

Chapter 5

The Operating Conservation Program

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Chapter 5. The Operating Conservation Program

Chapter 1 of this plan describes the context, rationale, and need for the Washington State Department of Natural Resources' (Washington DNR) Aquatic Lands Habitat Conservation Plan. A critical component of habitat conservation planning is the implementation of a conservation program or strategy that “. . . ensures that the effects of the authorized incidental take will be adequately minimized and mitigated to the maximum extent practicable” (U.S. Fish and Wildlife Service & National Marine Fisheries Service, 1996).

In this chapter, Washington DNR lays out the agency's operating conservation program, the aim of which is to avoid, minimize, and compensate for impacts on covered species that result from authorized activities, and to protect and conserve habitats that support these species on state-owned aquatic lands. The intent of this planning effort is to contribute—on broad geographic scales—to the persistence and recovery of 29 covered species and to improve overall health and function of aquatic ecosystems.

This chapter describes:

- The conservation goals and objectives of the Aquatic Lands Habitat Conservation Plan (Section 5.1).
- The activity-specific conservation measures, standards for use of state-owned aquatic lands, programmatic measures, and management practices of Washington DNR (Section 5.2).
- Funding and administration of the habitat conservation plan (Section 5.3).
- Effectiveness and compliance monitoring programs and the adaptive management process (with research recommendations) that was developed as part of this habitat conservation plan (Section 5.4).
- How Washington DNR will enforce requirements for authorized uses on state-owned aquatic lands (Section 5.5).

Section 79.105.030 of the Revised Code of Washington (RCW) defines Washington DNR's mission for managing state-owned aquatic lands and focuses on ensuring the sustainability of the resources managed, while balancing economic and ecological benefits. That mission drives the conservation goals of this habitat conservation plan. The objectives that were derived from these goals guide the conservation strategies of the operating conservation program and provide a basis for measuring success. Figure 1 illustrates the relationship between these elements of the conservation plan.

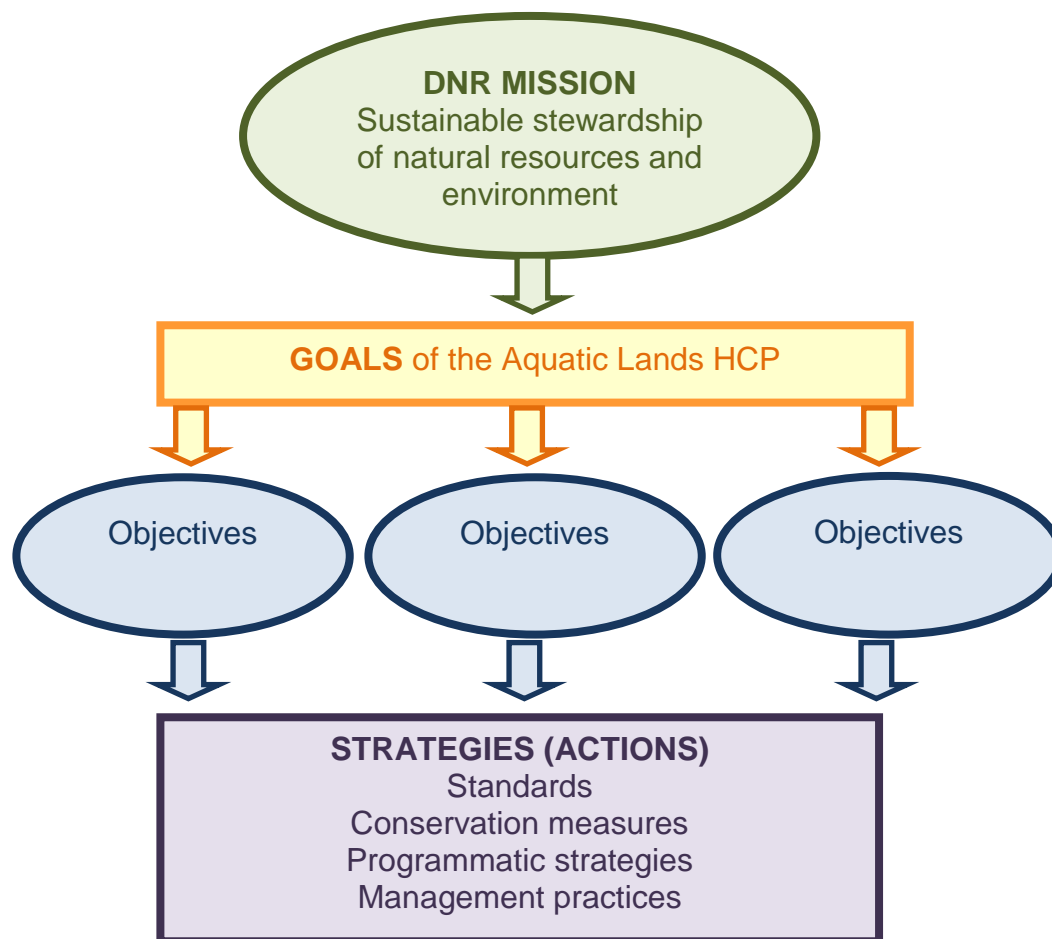
5.1 Program goals and objectives

The conservation goals of Washington DNR's operating conservation program are to:

- Avoid or, if unable to avoid, minimize adverse effects on the species and habitats covered under the habitat conservation plan.
- Identify and protect important habitat areas on state-owned aquatic lands.
- Compensate for unavoidable impacts by improving and restoring habitat.

These three goals and their objectives are described in the following pages.

Figure 5.1. Elements of the habitat conservation plan.



5.1.1 Goal 1: Avoid or minimize effects on covered species and their habitats

Authorized activities on state-owned lands have the potential to affect species covered under the habitat conservation plan, species habitat, and ecosystem processes (such as sediment transport and light transmission). For all activities, Washington DNR will avoid these impacts by implementing siting standards (including native aquatic vegetation buffers) and limiting activities in areas identified as important habitats. For activities covered under the habitat conservation plan, **protective standards** and **best management practices**—collectively called **conservation measures**—will further minimize impacts. These measures will be required and implemented as part of any new or re-authorization agreement.

The objectives derived from this goal address potential effects and sources of the effects that may result from authorized activities. Chapter 4, Section 3 describes these effects in detail.

Objectives

- Avoid or minimize impacts to water and sediment quality.
- Avoid or minimize alteration of natural habitat-forming processes, such as wave and current energy and sediment transport.
- Avoid or minimize alterations to, and loss of, physical habitat features (such as connectivity and substrate composition) and biological communities (such as native submerged aquatic vegetation and prey resources) that support the covered species.
- Avoid or minimize disturbance and displacement of, or harm to, species covered under the habitat conservation plan.
- Avoid or minimize permanent and temporary loss of habitat.

5.1.2 Goal 2: Identify and protect habitats that are important to covered species

Washington DNR will identify and protect habitats that directly or indirectly support species that are covered under the habitat conservation plan. Such habitats include, but are not limited to, foraging, spawning, migration, nesting, rearing, and aggregating areas, as well as areas that support ecological processes (such as production of prey species) that are vital to the species covered under this habitat conservation plan.

Objectives

- Identify state-owned aquatic lands that are important to species covered under the habitat conservation plan and prioritize them for protection, restoration, or habitat creation.
- Avoid future impacts from uses authorized by Washington DNR that affect the value and function of the habitat of covered species whose populations in Washington state are either extremely vulnerable or limited to small home ranges.

5.1.3 Goal 3: Improve and restore habitat quality to compensate for unavoidable effects of covered activities

Beyond avoiding and minimizing direct and indirect effects from authorized activities, Washington DNR will compensate for unavoidable impacts from DNR-authorized activities by restoring and improving the overall quality of habitat that supports covered species on state-owned aquatic lands. This is further described as *programmatic measures* in Chapter 5, Section 2.3.

Objectives

- Restore or improve habitat in areas where natural habitat functions and habitat-forming processes have been altered.
- Identify and reduce or eliminate sources of habitat degradation.

5.2 The operating conservation program of the habitat conservation plan

The operating conservation program of the Aquatic Lands Habitat Conservation Plan defines how Washington DNR will implement the mitigation sequence of avoidance and minimization of and compensation for unavoidable impacts of activities authorized by Washington DNR (Figure 5.2). The program applies to all uses of state-owned aquatic lands, except in areas managed under port management agreements (Chapter 2, Section 3.2) and transportation projects managed by the Washington Department of Transportation. Because of the broad diversity of ecosystems and associated habitats covered by this habitat conservation plan, measures required to meet the conservation goals and objectives will be site-specific, tailored to specific conditions of the location, activity, and water body. All new and reauthorized uses will include explicit conservation requirements, conditions and timelines for implementation.

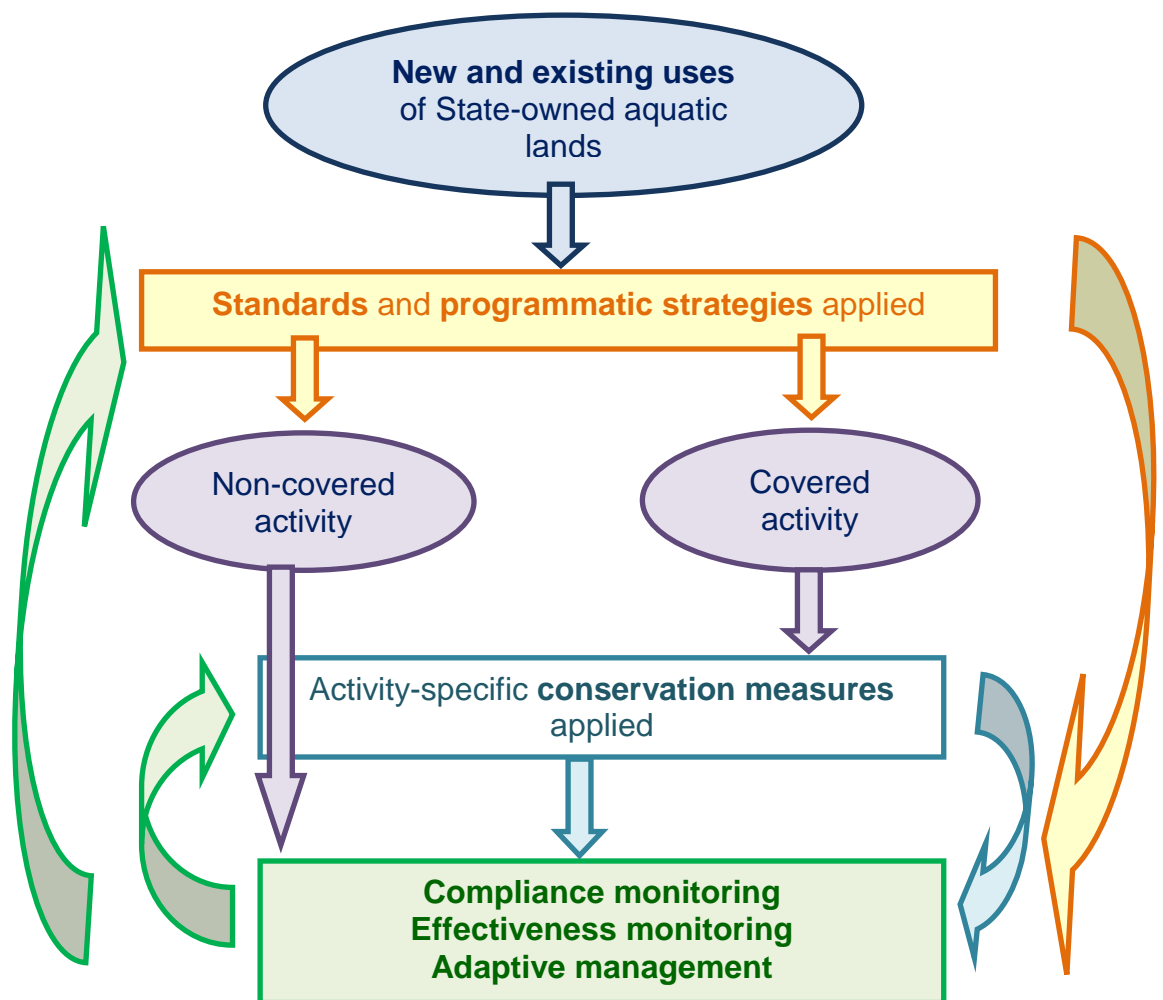
The operating conservation program of this habitat conservation plan has four components:

- **Conservation Measures** (Section 1)—Activity-specific conservation measures and practices to avoid and minimize direct and indirect effects on the species and habitats covered under the habitat conservation plan.
- **Standards** (Section 2)—Standards, which apply to all uses of state-owned aquatic lands, to compensate for unavoidable impacts from authorized uses.
- **Programmatic Measures** (Section 3)—Agency programs that are designed to restore or protect aquatic habitat, independent of activity-specific land-use authorizations, and intended to compensate for unavoidable impacts from authorized uses.
- **Management Practices** (Section 4)—Agency business management practices that contribute to meeting the goals and objectives of the habitat conservation plan and maximize interagency cooperation to compensate for unavoidable impacts from authorized uses.

The elements of the operating conservation program required under this habitat conservation plan will apply in all instances for which they are deemed by Washington DNR to be the most protective measure and the best option for achieving the plan's goals and. In cases where a more protective measure applies, as prescribed by another regulatory entity, Washington DNR will defer to that measure. Where engineering or structural requirements, public safety, or federal, state, or local laws or authorities require exceptions to these strategies, Washington DNR will require that project proponents provide compensatory mitigation¹ for unavoidable impacts. The exact nature of such compensatory mitigation will be determined individually for each authorization.

This operating conservation program is not intended to interfere with or restrict any tribal harvest rights in the state of Washington.

Figure 5.2. Conceptual illustration of the application of the operating conservation program.



¹ Compensating for the impact by replacement or providing substitute resources or environments.

Monitoring and adaptive management

The measures and standards presented in this chapter are based on best available science and are assumed to be capable of improving habitat and habitat conditions for covered species. However, aquatic ecosystem processes are often not directly observable. In addition, there is often significant uncertainty associated with the response of habitat and species to the proposed measures. This uncertainty is further complicated by a lack of fine-scale distribution data for species and habitat, spatially accurate leasing data, and data related to the cumulative effects that uses of state-owned aquatic lands may have on habitat and species.

To reduce uncertainty and ensure that Washington DNR is meeting the conservation goals and objectives specified in Section 1 of this chapter, two plans will facilitate compliance and effectiveness: The Effectiveness and Compliance Monitoring Plan (Sections 5.4.2 and 5.4.3) verifies implementation of the measures specified in the conservation program. The Adaptive Management and Monitoring Plan (Section 5.4.1) assesses how effectively specified measures reduce impacts. The plan defines the procedures for collecting baseline data to document the condition of submerged lands and habitats, defines the experimental methods to test the effectiveness of conservation strategies, and describes the process that Washington DNR will follow to facilitate changes in management to achieve the goals and objectives of the habitat conservation plan.

Application of the operating conservation program to use authorizations of state-owned aquatic lands: the process

Washington DNR will implement the conservation measures of the habitat conservation plan as part of the authorization process for shellfish aquaculture, log booming and storage, and overwater structures. Standards (Section 5.2.2) and programmatic measures (Section 5.2.3) for state-owned aquatic lands will be applied to use authorizations for all activities, including those not covered by the habitat conservation plan. Washington DNR staff will define site-specific, use-authorization requirements after a review of the supporting documentation (for example, surveys, biological evaluations, and joint aquatic resources permit applications) and, when appropriate, field analysis of the site. Washington DNR will review and approve all recommendations and requirements to ensure consistency with the habitat conservation plan. Documentation defining the requirements for the site and written justification of the inclusion or omission of measures will be stored in a habitat conservation plan database.

Washington DNR will not authorize a use of state-owned aquatic lands unless the operating conservation program requirements are included within the applicant's authorizing document. Each document authorizing use must comply with the terms of the incidental take permits issued to Washington DNR.

New proposed uses

Biologists at Washington DNR will review materials submitted for proposed uses of state-owned aquatic land to identify potential impacts on the species and habitats covered under the habitat

conservation plan. Site visits will occur where appropriate. The biologists will provide a report for each use authorization detailing the following:

- Applicable conservation measures for activities covered under the habitat conservation plan.
- Standard requirements for use of state-owned aquatic lands.
- Any areas for which the data are insufficient.
- Biological survey requirements, if warranted.
- Timeframe requirements for improvements or renovations.
- Any concerns about the use.

Land management agency staff will then incorporate the biologists' report into the use-authorization documents. Agency management staff will provide the final review, recommend specific conservation measures, standards, and programmatic measures, and approve or deny the applicant's proposal.

New proposals that fail to meet the commitments made in this habitat conservation plan and in the incidental take permit will not be authorized.

All use-authorization requirements will be included in the use-authorization documents.

