: none"> All in-water work would be prohibited during times of the year when spawning salmonids and their incubating eggs are likely to be present regardless of the expected impact from the work, best management practices, weather, and other conditions. 	Same as Alt. 2 (Minor or no comments)
Common freshwater construction provisions E New section P 220-660-120	Combines the common construction provisions that apply to many freshwater projects into a single section. New provisions are added for staging areas, job site access, equipment use, materials, water quality protection, aquatic work area isolation, diversion pumps, fish removal and demobilization, and cleanup.	Retains Alternative 2 provisions except for the following change: <ul style="list-style-type: none"> The use of all treated wood and tires would be prohibited. 	Retains Alternative 2 provisions except for the following provisions would be removed: <ul style="list-style-type: none"> Remove sections eight through twelve. (8) In-water work area isolation using block nets (9) In-water work area isolation using a temporary bypass (10) In-water work area isolation using a cofferdam structure (11) In-water work without a bypass or cofferdam (12) Fish removal

* Requires Statutory change

WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
<p>Streambank protection and lake shoreline stabilization E 220-110-050 E 220-110-223 P 220-660-130</p>	<p>New restrictions are added to the existing rules including the following:</p> <ul style="list-style-type: none"> Separate provisions for design and construction to clarify when standards apply. Allows the department to require an applicant to submit a qualified professional's rationale with the HPA application for a new or replacement structure extending waterward of the existing structure or bankline. Requires the permittee to avoid or minimize adverse impacts to fish life by using the least impacting technically feasible alternative. Benchmarks must be established so the department can verify compliance with the approved plans. In cases where the bankline of a river or stream has changed as a result of meander migration or lateral erosion and a new ordinary high water line has formed landward of an existing lake bulkhead, the rule requires the current location of the new bank be maintained with some exceptions. 	<p>Retains Alternative 2 provisions except for the following changes:</p> <ul style="list-style-type: none"> The department would always require an engineer's report that unequivocally determines bank protection or shoreline stabilization is needed to protect infrastructure before allowing any form of bulkhead or armoring work. If protection is warranted, the department would firmly require a biotechnical solution unless an engineer clearly finds that a hard bulkhead is the only option. The placement of new and replacement structures would have to consider climate change. 	<p>Same as Alt. 2 (Minor or no comments)</p>
<p>Residential and public recreational docks, piers, ramps, floats watercraft lifts, and buoys in freshwater areas E 220-110-060 P 220-660-140</p>	<p>Adds new provisions for overwater structures in waterbodies where impacts to fish spawning areas and to juvenile salmonid migration corridors and feeding and rearing areas are a concern. Provisions are also added to the existing rules for the following:</p> <ul style="list-style-type: none"> Pile design Steel impact driving sound attenuation Watercraft lift design Mooring buoy design Residential and public recreational dock, pier, ramp, float, watercraft lift, and buoy construction. 	<p>Retains Alternative 2 provisions except for the following change:</p> <ul style="list-style-type: none"> All docks, piers, ramps and floats would have 100% of the deck covered in grating. 	<p>Retains Alternative 2 except for the following changes:</p> <ul style="list-style-type: none"> Remove all grating requirements because some research shows the sunlight penetrated through the grating on average about 10% more than traditional planked decking. Do not specify pier height or width requirements for waterbodies where impacts to juvenile salmonid migration corridors and feeding and rearing areas are a concern.
<p>Boat ramps and launches in freshwater areas E 220-110-224 P 220-660-150</p>	<p>New provisions are added to the existing rules for boat ramp and launch design and construction to minimize impacts to the bed including fish spawning areas, the movement of wood and sediment, and juvenile fish migration, feeding, and rearing areas.</p>	<p>Same as Alt. 2 (Minor or no comments)</p>	<p>Same as Alt. 2 (Minor or no comments)</p>
<p>Marinas and terminals in freshwater areas E New section P 220-660-160</p>	<p>A new section is added for marina and terminal design, construction, and maintenance. The maintenance provisions align with a change to the statute.</p>	<p>Same as Alt. 2 (Minor or no comments)</p>	<p>Retains Alternative 2 except for the following change:</p> <ul style="list-style-type: none"> Acknowledge the different purposes, requirements, and constraints of bulkheads and other bank stabilization in the marina/marine terminal environment.

* Requires Statutory change

WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
Dredging in freshwater areas E 220-110-130 P 220-660-170	New provisions are added to the existing rules to allow the department to assess impacts more accurately and includes the following provisions: <ul style="list-style-type: none"> The department may require quantitative analysis of the extraction rate to determine impacts to sediment transport and delivery. The department may require multi-season pre- and post-dredge project bathymetric or biological surveys. The department will evaluate the potential impacts of dredging and the disposal of dredged materials in eulachon spawning areas. 	Retain Alternative 2 provisions except for the following changes: <ul style="list-style-type: none"> Include rules for removing gravel and debris from small streams in the proposed rule changes. Require scientific justification to prove that dredging will resolve flooding problems before any HPAs for dredging are issued. 	Retain Alternative 2 provisions except for the following changes: <ul style="list-style-type: none"> Include rules for removing gravel and debris from small streams in the proposed rule changes. Authorize dredging in fish spawning areas.
Sand and gravel removal E 220-110-140 P 220-660-180	A new provision is added to the existing rules to clarify that the department may require quantitative analysis of the extraction rate to determine impacts to sediment transport and delivery. This new provision would allow the department to assess impacts more accurately.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Water crossing structures E 220-110-070 P 220-660-190.	Retains current rule language for no-slope culvert design. Hydraulic culvert design provisions are moved to the fish passage improvement structure section. New provisions are added for design of the stream-simulation and an alternative culvert design methods. Some of the current language for bridges is retained but new provisions are added for design and construction. New provisions are added for design and construction of temporary fords.	Retains Alternative 2 provisions except for the following changes: <ul style="list-style-type: none"> Include language that requires permittees to install stream simulation culverts unless the permittee can show that stream simulation is not feasible, or that another design will provide equal or better protection of fish life. Remove the no-slope design alternative because it is inconsistent with the recent federal court order regarding state culverts because no-slope designed culverts are often found to impede fish passage. Move this design approach to the fish passage improvement section. 	Retains Alternative 2 provisions except for the following changes: <ul style="list-style-type: none"> The culvert design standards would be removed. The designs proposed are not based on technically sound engineering practices and are not justified by significant research. The bridge design standards would be amended because they may require the preparation of multiple designs so that the cost differential can be quantified, thus increasing the time and costs associated with all bridge projects. Amend the rules to allow American Association of State Highway and Transportation Officials and Federal Highway Administration standards (by name) because they have been well vetted by the engineering community. Amend the rules to use a channel forming flow, such as the 2-year flood, instead of a rare flood like the 100-year to evaluate how changes in flow velocity will affect fish life. WDFW's focus should be on fish life and the channel below the OHWL. Over the course of a bridge's lifespan, the flow velocity during the 100-year flood will have less influence on the channel form than the 2-year flood. Remove the three-feet of clearance for bridges.

