



Prospectus

Hood Canal Coordinating Council In Lieu Fee Compensatory Mitigation Program

Program Sponsor:

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1.0 Introduction

This Prospectus provides a summary of the Hood Canal Coordinating Council (HCCC) In Lieu Fee (ILF) Compensatory Mitigation Program for the Hood Canal Watershed. The HCCC ILF Program described in this Prospectus is based on the requirements included in regulations adopted by the U.S. Army Corps of Engineers (USACE) and the U.S. Environmental Protection Agency (EPA) (Compensatory Mitigation for Losses of Aquatic Resources; Final Rule, see 33 CFR Part 332 and 40 CFR Part 230, called the federal rule). The federal rule was prepared in response to numerous studies that identified deficiencies in conventional mitigation approaches. In-lieu fee programs are an alternative to conventional permittee-responsible mitigation and involve “the restoration, establishment, enhancement, and/or preservation of aquatic resources through funds paid to a governmental or non-profit natural resources management entity to satisfy compensatory mitigation requirements...” Under this Program, the HCCC will sell compensatory mitigation “credits” to permit applicants and take on the permittee’s obligation to provide compensatory mitigation.

This Prospectus is prepared in support of potential future projects occurring in the Hood Canal watershed. Ensuring that future projects do not diminish the ecological sustainability of the Hood Canal watershed is essential to the mission of the HCCC:

The Hood Canal Coordinating Council, working with partners, community groups and citizens, will advocate for and implement regionally and locally appropriate actions to protect and enhance Hood Canal's environmental and economic health.

The HCCC is committed to and has a successful track record of identifying, planning, and executing environmental protection and restoration projects to meet salmon recovery, ecosystem conservation, water quality improvement and other objectives. To establish and operate the HCCC ILF Program, the HCCC will work cooperatively with tribes, and federal, state, and local agency representatives comprising an “Interagency Review Team” (IRT). The USACE and the Washington Department of Ecology (Ecology) will co-chair the IRT. Once the Program is certified and operational, the IRT will play an integral role in reviewing proposed mitigation “receiving sites” and mitigation plans. In some cases agencies represented on the IRT also will have responsibility for reviewing permits for projects that impact aquatic resources. To the extent they chose to participate on the IRT, the HCCC’s member organizations will appoint technical representatives to serve in that capacity. HCCC Board members, who are elected officials or their designated policy representatives, will not serve on the IRT.

This Prospectus provides an overview of the proposed Program. Following review and approval of the Prospectus, the HCCC will develop the Program Instrument in cooperation with the IRT, which will describe the HCCC ILF Program in greater detail. The instrument is the legal

document for the establishment, operation, and use of an in-lieu fee Program. After the Program Instrument is certified by the USACE District Engineer, the HCCC can begin selling credits and implementing compensatory mitigation projects.

This Program does not displace federal government to government consultation obligations for any federal agency with an action in the service area, nor provide a mechanism to mitigate for tribal treaty rights and/or cultural resources. Tribal governments with Usual and Accustomed Areas within the service area will maintain authority to comment as they see fit for each relevant permit, and negotiate separately mitigation for treaty rights and/or cultural resources not addressed by the HCCC ILF Program.

2.0 Goal and Objectives

The primary goal of the HCCC ILF Program for the Hood Canal Watershed (ILF) is to increase aquatic resource functions in the Hood Canal watershed. This can be accomplished by improving existing mitigation requirements with rigorous site assessment and selection processes that fully link with consensus priorities for conserving and restoring Hood Canal. While mitigation seeks to generally offset the impacts of development projects resulting in no net loss (see federal rule), this Program aspires to add value to mitigation processes by implementing projects in a coordinated and strategic manner, consistent with existing regulations and legal limitations relating to mitigation proportionality. To accomplish this goal the HCCC has incorporated the following objectives into the ILF Program:

- Provide a viable option to ensure the availability of high-quality mitigation for unavoidable, site-specific impacts to freshwater wetlands and marine/nearshore aquatic resources in the Hood Canal watershed to ensure at a minimum no net loss of aquatic functions and values in Hood Canal.
- Promote “net resource gain” when practical defined as restoration of ecological processes and a lift in the ecological functions of the Hood Canal watershed.
- Meet the needs and aspirations of the Hood Canal Integrated Watershed Management Plan (IWMP) approach and the HCCC members.
- Develop, in cooperation with environmental regulatory partners, an ecologically-based site selection process and associated tools to identify the most appropriate mitigation options that result in greater ecological benefit to the Hood Canal watershed than could be achieved through permittee-responsible mitigation.
- Utilize scale efficiencies by combining the impacts from individual projects within a service area into mitigation at larger sites.
- More efficiently meet federal, state, and local regulatory requirements by creating an efficient mechanism for fulfilling compensatory mitigation requirements.
- Select the best mitigation receiving sites for the Program through a rigorous analysis by a group of professional resource managers and local experts, drawing from local

knowledge and best available science and analyses for a particular basin or watershed.

- Develop a self-sustaining Program that identifies, prioritizes, and completes mitigation projects that collectively produce a “net resource gain” on a watershed scale over time.
- Provide an effective and transparent accounting structure for collecting in-lieu fees, disbursing project funds, and compliance reporting, as required under 33 CFR § 332.8.
- Work in an efficient and transparent manner with the IRT, co-chaired by the USACE and the Washington Department of Ecology to review, analyze, and implement mitigation projects and enact amendments to the Program Instrument.

The HCCC has articulated four strategies to accomplish its goal and objectives, as defined in 33 CFR § 332.2. Compensatory mitigation performed through this Program can take one of these four forms, with selection based on ecosystem and watershed analysis:

1. Restoration (re-establishment or rehabilitation), manipulating the physical, chemical, or biological characteristics of a site with the goal of returning natural/historic functions to a former or degraded aquatic resource. For the purpose of tracking net gains in aquatic resource area, restoration is divided into two categories including re-establishment and rehabilitation). Re-establishment has a goal of returning natural/historic functions to a former resource while rehabilitation has a goal of repairing functions to a degraded resource;
2. Establishment (creation), manipulating the physical, chemical, or biological characteristics of a site with the goal of developing an aquatic resource that did not previously exist at an upland site;
3. Enhancement, manipulating the physical, chemical, or biological characteristics of a site with the goal of heightening, intensifying, or improving a specific aquatic resource function; and
4. Preservation, removing a threat to, or preventing the decline of, aquatic resources by an action in or near those aquatic resources.

The mitigation strategy selected for each permitted impact will be based upon an assessment of type and degree of disturbance at the landscape and/or drift cell spatial scales (see sections 3.5 and 5.2.1 and 5.2.2 for more information on mitigation site selection, as well as information to be developed in the Credit/Debit tool and Instrument). Restoration generally will be the first mitigation option considered because the likelihood of success is greater and the impacts to potentially ecologically important uplands are reduced compared to enhancement or creation. Restoration also has potential to produce more substantial gains in aquatic resource functions compared to enhancement and preservation. Creation and

enhancement, though legitimate strategies, will be less favored than restoration and potentially preservation.

Given the threats and declining trajectory in an otherwise relatively healthy Hood Canal ecosystem, a precautionary strategy that includes preservation to ensure the continued viability of healthy aspects of Hood Canal is prudent. Preservation as a mitigation option will target those systems that are relatively undisturbed or the least disturbed within the service area. Preservation should, to the extent practicable, be done in conjunction with restoration or enhancement. Also, preservation alone may require a higher mitigation ratio. Preservation will be considered an appropriate mitigation option when all of the following criteria are met:

1. The resources to be preserved provide important physical, chemical, or biological functions for the watershed; and
2. The resources to be preserved contribute significantly to the ecological sustainability of the watershed as demonstrated through the use of appropriate quantitative assessment tools; and
3. Preservation is approved by the DE to be appropriate and practicable; and
4. The resources to be preserved are under threat of destruction or adverse modifications; and
5. The preserved site will be permanently protected through an appropriate real estate or other legal instrument (e.g., easement, title transfer to resource agency or land trust).