Existing uses

Habitat stewardship specialists at Washington DNR will review materials submitted for proposed uses of state-owned aquatic land to identify potential impacts on the species and habitats covered by the habitat conservation plan. Site visits will occur where appropriate. The habitat stewardship specialist will provide a report for each use authorization. This report will include:

- Applicable conservation measures for activities covered under the habitat conservation plan.
- Standard requirements for use of state-owned aquatic lands.
- If warranted, timeframe requirements for improvements or renovations.
- Any concerns about the use.

Land management agency staff will then incorporate the habitat stewardship specialists' report into the use authorization documents. Agency management staff will provide the final review and approval or denial of the proposal.

To set the timeframes for completing required improvements to the facilities, Washington DNR will use industry expectations for the materials used and an assessment of the current condition. Any and all redesign or renovation conducted during the term of the agreement must meet the commitments of this habitat conservation plan.

DNR will assess each use authorization for consistency with the commitments of the habitat conservation plan. For existing uses on state-owned aquatic lands, district land managers will review each use authorization prior to its expiration date. Reauthorizations that fail to meet the commitments made in this habitat conservation plan will not be authorized. All use-authorization requirements will be included in the use-authorization documents.

Table 5.1 displays the number of existing authorizations that will expire in a given year as well as those that expired or were in holdover status as of the end of 2012. Holdovers are authorizations that have expired, but the previously authorized person continues to occupy the site (with Washington DNR's permission) while Washington DNR develops a new authorization. When the activity is reauthorized, it will be brought into compliance with the new terms and conditions specified in the habitat conservation plan. The timeframe for compliance will be defined in the authorizing document (Section 5.2: Implementation Schedule for Requirements).

Table 5.1. Anticipated future renewals of Washington DNR use authorizations (2012).

Year of Expiration	Activity											Total
	Shellfish Aquaculture	Log Booming and Storage	Overwater Structures									
			Boat Ramps and Launches	Boat Repair	Docks and Wharves	Floating Homes	Marinas	Mooring Buoys	Nearshore Buildings	Rafts and Floats	Shipyards and Terminals	
Expired			1	1	2		1	2	1		3	11
Extended or in Holdover	21	15	7	7	46	6	70	9	3	1	19	204
2012	1	1			3			21			1	27
2013	20		4		9	1	11	57	2		4	108
2014	13	3	3		7		15	46			6	93
2015	16		3		5		21	87			8	140
2016	6	2	1		9	3	27	67	6	2	6	129
2017	15	1	4	1	9	1	32	54	2		2	121
2018 to 2022	12	0	10	1	45	25	70	197	10	1	15	386
2023 to 2027	2	4	4	1	12	13	24	8	5	1	3	77
2028 to 2032				1	1	6	13	4	3		10	38
2033 to 2037	2		2	2	4	6	42	83	7	2	20	170
2038 to 2042			7		11		15	378	7		21	439
Total Scheduled Only (2012–2042)	87	11	38	6	115	55	270	1,002	42	6	96	1,728
Total Expired; Extended or in Holdover; and Scheduled (2012–2042)	108	26	46	14	163	61	341	1,013	46	7	118	1,943

Implementation schedule for structural requirements for existing uses

Washington DNR establishes a reasonable timeframe within which contractual users of state-owned aquatic lands must bring their facilities into compliance with the terms of the incidental take permit. The length of this timeframe is based on:

- The age of the facility and life expectancy of the existing structure and materials.
- The priority of replacement based on an assessment of current environmental impacts (that is, items with high negative impact on the environment must be replaced as soon as possible, while replacement of items with minor impact may wait until later in the lease term.)
- The length of the lease term. (Required implementation of all conservation measures identified in the agreement by the end of the term or by the end of year 20 in the case of a lessee who seeks a term of 20 years or more).
- Impacts on covered species.

Implementation schedule for nonstructural requirements

DNR will require a lessee who enters into a new term with existing facilities to implement best management practices in the operation of that facility immediately.

Use authorization compliance

Once an activity has been authorized, Washington DNR staff will, in accordance with the Compliance Monitoring Plan (Appendix H), periodically visit the site. The purpose of these site inspections is to ensure compliance with the requirements identified in the authorization documents and the habitat conservation plan. Staff will prioritize compliance visits based on the activity's potential for impacts to covered species and habitats.

If authorization compliance is not achieved, Washington DNR will notify the responsible tenant, grantee, or permittee of the default(s) and require that the default(s) be remedied as specified in the use authorization. If the default is not corrected, Washington DNR will pursue appropriate legal remedies. These management actions, which are necessary to bring an authorization into compliance, will be integrated with the compliance and effectiveness monitoring actions of the habitat conservation plan (as described in Section 5.4).

Counterproposals

Counterproposals to the measures, standards, and programmatic strategies defined in the operating conservation program may be presented for uses of state-owned aquatic lands. Such proposals will be considered by Washington DNR and reviewed for consistency with the goals and objectives of the operating conservation program and the commitments of the incidental take permit. The counterproposal' measures must be equivalent to or better than the measures in the operating conservation program. Washington DNR must find that the counterproposal meets or exceeds the goals and objectives of the habitat conservation plan in order to be acceptable. NOAA Fisheries

and the U.S. Fish and Wildlife Service will review and concur with the counterproposals prior to their implementation and the issuance of a lease or license.

5.2.1 Conservation measures for activities covered under the habitat conservation plan

Chapter 3 of this habitat conservation plan provides a detailed explanation of the activities that Washington DNR has determined are contributing to the harm and harassment—or take—of the species identified in Chapter 4. This section defines the activity-specific conservation measures that may be applied to use authorizations for overwater structures, shellfish aquaculture, and log booming and storage facilities, based on the site-specific conditions of the facility. These conservation measures have been established to fulfill the commitments of the incidental take permit to avoid and minimize impacts on species covered under the habitat conservation plan. Each measure is linked to a specific goal and objective of the operating conservation program of Washington DNR’s habitat conservation plan (Appendix I, “Meeting the Goals of the Habitat Conservation Plan”).

The avoidance and minimization measures (conservation measures) defined here are specific to each of the three categories of covered activities: shellfish aquaculture, log booming and log storage, and overwater structures. Overwater structures include boat ramps and launches, docks and wharves, watercraft lifts, floating homes, rafts, marinas, mooring buoys, nearshore buildings, shipyards, and terminals. Detailed descriptions of each activity’s structural and operational components are provided in Chapter 3 (Description of Activities), and effects of the activities on covered species and their habitat are described in Section 4.3 (Covered Activities: Potential Effects).

Most of the units used in this chapter were derived from metric unit measurements. Conversions into U.S. standard units were added to provide clarity for readers unfamiliar with the metric system. When a decimal occurred in the conversion, the value was rounded to the nearest whole number.

Overwater structures

All overwater structures will be required to implement the following conservation measures for all authorizations:

1. Floating structures and boats must not rest on the substrate.
 - a. New overwater structures must be located in water that is sufficiently deep to prevent the structure from grounding at the lowest low water. Alternatively, stoppers must be installed to prevent grounding, keeping the bottom of the structure at least 0.5 meters (1.5 feet) above the level of the substrate.
 - b. Boat moorage systems must be deployed in a manner that prevents dragging of the vessel or line. Midline floats or other technologies which prevent the line from dragging and scouring must be used on anchor lines.
2. Grounding of boats, prop scour, and the need for dredging must be avoided through the use of naturally deep water.

3. At the time of application or reauthorization, applicants and lessees shall assess water drainage and runoff patterns and shall develop and implement a plan to alter or treat them, as necessary, to reduce direct inputs of contaminants and nutrients into state waters.
4. Unless the aquatic vegetation present at a site can be accurately delineated using existing information, proponents of new activities will be required to conduct a vegetation survey to determine the location and species of aquatic vegetation on a proposed leasehold.

Complex and multiple element structures

All marinas, shipyards, and terminals will be required to implement the following conservation measures for all authorizations:

1. For structures associated with motorized watercraft: To avoid dredging and scour caused by propellers on motorized watercraft, the buffer distance between the outside of the vessel and the vegetation is 8 meters (25 feet) whenever there is a vertical distance of 2 meters (7 feet) of water above the substrate at the lowest low water.

Alternatively, the buffer may be established through prop-wash modeling to identify appropriate buffers that will avoid scouring of the substrate and impacts to aquatic vegetation (if it occurs on or adjacent to the site). The modeling must be conducted and certified by an engineer experienced in assessing these impacts. The results of the modeling should provide Washington DNR with recommended siting buffers and depths and other proposed actions to avoid impacts from the types of motorized watercraft that will be using the facility.
2. Grounding of boats and the need for dredging must be avoided through the use of naturally deep water. Methods for achieving this include the following:
 - a. Locate slips for deeper draft boats in deeper water or moor deeper draft boats offshore.
 - b. Orient new construction or expansions of complex facilities so that entrances align with natural channels.
 - c. Provide onshore storage facilities.
3. Multiple element structures must maximize water flow to reduce effects on water quality. Measures to achieve this include, but are not limited to:
 - a. Locating facility openings in a manner that promotes flushing (for example, at opposite ends) to prevent water stagnation and to prevent or reduce the need for dredging.
 - b. Orienting docks with currents or prevailing winds to prevent trapping surface debris and oily residue.
 - c. Maintaining dredged basins in a manner that prevents internal deeper pockets that can act as unflushed holding basins. Generally, depth should increase with distance from the shore.
4. The portions of piers and elevated docks that are above the nearshore or littoral area must have unobstructed grating over 100 percent of their surface area. Floats must have unobstructed grating over at least 50 percent of their surface. Floats less than 1.5 meters (5 feet) in width may reduce the amount of unobstructed grating to a minimum of 30 percent of the surface area if it is a structural requirement specified by engineering design. All grating material must have at least 60 percent functional open space. Grating requirements can also be met if the combination of grated surface area and grating open space are equal to or better than the above standards.
5. Post and enforce no-wake advisories to minimize effects on sediments and important habitats and to prevent stranding of juvenile fish.

6. Work on overwater structures and associated vessels that could introduce toxins into the water is prohibited unless the following protective measures are enacted to prevent discharge to the water:
 - a. In-water repair and refinishing of boats is limited to decks and superstructures.
 - b. In-water hull scraping, or any process that removes paint from the boat hull underwater, is prohibited.
 - c. Refinishing work from boats and temporary floats is prohibited unless permitted by an industrial National Pollutant Discharge Elimination System (NPDES permit).
 - d. Dust, drip, and sand spill control measures, such as tarps placed to contain spills, are mandatory to ensure that there is no discharge to waterways.
7. The surface area of gangways must be entirely composed of grating. The grating materials must have at least 60 percent functional open space unless other site-specific measures that will maximize light are defined in stewardship review.
8. Marinas, shipyards, and terminals must incorporate and post best management practices to prevent the release of chemical contaminants, wastewater (grey and black water), garbage, and other pollutants, as specified in the *Resource Manual for Pollution Prevention in Marinas* (Washington State Department of Ecology, 1998). As those guidelines are updated or new regulatory standards are established by the Washington State Department of Ecology or any future agency charged with water quality regulation, the most current guidance or standard will apply.
9. Docks and marinas with moorage for more than 10 boats must have a written plan that identifies sewage management, including options for disposing of wastewater from vessel holding tanks and portable toilets and availability of upland restroom facilities. Docks and marinas that have moorage for 5 to 10 boats and that lack a pumpout must clearly post the location of the nearest sewage pumpout facility and upland restroom.
10. Skirting is prohibited. When existing structures undergo maintenance or repair or when the structure is reauthorized (whichever comes first), the replaced portions must meet these standards.

Floating homes

1. Floating homes are considered water-oriented uses. Washington DNR will only authorize new, expanded, or additional nonwater-dependent uses or water-oriented uses in the exceptional circumstances defined under Chapter 332-30-137 of the Washington Administrative Code and when compatible with water-dependent uses existing in or planned for the area.
2. Washington DNR may authorize the maintenance, repair, replacement, remodeling, and reauthorization of existing floating homes, so long as there is no net increase in the exterior dimensions (footprint). A minor increase in the net footprint may be allowed when necessary to comply with federal, state, or local building, health, and safety codes. Washington DNR will not authorize new or additional floating homes in new locations.
3. Floats 1.5 meters (5 feet) or greater in width must have unobstructed grating over at least 50 percent of the surface. Floats less than 1.5 meters (5 feet) in width must have unobstructed grating over at least 30 percent of the surface. All grating material must have at least 60 percent functional open space. Grating requirements can also be met if the combination of grated surface area and grating open space are equal to or better than the above standards.
4. Piers and elevated docks that are over the nearshore or littoral area and gangways must have 100 percent grating with 60 percent functional open space.

Boat ramps, launches, hoists, lifts, and rails

1. Floating or suspended watercraft lifts must be located greater than 2.7 meters (9 feet) waterward from ordinary high water or a sufficient distance that they do not ground at any time. For covered watercraft lifts, the lowest edge of the canopy must be at least 2.5 meters (8 feet) above the ordinary high water elevation, with the canopy oriented in a north-south direction to the maximum extent practicable. While joint-use watercraft lifts are encouraged, only one canopy will be authorized for each lift.
2. Existing authorized watercraft lifts that ground must be removed or re-located by the end of the current use authorization.
3. New or renovated ramps and launches in marine waters must have an elevated design or be level with the beach slope within the nearshore area. For an elevated design, the height above the substrate within the nearshore area must be sufficient to minimize the obstruction of currents, minimize the alteration of sediment transport, and eliminate the accumulation of drift logs and debris under the ramps. In instances where the substrate is suitable for forage fish spawning, the structure must also span the spawning area with a gangway or other design feature that avoids placing any portion of the structure in the spawning area.

Docks, piers, and wharves

These conditions apply to all private (including recreational), public, and commercial docks, piers, and wharves.

1. For structures associated with motorized watercraft: To avoid dredging and scour caused by propellers on motorized watercraft, the buffer distance between the outside of the vessel and the vegetation is 8 meters (25 feet) whenever there is a vertical distance of 2 meters (7 feet) of water above the substrate at the lowest low water. Alternatively, the buffer may be established through prop-wash modeling, which must be conducted and certified by an engineer experienced in assessing these impacts, to identify appropriate buffers that will avoid scouring of the substrate and impacts on aquatic vegetation (if it occurs on or adjacent to the site). The results of the modeling should provide Washington DNR with recommended siting buffers and depths and other proposed actions to avoid impacts from the types of motorized watercraft that will be using the facility.
2. Grounding of boats and the need for dredging must be avoided by extending piers and docks into naturally deep water.
3. Floats 1.5 meters (5 feet) or greater in width must have unobstructed grating over at least 50 percent of their surface. Floats less than 1.5 meters (5 feet) in width must have unobstructed grating over at least 30 percent of their surface if it is determined to be required by engineering design. All grating material must have at least 60 percent functional open space. Grating requirements can also be met if the combination of grated surface area and grating open space are equal to or better than the above standards.
4. Post and enforce no-wake advisories to minimize effects on sediments and important habitats and to prevent stranding of juvenile fish.
5. Piers and elevated docks that are located over nearshore or littoral areas and gangways must have 100 percent grating with 60 percent functional open space.
6. Docks and marinas with moorage for more than 10 boats must have a written plan that identifies sewage management, including options for disposing of wastewater from vessel holding tanks and portable toilets, and availability of upland restroom facilities.

7. Docks and marinas that have moorage for 5 to 10 boats and that lack a pumpout must clearly post the location of the nearest sewage pumpout facility and upland restroom.
8. Skirting is prohibited. When existing structures undergo maintenance or repair or when the structure is reauthorized (whichever comes first) the replaced portions must meet these standards.
9. Private recreational docks must meet the standards of the habitat conservation program. In cases in which a more protective restriction applies from a regulatory entity, Washington DNR will defer to that standard.

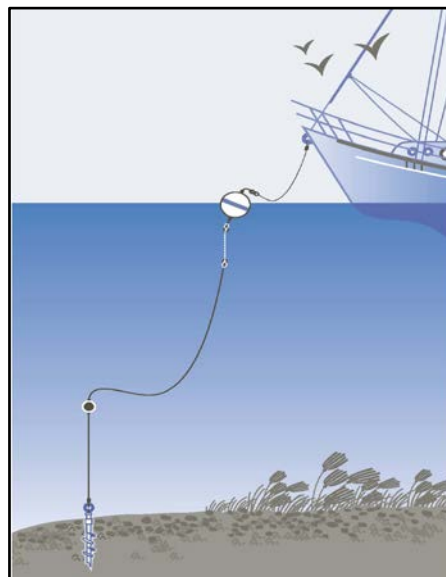
Mooring buoys

To prevent prop scour, areas for new mooring buoys must be located either where the water will be deeper than 2 meters (7 feet) at the lowest low water, or where it can be shown that prop scour will not adversely impact aquatic vegetation or increase suspended sediment loads.

Grounding of boats and the need for dredging must be avoided through the use of naturally deep water. Situate mooring buoys in water deep enough that vessels do not ground at lowest low water.

Unless prohibited by substrate or other specific site conditions, mooring buoys must use embedded anchors and midline floats to prevent dragging of anchors or lines (Figure 5.3). Any alternative to using an embedded anchor must be approved by Washington DNR. Existing buoy systems that are not in compliance with this standard must be removed and replaced during scheduled maintenance, repair, or replacement or before the end of the term of the next renewed authorization.