* Requires Statutory change

WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
Fish passage improvement structures E New section P 220-660-200	A new section is added for design, construction, and maintenance of fish ladders, weirs constructed for fish passage, roughened channels, trap and haul operations, and hydraulic design culvert retrofits. Designs must have an engineer’s approval and meet specific criteria. The structures must be inspected and maintained.	Retains Alternative 2 provisions except for the following changes: <ul style="list-style-type: none"> • All structures would be temporary and a timeframe would be established in rule for a permanent solution to be implemented. • Roughened channel would be a temporary solution used only in extreme circumstances with a valid reason why a more reliable fish passage method (e.g. stream simulation or bridge) cannot be used. • Hydraulic design option culverts would have limited application in exceptional circumstances where constraints prevent the use of bridges, no-slope and stream simulation culverts. 	Retains Alternative 2 provisions except for the following change: <ul style="list-style-type: none"> • The department would not require compensatory mitigation if a fish passage structure cannot pass all fish species present at all mobile life stages.
Channel change and realignment E 220-110-080 P 220-660-210	The following new provision is added to the existing rules for channel change and realignment design: <ul style="list-style-type: none"> • A channel change may be approved if: • Permanent new channels are similar to the old channel in length, width, depth, flood plain configuration, and gradient, and • The new channel incorporates fish habitat components, bed materials, meander configuration, and native or other approved vegetation that provides better protection for fish life than that which previously existed in the old channel. 	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Large woody material placement, repositioning and removal in freshwater areas E 220-110-150 P 220-660-220	The following new provisions are added to the existing rules for placement of large woody material: <ul style="list-style-type: none"> • The department will approve the repositioning or removal of large woody material within the watercourse when needed to protect life, the public, property, or when needed to construct or mitigate for a hydraulic project. The department will require a person to place the repositioned or removed wood directly back in the channel unless there are engineering, legal, safety, or environmental constraints. When these constraints are present, the department may approve the placement of repositioned or removed wood in the floodplain, side channels, along banks, or in the marine nearshore. If wood must be removed from the waterbody because of legal or safety constraints, the department will require compensatory mitigation if the removal of the wood diminishes fish habitat function or value. • The department will approve placing large wood back in the channel to improve fish habitat. This may include placing channel-spanning logs, creating log jams, or introducing a single large log or rootwads to the channel. Large woody material may be stabilized against buoyant forces and hydraulic drag forces that may mobilize wood during flood flows by pinning, anchoring, or burying woody material in the floodplain. 	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)

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WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
Beaver dam management E New section P 220-660-230	A new section is added for beaver dam removal, breaching, or modification and the design and construction of beaver deceivers and pond water level control devices.	Retains Alternative 2 provisions except for the following change: • The department would require a professional determination that there is an imminent threat to property or the environment before issuing an HPA for removal of a beaver dam.	Same as Alt. 2 (Minor or no comments)
Pond construction E 220-110-180 P 220-660-240	Retains current rules except the following provision is removed because the department cannot enforce the provision: • Pond construction activities involving a diversion of state waters shall be dependent upon first obtaining a water right.	Retains Alternative 2 provisions except for the following change: • Applicants would be required to demonstrate they have a valid water right to apply for HPA for water diversions.	Same as Alt. 2 (Minor or no comments)
Water diversions and intakes E 220-110-190 P 220-660-250	Retains current rules except the following provision is removed because the department cannot enforce the provision: • The exercise of project activity associated with the diversion of state waters shall be dependent upon first obtaining a water right.	Retains Alternative 2 provisions except for the following change: • Applicants would be required to demonstrate they have a valid water right to apply for HPA for water diversions.	Same as Alt. 2 (Minor or no comments)
Outfall structures in freshwaters areas E 220-110-170 P 220-660-260	Retains current rules except language is added to reflect statutory changes to the department's authority to regulate stormwater including the following: • The department may not provision HPAs for storm water discharges in locations covered by a national pollution discharge elimination system municipal storm water general permit for water quality or quantity impacts. The HPA is required only for the actual construction of any storm water outfall or associated structures. • In locations not covered by a national pollution discharge elimination system municipal storm water general permit, the department may provision HPAs to protect fish life from adverse effects, such as scouring or erosion of the bed of the water body, resulting from the direct hydraulic impacts of the discharge.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Utility crossings in freshwater areas E 220-110-100 P 220-660-270	Retains current rules except language is added for utility line design and directional drilling.	Retains Alternative 2 provisions except for the following change: • The department would require that conduit lines in watercourses would not constrict the channel or preclude future opportunities for bridges or other less-impacting approaches to water crossings.	Same as Alt. 2 (Minor or no comments)
Felling and yarding of timber E 220-110-160 P 220-660-280	Retains current rule provisions.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)

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Aquatic plant removal and control E 220-110-331 E220-110-332 E 220-110-333 E 220-110-334 E 220-110-335 E 220-110-336 E 220-110-337 E 220-110-338 P 220-660-290	Consolidates eight sections into one section, and retains current rule provisions. The only substantial change is the addition of a new section that explains the statutory limits of our authority.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Mineral prospecting E 220-110-200 E 220-110-201 E 220-110-202 E 220-110-206 P 220-660-300	Consolidates four sections into one section and retains the current rule provisions. An additional sub-section is added to allow mineral prospecting on ocean beaches to occur under the Gold and Fish pamphlet.	Retains Alternative 2 provisions except additional timing restrictions would be added.	Retains Alternative 2 provisions except for the timing windows would be changed the 1994 timing windows.
Tidal reference areas E 220-110-240 P 220-660-310	No change from current rules.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Saltwater habitats of special concern E 220-110-250 P 220-660-320	Retains the current rule provisions for saltwater habitats of special concern except rock sole spawning beds that are removed because rock sole are not obligate beach spawning fish. Olympia oyster settlement areas are added. Nearshore zone geomorphic processes that form and maintain habitat are also added. These include sediment supply and transport; beach erosion and sediment accretion; distributary channel migration; and tidal channel formation and maintenance.	Retain Alternative 2 provisions except for the following change: <ul style="list-style-type: none"> Rock sole spawning beds would be retained as a saltwater habitat of special concern. 	Alternative 2 provisions except the following language would be changed to read: "The presence of saltwater habitats of special concern may restrict project type, design, location, and timing." Remove the phrase "adjacent areas".
Authorized work times in saltwater areas E 220-110-271 P 220-660-330	Retains current rule work times in Pacific sand lance spawning beds and lingcod settlement and nursery areas. Reduces work times in juvenile salmonid migration corridors and feeding and rearing areas by two months. Retains work times in herring spawning beds except work times are added for two additional tidal reference areas that did not have restrictions. The work time in or adjacent to rock sole spawning beds is removed because rock sole are not obligate beach spawning fish. <ul style="list-style-type: none"> Where the smelt spawning season is six months or longer, adds a new requirement that work must be started within seventy-two hours of a survey. 	Retain Alternative 2 provisions except for the following changes: <ul style="list-style-type: none"> Work times would apply to potential (suspected) as well as documented spawning areas. Apply work times regardless of the expected impact from the work. Add work times for rock sole spawning beds. 	<ul style="list-style-type: none"> Alternative 4 would retain the Alternative 1 authorized work times. Additional monitoring would be required for projects. This will allow work to continue as previous but will monitor where/when aquatic life is entering the project area.