Figure 5.3. Embedded anchor system using a midline float.
Graphic: Luis Prado



Nearshore buildings

All nearshore buildings located on pilings or filled state-owned aquatic lands and managed by DNR will be required to implement the following conservation measures for all authorizations:

1. New construction or expansions proposed for nearshore buildings must be at least a specified buffer distance from existing native aquatic vegetation attached to or rooted in substrate. The buffer between the building and aquatic vegetation must be equal to or greater than the longest shadow cast by the structure into the water body.
2. To avoid leaching harmful materials into receiving waters, building exteriors should not include the use of zinc or copper unless the stormwater is filtered through a pre-treatment facility before it leaves the site.

Rafts and floats

- To prevent prop scour, boat mooring areas for new rafts and floats must be located either where the water will be deeper than 2 meters (7 feet) at the lowest low water, or where it can be shown that prop scour will not adversely impact aquatic vegetation or increase suspended sediment loads.
- Unless prohibited by substrate or other specific site conditions, floats and rafts must use embedded anchors and midline floats to prevent dragging of anchors or lines (Figure 5.3). Any alternative to using an embedded anchor must be approved by Washington DNR. Existing floats and rafts that are not in compliance with this standard must be removed and replaced during scheduled maintenance, repair, or replacement or before the end of the term of the next renewed authorization.

Covered moorage, covered watercraft lifts, and boathouses

1. New covered moorage and boat houses will not be allowed on state-owned aquatic lands. Where Washington DNR determines that existing covered moorage, covered watercraft lifts, and boathouses are impacting or occur within predicted habitats for covered species and their prey, the structures must be moved from the nearshore and littoral area to deeper water or removed without replacement, either when the structure is in need of repair or replacement (if consistent with the lease), or when the authorization expires, whichever occurs first.

In areas not identified as predicted habitat for covered species or their prey, the structures must be replaced or renovated with structures that maximize light transmission within a period defined in the authorizing agreement. Where covered moorage and boathouses are allowed to continue, the replacement structures must include translucent or transparent roofing materials over at least 50 percent of the roof surface and 100 percent of horizontal surfaces that are rated by the manufacturer as having 85 percent or better light transmittance. No side walls or barrier curtains are allowed.
2. All authorizations for both new and existing structures will include this conservation measure where applicable. For existing structures, the authorizing document will define a schedule for removal or renovation to maximize light transmission, as well as the appropriate construction materials and transmission levels.

Shellfish aquaculture

All shellfish aquaculture activities will be required to implement the following conservation measures for all authorizations:

1. Predator exclusion devices, such as nets or PVC pipe, must be installed securely so that they do not break free and litter surrounding areas. The lessee will be required to monitor the farmed lands on a weekly basis to comply with this requirement and document surveys in a record that is available for review upon request by Washington DNR. Additionally, any fish or wildlife entangled or caught in these devices, if dead, will be collected, frozen, and submitted to Washington DNR for identification. If wildlife and fish are still alive, photographs of the animals should be taken for identification purposes; the animals should then be released and Washington DNR notified immediately. Photographs of the organisms shall be provided to Washington DNR within 10 calendar days.
2. Intertidal areas must not be used for long-term storage of materials such as bags, marker stakes, rebar, or nets. Materials stored in the intertidal zone must be secured and located

- outside of vegetated areas. Materials to be stored for longer than seven days shall be stored above the high-tide line. The site will be kept clean of litter. All excess or unsecured materials and trash must be removed from state-owned aquatic lands prior to the next incoming tide.
3. Gravel used for amending the substrate must first be washed in an upland location where wash water is not discharged to surface waters.
 4. If mechanical and hydraulic harvest, grading, cleaning, tilling, harrowing, or other bed preparation activities are proposed within a mapped tidal reference area and outside the specified work windows for Pacific herring, Washington DNR will require the work area to be surveyed for the presence of herring spawn. Vegetation, substrate, and aquaculture materials shall be inspected by trained and certified personnel. If Pacific herring spawn is present, these activities are prohibited in the areas where spawning has occurred until such time as the eggs have hatched and herring spawn is no longer present. Surveys must be documented in a record that is available for review upon request by Washington DNR.
 5. Operators of vehicles or machinery must reduce contamination from vehicles and equipment used on state-owned aquatic lands. This should be achieved by the following means:
 - a. All pump intakes (for geoduck harvest, washing down gear, etc.) that use seawater should be screened in accordance with criteria established by NOAA Fisheries and the Washington Department of Fish and Wildlife. (Note: This does not apply to work-boat motor intakes, i.e. jet pumps.)
 - b. Wash water from all-terrain vehicles (ATVs) must be treated to remove contaminants before it is discharged.
 6. Vehicles shall be stored, fueled, and maintained in a vehicle staging area placed 150 feet or more from any stream, water body, or wetland. Where this is not possible, documentation that explains the circumstances must be provided to Washington DNR, written approval from Washington DNR must be obtained, and the operators must have a spill prevention plan and maintain a spill prevention kit, which shall be readily available. To detect fuel leaks, operators shall inspect daily all vehicles operated within 150 feet of any stream, water body, or wetland before the vehicle is allowed to leave the vehicle staging area. Any leaks detected should be repaired in the vehicle staging area before the vehicle resumes operation. Operators must document inspections in a record that is available for review upon request by Washington DNR.
 7. Activities that disturb the substrate of documented surf smelt and sand lance spawning areas—above 1.5 to 1.8 meters or 5 to 6 feet mean lower low water (MLLW), as defined by local tidal datums—may not occur during the no-work window of the species that use the site. Alternatively, Washington DNR may authorize shellfish growers to work within the no-work window, provided that the growers monitor for surf smelt or sand lance spawn to evaluate if the area is spawning habitat and whether spawning is occurring. If the results indicate forage fish or spawn are present, work will be halted for 14 days to allow eggs to hatch. Work may be resumed once a subsequent survey shows no viable eggs are present. All monitoring work shall be conducted in accordance with Washington Department of Fish and Wildlife protocols using workers certified by the Washington Department of Fish and Wildlife to conduct this work. Operators must document surveys in a record that is available for review upon request by Washington DNR.
 8. Activities that disturb the substrate of potential and documented surf smelt and sand lance spawning areas—above 1.5 to 1.8 meters or 5 to 6 feet mean lower low water (MLLW), as defined by local tidal datums—must not alter the substrate such that it is no longer suitable for spawning. Placement of materials within potential or documented spawning habitat will require pre- and post-disturbance surveys of the substrate to demonstrate that there has been

no change in suitability. Documentation must be presented in a record that is available for review upon request by Washington DNR.

9. To minimize impacts to sensitive aquatic resources, such as forage fish spawning areas and aquatic vegetation, beach access routes to shellfish aquaculture leaseholds will be established for vehicles, equipment, or personnel on foot. Specific access methods will be defined by the lessee in conjunction with Washington DNR and will be designated in the lease.
10. Fuels and other toxic materials must be stored in a location and in a manner that ensures that they do not pose a risk of contaminating intertidal or nearshore areas. This can be achieved by:
 - a. Maintaining pumps, boat motors, and other equipment in good condition, without leaks.
 - b. Storing equipment free of fuel or in secure containment areas where any accidental leaks will be contained.
 - c. Containing and cleaning up spills of fuels or other fluids without delay. Absorbent materials must be available on site for this purpose.
 - d. Removing broken-down vehicles promptly from beaches and intertidal areas.
 - e. Periodically washing vehicles in an appropriate upland location to ensure that they are free of oil and other toxic fluids.

Floating raft aquaculture activities

1. To avoid shading or deposition of materials from the operation, new, expanded, or re-located floating shellfish rafts shall not be located above existing aquatic vegetation (native eelgrass or kelp).
2. Pre- and post-benthic surveys will be conducted to ensure that the bottom-dwelling organisms are not adversely affected in a way that causes harm to species covered under the habitat conservation plan. Operators should document surveys in a record that is available for review upon request by Washington DNR.
3. Predator exclusion devices, such as nets, must be installed securely so that they do not break free and litter surrounding areas. Operators should document compliance in a record that is available for review upon request by Washington DNR. Additionally, any fish or wildlife entangled or caught dead in these devices must be collected, frozen, and submitted to Washington DNR for identification. If wildlife and fish are still alive, photographs of the animals should be taken for identification purposes; the animals should then be released and Washington DNR notified immediately. Photographs of the organisms shall be provided to the U.S. Fish and Wildlife Service or the National Marine Fisheries Service and Washington DNR within 10 calendar days.

Native aquatic vegetation conservation measures for shellfish aquaculture activities

Impacts to aquatic vegetation from all shellfish aquaculture activities must be avoided through implementation of the following conservation measures. In situations where vegetation grows within, or encroaches on, a shellfish growing area that was originally situated so that an appropriate buffer separated it from the native aquatic vegetation, harvest and replanting of shellfish will be allowed. The lessee must provide documentation to Washington DNR regarding the pre-existing condition of the site to demonstrate that this situation existed prior to disturbance of vegetation within the area.

1. For existing leases containing *native aquatic vegetation* (as defined in the habitat conservation plan),² the following applies:
 - a. Buffers and adaptive management for native aquatic vegetation shall only apply to expanded footprints of existing leases or lease renewals that have new footprints.
 - b. In the case of new areas of existing leases or new leases with native aquatic vegetation,³ longlines or other similar culture systems that are suspended, but attached to the bottom culture of oysters, may be allowed. The lines may be attached to or rooted in substrate if a distance of 5 feet is maintained between each line. Alternatively, groups of two to four lines may be spaced 1 to 2.5 feet apart, provided that an open space of 10 feet is left between each group.
2. For new leases with native aquatic vegetation: In the case of new or expanded leases (outside of an existing leased area) in which leased areas contain native aquatic vegetation, the culture of species or use of methods other than suspension above and attachment to the bottom culture of oysters must comply with one of the following conservation measures:
 - a. *Setback option:* Uncontained bottom culture of oysters (single or clusters), higher concentrations of culture systems, shade creating systems, alternative species, higher density bottom culture, and mechanical harvest methods of cultivation must not be placed within 8 meters (25 feet) of existing native aquatic vegetation attached to or rooted in substrate. Washington DNR will consider buffers of less than 8 meters on a case-by-case basis through the adaptive management option, provided that monitoring is included.
 - b. *Adaptive management option:* Uncontained bottom culture of oysters (single or clusters), higher concentrations of culture systems, shade creating systems, alternative species, higher density bottom culture, and mechanical harvest methods of cultivation in areas with native aquatic vegetation will be evaluated through adaptive management. Such adaptive management evaluation shall monitor adverse impacts on species covered under the habitat conservation plan. Results will inform revisions to conservation measures based on observed impacts on species covered under the habitat conservation plan.
3. Water access to shellfish aquaculture leaseholds will be established to the extent practicable to minimize impacts to sensitive aquatic resources, such as forage fish spawning areas and aquatic vegetation. Specific access methods will be defined by the lessee in conjunction with Washington DNR and will address the following items as is practical:
 - a. Minimize the grounding of work boats and barges in native aquatic vegetation (defined in Section 5.2.3 of this chapter) that is attached to or rooted in substrate.
 - b. Prevent anchors, chains, and ropes from dragging on the bottom in native aquatic vegetation (defined in Section 5.2.3 of this chapter) that is attached to or rooted in substrate.
 - c. Arrange moorage and operation of boats and barges to minimize impacts from propeller scour or anchoring on native aquatic vegetation (defined in Section 5.2.3 of this chapter) that is attached to or rooted in substrate.

² For this measure, native aquatic vegetation exists prior to placement of aquaculture. If native aquatic vegetation migrates to the site after aquaculture has begun, these conservation measures do not apply.

³ New leases, as used in these conservation measures, include only leases of new areas that have not been previously subject to shellfish aquaculture.

Log booming and storage conservation measures

1. At the time of reauthorization, existing log booming and storage facilities must be moved or reconfigured as necessary to reduce impacts to nearshore/littoral areas. Where navigational and harbor line designations allow, facilities must be moved beyond the nearshore or littoral area and out of areas that are important habitat of covered species.
2. Operators must monitor log handling facilities to ensure that logs are not grounding. If grounding is occurring, either the facility must be moved to deeper water, or the leasehold must be reconfigured.
3. Where the infrastructure exists, lessees shall be required to debark logs prior to placing them in the water.
4. If debarking infrastructure is not available, the following measures are required:
 - a. Bundle logs prior to water transport and storage and store only bundled logs in water.
 - b. Assemble bundles, sort individual logs, or break apart bundles in upland areas away from water.
 - c. Maintain a containment boom to collect floating debris and retain all wood debris for disposal at an appropriate upland location.
 - d. Use a crane to move logs into the water from barges, rather than roll the logs off of barges, which loosens the bark.
 - e. Retain all loose bark and wood debris that accumulates on transport vessels and dispose of it at an upland location.
5. Operators must implement measures to prevent chains and ropes on anchorage, mooring, and containment boom systems from dragging on the bottom. Measures include, but are not limited to, the use of embedded anchors and midline floats.
6. Log handling facilities must control and properly dispose of wood waste at all log handling sites, including upland operations. Control methods include limiting accumulations around transfer sites, constructing bark trash boxes at log dump racks, and installing trash containment screens.
7. Lessees shall complete underwater surveys for wood debris to determine rates of accumulation. This must be done at the beginning of the authorization term, at predefined intervals during the term, and at the termination of the agreement. The surveys must include the leasehold and areas outside the leasehold boundary that may have been impacted by the use, and they must be performed according to standardized protocols defined by Washington DNR.

Based on the rate of accumulation, interim cleanup may be required during the authorization term, which will reduce the scale and cost of cleanup required at the close out of the authorization. Interim cleanup would be required based on weight of evidence from the required surveys, including total accumulation and percent coverage. When the agreement is terminated, weight of evidence will also be used to determine the extent to which material must be removed.

8. New and expanded log transfer sites and in-water storage facilities will not be established in areas that do not meet state or federal water or sediment quality standards.
9. Proponents of new and expanded log booming and storage authorizations shall conduct underwater surveys to establish baseline benthic conditions prior to approval for the facility. Surveys shall be performed according to Washington DNR-approved sampling plans sufficient to characterize the chemical and physical properties of the surface and subsurface sediment.

10. To avoid impacts to new and expanded areas, new log booming and storage facilities will not be allowed unless located where the activity has historically occurred.
11. New and expanded log booming and storage facilities will be located beyond the nearshore or littoral area to avoid nearshore and shoreline areas.
12. New and expanded log booming and storage activities must be kept at least 60 meters (200 feet) from existing native aquatic vegetation attached to or rooted in substrate.

5.2.2 Standards

This section defines the standards that Washington DNR will apply to all uses of state-owned aquatic lands, including not only the activities that are covered under the habitat conservation plan, but also activities that are not. These standards have been established to fulfill the commitments of the incidental take permit to compensate for the unavoidable impacts that activities authorized by Washington DNR have on species covered in this plan. Each standard is linked to a specific goal and objective of the operating conservation program (Appendix I, “Meeting the Goals of the Habitat Conservation Plan”).

Implementation of these standards under the habitat conservation plan is site-specific, based on the individual conditions of each site. The standards and a timeline for implementation are specified in all new and renewed authorizations. Section 5.2.2 describes the specific application of these standards for the activities covered under this habitat conservation plan. Where engineering or structural requirements, public safety, or federal, state, or local laws or authorities require exceptions to these standards, compensatory mitigation for unavoidable impacts will be required.

Artificial lighting

Standard

Artificial night lighting on and from overwater structures must be minimized by focusing the light on the dock’s surface and by using shades that minimize illumination of the surrounding environment and reduce glare on the surface of the water.

Intent and effects addressed

Artificial lighting can have direct and indirect effects on covered amphibians, birds, fish, and their prey by disrupting reproductive, migratory, and foraging behavior and by increasing exposure to predators. This standard is designed to minimize disturbance, displacement, and harm to covered species and their prey.

Implementation

Night lighting requirements that address orientation, light shields or covers, and the use of light emitting diodes (LEDs) will be included in authorizing documents. Implementation of this standard does not supersede the requirements of the U.S. Coast Guard (Code of Federal Regulations, Title 33, Navigation and Navigable Waters, Chapter 1, Coast Guard, Department of Homeland Security, Part 67) or the Occupational Health and Safety Administration (OSHA).

Bank armoring

Standard

New bulkheads or hard bank armoring are not allowed on state-owned aquatic lands except under extraordinary circumstances associated with public safety, such as the protection of bridges, roads, and utility corridors, or in instances of sanctioned habitat creation or restoration. New structures proposed in nearshore and littoral areas must be designed and located in a manner that eliminates the need for bank armoring. Proposed new activities that include new bulkhead or bank armoring will require a certified engineer's report that clearly defines the need for armoring before the activity can be authorized. Compensatory mitigation will be required for all new armoring.

Existing bank armoring on state-owned lands must be removed or, if the need for continued protection is documented in an engineering report, replaced with softer (less intrusive) shoreline protection systems. Where engineering or infrastructure protection issues make replacement of bulkheads and hard bank armoring with softer shoreline armoring systems unduly onerous, Washington DNR may allow the lessee to use hard materials, provided that the new bulkhead or armoring occupies the same or smaller footprint. Authorizations for replacement of existing bank armoring will require a licensed professional engineer's report that clearly defines the continuing need for armoring. All engineering reports will be reviewed for validity by Washington DNR's structural engineer. Compensatory mitigation will be required if continued use is authorized.

Intent and effects addressed

Bank armoring can have profound effects on the habitats of covered species. In addition to altering fundamental processes that shape natural habitats, such as wave and current energy and sediment transport, armoring also alters important habitat features, such as the slope of the beach or shoreline and the presence and composition of aquatic vegetative and biological communities. This standard is designed to avoid and minimize

alterations to natural habitat-forming processes, habitat features, and biological communities that support the covered species.



Example of shoreline armoring using rock. Photo: DNR Staff

Implementation

All authorizations for new construction will include this prohibition. Authorizations for existing structures will define an explicit timeline for replacement and the least damaging shoreline protection method, with associated replacement materials. Exceptions for public safety will also be documented in the authorization agreement, with the exceptions based on specific conditions.

Breakwaters

Standard

New, fixed breakwaters will not be authorized on state-owned aquatic lands. If breakwaters are critical to the safety or protection of a facility, floating breakwaters or wave boards may be authorized, provided that they are designed in a manner that does not block the predominant long-shore current or fish passage and that they are modeled in conjunction with engineering design. As for existing solid breakwaters, a timeframe for retrofitting must be scheduled at the time of re-authorization. Such retrofitting is to incorporate gaps, either through or under the structure, that will allow long-shore transport of sediments, fish passage, and water circulation.



Rubblemound breakwater structure horizontal to marina facility Photo: DNR staff.

Intent and effects addressed

Breakwaters alter fundamental processes that shape natural habitats, especially wave energy, current energy, and sediment transport, and can result in alterations to important habitat features, such as substrate composition, aquatic vegetation, and the composition of biological communities. Breakwaters also contribute to water quality degradation and can block movements of fish in nearshore areas, preventing access to habitat. This standard addresses avoidance and minimization of alterations to natural habitat-forming processes, habitat features, and biological communities that support the covered species.

Implementation

Authorizations for new structures will either include the prohibition against new fixed breakwaters, or they will document exceptions needed to protect infrastructure, identify acceptable materials, and authorize only floating breakwaters or wave-boards that do not block long-shore current or fish passage.

Derelict structures and abandoned equipment

Standard

Use authorizations shall require the removal of lessee- or grantee-owned structures, such as treated wood pilings, vessels, and equipment, when these are no longer being used as part of the permitted use or at the termination of the authorization. Washington DNR is responsible for removal of unused state-owned improvements. Where appropriate, Washington DNR will contract for removal of unused and abandoned structures, pilings, vessels, and equipment for which a responsible party cannot be located or compelled to conduct removal.

Intent and effects addressed

Shading from overwater structures adversely impacts aquatic vegetation, benthic organisms, and juvenile salmonids. Abandoned structures, vessels, and other equipment may have other harmful effects as well, including contamination of water and substrate, alteration of wave and current energy, and alteration of sediment transport. This standard focuses on avoiding and minimizing loss of habitat, impacts to water and sediment quality, and alteration of natural habitat features and habitat-forming processes.



Example of a derelict structure on state-owned aquatic lands
Photo: DNR staff.

Implementation

All authorizations for both new and existing structures will include this standard and will define a schedule for implementation and appropriate removal methods. For existing abandoned structures for which no current lessee or grantee is responsible, Washington DNR will pursue all available legal remedies to ensure removal of the structures or will remove the structures and seek cost recovery from responsible parties. Under some circumstances, Washington DNR may completely remove all the structures from the leasehold at agency expense or through other viable funding sources.

Dredging and sediment removal

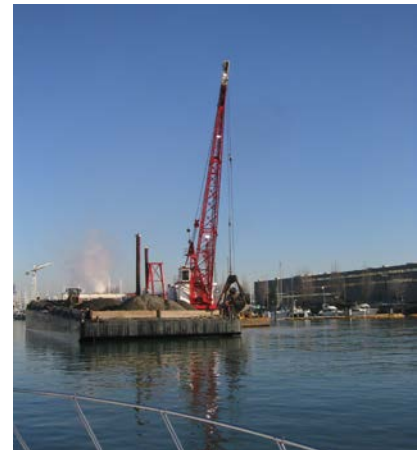
Standard

Dredging, including sand and gravel mining, will not be allowed on state-owned aquatic lands except where Washington DNR determines that it is required for navigation, trade and commerce, flood control, maintenance of water intakes, or other public health and safety purposes.

Intent and effects addressed

Under Washington Administrative Code (WAC), Washington DNR is required to “allow suitable state aquatic lands to be used for mineral and material production.” The same code also requires Washington DNR to “ensure environmental protection” (WAC 332-30-100).

Removing sediment from submerged habitats changes slope and depth profiles and alters substrate composition, resulting in loss of habitats of covered species and their prey. It also changes the supply and distribution of sediment, possibly causing alterations in habitat structure in other locations. Because of these significant effects, dredging and gravel mining are not suitable uses of state-owned aquatic lands. This standard is designed to avoid and minimize alteration of habitat features and loss of habitat.



Navigational channel dredging using a clam shell dredge Photo: DNR Staff

Implementation

The only aquatic lands that are suitable for production of sand and gravel are those that must be dredged for specified public health and safety purposes. Therefore, sand and gravel mining will not be allowed, but material removed in the course of other authorized actions may be sold, as allowed under Chapter 79.140 of the Revised Code of Washington.

Washington DNR will require that all proposals for dredging be accompanied by the federal, state, and local permits required for the project. All flood control proposals must also be accompanied by a report from a licensed hydrologist that clearly describes the link between dredging and flood control and justifies the need for dredging as compared to other flood control alternatives. All dredge proposals, including permits and hydrological reports, will be reviewed by Washington DNR and will not be authorized except for the reasons specified in the standard.

This habitat conservation plan does not apply to historic river channels or other lands having the characteristics of uplands that are classified as state-owned aquatic lands, but are no longer part of a navigable water body. Sand and gravel removal may be permitted on such lands, as allowed under Section 79.140.150 of the Revised Code of Washington.

Fill

Standard

New fill, or additional placement of fill, will not be allowed on state-owned aquatic lands except in the case of those activities listed under the “Implementation” section.

Shell or washed gravel is not considered fill under this standard and may be applied as a substrate amendment for authorized shellfish aquaculture activities on a site-by-site basis when the authorizing agreement defines the bathymetric, seasonal, and quantitative limits of the application. Gravel or shell may not be placed on existing or suitable forage fish spawning habitat or native aquatic vegetation protected by this habitat conservation plan.



Filled aquatic lands. Photo: US Army Corps of Engineers.

Intent and effects addressed

Fill alters important habitat features, such as slope and depth profile, modifies current and wave patterns and energies, and eliminates benthic infauna and epifauna. This standard avoids and minimizes loss of habitat and alteration of natural habitat features and habitat-forming processes.

Implementation

All authorizations for both new and existing structures will contain the prohibition against new fill, as well as any exceptions authorized for sediment remediation, habitat creation, or restoration projects. If needed, exceptions to this standard may be allowed on state-owned aquatic lands when authorized by the U.S. Army Corps of Engineers and Washington Department of Fish and Wildlife and when an exception is necessary to support:

- **Aquaculture**—Shell or washed gravel may be applied as a substrate amendment for authorized shellfish aquaculture activities where known and suitable forage fish spawning habitat or native aquatic vegetation will be avoided.
- **Remediation of contaminated sediments**—The remedy must be directed or accepted by the Washington Department of Ecology or U.S. Environmental Protection Agency or be part of an interagency environmental cleanup plan.
- **Public safety**—Flood risk reduction and other projects that directly avoid effects to public safety may be authorized when consistent with the Washington DNR Shoreline Stabilization and Breakwater Projects guidance. Fill shall not be allowed where shore stabilization projects would be required to hold materials in place to create filled tidelands or shorelands.
- **Disposal of dredged material**—This may be authorized when considered suitable under, and conducted in accordance with, Washington State’s Dredged Material Management Program.

- **Expansion or alteration of transportation facilities of statewide significance currently located on the shoreline**—Fill will only be authorized upon demonstration that alternatives are not feasible and when this has been documented in an engineer’s report.
- **Environmental restoration, beach nourishment, or enhancement projects**—Fill may be used for these activities provided that the primary purpose of the action is clearly restoration of the natural character and ecological processes and functions of the shoreline, and when evaluated by Washington DNR’s science staff and a marine engineer’s report.
- **Public Access**—Washington DNR makes state-owned aquatic lands available for public use and access for example boat launches, recreational shellfish, beach access.

Foam material

Standard

All foam material, whether used for floatation or for any other purpose, is prohibited unless it is encapsulated within a shell that prevents breakup or loss of the foam material into the water and provided that it is not readily subject to damage by ultraviolet radiation or abrasion. During maintenance, existing un-encapsulated foam material must be removed or replaced.

Intent and effects addressed

Debris from disintegrated foam material breaks down and contaminates water and sediment.

Visible particles floating in the water may be ingested by species covered under the habitat conservation plan and by other wildlife. This standard is designed to avoid and minimize impacts on water and sediment quality, as well as to avoid direct harm of covered species and their prey.

Implementation

All authorizations for new construction will include this standard. For existing structures, the authorizing document will define a schedule for replacement of any un-encapsulated foam material and will specify encapsulated replacement materials.



Exposed foam on dock used for floatation Photo: DNR staff

Pesticide application

Standard

Washington DNR will allow pesticide⁴ to be used on state-owned aquatic lands if all of the following criteria are met:

⁴ Pesticides are substances regulated as pesticides under (1) federal law: the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), 7 U.S. Code §§ 136-136, as amended; and 40 Code of Federal Regulations parts, 150 to 189, as amended; and (2) state law: Washington Pesticide Control Act, Chapter 15.58 of the Revised Code of Washington and Chapter 16-228 the Washington Administrative Code, *et seq.*

- The Environmental Protection Agency has conducted an ecological risk assessment and registered the pesticide.
- The U.S. Fish and Wildlife Service or NOAA Fisheries (or both) have evaluated use of the pesticide, and either 1. they have concluded that there is neither jeopardy to species listed under the habitat conservation plan, nor adverse modification of federally designated critical habitat, or 2. they have issued an incidental take statement pursuant to the Endangered Species Act Section 7(b)(4) upon completion of a formal consultation (16 U.S.Code 1536(b)(4)).
- The use of pesticides on aquatic lands is in compliance with the laws of Washington State.
- If the use of pesticide is subject to an incidental take statement, the terms and conditions of the incidental take statement will be a condition of Washington DNR's agreement to allow use of the pesticide on state-owned aquatic lands.

Washington DNR will use the preceding information to assess whether there is potential for harm to covered species, their habitats, and their prey. If there is indication of the potential for harm, Washington DNR will not allow use of the pesticide on state-owned aquatic lands. Washington DNR may, in some circumstances, make an exception for state agencies using pesticides to control invasive species. In addition to the above criteria, all new use authorizations must avoid applying pesticides whenever forage fish or eggs are present.

Intent and effects addressed

While the application of pesticides is frequently intended to target a specific species, the use of chemicals may have wider impacts on non-targeted species through both direct and indirect effects. This standard supports avoidance and minimization of impacts on water and sediment quality, as well as avoidance of direct harm of covered species and their prey.

Implementation

Permission to use pesticides on state-owned aquatic lands will not be granted unless these criteria have been met and support a conclusion that such use will not harm covered species or their prey.

Pressure washing

Standard

Power-assisted pressure washing or cleaning of equipment, machinery, and floating or fixed structures must be conducted in a manner that avoids scouring of the substrate. Equipment that contains or is covered with petroleum based products may not be pressure washed in or over the water, and wash water must be contained and taken to an approved treatment facility.

Structures and equipment must first be cleaned using dry methods and equipment. Debris accumulations on the structure must be collected or swept up and properly disposed of prior to fresh-water flushing. To prevent detergents or other cleaning agents from entering waters of the state, flushing must involve the use of clean water only.

Pressure washing of structures must be done using appropriate filter fabric to control and contain paint particles generated by the activity.

Pressure washing of concrete structures must be held to the minimum necessary to maintain the structure's integrity. (Pressure washing of concrete structures can result in an increased pH discharge, with a potential to violate Washington state water quality criteria.)

Wash water and debris resulting from pressure washing (including, but not restricted to, dirt and old paint chips) shall be filtered through a filter structure capable of collecting all such debris.

Intent and effects addressed

This standard is intended to prevent contamination of the substrate and water column by contaminants present on machinery and to prevent disturbance and alteration of the substrate. Shallow-water habitats are a primary concern, because pressure washing is more likely to cause direct harm to substrates in shallow water and because contaminants are slower to disperse.

Implementation

All over- and in-water authorizations will include this prohibition as part of the authorizing document.

Tires

Standard

Tires are prohibited as part of above- and below-water structures or where they could potentially come into contact with the water (for example, when used for floatation, fenders, or hinges) except in the rare circumstance when no commercially and physically practicable alternative is available. Existing tires used for floatation must be replaced with inert or encapsulated materials, such as plastic or enclosed foam, either during maintenance or repair of the structure, or at the time of reauthorization, whichever is sooner. Removal of tires used as nonstructural support elements of the structure (such as bumpers and fenders) will be required prior to the renovation life of the facility defined in the reauthorization.

Intent and effects addressed

Tire leachate from whole tires, shredded tires, and tire-wear particles in the aquatic environment contains hydrocarbons and metals and degrades water and sediment quality. Tire leachate has been shown to cause decreases in hatching success, to slow rates of metamorphosis, and to accumulate in tissue of species covered in this habitat conservation plan, including amphibians and forage fish and their prey organisms (Camponelli et al., 2009; Collins et al., 2002; Smolders & Degryse, 2002; Wik & Dave, 2009). These effects may result in population losses, which will flow up the food web. This standard is designed to avoid and minimize impacts on water quality, covered species, and their habitats (Section 2.3 of this chapter).



Foam filled tires used for floatation on a dock Photo: DNR staff

Implementation

All authorizations for new construction will prohibit the use of tires on or in conjunction with authorized structures. For existing structures, the authorizing document will define a schedule for replacing existing tires, as well as types of acceptable materials, and the requirement to dispose of the tires at a state authorized disposal facility. Washington DNR does not have jurisdiction over private vessels, and this measure is not intended to apply to tugboats or similar vessels.

Treated wood

Standard

No exposed treated wood may be used as part of the decking, pilings, or other components of any in-water structures, such as floats, docks, wharves, piers, marinas, rafts, shipyards, and terminals. Treated wood may only be used for above-water structural framing and may not be used as decking or pilings or for any other uses.

During maintenance that involves replacing treated wood, the existing treated wood must be replaced with alternative materials, such as untreated wood, steel, concrete, or recycled plastic. Alternatively, the treated wood must be encased in a manner that prevents metals, hydrocarbons, and other toxins from leaching out.

Treated wood can be used for a new structure or retained at an existing structure if an encasement method approved by Washington DNR is determined to fully preclude exposure to water and sediments and potential leaching into the aquatic environment.

Intent and effects addressed

Treated wood leaches harmful chemicals into the aquatic environment, degrading water and sediment quality. Chemicals in treated wood can be absorbed or ingested by covered species and may cause biological dysfunction. Many of these chemicals can bioaccumulate in higher trophic levels through food web dynamics, impacting health and reproduction. This standard is designed to avoid and minimize impacts on water and sediment quality and on covered species and their habitats.

Implementation

All authorizations for new construction will include the prohibitions on treated wood as discussed in this section. For existing structures, the authorizing document will define a schedule for replacing treated wood and will specify acceptable replacement materials, such as untreated wood, steel, concrete, or recycled plastic, or encasement in a manner that prevents environmental contamination. Disposal of treated wood at a state authorized disposal facility—such that reuse of this material is precluded— will be required.

Covered species work windows and buffer distances

Standard

Species work windows will be used both for the timing of any in-water construction and operational activities, and to protect covered species during sensitive life history phases (such as reproduction and migration). Work windows will be established by Washington DNR based on the recommendations of state and federal wildlife management agencies and in consultation with species experts.

Intent and effects addressed

Work timing windows and buffers are common tools used to avoid impacts to species from mechanisms such as noise, artificial night lighting, or increases in turbidity. These windows will be used to avoid impacts during sensitive life history phases, such as reproduction, rearing, and migration. This standard supports avoidance and minimization of disturbance and displacement of covered species.