* Requires Statutory change

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Intertidal forage fish spawning bed surveys E New section P 220-660-340	This new section requires a biologist who conducts forage fish spawning surveys to complete the department’s forage fish spawning beach survey training. A biologist must follow the department-approved intertidal forage fish spawning protocol and use the standard department data sheets when conducting forage fish spawning beach surveys. New WAC section	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Seagrass and macroalgae habitat surveys E New section P 220-660-350	This new section clarifies when seagrass and macroalgae habitat surveys are required, diver qualifications, and the survey protocol.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Common construction provisions for saltwater areas E 220-660-270 P 220-110-360	Retains current rule language and adds new provisions for staging areas, job site access, equipment use, vessel operation, materials, and demobilization and cleanup.	Retain Alternative 2 provisions except for the following changes: • The use of treated wood and tires would be prohibited.	Same as Alt. 2 (Minor or no comments)
Bank protection in saltwater areas E 220-110-280 P 220-660-370	The non-single family and single-family residence bank protection provisions are combined into one section. The current rules are retained except for the following changes: • If a new OHWL re-establishes landward of a bulkhead protection structure because of a breach, the department will consider this re-established OHWL to be the existing OHWL if the structure isn’t repaired within three years. • Design alternatives are listed from the most preferred to the least. • An HPA application for new, replacement, or rehabilitated bulkhead or other bank protection work must include a site assessment, alternatives analysis, and design rationale by a qualified professional. This only applies to non-single family bank protection structures.	Retain alternative 2 except for the following changes for single-family residence bulkheads processed under RCW 77.55.141: • All bank protection, even single-family residences, must use the least impacting feasible bank protection design. * • All HPA applications for new, replacement, or rehabilitated bulkhead or other bank protection work must include a site assessment, alternatives analysis, and design rationale by a qualified professional. *	Same as Alt. 2 (Minor or no comments)

* Requires Statutory change

WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
Residential and public recreational docks, piers, ramps, floats watercraft lifts, and buoys in saltwater areas E 220-110-300 P 220-660-380	The current rules are retained for overwater structures except for the following changes: <ul style="list-style-type: none"> • The department will require that new structures are designed with a pier and ramp to span the intertidal beach, if possible. • Structures must be located at least twenty-five feet (measured horizontally from the nearest edge of the structure) and four vertical feet away from seagrass and kelp at extreme low water. • A structure must have been usable at the site within the past twelve months of the time of application submittal to be considered a replacement structure. • The replacement of more than thirty-three percent or two hundred and fifty square feet of decking or replacement of decking substructure requires installation of functional grating. • Design requirements are added to reduce impacts from shading and grounding. • Provisions are added for the design and construction of mooring buoys and watercraft lifts. • Provisions are added for removing creosote piling. • A provision is added to require sound attenuation when installing steel piling with an impact pile driver. 	Retain Alternative 2 provisions except for the following changes: <ul style="list-style-type: none"> • Prohibit the construction of new docks in documented herring spawning areas. • Require 100% grating of docks and floats. • Require mooring buoys to be a certain distance from seagrass and macroalgae. 	Same as Alt. 2 (Minor or no comments)
Boat ramps and launches in saltwater areas E New section P 220-660-390	This new section lists design alternatives from the most preferred to the least. <ul style="list-style-type: none"> • New design requirement to avoid and minimize impacts to bed, littoral drift cells, and saltwater habitats of special concern. 	Same as Alt. 2 (Minor or no comments)	Retain the language in Alternative 2 but delete the following provisions: <ul style="list-style-type: none"> • Design and locate the boat ramp or launch to avoid adverse impacts to saltwater habitats of special concern. • The department may require an eelgrass/macroalgae habitat survey for all new ramp or launch construction. A survey is not required to replace an existing structure within its original footprint. • Design and locate boat ramps and launches to avoid and minimize excavation below the OHWL.

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WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
<p>Marinas and terminals in saltwater areas E 220-110-330 P 220-660-400</p>	<p>The current rules are retained for marinas and rules for marine terminals are added.</p> <ul style="list-style-type: none"> • When possible, locate new marinas and terminals in areas that will minimize impacts to fish life. • Locate new marinas and terminals to avoid and minimize impacts to seagrass and kelp. • Locate new marinas and terminals in naturally deep areas to avoid or minimize dredging. • Locate new marinas and terminals in areas deep enough to avoid or minimize propeller wash impacts to the bed. • Locate new marinas and terminals in areas with existing low or impaired biological value. • Design and construct marinas and terminals so that most overwater coverage is in the deepest water possible; this is necessary to allow light penetration to the intertidal and shallow subtidal areas. • Provisions are added for removing creosote piling. • A provision is added to require sound attenuation when installing steel piling with an impact pile driver. • Provisions are added for marina and marine terminal maintenance to incorporate a statutory change. 	<p>Retain the language in Alternative 2 but add the following provision:</p> <ul style="list-style-type: none"> • New and expanded docks, wharves, piers, marinas, rafts, shipyards and terminals must be at least a specified buffer distance from existing native aquatic vegetation attached to or rooted in substrate. 	<p>Retains Alternative 2 except for the following change:</p> <ul style="list-style-type: none"> • Acknowledge the different purposes, requirements, and constraints of bulkheads and other bank stabilization in the marina/marine terminal environment.
<p>Dredging in saltwater areas E 220-110-320 P 220-660-410</p>	<p>Retains the current rule provisions for dredging in saltwater areas except the following new provisions are added:</p> <ul style="list-style-type: none"> • The department may require hydrodynamic modeling for new dredging projects and expansions. • Design project to avoid dredging and expansions that convert intertidal to subtidal habitat. 	<p>Same as Alt. 2 (Minor or no comments)</p>	<p>Same as Alt. 2 (Minor or no comments)</p>
<p>Artificial aquatic habitat structures in saltwater areas E New section P 220-660-420</p>	<p>This new section includes provisions for designing and constructing artificial aquatic habitat structures that must meet one or more of the following needs:</p> <ul style="list-style-type: none"> • Enhance fish viewing opportunity at a specific location; • Enhance or conserve aquatic resources; or • Mitigate for impacted fish habitat. 	<p>Same as Alt. 2 (Minor or no comments)</p>	<p>Same as Alt. 2 (Minor or no comments)</p>

* Requires Statutory change

WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
Outfalls and tide and flood gates in saltwater areas E New section P 220-660-430	This new section includes the statutory limits of our authority, and provisions for the design and construction of stormwater outfall and tide and floodgate projects including the following: <ul style="list-style-type: none"> • The department may not provision HPAs for storm water discharges in locations covered by a national pollution discharge elimination system municipal storm water general permit for water quality or quantity impacts. An HPA is required only for the actual construction of any stormwater outfall or associated structures. • In locations not covered by a national pollution discharge elimination system municipal storm water general permit, the department may issue HPAs that contain provisions to protect fish life from the direct hydraulic impacts of the discharge, such as scouring or erosion of the waterbody bed. • The department may not require a fishway on a tide gate, flood gate, or other associated human-made agricultural drainage facilities as a provision of a permit if such a fishway was not originally installed as part of an agricultural drainage system existing on or before May 20, 2003. 	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Utility crossing in saltwater areas E 220-110-310 P 220-660-440	Retains the current rule provisions for utility lines except for the following change: <ul style="list-style-type: none"> • The department may require an eelgrass/macroalgae habitat survey for new construction. 	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Test boring in saltwater areas E New section P 220-660-450	This new section includes provisions to protect water quality during boring projects.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Informal appeal of adverse administrative actions E 220-110-340 P 220-660-460	Retains the current rule provisions.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)
Formal appeal of administrative actions E 220-110-350 P 220-660-470	Retains the current rule provisions.	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)

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WAC TITLE (E) EXISTING (P) PROPOSED	ALTERNATIVE 2 WDFW PROPOSED RULE CHANGES	ALTERNATIVE 3 INCREASED PROTECTION FOR THE NATURAL ENVIRONMENT	ALTERNATIVE 4 INCREASED PROTECTION FOR THE BUILT ENVIRONMENT
Compliance E 220-110-360 P 220-110-480	Retains the current rule provisions and adds the following language for civil enforcement: <ul style="list-style-type: none"> • The department will develop programs to encourage voluntary compliance by providing technical assistance consistent with statutory requirements. • The department may issue a notice of correction. • The department may issue a civil penalty provided for by law without first issuing a notice of correction only under specific circumstances: <ul style="list-style-type: none"> • The person has previously been subject to an enforcement action for the same or similar type of violation; or • Compliance is not achieved by the date set by the department in a previously issued notice of correction; or • The violation has a probability of placing a person in danger of death or bodily harm, has a probability of causing more than minor environmental harm, or has a probability of causing physical damage to the property of another in an amount exceeding one thousand dollars; or • The violation was committed by a business that employed fifty or more employees on at least one day in each of the preceding twelve months. 	Same as Alt. 2 (Minor or no comments)	Same as Alt. 2 (Minor or no comments)

* Requires Statutory change

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* Requires Statutory change

Table 4-2 Regulated Project Activities, Risk of Probable Significant Adverse Environmental Impact, and Provisions of the Alternatives Affecting That Risk

REGULATED HYDRAULIC PROJECTS ACTIVITY (WAC)	POTENTIAL IMPACTS TO FISH CAUSED BY HYDRAULIC PROJECTS	COMPARISON OF ALTERNATIVE 2 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION	COMPARISON OF ALTERNATIVE 3 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION	COMPARISON OF ALTERNATIVE 4 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION
Purpose E 220-110-010 P 220-660-010	Not Applicable	No change to risk of impacts	No alternative	Increases risk of impacts <ul style="list-style-type: none"> The Commission would restrict how the department could use our authority to projects conducted waterward of OHWL. This would increase the risk to fish life from bank protection, bridge, levee and dike and other projects conducted landward of the OHWL.
Instructions for using chapter E New section P 220-660-020	Not Applicable	No change to risk of impacts	No alternative	No alternative
Definitions E 220-110-020 P 220-660-030	Not Applicable	Reduces the risk of impacts <ul style="list-style-type: none"> The new and amended definitions clarify the intent of the terms as they relate to the rules. Improved understanding of the terms may lead to improved compliance with the rules. 	No alternatives	No change to risk of impacts <ul style="list-style-type: none"> Retaining the current definitions of “freshwater area”, “saltwater area” and “watercourse” and removing new definitions for “fish habitat” and “unimpeded fish passage” would not change the risk. It would just reduce clarity about how the rules are applied.
Applicability of hydraulic project approval authority E 220-110-035 P 220-660-040	Not Applicable	No change to risk of impacts <ul style="list-style-type: none"> Minimal changes are proposed to the existing rules. 	No alternative	<ul style="list-style-type: none"> No alternative
Procedures E 220-110-030 E 220-110-031 P 220-660-050	Not Applicable	No change to risk of impacts <ul style="list-style-type: none"> The time saved on processing applications for the low-risk project types authorized in general HPAs and “model HPAs” is spent on higher risk projects. Other changes to the procedures implement changes to the statute. 	Reduced risk of impacts <ul style="list-style-type: none"> WDFW would issue standard HPAs for the ~2000 projects authorized each year in general HPAs. The reduced risk assumes an increase in staffing to process the 2,000 additional applications. Increases risk of impacts If there is no increase in staffing, WDFW would have to use more staff resources to process low risk applications reducing the amount of time spent on medium and high risk projects. 	No change to risk of impacts <ul style="list-style-type: none"> The limit on the number of sites that can be covered in a multi-site HPA would be removed. The number would be determined by each individual biologist based on work load.

REGULATED HYDRAULIC PROJECTS ACTIVITY (WAC)	POTENTIAL IMPACTS TO FISH CAUSED BY HYDRAULIC PROJECTS	COMPARISON OF ALTERNATIVE 2 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION	COMPARISON OF ALTERNATIVE 3 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION	COMPARISON OF ALTERNATIVE 4 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION
Integration of hydraulic projects approvals and forest practices applications E 220-110-085 P 220-660-060	Not Applicable	No change to risk of impacts • No change is proposed to the existing rules.	No Alternative	No change to risk of impacts • Repeating the rules applicable to forest practices would not change the risk to fish life.
Changes to hydraulic project approval technical provisions E 220-110-032 P 220-660-070	Not Applicable	No change to risk of impacts • Minimal changes are proposed to the existing rules.	No alternative	Increases risk of impacts • This clause "loss of or injury to fish or shellfish, or the loss or permanent degradation of the habitat that supports the fish and shellfish populations" would be replaced by "will be protective of fish life." This change would be less protective than the existing language 220-110-032(4).
Mitigation requirements for hydraulic projects E New Section P 220-660-080	Not Applicable	No change to risk of impacts. • The new WAC section clarifies how the department determines mitigation requirements to protect fish life. "Protection of fish life" means avoiding and minimizing impacts to fish life and fish habitat through mitigation sequencing.	Reduces risk of impacts Requiring compensatory mitigation for the following would reduce the risk of impacts to habitat: • Maintaining or repairing a structure that currently diminishes habitat and/or perpetuates impacts into the future; and • Rehabilitation or replacement of structurally deficient or functionally obsolete structures that is required for new structures.	Increases risk of impacts • Not requiring "compensatory mitigation for all work that causes a new impact or compensation for temporal loss, uncertainty of performance, and differences in habitat functions, type, and value" will increase the risk of impacts. This doesn't conform with the mitigation policy dated 01/08/99.
Technical Provisions E 220-110-040 E 220-110-230 P 220-660-090	Not Applicable	No change to risk of impacts	No alternative	No alternative
Freshwater habitats of special concern E New section P 220-660-100	Not Applicable	Reduces risk of impacts • New WAC section identifies habitats that serve essential functions for twenty-two freshwater fish species. The presence of these habitats may restrict hydraulic project type, design, location, and timing.	No alternative	No alternative
Authorized work times in freshwater areas E New section P 220-660-110	Not Applicable	Reduces risk of impacts • New WAC section describes the criteria the department will to authorize work to protect fish life during critical life stages.	Reduces risk of impacts • The work times in the table "Times when spawning or incubating salmonids are least likely to be within Washington State freshwaters" would apply to all in-water projects regardless of the risk to fish life from the work.	No alternative