Implementation

All authorizations will specify established work windows for species predicted or observed to occur at the site, with implementation of the windows considered part of the design criteria and operational plan. The work windows are established based on requirements of state and federal wildlife management agencies. They are therefore based on best available science concerning the life history of each covered species. These windows will be modified as new information is developed by the U.S. Fish and Wildlife Service, NOAA Fisheries, and the Washington Department of Fish and Wildlife throughout the term of this habitat conservation plan.

Salmon early life stages

Standard

In-water activities that potentially disturb or block migration and disrupt or preclude foraging will be assessed on a site-by-site basis, and appropriate avoidance measures and timing for these measures will be established for the respective species and tidal reference area. The recommendations of salmon recovery plans will also be factored into the planning and authorization recommendations.

Intent and effects addressed

The purpose of this standard is to protect particularly sensitive early life stages of juvenile Chinook, chum, and pink salmonids in the shallow nearshore environment.

Implementation

All authorizations will specify established work windows for species predicted or observed to occur at the site, with implementation of the windows considered part of the design criteria and operational plan. The work windows are established based on requirements of state and federal wildlife management agencies and are therefore based on best available science concerning the life history of each covered species. These windows will be modified as new information is developed by the U.S. Fish and Wildlife Service, NOAA Fisheries, and the Washington Department of Fish and Wildlife throughout the term of this habitat conservation plan.

5.2.3 Programmatic measures

Washington DNR's programmatic measures are actions the agency will take, through the agency's existing and new programs, to protect and improve the habitat of covered species.

This section defines the programmatic measures that Washington DNR will apply to all uses of state-owned aquatic lands, including not only the activities that are covered under the habitat conservation plan, but also activities that are not. These standards have been established to fulfill the commitments of the incidental take permit to compensate for the unavoidable impacts that activities authorized by Washington DNR have on species covered under the habitat conservation plan. Each programmatic measure is linked to a specific goal and objective of the operating conservation program (Appendix I, "Meeting the Goals of the Habitat Conservation Plan").

Implementation of these programmatic measures under the habitat conservation plan will be based on the specific conditions of each site. The measures and a timeline for implementation will be specified in all new and renewed authorizations. Section 5.2.3 of this chapter describes the specific application of these measures for the activities covered under this Aquatic Lands Habitat Conservation Plan. Where engineering or structural requirements, public safety, or federal, state, or local laws or authorities require exceptions to these standards, compensatory mitigation for unavoidable impacts will be required.

Protection of native aquatic vegetation

An important component of this conservation strategy is the protection of aquatic vegetation—native photosynthetic plants or algae attached to or rooted in substrate that is submerged for the whole or the majority of each day (in the case of saltwater) or the majority of the growing season (in the case of freshwater).

Four groups of native aquatic vegetation are included for protection:

1. Saltwater plants (seagrasses and saltmarsh plants that have their roots inundated for the majority of an average day)
2. Kelps (macroalgae in the order Laminariales)
3. Complex freshwater algae (stoneworts and brittleworts)
4. Rooted freshwater plants (submerged, floating, and emergent)

Similar to terrestrial vegetation, submerged, floating, and emergent vegetation provides habitats with three-dimensional structure, slows erosion and wave energy, and converts carbon dioxide (CO₂) into oxygen and plant biomass. Oxygenation of the water column and sediments supports respiration of fish and other animals, with some oxygen released into the atmosphere. For the species addressed in this plan, the vegetative biomass produced serves as a major source of food in two ways: directly, through consumption of the vegetation by common loon, amphibian tadpoles, and the western pond turtle; and indirectly, either through consumption of the species that seek shelter in (zooplankton, larval/juvenile fish) and on (periphyton) the vegetation, or through consumption of prey animals that use aquatic vegetation as a primary food source. Covered species, such as rockfish, salmonids, amphibians, and waterfowl, may also use vegetation for egg attachment, nursery/rearing areas, or refuge from predation.

Intent and effects addressed

By avoiding direct and indirect impacts on aquatic vegetation, this strategy addresses a wide range of effect mechanisms that lead to habitat degradation. Additional measures to maximize the amount of light that is transmitted through overwater structures address the specific mechanism of shading, which can directly diminish the growth and survival of vegetation.

The primary objectives of the habitat conservation plan that are supported by the aquatic vegetation protection strategy include the following:

1. Avoid and minimize alterations to, and loss of, the physical habitat features (such as connectivity and substrate composition) and biological communities (such as native submerged aquatic vegetation and prey resources) that support the covered species.

2. Alteration of existing activities in order to avoid vegetation or maximize light transmission could result in an improvement of habitat quality where existing vegetation has been impacted. These actions support the following objectives related to habitat improvement:
3. Restore or improve habitat in areas where natural habitat functions and habitat-forming processes have been altered.
4. Improve existing habitat conditions by identifying and reducing or eliminating sources of habitat degradation.

Implementation

All activities will be required to implement these programmatic measures for all authorizations:

All new covered and non-covered activities and structures must avoid shading, removing, and impacting existing native aquatic vegetation attached to or rooted in the substrate.

Only the four groups of native aquatic vegetation fitting the previous descriptions are protected under this habitat conservation plan. A list of aquatic vegetation to be protected is provided as guidance in Appendix C. This list may be amended as more information becomes available. This strategy does not include riparian vegetation, unless it is found within the generalized extent of state ownership of aquatic lands (below ordinary high water).

Native aquatic vegetation buffers

The measures described in this aquatic vegetation protection strategy address impacts on aquatic vegetation in two ways:

1. Avoiding impacts, by restricting activities in or near areas with aquatic vegetation.
2. Minimizing impacts from shading by maximizing light transmission in overwater structures.

Vegetative buffers for docks, wharves, piers, marinas, rafts, shipyards, and terminals

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.

For structures not associated with watercraft, the buffer distance between the edge of the structure and the vegetation is either 8 meters (25 feet) or the maximum distance shade will be cast by the structure into the water, whichever is larger.

Vegetative buffers for activities not covered under the habitat conservation plan

Finfish aquaculture

New and expanded finfish aquaculture net pens must be located at least 150 meters (492 feet) from existing native aquatic vegetation that is attached to or rooted in substrate.⁵

Outfalls

New and reconfigured outfalls and piping must be located to avoid impacts on existing native aquatic vegetation that is attached to or rooted in substrate. The diffuser or discharge point(s) for new or expanded outfalls must be located at a buffer distance from native aquatic vegetation to avoid impacts on those areas. This buffer distance shall be calculated as the extent of the mixing zone (including both the acute and chronic mixing zones) as defined in the current National Pollutant Discharge Elimination System (NPDES) permit for the use authorization. Operators should avoid placement of an outfall that cuts directly through any native aquatic vegetation.

For outfall authorizations without a current NPDES permit, Washington DNR will require a mixing-zone analysis for the outfall from a qualified party. The analysis must follow protocols established by the Washington State Department of Ecology. The outfall pipe must be installed below the substrate within the nearshore and areas of attached and rooted native vegetation.

Native aquatic vegetation survey programmatic measures

Marine vegetation surveys

All aquatic vegetation surveys will be required to use the most current survey protocols and methods for defining a bed and must be reviewed and approved by Washington DNR. The surveys should be of high enough spatial resolution that the edge of bed can be delineated and distance between bed edge and proposed activity can be measured.

Freshwater vegetation surveys—Sampling

Washington DNR will use the Washington State Department of Ecology's fresh-water vegetation sampling protocols (Washington State Department of Ecology, 2001). Both of the sampling methods described in the protocols—the surface/diver survey and the point intercept method—are acceptable. In addition, a towed video camera or video camera capturing quadrats for percentage cover can be supplemented. The protocol does not directly describe numbers of samples, but it does describe the maximum grid size, so sample numbers can be calculated from the size of the Washington DNR lease area.

Vegetation management and control

Many lakes, reservoirs, and other water holding bodies are managed by different consortiums and groups (public utility districts, irrigation districts, U.S. Army Corps of Engineers, U.S. Department

⁵ Elevated organic carbon levels in the sediment have been reported 50 to 200 meters (164–656 feet) from net pens (Carroll *et al.*, 2003; Ye *et al.*, 1991), and sediment hydrogen sulfide levels greater than the toxic level for aquatic vegetation (400 micro-moles/liter) have been reported 60 to 150 meters (197–492 feet) from net pens (Brooks & Mahnken, 2003).

of the Interior’s Bureau of Reclamation and Bureau of Land Management, counties, cities, and tribes) with different mandates and authorities for vegetation control for these waters. Before requiring or conducting vegetation surveys, Washington DNR will identify and consult existing vegetation management plans for a water body. This step will ensure that management actions identified in the habitat conservation plan are not in conflict with existing known vegetation control efforts.

Washington DNR is involved in planning for vegetation control when it occurs on state-owned aquatic lands (either providing financial or in-kind support or being a signatory to a plan or agreement) and will ensure that management actions identified in the habitat conservation plan are not in conflict with Washington DNR’s own vegetation management plans or that Washington DNR is attempting to monitor aquatic vegetation in areas where active vegetation control is occurring. The following steps will be taken in order to document if an aquatic vegetation survey is warranted:

1. Check Washington DNR’s herbicide treatment database for vegetation control near the site of proposed survey area.
2. Check with the Washington Department of Fish and Wildlife to determine if a hydraulic project approval (HPA) has been issued for mechanical vegetation control in the proposed survey area.
3. Check with the local jurisdiction (for county, irrigation district, public utility district, U.S. Army Corps of Engineers, or Bureau of Reclamation) for vegetation maintenance activities.
4. Check with the Washington State Department of Ecology for known aquatic vegetation control permits issued for aquatic plant control.

There may be instances of conflicts between vegetation control activities and protection of species and habitat covered under the habitat conservation plan. Where feasible, Washington DNR will consider alternative management strategies for protecting aquatic habitat on state-owned aquatic lands and will manage aquatic weed control practices in a manner that maintains and restores habitat conditions.

Defining eelgrass bed boundaries

There is little information concerning the number of plants or shoots that comprise an established population of aquatic vegetation or how many are required to support a patch’s ecological functions, and the number may be different for different species. In addition, even sparse vegetation may provide significant benefit to species by providing a connection between more densely vegetated areas. As a result, Washington DNR has adopted a precautionary approach that both allows for growth of low-density vegetation patches and protects existing vegetation. This approach is described in Appendix J, “Technical Memorandum: Operational Definition of an Eelgrass (*Zostera marina*) Bed.”

Intent and effects addressed

Protection of native aquatic vegetation through activity-specific and programmatic application of conservation measures achieves the overall goals of Washington DNR to:

1. Avoid and minimize effects on covered species and their habitats.
2. Identify and protect habitats important to covered species.
3. Improve and restore habitat quality to compensate for unavoidable effects of covered activities.

Removal of derelict vessels from state-owned aquatic lands

Washington DNR administers a derelict vessel removal program, which operates in accordance with Chapter 79.100 (*Derelict Vessels*) of the Revised Code of Washington. This law gives certain Washington public entities the authority to take custody of derelict and abandoned vessels in the state's waterways and establish a funding account for the program. Since the program's inception in 2003, more than 495 vessels have been removed (as of August 2013) by either government entities or vessel owners, thereby preventing further degradation of water and sediment quality and removing navigational hazards.

Derelict vessels may contain large quantities of oil or other toxic substances, which pose a contamination risk to aquatic lands, nearby shorelines, and water quality. Vessels that settle on the bottom can disrupt the aquatic environment by crushing submerged aquatic vegetation and benthic infauna, compacting sediments, and interrupting currents so that scour results. Moored derelict vessels may damage vegetation through shading impacts; and the anchor chains of such vessels may affect both vegetation and the substrate by causing scour and dragging. Derelict vessels are also sources of marine debris. Removing derelict vessels from aquatic lands eliminates these impacts.

This program is funded through a \$3 surcharge on the annual recreational vessel registration fee and a \$5 surcharge on the cost of obtaining a foreign vessel identification document. This generates approximately \$750,000 annually. Expenditures from the Derelict Vessel Removal Account may be used to reimburse authorized public entities for up to 90 percent of the costs associated with removing and disposing of abandoned or derelict vessels, when the owner of the vessel is unknown or unable to pay. When Washington DNR is the lead agency on vessel removal, the agency is required to pay 10 percent of the project costs from agency funds. Washington state law stipulates that funding priority must be given to vessels in danger of sinking, breaking up, or blocking navigation channels, or to those which present environmental risks. This applies equally to vessels on state-owned aquatic lands and to other vessels regardless of their location.

Washington DNR has developed internal Derelict Vessel Removal Program Guidelines (Washington DNR, 2007d), which describe roles and responsibilities, vessel identification and reporting, criteria for reimbursement from the Derelict Vessel Removal Account, and onsite removal procedures.

Additional details concerning how vessels in each category are prioritized can be found in the Derelict Vessel Removal Program Guidelines (Washington DNR, 2007d).

Intent and effects addressed

The intent of including this program in the habitat conservation plan is to reduce pollutants and hazards posed by derelict vessels (RCW 79.100.005), to avoid and minimize effects on covered species and their habitats, and to compensate for vessels that have released toxic substances and pollutants into the water and displaced or damaged habitat of the covered species.

The removal of derelict vessels supports all of the conservation goals of the habitat conservation plan (Section 5.1), through:

- Avoidance and minimization of impacts on water and sediment quality and of alteration or loss of physical habitat.

- Restoration and improvement of the condition of existing habitat.
- Prioritization of derelict vessel removal to ensure that areas that are important to covered species are either not affected or minimally affected by dangers posed by these vessels.

Each of the covered species may benefit from this programmatic strategy because of the broad impacts that a derelict vessel's presence may have within an ecosystem and local area, which could include, but would not be limited to, water and sediment quality degradation, substrate compaction, shading effects, release and accumulation of waste, garbage, or contaminants, and migration impediment.

Implementation

Floating derelict vessels are prioritized with the objective of removing them before they sink. Sunken or beached vessels are removed in accordance with Washington DNR's programmatic hydraulic project approval (HPA) (Appendix D). If a non-emergency removal does not fall within the scope of the programmatic HPA, then Washington DNR applies for additional permits to ensure environmental protection, completing a biological assessment and conducting an environmental review in accordance with both the National Environmental Policy Act (NEPA) and the State Environmental Policy Act (SEPA). The review that NOAA Fisheries and the U.S. Fish and Wildlife Service conduct of the removal frequently involves implementation of a variety of measures, including working within fish windows and use of a silt curtains and oil booms.

In most cases, removing the sunken or beached abandoned vessels prevents degradation of the habitat and allows it to recover naturally. If not removed, the vessel may continue to damage the habitat with every tidal shift and storm event. Requiring habitat restoration for the hazard-abatement environmental damages caused by vessel removal is not compatible with the operating conservation program in the habitat conservation plan, because such a requirement would decrease the number of vessels removed, thereby increasing the habitat destroyed by abandoned boats. The state's shoreline act specifically exempts hazard abatement from local permitting for this reason.

On a federal level, vessel removals are conducted under Nationwide Permit 22.

Derelict vessel removal will incorporate the habitat conservation plan's landscape prioritization process (Section 5.2.3) as an added criterion. The landscape prioritization process identifies and ranks areas of state-owned aquatic land based on species use and condition of the habitat. From these determinations, the derelict vessel removal program will be able to prioritize derelict vessel removal more effectively for the benefit of covered species and habitat protection.

Currently vessels are given a priority ranking of 1 to 5, based on the hazards they present—with a priority ranking of 1 indicating the most immediate threat to human health and safety. Information will be added to the priority scheme of the program to rank vessels higher within each priority category if they would impact a conservation or restoration priority area of the habitat conservation plan. Washington DNR will continue to operate this program under the guidance of Section 79.100 (Derelict Vessels) of the Revised Code of Washington and will request appropriation of at least \$100,000 on a biennial basis to meet the 10-percent match requirement and contribute to the funding of one full-time position.

Protection of forage fish spawning habitat

Forage fish are a direct food source for the common loon, marbled murrelet, and salmonids, and are therefore an important link in the food web. In turn, larger fish, such as salmonids, form the basis of the diet for a number of marine mammals, including the southern resident killer whale (orca). Important forage fish species in Washington waters include Pacific herring, surf smelt, Pacific sand lance, and eulachon or Pacific smelt.

Pacific herring, surf smelt, and Pacific sand lance spawn in shallow nearshore or littoral habitats and, as a result, are particularly susceptible to alteration of sediments and vegetation associated with covered activities. Pacific herring spawn on eelgrass and marine algae in intertidal and shallow subtidal waters at depths to minus 3 meters (10 feet) MLLW; surf smelt and sand lance, meanwhile, spawn on marine beaches with a sand-gravel mix in the upper third of the tidal range: from plus 2 meters (7 feet) up to extreme high water (Penttila, 2007). Eulachon are anadromous and spawn during freshets in the side channels of low gradient rivers with coarse sand and small gravel (McLean et al., 1999; Wydoski & Whitney, 2003). All of these forage fish species are broadcast spawners, whose eggs adhere to the substrate. Incubation times for each species' eggs are: eulachon – 2 to 3 weeks; sand lance – up to one month; surf smelt – 2 to 8 weeks; and Pacific herring – 10 to 14 days (Bargmann, 1998; McLean et al., 1999; Penttila, 2007).