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<p>Common freshwater construction provisions E New section P 220-660-120</p>	<ul style="list-style-type: none"> • Aquatic vegetation modifications • Disturbance of streambank or lake shoreline • Direct loss of habitat • Riparian vegetation modifications • Entrainment, stranding and handling impacts to fish • Water quality modifications 	<p>Reduces risk of impacts</p> <ul style="list-style-type: none"> • New WAC section has additional construction provisions for job site access, equipment use, sediment and erosion control reduce impacts to sensitive areas and water quality. New provisions for construction materials and work area isolation reduce impacts to water quality. The new work area isolation and fish removal provisions also protect fish from entrainment, stranding and handling. 	<p>Reduces risk of impacts</p> <ul style="list-style-type: none"> • The use of all treated wood and tires would be prohibited. This would reduce risk of water quality modifications. 	<p>No change to risk of impacts</p> <ul style="list-style-type: none"> • The work area isolation and fish removal provisions would not be included into the new rules. The existing provisions in the current rules would be retained.
<p>Streambank protection and lake shoreline stabilization E 220-110-050 E 220-110-223 P 220-660-130</p>	<ul style="list-style-type: none"> • Aquatic vegetation modification • Alteration of fish migration patterns • Disturbance of streambank and lake shoreline • Direct loss of habitat • Disturbance of riparian vegetation • Disturbance of substrate • Alteration of stream morphology • Alteration of sediment delivery and movement patterns • Water quality modifications 	<p>Reduces risk of impacts</p> <ul style="list-style-type: none"> • A new provision would require a professional’s rationale to ensure new bank protection is designed with a less impacting technically feasible alternative. • New provisions require designs to consider the ecological and geomorphological processes. This reduces alteration of the stream morphology, sediment delivery and movement and disturbance of the substrate. • New provisions restrict location of replacement structures once a new ordinary high water line has reestablished. This reduces alteration of the stream morphology. 	<p>Reduces the risk of impacts</p> <ul style="list-style-type: none"> • A new provision would always require a professional’s rationale to ensure new bank protection is designed with a less impacting technically feasible alternative. This would provide a professional third party opinion to help the department determine if the least impacting option is being proposed by the applicant. • The design and location of new and replacement structures would have to consider climate change. This would reduce the risk of future alteration of the stream morphology, sediment delivery and movement and disturbance of the substrate. 	<p>No change to risk of impacts</p> <ul style="list-style-type: none"> • A new provision to require a professional’s rationale would not be included in the new rules. This is not in the current rules. The existing rules rely on the judgment of the department.
<p>Residential and public recreational docks, piers, ramps, floats, watercraft lifts, and buoys in freshwater areas E 220-110-060 P 220-660-140</p>	<ul style="list-style-type: none"> • Alteration of light regime • Aquatic vegetation modifications • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Direct loss of habitat • Riparian vegetation modifications • Disturbance of substrate • Elevated underwater sound impacts to fish • Water quality modifications 	<p>Reduces risk of impacts</p> <ul style="list-style-type: none"> • New provisions require designs to avoid and minimize impacts to freshwater habitats of special concern. This reduces the risk of impacts from alteration of the light regime, aquatic vegetation modifications, alteration of migration patterns, and disturbance of substrate. • New pile driving provisions reduce the risk of impacts from elevated sound. • New provisions for the removal of treated wood piling reduce risk from water quality modification. 	<p>Reduces risk of impacts</p> <ul style="list-style-type: none"> • New provisions for grating would be changed to require grating to cover 100% of the deck regardless of the orientation, width and height of the structure. This will reduce the risk of impacts from alteration of the light regime, aquatic vegetation modifications, and alteration of migration patterns. 	<p>No change to risk of impacts</p> <ul style="list-style-type: none"> • The provisions for grating and those specifying pier height and width would be removed. These are not in the current rules.

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Boat ramps and launches in freshwater areas E 220-110-224 P 220-660-150	<ul style="list-style-type: none"> • Alteration of light regime • Aquatic vegetation modifications • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Direct loss of habitat • Riparian vegetation modifications • Disturbance of substrate • Alteration to stream morphology • Alteration to sediment delivery and movement patterns 	Reduces risk of impacts <ul style="list-style-type: none"> • New provision requires locating ramps and launches to avoid direct loss of spawning habitat. • New design provisions reduce the risk of alteration of light regime, migration patterns, stream morphology and sediment delivery and movement. 	No alternative	No alternative
Marinas and terminals in freshwater areas E New section P 220-660-160	<ul style="list-style-type: none"> • Alteration of light regime • Aquatic vegetation modifications • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Direct loss of habitat • Riparian vegetation modifications • Disturbance of substrate • Elevated underwater sound • Water quality modifications 	Reduces risk of impacts <ul style="list-style-type: none"> • This new WAC section requires designs to avoid impacts to fish spawning areas and juvenile salmon migration corridors, rearing and feeding areas. This reduces risk of alteration of the light regime and migration patterns. • A provision requires new facilities to avoid and minimize impacts to aquatic vegetation. • Several provisions require the location of facilities in areas that will reduce impacts to fish life, where possible. This reduces the risk of impacts from aquatic vegetation modifications, alteration of migration patterns, disturbance of substrate, and alteration of stream morphology and sediment movement and delivery. • Pile driving provisions reduce the risk of impacts from elevated sound. • New provisions for the removal of treated wood piling reduce risk from water quality modification. 	No alternative	No increased risk of impacts <ul style="list-style-type: none"> • Provisions would be added for bulkheads and other bank stabilization in the marina/marine terminal environment instead of referring applicants to proposed WAC section 220-660-130. This would result in duplicate language.

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Dredging in freshwater areas E 220-110-130 P 220-660-170	<ul style="list-style-type: none"> • Alteration of light regime • Aquatic vegetation modifications • Alteration of fish migration patterns • Direct loss of habitat • Disturbance of substrate • Alteration to stream morphology • Alteration to sediment delivery and movement patterns • Entrainment, stranding and handling impacts to fish • Water quality modifications 	Reduces risk of impacts <ul style="list-style-type: none"> • A new provision requires a professional to conduct a pre-project channel survey to determine the potential channel changes from the project. This will reduce the risk of alteration to the stream morphology and sediment delivery and movement. 	Reduces risk of impacts <ul style="list-style-type: none"> • The existing rules do not have a section for removing gravel and debris from small streams so including this section will result in reduced risk. Currently each biologist provisions HPAs for this work based on their professional judgment since there are no common provisions in rule. • Adding a provision to require scientific justification to prove that dredging will resolve flooding problems would provide a professional third party opinion to help the department determine if dredging is a proper solution given the impacts. 	No change to risk of impacts <ul style="list-style-type: none"> • A new provision to require a survey would not be included in the new rules.
Sand and gravel removal E 220-110-140 P 220-660-180	<ul style="list-style-type: none"> • Alteration of light regime • Aquatic vegetation modifications • Alteration of fish migration patterns • Direct loss of habitat • Disturbance of substrate • Alteration to stream morphology • Alteration to sediment delivery and movement patterns • Entrainment, stranding and handling impacts to fish • Water quality modifications 	No change to risk of impacts	No alternative	No alternative

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Water crossing structures E 220-110-070 P 220-660-190	<ul style="list-style-type: none"> • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Direct loss of habitat • Riparian vegetation modifications • Disturbance of substrate • Alteration to stream morphology • Alteration to sediment delivery and movement • Alteration to hydrologic patterns 	Reduces risk of impacts <ul style="list-style-type: none"> • The WAC section is amended. Currently, water crossing designs must provide fish passage. The amended language requires water crossing designs to also protect the stream morphology, sediment delivery and movement, movement of wood and hydrologic patterns and prevent substrate disturbance. 	Reduces risk of impacts <ul style="list-style-type: none"> • Moving the no-slope culvert option to Section 200 and requiring only stream simulation culverts unless the permittee can show that stream simulation is not feasible, will reduce risk of impacts to fish habitat. The stream-simulation method is shown to protect the stream morphology, sediment delivery and movement, movement of wood and hydrologic patterns and prevent substrate disturbance. 	No change to risk of impacts <ul style="list-style-type: none"> • Even if the culvert design standards are removed, the applicant would have to show the proposed design would meet fish protection standards. In the absence of rules this would be entirely up the judgment of biologist or WDFW engineer to determine. • Retaining the existing bridge provisions would not increase the risk of impacts. • Increases risk of impacts • Adding guidelines by name to the rules that are outside the control of the department would increase the risk of impacts if the guidelines changed and reduced fish protection. • Amending the rules to use a channel forming flow, such as the 2-year flood, will increase the risk of impacts. The existing rules state “The bridge shall be constructed, according to the approved design, to pass the 100-year peak flow with consideration of debris likely to be encountered...”
Fish passage improvement structures E New section P 220-660-200	<ul style="list-style-type: none"> • Alteration of light regime • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Direct loss of habitat • Disturbance of substrate • Alteration to stream morphology • Alteration to sediment delivery and movement patterns • Alteration to hydrologic patterns • Entrainment, stranding and handling of fish 	Reduces impacts to fish life <ul style="list-style-type: none"> • This new WAC section includes provisions to ensure fish passage improvement structures (fish ladders, fish passage weirs, roughened channels, trap and haul operations and hydraulic design culverts) provide fish passage. This would reduce the risk of impacts to fish migration patterns and from the entrainment, stranding and handling of fish. 	Reduces impacts to fish life <ul style="list-style-type: none"> • The new WAC section would require all fish passage improvement structures be installed temporarily. The section would include timeframes for barrier correction. This would reduce the risk of impacts to fish migration patterns, alteration of stream morphology, sediment delivery and movement, and hydraulic patterns. This would also reduce the risk of impacts from entrainment, stranding and handling of fish. 	No change to risk of impacts <ul style="list-style-type: none"> • The new WAC section would not require fish ladders to have enough water to pass fish safely if target fish species are present and actively migrating. Since this provision is not in the rules now, removing it would not change the risk of impacts. The bridge shall be constructed, according to the approved design, to pass the 100-year peak flow with consideration of debris likely to be encountered. Exception shall be granted if applicant provides hydrologic or other information that supports alternative design criteria.

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Channel change/ realignment E 220-110-080 P 220-660-210	<ul style="list-style-type: none"> • Aquatic vegetation modifications • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Direct loss of habitat • Riparian vegetation modifications • Disturbance of substrate • Alteration to stream morphology • Alteration to sediment delivery and movement patterns • Alteration to hydrologic patterns 	Reduces risk of impacts <ul style="list-style-type: none"> • A new provision clarifies a channel change must provide better protection of fish life than the old channel. This would reduce the risk of direct loss of habitat. 	No alternatives	No Alternatives
Large woody material placement, repositioning and removal in freshwater areas E 220-110-150 P 220-660-220	<ul style="list-style-type: none"> • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Direct loss of habitat • Disturbance of substrate • Alteration to stream morphology • Alteration to sediment delivery and movement patterns • Alteration to hydrologic patterns 	No change to risk of impacts <ul style="list-style-type: none"> • The department will still approve the repositioning or removal of large woody material within the watercourse when needed to protect life, the public, property, or when needed to construct or mitigate for a hydraulic project. Compensatory mitigation will be required if the removal of wood from the channel diminishes fish habitat function or value. 	No alternative	No alternative
Beaver dam management E New section P 220-660-230	<ul style="list-style-type: none"> • Aquatic vegetation modifications • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Direct loss of habitat • Disturbance of substrate • Alteration to stream morphology • Alteration to sediment delivery and movement patterns • Alteration to hydrologic patterns • Alteration of beaver dams • Entrainment, stranding and handling of fish • Water quality modifications 	Reduces risk of impacts <ul style="list-style-type: none"> • New WAC section allows the removal, breaching, or modification of dams and the design and construction of beaver deceivers and pond water level control devices only when it is needed to protect property and infrastructure. This reduces the risk from potential impacts. 	Reduces risk of impacts <ul style="list-style-type: none"> • A new provision would be added that would require an applicant to obtain professional determination that shows there is an imminent threat to property or the environment. 	No alternative