Because of the importance of forage fish and their vulnerability to nearshore development, Washington's Hydraulic Code lists herring, surf smelt, and sand lance spawning habitat areas as "marine habitats of special concern," requiring a "no-net-loss" management approach (WAC 220-110). The Washington Department of Fish and Wildlife defines the protection of these species as a priority for the state, and the habitat that these species use for breeding and concentrating is consequently considered a priority for protection (Washington Department of Fish and Wildlife, 2008). Guidance for the Washington Growth Management Act includes protection of herring and surf smelt spawning areas as examples of important fish and wildlife habitat to be protected as "critical areas" (Washington Department of Community Trade and Economic Development, 2003). Protection of forage fish and their habitat is also a priority of the Puget Sound Nearshore Partnership (Penttila, 2007). The Forage Fish Spawning Habitat Protection Program of this habitat conservation plan supports the goals and recommendations of these other agencies by requiring protection of forage fish spawning habitat areas on state-owned aquatic lands.

Standards for protecting forage fish spawning habitat

These eight standards apply to all authorized uses of state-owned aquatic lands, not just those specifically covered in this habitat conservation plan:

1. New or reconfigured structures must be sited to avoid impacts on documented forage fish habitat on state-owned aquatic lands and must be designed to cross from the uplands to state-owned aquatic lands so as to avoid known or potentially suitable spawning habitat of eulachon (*Thaleichthys pacificus*), Pacific herring (*Clupea pallasii*), Pacific sand lance (*Ammodytes hexapterus*), and surf smelt (*Hypomesus pretiosus*). In addition, construction and operational activities associated with the authorization must be conducted in a manner that does not affect spawning behavior, disturb spawning substrate or sediment sources that support spawning, or reduce the amount or availability of aquatic vegetation used for spawning. Washington DNR does not have management authority over marine riparian areas, but will, by means of use authorizations, promote practices that maintain and establish nearshore riparian shading in upper intertidal spawning areas (when this is practical).

2. In areas of documented or potential eulachon, surf smelt, and sand lance spawning beds, new piers must have spans of at least 12 meters (40 feet) from the shoreline (extreme high water to ordinary high water) waterward to the placement of the first piling to avoid placing piling in forage fish spawning areas. The distance of 12 meters (40 feet) is based on current engineering limitations.
3. In areas that are not documented as spawning sites, but have characteristics that would support forage fish spawning, existing lessees and grantees applying for a reauthorization and proponents of new uses will be required to conduct surveys to determine if the site is used for spawning. Surveys must be conducted by consultants or agency staff trained and certified in forage fish spawning survey protocols, and these individuals must be approved by Washington DNR's science staff. Surveys will be conducted over a two-year period throughout the assumed local spawning season. Washington DNR will not require implementation of forage fish protections if no spawning is detected in two consecutive survey years. In the absence of such a survey, the project must be designed and operated under the presumption that forage fish spawning does occur at the site.
4. New authorizations for existing uses that are located in or adjacent to documented forage fish spawning areas or spawning areas determined by protocol survey will require development and implementation of a plan to minimize impacts resulting from the use and structure. The specifics of the plan and the timeframe for implementation will be determined and documented in the agreement authorizing use of the site by Washington DNR based on site-specific factors. All plans must include the following:
 - a. Work windows for all in-water construction or operational work, excluding vessel movement. Lessees, grantees, and proponents shall have the option of conducting forage fish spawning surveys to establish site-specific work windows within the generalized windows. For work to proceed, the survey must result in no occurrence of viable forage fish eggs. Surveys must be conducted daily during the proposed work period and before work can proceed. Surveys must be conducted by consultants or agency staff trained and certified in survey protocols for forage fish spawning, and these individuals must be approved by Washington DNR's science staff. If the tenant is unwilling to bear the time and expense of such a survey, then all in-water work must occur within the generalized work windows.
 - b. Detailed descriptions of the anticipated effects on forage fish habitat and how each effect will be minimized and mitigated.
5. In-water activities that disturb the spawning substrate or result in increased turbidity of documented spawning areas of surf smelt and sand lance may not occur during the no-work window of the species that use the site unless there is either a 0.6 meters (2 feet) vertical separation from the tidal elevation of the spawning bed, or a buffer of 55 meters (180 feet) horizontal distance from the lower edge of the surf smelt or sand lance spawning habitat zone. In-water work may occur during an outgoing tide when the water line is below the lower edge of a surf smelt or sand lance spawning habitat zone: 1.5 to 1.8 meters (5–6 feet) MLLW.
6. No pesticides may be used in documented or potentially suitable forage fish spawning areas when fish or eggs are present, regardless of whether the pesticide complies with the pesticide application standard of this habitat conservation plan. Washington DNR will use studies and opinions to assess whether there is potential for harm to covered species, their habitats, and their prey. If there is indication of the potential for harm, Washington DNR will not allow use of the pesticide on state-owned aquatic lands. All new use authorizations must avoid applying pesticides whenever forage fish or eggs are present. Exceptions may be made for state and federally sanctioned invasive species control.

7. Gravel or shell may not be placed on existing or suitable forage fish spawning habitat or native aquatic vegetation protected by this habitat conservation plan.
8. Other actions that provide protection for forage fish and their habitat include work windows for the timing of activities, prohibitions against dredging and bank armoring (Section 5.2.2), programmatic efforts to protect aquatic vegetation (Section 5.2.3), and activity-specific avoidance and minimization measures that address disturbance of substrates or vegetation (Section 5.2.1).

Intent and effects addressed

The intent of this strategy is to protect food web dynamics of covered species by avoiding and minimizing effects on forage fish spawning populations and their habitats. This strategy supports all of the conservation goals of this habitat conservation plan (Section 5.1) through:

- Implementation of siting standards that avoid impacts to potential forage fish substrate that is similar to substrate (sand, macroalgae) where forage fish have been known to spawn or where spawning has been documented to occur. (*For all new structures.*)
- Implementation of activity-specific avoidance and minimization measures (Section 5.2.1). (*For existing structures.*)
- Identification of forage fish spawning habitat.
- Improvement of existing forage fish spawning areas and areas that have characteristics that would support forage fish spawning.

In addition to addressing indirect effects associated with reductions in prey resources for covered species, this strategy protects existing forage fish habitat on and adjacent to state-owned aquatic lands.

Implementation

Washington DNR will identify the overlap between state-owned aquatic lands and areas currently documented as forage fish spawning habitat by the Washington Department of Fish and Wildlife as part of the core geographic information system (GIS) work associated with this plan. Additional data regarding spawning and suitable spawning substrates will be incorporated into the overlay throughout the term of this habitat conservation plan. From this data layer, Washington DNR will identify locations where existing authorized activities will be required to implement forage fish avoidance and minimization strategies, if the use is to continue after the current authorization expires.

If the substrate of a given area appears to be capable of supporting spawning, then surveys of the area may be required even where spawning has not previously been documented. If a use is determined to be compatible with forage fish spawning, Washington DNR will require new applicants and authorized users who are reapplying for use to identify the necessary protective measures, incorporate forage fish habitat protection requirements into all use authorizations where spawning occurs, and, on a site-by-site basis, determine whether to limit activities in forage fish habitat.

Washington DNR will look for opportunities to restore historical or potential forage fish spawning habitats on a site-by-site basis. Washington DNR will also consider establishing aquatic reserves, conservation leases, conservation licenses, or lease withdrawals on state-owned aquatic lands that contain documented forage fish spawning habitat. In addition, the agency will look for

opportunities to join with other Washington DNR programs to promote conservation practices on Washington DNR managed uplands that are adjacent to forage fish spawning habitat, such as maintaining nearshore riparian buffers and marine sediment sources.

Washington DNR programs for protection and restoration of habitat

As the manager of state-owned aquatic lands, Washington DNR generally has discretion both to delineate areas appropriate for specific uses and to limit uses in other areas, in order to ensure the protection of the aquatic lands and the species that depend on them. Only a small percentage of aquatic lands, such as harbor areas and waterways, are constitutionally or statutorily limited to specific uses. While not proposed as a covered activity, the protection and restoration of species habitat is an essential component of the programmatic strategies applied to all state-owned aquatic lands.

Washington DNR has four established mechanisms for identifying, protecting, and restoring important habitats:

1. The Aquatic Reserves program
2. The Conservation Leasing program
3. The commissioner's orders
4. The Aquatic Restoration program

In some areas of significance for covered species and their habitats, Washington DNR has combined environmental protection through multiple programs and worked with adjacent upland landowners to protect both uplands and adjacent tidelands. This approach ensures that human impacts on ecosystems are avoided or minimized. Examples of this combined-program approach include the Cypress Island Natural Resources Conservation Area and Aquatic Reserve and the Kennedy Creek Natural Area Preserve, in which Washington DNR withdrew the adjacent tidelands and bedlands from leasing. This type of conservation occurs as the opportunity arises and is not a defined program or strategy of this habitat conservation plan.

The following section describes each of the four components of Washington DNR's habitat protection and restoration strategy, how the elements will be used to compensate for unavoidable or irreversible impacts on covered species and their habitats, and how each element will be implemented as part of this habitat conservation plan.

Creating and managing aquatic reserves

Established in 2002, the Aquatic Reserves Program was formalized through the adoption of a programmatic environmental impact statement (EIS), followed by rule-making to codify the process (WAC 332-30-151). The program focuses on conserving high-quality native aquatic ecosystems in both freshwater and marine environments, and it emphasizes management on a reach- or embayment-scale to ensure protection of entire communities of important and unique organisms, along with their associated habitat. To date, Washington DNR has established seven aquatic reserves, including more than 90,000 acres of aquatic lands in the Puget Sound.

The overall goal of the Aquatic Reserves Program is to ensure environmental protection and preserve and enhance state-owned aquatic lands in order to provide direct and indirect benefits to aquatic resources in Washington State. Because Washington DNR, tribes, and local, state, and federal regulatory agencies share management authority over the state's aquatic resources, achieving this goal requires partnerships among natural resource managers and landowners. The program defines three classes of reserves: environmental reserves, scientific reserves, and education reserves (Bloch & Palazzi, 2005).

To designate a site as an aquatic reserve, proponents need to demonstrate, through a public application process, that the area meets the criteria set forth in the Aquatic Reserve Program Implementation Guidance (Appendix E). Permissible activities within a reserve must support the purpose of the reserve and will often be conservation activities. Aquatic reserve status is designated for a 90-year term.

The process of evaluating a site for aquatic reserve status includes the submittal of an initial proposal by the proponent, review by Washington DNR, extensive public outreach, development of a management plan, review under the State Environmental Policy Act (SEPA), and final approval for designation by the commissioner of public lands (Bloch & Palazzi, 2005). Each aquatic reserve proposal is evaluated on a case-by-case basis during a 2-1/2-year (approximate) cycle. While sites are evaluated on an individual basis, the intent of this program is to develop an ecologically sound network of reserves that function to achieve the statewide program goals and objectives.

Intent and effects addressed

Aquatic reserves are established for 90 years, which ensures long-term protection of the area. Site-specific management plans define the type and number of authorized activities that may occur, desired biological and physical conditions within the reserve, and timeframes for achieving the reserve's defined goals. Any of the covered species that occur within the reserve could potentially benefit from the establishment of an aquatic reserve. The Aquatic Reserves Program is an ecosystem-based approach to land protection. Habitat for covered species within an aquatic reserve will receive long-term protection, and it may be enhanced through restoration activities associated with the program and used as a reference site for research. This program is included in this habitat conservation plan to provide another option that Washington DNR may use for habitat protection and conservation

Incorporation of this program supports all three conservation goals (Section 5.1) by:

1. Avoiding and minimizing impacts on water and sediment quality, alterations of habitat-forming processes, and alteration or loss of physical habitat processes (Goal 1).
2. Limiting activities and restoring aquatic habitats within reserves (Goal 2).
3. Identifying and protecting important habitats as reserves (Goal 3).

The effects addressed by the Aquatic Reserves Program may include changes in wave and current energy; alteration of sediment transport; alteration of the composition of substrate; alteration of the depth and slope profile; shading; release of waste, garbage, contaminants, and nutrients; noise; artificial lighting; and habitat degradation and loss. The Aquatic Reserves Program would address effects on a site-specific basis through the establishment of site-specific management plans.

Implementation

Implementation guidance for the Aquatic Reserves Program is based on the environmental impact statement for the program and was formalized in 2005. Washington DNR manages each reserve in a manner consistent with goals, objectives, and management strategies developed in a site-specific management plan (Bloch & Palazzi, 2005).

Washington DNR must retain the ability to accept proposals for aquatic reserves that may consider habitat values other than those that are associated with species covered in the habitat conservation plan. Therefore, while the Aquatic Reserves Program may serve as one tool to implement this portion of the plan, the habitat conservation plan will not be the only consideration when assessing potential reserve areas.

The goals, objectives, standards, and conservation measures of the habitat conservation plan will serve to provide the Aquatic Reserves Program with benchmarks for operation and long-term management. The use of these HCP elements will allow the Aquatic Reserves Program both to prioritize proposals more effectively based on their benefit to the species and habitats covered under the habitat conservation plan, and incorporate the goals of the habitat conservation plan (Section 5.1) into existing criteria for considering locations for aquatic reserves.

Washington DNR currently funds 2.75 staff positions to manage the reserves program. As the number of reserve areas increases, more staff time will be necessary to implement the management plans of each site effectively. To reduce costs, Washington DNR actively seeks partners to implement the strategies of the management plans, such as beach cleanup and surveys.

Conservation leasing on state-owned aquatic land

Under its general management authority, Washington DNR can enter into leases and proprietary license agreements with persons or organizations voluntarily seeking to restore, enhance, create, and preserve aquatic habitat on state-owned aquatic lands. The goal of the Conservation Leasing Program is to protect and improve the biota, ecological services, and natural functions of aquatic environments.

Lessees or licensees must take an active role in conserving the land through actions such as implementation of a restoration plan or active management of a specific component of the site, and they must monitor the success of the actions. The program is not applicable to non-voluntary efforts, such as compensatory mitigation projects arising from regulatory action. Compensatory mitigation is covered under general leasing programs.

To initiate a conservation lease or license, the project proponent must apply for the use of state-owned aquatic lands, clearly identifying the aspect of that site that will be conserved, how the site will be managed, the desired outcome of the action, and how the site will be monitored. Washington DNR staff adheres to the Washington DNR Conservation Leasing Program Guidance when deciding whether to issue the conservation lease or license agreement. As of 2012, Washington DNR has issued one conservation lease. It encumbers 10 acres of state-owned aquatic lands in Woodard Bay near Olympia, Washington.

Washington DNR has adopted the following criteria for conservation leases of state-owned aquatic lands

- Lease actions must apply continuously on a site (15 or more days per month).
- Leases must encumber a site for a minimum of one year.
- Leases must be exclusive in nature (for example, the lessee has the expectation that the habitat improvements made to the site will not be disturbed by other Washington DNR use authorizations).

Under a conservation lease, lease terms are limited in duration by the land classification of the site and never exceed 55 years. The lessee has some level of exclusive use of the site and maintains primary responsibility for site management and protection. Conservation lessees must develop a conservation plan for their leasehold. The conservation plan must contain detailed information about the proposed activities, the expected results over defined time periods, and the method by which the site will be monitored and maintained. The plan should employ principles of adaptive management to address unexpected results or changes without altering the purpose of the intended conservation action.

Washington DNR sets rental rates for leases in accordance with statutory mandate. Generally, the rental rate is based on adjacent upland property value or fair market rent. The statutory rental formulas usually result in rental rates that tend to discourage non-profit organizations otherwise interested in conservation leasing.

Intent and effects addressed

Washington DNR will improve the function and condition of state-owned aquatic lands through habitat preservation, restoration, enhancement, and creation activities (such as conservation activities) that are not related to mitigation needs. Conservation leasing is included in the habitat conservation plan as a tool that Washington DNR can use for land preservation. Further incorporation of the conservation leasing program supports the goal of improving and restoring habitat (Section 5.1.3) and achieves the objective of restoring or improving habitat in areas where natural habitat functions and habitat-forming processes have been altered.

Due to the broad scope of activities that could be included within a conservation lease, the range of effects addressed could be minimal to extensive depending on the size of the lease and the scope of conservation activities.

Any of the covered species that occur on the leasehold could potentially benefit from the establishment of a conservation lease. Habitat of covered species within a conservation lease will receive protection and may be enhanced through restoration activities associated with the program throughout the life of the lease. This programmatic strategy provides compensation for unavoidable impacts on covered species by providing protection and enhancement of important habitats.

Implementation

Washington DNR will provide outreach to and interagency collaboration with entities that may have the potential to manage a long-term conservation lease during the 50-year life of the habitat conservation plan. These entities would include tribes, colleges and universities, non-profit organizations, and local governments.

Washington DNR will not limit conservation leasing to those areas that Washington DNR has identified as conservation priorities in the habitat conservation plan; however, Washington DNR will encourage conservation leasing that directly or indirectly supports conservation priority areas.