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Pond construction E 220-110-180 P 220-660-240	<ul style="list-style-type: none"> Disturbance of streambank or lake shoreline Direct loss of habitat Disturbance of substrate Alteration to stream morphology Alteration to sediment delivery and movement patterns Alteration to hydrologic patterns Entrainment, stranding and handling of fish Water quality modifications 	No change to risk of impacts <ul style="list-style-type: none"> The provision to require a water right is removed. This would not change the risk of impacts because it is the responsibility of Department of Ecology to enforce water rights. 	No change to risk of impacts <ul style="list-style-type: none"> The provision to require a water right is retained. This would not change the risk of impacts because it is the responsibility of Department of Ecology to enforce water rights. 	No alternative
Water diversions and intakes E 220-110-190 P 220-660-250	<ul style="list-style-type: none"> Disturbance of streambank or lake shoreline Disturbance of substrate Alteration to hydrologic patterns Entrainment, stranding and handling of fish 	No change to risk of impacts <ul style="list-style-type: none"> The provision to require a water right is removed. This would not change the risk of impacts because it is the responsibility of Department of Ecology to enforce water rights. 	No change to risk of impacts <ul style="list-style-type: none"> The provision to require a water right is retained. This would not change the risk of impacts because it is the responsibility of Department of Ecology to enforce water rights. 	No alternative
Outfall structures in freshwater areas E 220-110-170 P 220-660-260	<ul style="list-style-type: none"> Aquatic vegetation modifications Alteration of fish migration patterns Disturbance of streambank or lake shoreline Direct loss of habitat Disturbance of substrate Alteration to stream morphology Alteration to sediment delivery and movement patterns Alteration to hydrologic patterns Entrainment, stranding and handling of fish Water quality modifications 	No change to risk of impacts <ul style="list-style-type: none"> No provisions are added to reflect statutory changes to the department’s authority to regulate stormwater. 	No alternative	No alternative
Utility crossings in freshwater areas E 220-110-100 P 220-660-270	<ul style="list-style-type: none"> Aquatic vegetation modifications Disturbance of streambank or lake shoreline Disturbance of substrate Alteration to sediment delivery and movement patterns 	Retains current rules except language is added for utility line design and directional drilling	Add provision <ul style="list-style-type: none"> The department would require that conduit lines in watercourses would not constrict the channel or preclude future opportunities for bridges or other less-impacting approaches to water crossings. 	No alternatives

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Felling and yarding of timber E 220-110-160 P 220-660-280	<ul style="list-style-type: none"> • Aquatic vegetation modifications • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Direct loss of habitat • Disturbance of substrate • Alteration to stream morphology • Alteration to sediment delivery and movement • Alteration to hydrologic patterns • Alteration of beaver dams • Entrainment, stranding and handling of fish • Water quality modifications 	No change to risk of impacts <ul style="list-style-type: none"> • Retains the current rule provisions. 	No alternatives	No alternatives
Aquatic plant removal and control E 220-110-331 E 220-110-332 E 220-110-333 E 220-110-334 E 220-110-335 E 220-110-336 E 220-110-337 E 220-110-338 P 220-660-290	<ul style="list-style-type: none"> • Aquatic vegetation modifications • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Direct loss of habitat • Disturbance of substrate • Entrainment, stranding and handling of fish • Water quality modifications 	No change to risk of impacts <ul style="list-style-type: none"> • Retains the current rule provisions. 	No alternatives	No alternatives
Mineral prospecting E 220-110-200 E 220-110-201 E 220-110-202 E 220-110-206 P 220-660-300	<ul style="list-style-type: none"> • Aquatic vegetation modifications • Alteration of fish migration patterns • Disturbance of streambank or lake shoreline • Disturbance of substrate • Entrainment, stranding and handling of fish • Water quality modifications 	Reduces risk of impacts <ul style="list-style-type: none"> • The changes to the work windows reduce the risk of impacts to spawning and incubating fish No change to risk of impacts <ul style="list-style-type: none"> • The additional rules for small-scale mineral prospecting on ocean beaches will not affect the risk of impacts because the rules reflect the HPA provisions the department currently uses. 	Reduces risk of impacts <ul style="list-style-type: none"> • Additional timing restrictions supported by survey information or other science would reduce the risk of impacts. 	Increases risk of impacts <ul style="list-style-type: none"> • The reversion of the work windows back to the 1994 windows would increase the risk to fish life.
Tidal reference areas E 220-110-240 P 220-660-310	<ul style="list-style-type: none"> • Not applicable 	No change to risk of impacts <ul style="list-style-type: none"> • Retains the current rule provisions. 	No alternatives	<ul style="list-style-type: none"> • No alternatives

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Saltwater habitats of special concern E 220-110-250 P 220-660-320	<ul style="list-style-type: none"> Not applicable 	Reduces risk of impacts <ul style="list-style-type: none"> The addition of Olympia oyster and nearshore processes to the section will reduce risk of impacts from shoreline modifications. No change to risk of impacts <ul style="list-style-type: none"> Removing rock sole spawning beds will have no effect on risk because science gathered after 1994 show they are not obligate beach spawning fish. 	No change to risk of impacts <ul style="list-style-type: none"> Retaining rock sole spawning beds will have no effect on risk because science gathered after 1994 show they are not obligate beach spawning fish. 	Increases risk of impacts <ul style="list-style-type: none"> Removing the phase “adjacent areas” will increase the risk because this language is in the existing rules. WAC 220-110-250 states “In the following saltwater habitats of special concern, or areas in close proximity with similar bed materials, specific restrictions regarding project type, design, location, and timing may apply...”.
Authorized work times in saltwater areas E 220-110-271 P 220-660-330	Not applicable	Reduces risk of impacts <ul style="list-style-type: none"> Reducing the work times by two months will reduce risk to juvenile salmon. Adding work times to protect herring spawning beds in two new areas and adding work times to protect lingcod nursery and settlement areas will also reduce the risk of impacts from shoreline modifications. No change to risk of impacts <ul style="list-style-type: none"> Removing the work time to protect rock sole spawning beds will have no effect on risk because science gathered after 1994 show they are not obligate beach spawning fish. 	Reduces risk of impacts <ul style="list-style-type: none"> Applying work times to suspected as well as known habitat will reduce the risk to saltwater habitats of special concern that have not been mapped by the department. Applying work times regardless of the risk to the saltwater habitats of special concern will reduce the risk from unknown or unforeseen impacts. No change to risk of impacts <ul style="list-style-type: none"> Retaining the work time to protect rock sole spawning beds will have no effect on risk because science gathered after 1994 show they are not obligate beach spawning fish. 	No change to risk of impacts <ul style="list-style-type: none"> The existing work times would be retained.
Intertidal forage fish spawning habitat surveys E New section P 220-660-340	Not applicable	No change to risk of impacts <ul style="list-style-type: none"> The existing rules give permittees the option of doing surveys in project locations where spawning occurs for six months or longer. The new section just codifies the method. 	No alternative	No alternative
Seagrass and macroalgae habitat surveys E New section P 220-660-350	Not applicable	Reduces risk of impacts <ul style="list-style-type: none"> New WAC section clarifies when an eelgrass/macroalgae habitat survey is required. This reduces the risk to aquatic vegetation. 	No alternative	No alternative