Washington DNR will continue to accept proposals for conservation leases in accordance with the guidance of Washington DNR's policies and procedures.

Washington DNR will incorporate important habitat identified in the DNR Aquatics Division data base to assist in ranking conservation lease proposals. Conservation lease requests in areas that have a high habitat value for covered species will be given greater consideration for approval.

No later than one year after the signing of the implementation agreement, Washington DNR will examine state statutes that control lease rates. Following this examination, Washington DNR may propose to the state legislature changes in the rate schedule: Such changes would be specific to conservation leasing and intended to provide an incentive to potential conservation lessees. During this same time period, the agency will also develop a process with guidance materials for entities interested in conservation partnering on state-owned aquatic lands. Washington DNR will evaluate other forms of agreements to allow private individuals and organizations to conduct conservation activities on state-owned aquatic lands.

Commissioner's orders

The commissioner of public lands has the authority to withdraw lands from consideration for leasing at her or his discretion (RCW 79.10.210, 79.105.210(3)). Usually, commissioner's orders are for a specific term of years. Washington DNR has typically withdrawn lands for conservation purposes or in support of programs of other state agencies. For example, state agencies may request a withdrawal in support of state parks or areas of biological interest. Washington DNR may also withdraw lands from leasing in cooperation with federal agencies, such as the U.S. Army Corps of Engineers and their local sponsors, for habitat recovery projects. Unlike other protection efforts described in this section, withdrawn areas are not necessarily linked to conservation activities and are not evaluated based on established criteria or required to have a management plan. In addition, the commissioner has the discretion to revoke a previously issued withdrawal order. Depending on the circumstances, issuance or revocation of a particular withdrawal order may be subject to other legal requirements, such as review under the State Environmental Policy Act.

As part of this process for withdrawing state-owned aquatic lands, Washington DNR completes a land survey. Following the establishment of boundaries for the area, a draft withdrawal order is written by department staff in conjunction with the attorney general's office. The commissioner's order for withdrawal of lands for leasing is then signed by the commissioner of public lands and is recorded with the county and Washington DNR's title and record office.

Intent and effects addressed

Within the context of the habitat conservation plan, withdrawing areas from leasing is an option that the commissioner of public lands may use to halt activity or impacts in identified areas for the purpose of habitat recovery or preservation. Under Section 79.105.210(3) of the Revised Code of Washington, Washington DNR may withhold lands from leasing which it finds have significant value as wildlife habitat, natural area preserve, representative ecosystem, or spawning area. Under Section 79.10.210, Washington DNR may withdraw lands for the purpose of providing increased continuity and facilitating long-range planning, if the withdrawn areas are maintained for the benefit of the public.

Withdrawing aquatic areas from leasing supports the habitat conservation plan's conservation goals (Section 5.1) of identifying and protecting important habitats (Goal 2) and improving and restoring habitat quality (Goal 3) by limiting activities in withdrawn areas.

Withdrawing areas from leasing is potentially a very strong tool for managing habitats used by covered species, because it narrows impacts from human activity. Withdrawing habitat from incompatible uses is important for the species' continued existence. Formally withdrawing an area can help to assure that only compatible uses will be located in important habitats of covered species.

Due to the varied numbers of species and habitat features that could be included within a withdrawn area, the effects addressed depend on the species' diversity and habitat characteristics and the level of disturbance in the area. Effects addressed may include habitat disturbances from human activities (such as development, noise, and artificial lighting) and water and sediment quality.

Implementation

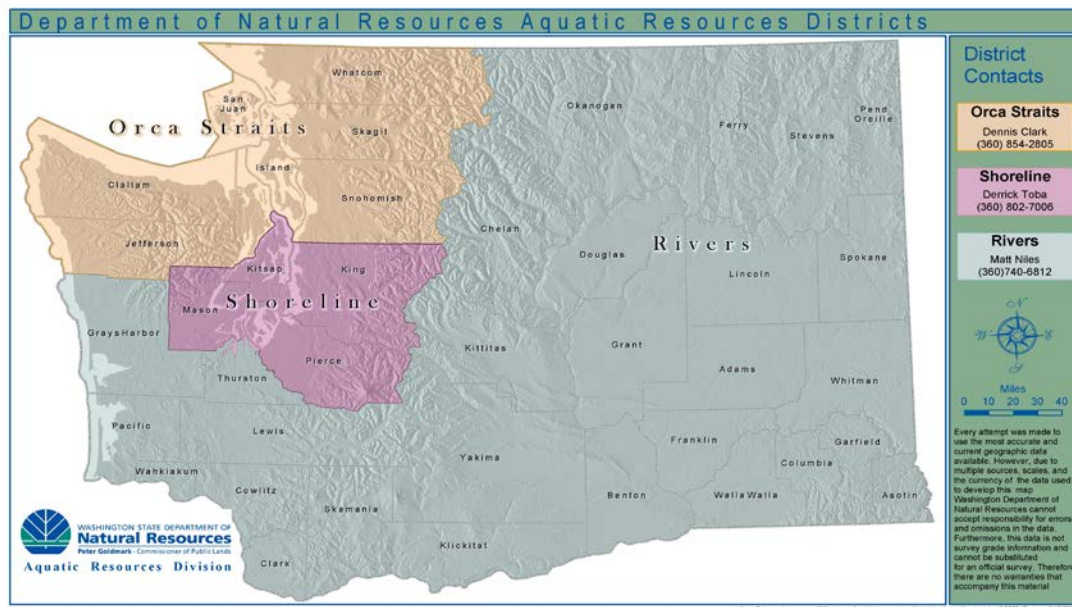
Once the implementation agreement is signed, Washington DNR's policy will be that a withdrawal order issued on state-owned aquatic lands for conservation purposes during the period of the incidental take permit will have a term at least as long as the incidental take permit.

Aquatic Restoration Program

Established in 2004, the Aquatic Restoration Program works to restore, enhance, create, and protect healthy ecological conditions in freshwater, saltwater, and estuarine aquatic systems by means of partnerships with agencies and organizations. This program is designed to actively seek out restoration opportunities and to partner with other entities when those opportunities arise.

Under the existing restoration program, Washington DNR may take the lead in providing support to the design, planning, permitting, implementation, and funding of restoration projects. In addition, the program seeks out partnerships with the restoration community to provide matching funds towards restoration projects on or adjacent to state-owned aquatic lands. Restoration work includes, but is not limited to, beach debris cleanup, removal of derelict creosote-treated structures, shoreline restoration, re-vegetation with native plants, and enhancement of salmon habitat. The agency presently receives \$300,000 bi-annually (2012) from the Washington State Legislature as seed money to promote these restoration projects. The money is divided equally between each of the three Washington DNR aquatic districts (Figure 5.4). District staff may seek additional funding sources, such as grants from federal, state, and other restoration programs.

Each aquatic district works in accordance with the goals of the Aquatic Restoration Program; however, each district has defined restoration priorities based on the unique situations of the district.

Figure 5.4. Washington DNR Aquatic Districts.

Intent and effects addressed

The intent of the projects undertaken is to restore, enhance, create, or protect favorable biological and ecological conditions of freshwater, saltwater, and estuarine aquatic systems.

The Aquatic Restoration Program supports the goal of improving and restoring habitat quality to compensate for unavoidable effects of covered activities (Section 5.1.3). Restoration actions will compensate for degradation and loss of habitat of covered species.

Specific effects addressed will vary depending on local conditions and the specific restoration projects proposed for a site

Implementation

Washington DNR maintains ultimate management responsibility for these projects and will administer them based on Washington DNR's policies and procedures. Each district will administer at least one restoration project per biennium. Restoration sites are memorialized in DNR's ownership records through the establishment of easements and rights of entry.

Washington DNR will use the DNR Aquatics Division data base to identify areas of potential importance for restoration statewide. These locations, along with locations recommended by other federal, state, and local efforts, will be used by Washington DNR's district land managers to prioritize restoration projects within their respective regions.

Washington DNR currently employs three full-time restoration land managers (2012) and plans to retain these positions as part of the Aquatic Resources Division in the future. Habitat conservation program staff will use the DNR Aquatics Division data base to provide recommendations to district staff and other engaged entities as to where restoration would be the most beneficial to covered species and their habitats.

Aquatic landscape prioritization

Aquatic landscape prioritization focuses on identifying the most important habitats statewide for species covered under the habitat conservation plan and prioritizes them for habitat management and protection.

The program contains two main elements:

1. Identification of important remnant habitats of the most vulnerable covered species found on state-owned aquatic lands to determine which areas need protection.
2. A commitment to develop aquatic landscape plans, providing a means to ensure ecologically based decisions about appropriate uses of aquatic lands in areas identified as priorities for habitat conservation.

Identifying and protecting remnant habitats

Under the Aquatic Lands Habitat Conservation Plan, Washington DNR proposes to protect the core remaining habitat of covered, at-risk species on state-owned aquatic lands. One or more of the following circumstances apply to these species:

- They have limited breeding habitat statewide.
- Their current populations are small and vulnerable due to extirpation.
- Their state populations are rapidly declining.

Washington DNR defines “core remaining habitat” as locations that are known to be habitat of species covered under the habitat conservation plan and that meet ALL of the following criteria:

1. Washington DNR management authority can be confirmed either on or immediately adjacent to habitat.
2. Species warrant protection by virtue of their listing status or rank as follows:
 - a. Species is federally listed as endangered or threatened; OR
 - b. Species is state-listed as endangered, threatened; OR
 - c. Species has a state rank of S1 or S2, as defined by the Washington Natural Heritage Program. (Rankings are defined in Chapter 4, “Factors Affecting Species”).
3. Species either has a relatively small geographic range, or discrete, documented habitat locations are known to fulfill critical life history requirements of the species.

Appendix G (“Protecting Core Habitat Sites”) identifies the two species, western pond turtle (*Actinemys marmorata*) and Oregon spotted frog (*Rana pretiosa*), that presently meet these three criteria. Appendix G also provides a detailed habitat assessment and specific management recommendations for the remnant habitat of each species.

Aquatic landscape planning

While the DNR Aquatics Division data base identifies for Washington DNR the general areas that are priorities for aquatic conservation statewide, a more detailed and site-specific analysis is needed to determine appropriate use and protections based on local conditions. Thus, Washington DNR will create an aquatic landscape planning process, developed in cooperation with local aquatic land management entities, to define ecologically and socially appropriate uses of state-owned aquatic lands for specific locations statewide.

Aquatic landscape plans will provide the broad ecologically based planning needed to guide Washington DNR's management decisions by water body, embayment, reach or drift cell, and so on.

Aquatic landscape boundaries will be defined using the DNR Aquatics Division data base, with additional recommendations from other regional and local ecologically based natural resource planning efforts (such as county-based assessments, Puget Sound Nearshore Restoration Project datasets, Washington State Department of Ecology's Watershed Characterization, and The Nature Conservancy's Ecoregional Assessments). Washington DNR has created an initial statewide map of ecologically based regional planning areas using either a combination of water resource inventory area (WRIA) boundaries or Puget Sound Nearshore Restoration Project sub-basins. Where appropriate, these regional planning area boundaries can help assess ecosystem functions and other characteristics at broader scales for multiple landscapes within a given area. These areas may also prove helpful in delineating aquatic landscape boundaries.

Once aquatic landscape boundaries are delineated, they will provide focus and scope for each landscape plan. Washington DNR has just begun developing the Aquatic Landscape Planning program. As the program develops, Washington DNR will seek input from tribes, local entities, and interested parties by means of a public process.

Intent and effects addressed

Washington DNR will identify important habitat areas so as to protect the best first and avoid degradation of those areas. Washington DNR will also identify lands of relatively lower value to species covered under the habitat conservation plan; such lands may be suitable for other water-dependent uses.

- Areas identified are used to guide Washington DNR's aquatic land-use decisions.
- Washington DNR will identify and protect remnant habitat for the most highly vulnerable species in Washington.
- Washington DNR will also integrate planning results with other regional landscape and management planning efforts throughout the state to create a broad-based landscape planning dataset, which will be used to define Washington DNR's long-term management strategies for state-owned aquatic lands.

Implementation of the landscape prioritization process will address effects on covered species and their habitats by avoiding and minimizing:

1. Permanent loss of habitat in areas where habitat is determined to be intact and identified as significant.
2. Loss of physical habitat features and biological communities that support the covered species.
3. Disturbance of, displacement of, or harm to covered species.
4. Alteration of natural habitat-forming processes.
5. Increases in cumulative effects (or reductions in the rate of impacts) on state-owned aquatic lands in the most important habitat areas.

Implementation

Washington DNR will take the following actions:

- Washington DNR will not allow any new activities that negatively alter the value and function of natural habitat in priority conservation areas. Priority conservation areas are defined in the Aquatic Lands Habitat data base and in consideration of other local and regional habitat-based assessments and plans. Activities intended to rehabilitate, enhance, or restore habitat function may, following review, be authorized in these areas.
- Provide site-specific habitat analyses—based on local input and conditions—to determine appropriate management strategies and protections for the locations within the aquatic landscape.
- Assess and delineate the remnant habitat and prescribe specific management actions for five highly vulnerable species that occur on state-owned aquatic lands .

Washington DNR will manage priority conservation areas identified through the Aquatic Landscape Prioritization Program to support natural habitat value and function.

Project proponents will be required to document avoidance of new impacts, elements to be monitored throughout the term of the agreement, and contingency plans for minimizing and compensating for unanticipated impacts on the value and function of habitat as a result of the use. Proposals will be reviewed by scientists at Washington DNR and by other regional or species experts to determine if the project is acceptable. If deemed unacceptable, Washington DNR will either condition the use in a manner that makes it acceptable, or refuse to authorize the activity.

5.2.4 Management practices

In addition to the standards, programmatic strategies, and avoidance and minimization measures specified above, Washington DNR identified additional actions that will allow the agency to more effectively carry out its managerial obligations in relation to state-owned aquatic lands. These include the creation of new tools to better map the exact location of encumbrances on state lands, collaboration between agencies to optimize efficiency where conservation goals overlap, improved management of wood debris at log handling sites, and the tracking and management of private recreational docks.

Interagency collaboration

Collaboration with other agencies is essential to the administration of the Aquatic Lands Habitat Conservation Plan. The overall effectiveness of the habitat conservation plan will be partly contingent on how effectively other agencies recognize Washington DNR's management role in their internal processes of administration, permitting, and regulation. Collaboration with other agencies provides opportunities to optimize efficiencies in the implementation of the habitat conservation plan. Washington DNR has adopted as its land use application the Joint Aquatic Resources Permit Application (JARPA) used by multiple regulatory authorities in Washington in order to foster consistency among these agencies.

Outreach and communication with federal, tribal, other state agencies and local planning entities began in 2005 and will continue into the future. Entities include the U.S. Army Corps of Engineers, Washington Department of Fish and Wildlife, Washington State Parks, Washington

State Department of Ecology, the Puget Sound Partnership, the Office of Regulatory Assistance, tribal fisheries commissions, tribal governments, and local shoreline planners. Guidance from federal, tribal, and state agencies has been incorporated into the conservation actions of the habitat conservation plan.

Further planning and communication will occur as the habitat conservation plan is adopted and implementation begins. Washington DNR will meet with federal, tribal, and state agencies that have existing regulatory, monitoring, and enforcement programs. The goals of the meetings will include the following:

- Identify those areas of special concern to other agencies that overlap with important habitats of species covered under the habitat conservation plan, such as priority habitats identified by the Washington Department of Fish and Wildlife and critical or sensitive areas identified by county management plans.
- Identify recovery, monitoring, and enforcement efforts in joint areas of concern.
- Provide agencies with the expectations of Washington DNR regarding permitting of activities on state-owned aquatic lands and develop systems to include Washington DNR in permitting processes.
- Collaborate on sharing of resources, including staff, equipment, vessels, vehicles, and data.

Following these interagency collaborative meetings, additional meetings will be held for similar purposes with other organizations, including, but not limited to, salmon recovery organizations, tribal fisheries consortiums, non-profit organizations, other community action groups, and industry stakeholders. Within one year of the signing of the implementation agreement, habitat conservation plan staff will recommend to the commissioner of public lands a strategy for collaboration with other entities and combined fiscal resource management for environmental and species recovery efforts, monitoring, enforcement, and other areas of overlapping concerns and activities.

Private recreational docks

Recreational docks are defined in Washington state law as those docks that:

- Are owned by an abutting residential owner and used exclusively for private recreational purposes (RCW 79.105.430).
- Meet the requirements of the recreational dock rule (WAC 332-30-144).

In some locations, a proliferation of private recreational docks has led to significant impacts associated with shading, loss of aquatic vegetation, and alteration of the habitat structure and prey communities of covered species (Section 4.3). Under state law, permission to install and maintain recreational docks may be revoked by Washington DNR if the agency makes a finding of public necessity to protect waterward access, ingress rights of other landowners, public health or safety, or public resources (RCW 79.105.430(3)). However, because the law precludes Washington DNR from charging rent for these docks, the agency has not actively managed recreational docks on state-owned aquatic lands, relying instead on regulatory agencies, such as the counties, Washington Department of Fish and Wildlife, and U.S. Army Corps of Engineers, to regulate dock construction and maintenance. As a result, an unknown number of these structures currently exist on state-owned aquatic lands. Washington DNR estimates that the number of private recreational docks on state-owned aquatic lands over which Washington DNR asserts (or likely

asserts) ownership ranges from 9,000 to more than 19,000, depending upon the criteria used.⁶ Washington DNR does not review applications or issue use authorizations for recreational docks. The agency currently has a limited managerial relationship with residential dock owners and, subsequently, limited control over the condition of the docks or potential environmental impacts of docks.

The agency is committed, under this habitat conservation plan, to use its authority under Section 79.105.430 of the Revised Code of Washington to manage the construction and maintenance of private recreational docks to ensure that the conservation standards and measures described in the habitat conservation plan's operating conservation program (Section 5.2) are incorporated into new docks at the time of construction and existing docks as they are maintained or re-built.

Local, state, and federal agencies apply design standards to docks and marinas, and these standards are intended to minimize impacts to the aquatic species and habitats listed under the Endangered Species Act. These agencies, including the U.S. Army Corps of Engineers (regional general permits) and Washington Department of Fish and Wildlife (hydraulic permits), and county and city shoreline master plans may require standards for increasing light transmission under docks and minimizing the dock footprint (Jones & Stokes et al., 2006). However, these regulatory efforts only apply to docks as they are permitted for construction or repair, and they do not require retroactive changes to existing structures. In 2007, several state agencies collaborated to develop environmental standards for docks as guidance for county shoreline master programs (EnviroVision et al., 2007).

As each aquatic landscape plan is developed, recreational docks on state-owned aquatic lands within each landscape will be assessed, ensuring that all docks will comply with habitat conservation plan standards (Section 5.2.2) for maintenance and repair of the structure.

Implementation

Washington DNR will conduct the following actions to manage private recreational docks on state-owned aquatic lands, with the goal of bringing 65 percent of all private recreational docks that are determined to be on state-owned aquatic lands into compliance with Washington DNR's operating conservation program standards (Section 5.2.2) by the end of the term of the incidental take permit:

1. Maintain Washington DNR's overwater structures database. Update the database at least every 10 years. Identify private recreational docks in the database that are in compliance and non-compliance with operating conservation program standards; include the reason for non-compliance.
2. Use the landscape prioritization effort and overwater structures database to define areas of highest diversity and low development where additional overwater structures could impact priority habitat.
3. As each aquatic landscape plan is developed, recreational docks on state-owned aquatic lands within each landscape will be assessed for compliance with operating conservation program standards. Washington DNR will work with property owners whose docks are not meeting the

⁶ Variable criteria include assumptions about locations of navigable waterway boundaries and associated ownership boundaries of state-owned aquatic lands, particularly on larger lakes with many recreational docks.

operating conservation program standards, and a schedule will be established for the necessary changes to the structure.

4. Review applications for Washington Department of Fish and Wildlife hydraulic permits, State Environmental Policy Act (SEPA) documents, and local shoreline permits to promote consistent application of Washington DNR's operating conservation programs. Washington DNR will provide a letter of approval (including conditions) or denial for all proposed new and replacement private recreational docks. Maintain a record of Washington DNR's correspondence in the overwater structures database (Action 1).
5. Washington DNR, in consultation with the Washington Department of Fish and Wildlife, Washington State Department of Ecology, Washington State Recreation and Conservation Office, and Washington State Parks will publish design guidance on construction, repair, and rebuilding of overwater structures to increase light (Puget Sound Partnership Action Agenda B 2.4.3; 2013).
6. In collaboration with other groups and agencies that promote healthy shorelines, provide general public outreach and presentations on Washington DNR's authority and standards for managing recreational docks. Examples of such groups include the Puget Sound Partnership, the King County Green Shorelines Group, and various salmon enhancement groups. Washington DNR will provide a message that is based on sound science and that details how dock owners can be good stewards of the waters for the benefit of endangered species.
7. Consult with county, state, and federal regulatory agencies to find out what actions, if any, are being taken to upgrade private docks to current environmental standards, provide updates on Washington DNR's actions, and share information concerning the inventoring and permitting of private recreational docks.

Long-term leasing

Some government agencies are authorized to use or manage state-owned aquatic lands under statutory authority or agreements that may not expire until after the 50-year term of the incidental take permit. There are 42 potential authorizations in this circumstance: 10 boat ramps or launches, 12 docks or wharves, 2 marinas, and 18 mooring buoys. This habitat conservation plan will not cover any long-term authorization that does not expire during the term of the incidental take permit. Washington DNR will, however, notify these tenants of the required provisions of the habitat conservation plan that are applicable to their use, if the tenant initiates repairs or maintenance. Although Washington DNR has no authority to unilaterally require changes in the authorizations, Washington DNR will ask that the tenants voluntarily agree to use the standards necessary to upgrade their facilities in a manner that is consistent with the habitat conservation plan when undertaking repair or renovation.

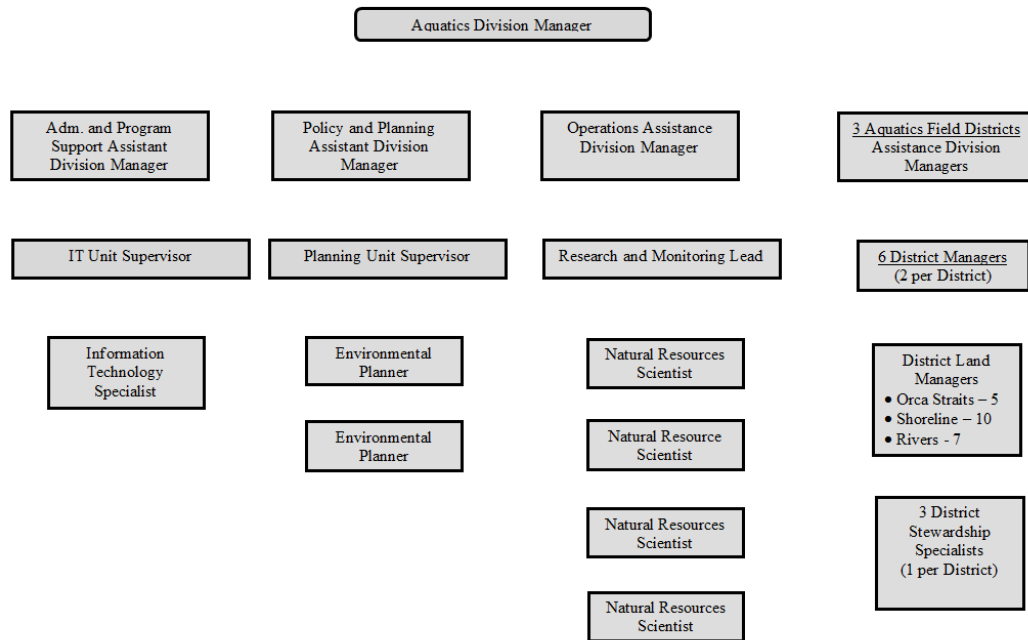
5.3 Administration and funding

5.3.1 Administration

The Aquatic Resources Division of Washington DNR administers the habitat conservation plan and is responsible for carrying out the operating conservation program and retaining all programmatic records, data, and publications related to the habitat conservation plan. Washington DNR's present staffing levels (2012) will allow for initial implementation of the habitat

conservation plan. The organizational staffing structure that was established to directly support implementation of the habitat conservation plan is shown in Figure 5.5. The staffing structure will change over time to meet the changing needs of the program as future staffing needs are identified and funded. Some research and monitoring may be funded through one-time allotments in the agency budget, grants, and cooperative agreements.

Figure 5.5. Structure of support staffing of the habitat conservation plan.



5.3.2 Funding the habitat conservation plan

Washington DNR’s capacity to fund implementation of the habitat conservation plan depends on legislative appropriation.

Implementation of the habitat conservation plan will be supported through a combination of new and existing funds. The Aquatic Resources Program will also propose coordinating implementation strategies with other Washington DNR programs and, when appropriate, will look for opportunities to coordinate with other state and local regulatory agencies.

Funding sources

Washington DNR’s Aquatic Resources Program generates revenue on state-owned aquatic lands from the management of the commercial wildstock geoduck fishery, authorization of water dependent and nonwater-dependent uses, aquaculture, easements, and valuable material sales. The vast majority of the revenue from these six sources is deposited into two accounts: the aquatic Resource Management Cost Account (RMCA) and the Aquatic Lands Enhancement Account (ALEA). Washington DNR cannot withdraw funds directly from these accounts; instead, the agency must instead make a budget request to the legislature, which will then, at its discretion, appropriate funds from the RMCA, ALEA, and other state accounts for Washington DNR’s use.

Generally, RMCA funds are used to cover most of the Aquatic Resources Division's operating costs associated with managing state-owned aquatic lands. The legislature typically distributes ALEA funds to seven major Washington state agencies, with only a small portion allocated to Washington DNR's Aquatic Resources Division. The cost of implementing the Aquatic Lands Habitat Conservation Plan will be met by a combination of the available funds appropriated from the ALEA and RMCA, as determined by the legislature. Washington DNR will pursue other funding sources, such as grants and research partnerships, to supplement implementation of the adaptive management and monitoring elements of the habitat conservation plan.

Washington DNR shall submit to the Washington State Legislature, on at least a biennial basis, an agency operating and capital budget that includes the funding to implement and enforce the Aquatic Lands Habitat Conservation Plan and fulfill Washington DNR's obligations under the incidental take permit and the implementation agreement. Washington DNR recognizes that failure to maintain adequate funding shall be grounds for suspension or partial suspension of the incidental take permit.

5.4 Adaptive management, effectiveness, and compliance monitoring

Long-term, consistent monitoring is a key element in determining if natural resource objectives and business objectives are being achieved. Monitoring also allows resource managers to track trends across time and landscapes and is used to inform and guide adaptive management strategies. Monitoring and adaptive management are also required elements of all habitat conservation plans, with NOAA Fisheries and the U.S. Fish and Wildlife Service specifying that the monitoring measures should ". . . be as specific as possible and commensurate with the project's scope and the severity of the effects" (U.S. Fish and Wildlife Service & National Marine Fisheries Service, 1996).

Because the persistence of individual species, species groups, and their habitats is the result of complex interactions between biotic and abiotic factors, Washington DNR's monitoring program uses an ecosystem-based approach to ensure that essential habitats and populations of covered species are protected within the boundaries of the habitat conservation plan.

Washington DNR's Aquatic Lands Habitat Conservation Plan, Adaptive Management and Monitoring Program (Appendix F) includes all the activities covered by this plan and will therefore occur in both fresh- and saltwater systems and all reporting units.⁷ The monitoring program includes compliance, baseline, and effectiveness monitoring and is designed to be an efficient and effective means to ensure the implementation of the habitat conservation plan, increase regional knowledge of aquatic ecosystems, monitor threats associated with covered activities, and adapt to changes in the condition of habitat over time. Table 5.2 illustrates the relationship between the defined goals and elements of the program.

⁷ Habitat conservation plan reporting units are defined as the nine Natural Heritage Program Ecoregions: Blue Mountains, Canadian Rockies, Columbia Plateau, East Cascades, West Cascades, North Cascades, Northwest Coast, Puget Trough, and Okanogan.

Table 5.2. Relationship between monitoring program goals and elements

Goal	Program Element
Determine whether the conservation strategies defined in the habitat conservation plan are being implemented as written.	Compliance monitoring
Document whether the implemented strategies result in the anticipated habitat improvements.	Baseline and effectiveness monitoring
Increase Washington DNR's knowledge regarding the spatial and temporal components of covered activities.	Compliance, baseline, and effectiveness monitoring
Increase quantity and improve quality of covered species habitat on state-owned aquatic lands.	Effectiveness monitoring, adaptive management
Decrease quantity of known pressures on state-owned aquatic lands.	Effectiveness monitoring, adaptive management
Increase effectiveness of management measures applied to state-owned aquatic lands.	Effectiveness monitoring, adaptive management

5.4.1 Adaptive Management and Monitoring Plan

Washington DNR's Adaptive Management and Monitoring Plan is based on the following principals:

- Inclusion of, and reliance on, interagency collaboration and stakeholder participation.
- Addressing uncertainty through scale-appropriate, science-based monitoring.
- Application of a flexible and iterative design process that is responsive to emerging issues.
- Resolution of conflicts through negotiation.
- Acknowledgement of realistic costs and feasibility in experimental design.

The Adaptive Management and Monitoring Plan consists of two phases: 1. a planning phase, during which stakeholders collectively refine the objectives and design of the plan, and 2. a process phase, during which the plan is implemented. Stakeholder groups will consist of representatives from user groups (such as marina operators and shellfish growers), tribal representatives, and regional planning entities (such as the Puget Sound Nearshore Restoration Project and the Salmon Recovery Fund). Appendix F describes the complete Adaptive Management and Monitoring Plan.

5.4.2 Baseline and effectiveness monitoring

Populations of covered species may change or fluctuate over time for many reasons, whether naturally or due to human influence. Washington DNR has proprietary control over habitat conditions on state-owned aquatic lands; therefore, Washington DNR will monitor habitat conditions over time, focusing on surveying and assessing changes to the quantity and quality of the habitat of covered species to determine whether conservation measures and programmatic strategies are effective. Habitat quantity and quality will be measured by indicator metrics that have precedence and support in the scientific literature, such as total area of nearshore aquatic vegetation, change in bank slope bathymetry, or loss of native benthic diversity. Monitoring will occur at several scales to address different questions.

5.4.3 Compliance monitoring

Compliance monitoring is intended to verify and document that Washington DNR is implementing the commitments made in the incidental take permit, habitat conservation plan, and implementation agreement. This monitoring not only determines where and when identified conservation strategies are being implemented, it also allows an assessment of how well Washington DNR is moving toward incorporating the standards, programmatic strategies, and activity-specific measures of the habitat conservation plan and if they are being implemented in a timely manner.

Washington DNR's compliance monitoring plan takes the form of an environmental audit and focuses on ensuring, first, that the authorizing instruments for covered activities (such as leases and licenses) stipulate the appropriate measures needed to avoid and minimize impacts on covered species and their habitats; and, second, that the operating conservation program described in Chapter 5, Section 2 is being carried out as specified in the habitat conservation plan. Appendix H ("Compliance Monitoring Plan") provides a complete description of the plan's components and reporting.

The process of monitoring the implementation of conservation measures and the timing for reporting will be based on the agreement set forth in the incidental take permit.

Reporting

Each year in March, Washington DNR will report to NOAA Fisheries and the U.S. Fish and Wildlife Service the results of both the paper and field audits from the previous year. The reports shall include the number of actions (for example, leases and licenses) and the percentage of compliance with key measures and strategies according to activity and ecoregion. The first annual compliance monitoring report will be completed in March of the first full year after the incidental take permit is signed and will include only the results of the paper audit. Reports for the next five years will also be completed in March, but will describe:

- The population and sampling sizes used.
- Changes in the sampling or statistical protocol.
- The total percentage of agreements in compliance.

- The percentage of agreements in compliance by key measures and strategies, activity, and ecoregion.
- Which conservation measures were found to be out of compliance.
- Progress and accomplishments in implementing stewardship measures.
- Any suggested improvements in the protocol for the following year.

After six years of reports, the cycle and content of the reports will be re-evaluated by NOAA Fisheries, the U.S. Fish and Wildlife Service, and Washington DNR. This re-evaluation may result in modifications to the due dates and content of the reports.

5.5 Enforcement

When an authorized user does not comply with the terms, conditions, and actions specified in the authorizing agreement, Washington DNR will issue to the responsible party a notice of breach or default in accordance with the agreement. The notice will identify the area of non-compliance, provide reference to the applicable provisions in the authorization document, identify what is necessary to correct the non-compliance, and specify the period within which the correction must be completed. Usually the correction period is 30 or 60 days, but Washington DNR will allow a longer correction period if correction is impossible in 30 or 60 days.

After the correction period expires, agency staff will conduct another site inspection and verify that the authorized user has resolved the area of non-compliance. These actions will be documented by Washington DNR as they occur. This information is provided as part of the annual reporting to NOAA Fisheries and the U.S. Fish and Wildlife Service.

If the authorized user does not correct the compliance issues, Washington DNR will pursue all rights and remedies available in law to achieve compliance. Depending on the circumstances, Washington DNR may exercise one or more of the following options:

- Exercise its right of re-entry under the agreement to restore natural resources or the state-owned aquatic lands without terminating the agreement.
- Terminate the agreement and evict the responsible party in accordance with the terms of the agreement and state law. The evicted party would be liable for removal of all improvements and for restoration of the property to its pre-agreement condition.
- Sue for damages under additional contract or tort claims, if appropriate in the circumstances.
- In some circumstances, ask local law enforcement to bring misdemeanor charges against the responsible party (RCW 79.02.330).

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