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Common construction provisions for saltwater areas E 220-110-270 P 220-660-360	<ul style="list-style-type: none"> • Direct loss of habitat • Shoreline modification • Aquatic vegetation modifications • Disturbance of substrate • Water quality modifications 	Reduces risk of impacts <ul style="list-style-type: none"> • New provisions added for equipment use, vessel operation, sediment and erosion control reduces impacts to sensitive areas and water quality. New provisions for construction materials reduce impacts to water quality. 	Reduces risk of impacts <ul style="list-style-type: none"> • The use of all treated wood and tires would be prohibited. This would reduce risk of water quality modifications. 	No alternative
Bulkheads and other bank protection in saltwater areas E 220-110-280 P 220-660-370	<ul style="list-style-type: none"> • Direct loss of habitat • Shoreline modification • Alteration of fish migration patterns • Aquatic vegetation modifications • Disturbance of substrate 	Reduces risk of impacts <ul style="list-style-type: none"> • New provisions added for re-establishment landward of a breached bulkhead, a preference for the least impacting alternative, and a site assessment, alternatives analysis, and design rationale by a qualified professional reduce impacts from shoreline modifications. 	Impact not evaluated <ul style="list-style-type: none"> • Requiring single-family residence bulkheads (RCW 77.55.141) to provide a site assessment, alternatives analysis, and design rationale by a qualified professional to show the least impacting feasible alternative bank protection method as proposed would reduce impacts from shoreline modifications. [would require statutory change] 	No alternatives
Residential and public recreational docks, piers, ramps, floats watercraft lifts, and buoys in saltwater areas E 220-110-300 P 220-660-380	<ul style="list-style-type: none"> • Direct loss of habitat • Shoreline modification • Alteration of light regime • Alteration of fish migration patterns • Aquatic vegetation modifications • Disturbance of substrate • Elevated underwater sound • Water quality modifications 	Reduces the risk of impacts <ul style="list-style-type: none"> • New provisions require designs to avoid and minimize impacts to saltwater habitats of special concern. This reduces the risk of impacts from alteration of the light regime, aquatic vegetation modifications, alteration of migration patterns, and disturbance of substrate. • New pile driving provisions reduce the risk of impacts from elevated sound. • New provisions for the removal of treated wood piling reduce risk from water quality modification. 	Reduces risk of impacts <ul style="list-style-type: none"> • New provisions for grating would be changed to require grating to cover 100% of the deck regardless of the orientation, width and height of the structure. This will reduce the risk of impacts from alteration of the light regime, aquatic vegetation modifications, and alteration of migration patterns 	No alternatives
Boat ramps and launches in saltwater areas E New section P 220-660-390	<ul style="list-style-type: none"> • Direct loss of habitat • Shoreline modification • Alteration of light regime • Alteration of fish migration patterns • Aquatic vegetation modifications • Disturbance of substrate 	Reduces the risk of impacts <ul style="list-style-type: none"> • New WAC section lists design alternatives from the most preferred to the least. New section reduces direct loss of habitat, shoreline modification, aquatic vegetation modification and disturbance to substrate. 	No alternatives	No change to risk of impacts <ul style="list-style-type: none"> • Deleting proposed provisions would not change the risk of impact since this is a new section.

REGULATED HYDRAULIC PROJECTS ACTIVITY (WAC)	POTENTIAL IMPACTS TO FISH CAUSED BY HYDRAULIC PROJECTS	COMPARISON OF ALTERNATIVE 2 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION	COMPARISON OF ALTERNATIVE 3 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION	COMPARISON OF ALTERNATIVE 4 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION
Marinas and terminals in saltwater areas E 220-110-330 P 220-660-400	<ul style="list-style-type: none"> • Direct loss of habitat • Shoreline modification • Alteration of light regime • Alteration of fish migration patterns • Aquatic vegetation modifications • Disturbance of substrate • Elevated underwater sound • Water quality modifications 	Reduces risk of impacts <ul style="list-style-type: none"> • This section is amended to include terminals. • Several provisions require the location of facilities in areas that will reduce impacts to fish life, where possible. This reduces the risk of impacts from shoreline modification, alteration of light regimes, aquatic vegetation modifications, alteration of migration patterns, and disturbance of substrate. • Pile driving provisions reduce the risk of impacts from elevated sound. • New provisions for the removal of treated wood piling reduce risk from water quality modification. 	Reduces risk of impact <ul style="list-style-type: none"> • Adding a provision that requires new and expanded docks, wharves, piers, marinas, rafts, shipyards and terminals to a specified buffer distance from existing native aquatic vegetation attached to or rooted in substrate would reduce risk from aquatic vegetation modifications. 	No increased risk of impacts <ul style="list-style-type: none"> • Provisions would be added for bulkheads and other bank stabilization in the marina/marine terminal environment instead of referring applicants proposed WAC section 220-660-370. This would result in duplicate language.
Dredging in saltwater areas E 220-110-320 P 220-660-410	<ul style="list-style-type: none"> • Direct loss of habitat • Alteration of light regime • Alteration of fish migration patterns • Aquatic vegetation modifications • Disturbance of substrate • Entrainment, stranding and handling of fish • Water quality modifications 	Reduces risk of impacts <ul style="list-style-type: none"> • New provision that requires hydrodynamic modeling will reduce risk from water quality modification. • New provisions that require dredging to avoid converting intertidal to subtidal habitat reduce risk from direct loss of habitat. 	No alternative	No alternative
Artificial aquatic habitat structures E New section P 220-660-420	<ul style="list-style-type: none"> • Aquatic vegetation modifications • Disturbance of substrate 	Reduces risk of impacts <ul style="list-style-type: none"> • New WAC section specifies structures must provide a net benefit to fish. 	No alternatives	No alternatives
Outfall, tide and flood gate structures in saltwater areas E New section P 220-660-430	<ul style="list-style-type: none"> • Direct loss of habitat • Shoreline modification • Aquatic vegetation modifications • Disturbance of substrate • Entrainment, stranding and handling of fish • Water quality modifications 	No change to risk of impacts <ul style="list-style-type: none"> • No provisions are added to reflect statutory changes to the department’s authority to regulate stormwater. 	No alternatives	No alternatives

REGULATED HYDRAULIC PROJECTS ACTIVITY (WAC)	POTENTIAL IMPACTS TO FISH CAUSED BY HYDRAULIC PROJECTS	COMPARISON OF ALTERNATIVE 2 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION	COMPARISON OF ALTERNATIVE 3 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION	COMPARISON OF ALTERNATIVE 4 FISH IMPACTS TO ALTERNATIVE 1 – NO ACTION
Utility lines in saltwater areas E 220-110-310 P 220-660-440	<ul style="list-style-type: none"> • Direct loss of habitat • Shoreline modification • Aquatic vegetation modifications • Disturbance of substrate • Water quality modifications 	Reduces risk of impacts <ul style="list-style-type: none"> • The new provision requiring a eelgrass/macroalgae survey, if warranted, will reduce the risk of impacts to aquatic vegetation 	No alternatives	No alternatives
Test boring in saltwater areas E New section P 220-660-450	<ul style="list-style-type: none"> • Aquatic vegetation modifications • Disturbance of substrate 	Reduces risk of impacts <ul style="list-style-type: none"> • New WAC section will reduce the risk of impacts to water quality. 	No alternative	No alternative
Informal appeal of adverse administrative actions E 220-110-340 P 220-660-460	Not applicable	No change to the risk of impacts Retain the existing language.	No alternative	No alternative
Formal appeal of administrative actions E 220-110-350 P 220-660-470	Not applicable	No change to the risk of impacts Retains the existing language.	No alternative	No alternative
Compliance E 220-110-360 P 220-110-480	Not applicable	No change to risk of impacts	No alternatives	No alternatives

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