Preservation sites may also serve as important reference sites, which will provide a template for replacing ecological functions at other mitigation sites within the service area. Such reference sites will also provide a benchmark for temporal and spatial trend analyses within the Hood Canal service area, which can inform performance standards and mitigation success criteria.

3.0 Establishment and Operation

3.1 Need for the Program

Historic logging practices, agricultural use, residential and commercial development, road and utility infrastructure, and other human actions have altered aquatic habitats in Hood Canal. Valuable freshwater wetlands and estuarine habitat have been filled, isolated, and/or built out; stream channels have been blocked, straightened and disconnected from their floodplains; forests and riparian areas have been degraded by legacy activities; shellfish beds have been degraded or lost due to habitat modifications and water pollution; and abandoned crab pots, fishing nets and other gear litter the bottom of Hood Canal. Timber harvest and development of homes, roads, and businesses have altered sediment supply, vegetation, water quality, and freshwater inputs. Historically, these impacts have not been adequately mitigated, which has contributed to the overall degradation of the Hood Canal ecosystem as evidenced by

declining salmon populations, closed shellfish beds, and serious problems with low dissolved oxygen levels that may result in large scale mortality of marine aquatic life.

Studies of compensatory wetland mitigation in Washington State and across the country consistently show that most mitigation sites are unsuccessful in achieving their performance standards and intended goals. Furthermore, they fail to effectively replace lost or damaged resources, habitats, and functions. These studies identify several common flaws, including inappropriate site selection, project design without a landscape or watershed context, poor planning and implementation of projects, lack of oversight, maintenance, and follow-through, and insufficient long-term management and monitoring. In addition, most mitigation projects implemented by permittees are small and have benefits that tend to be localized. Although these studies focused on freshwater aquatic systems, the conclusions hold true for other types of impacts and mitigation.

Federal regulations have identified in-lieu fee programs as one potential option to correct some of the shortcomings in existing mitigation techniques. In-lieu fee programs consolidate compensatory mitigation projects and resources to target more ecologically significant functions, provide financial planning, provide scientific expertise, reduce temporal loss of function, and reduce uncertainty about project success.

The population of the Hood Canal region is expected to grow in coming years. In addition to pressures on the Hood Canal ecosystem from general population growth, existing industry and land uses will continue to expand. All of this expected growth and development will require more effective mitigation. Improving mitigation success rates will help achieve regional restoration goals. The Puget Sound Partnership's Action Agenda describes the need to improve the quality of Puget Sound's aquatic resources and supports the creation of an in-lieu-fee Program for the Hood Canal watershed.

3.2 Overview of Purpose and Operation

The HCCC ILF Program will serve as one of several options available to applicants and cooperating permitting agencies to provide mitigation for unavoidable impacts to freshwater wetlands and marine / nearshore resources. Eventually the HCCC ILF Program could be expanded to address other resources protected under federal, tribal, state and/or local law (e.g., floodplains, terrestrial habitats, etc.) though this would require amendments to the relevant instruments, additional review by the regulatory agencies and IRT, and approval by the District Engineer.

The HCCC ILF Program will allow applicants for environmental permits to pay into a restoration fund instead of designing, constructing and monitoring their own mitigation for unavoidable environmental impacts from their development actions. The amount of mitigation required will be based on the factors outlined in the HCCC ILF Instrument, specifically as defined by the credit/debit tools. The program sponsor determines the price of a credit based on these factors, also documented in the HCCC ILF Instrument. The regulatory agencies will confirm compensation in the form of credits adequately meets their respective permit requirements

given the environmental impacts. Payment will be required before permitted impacts can occur.

Payments into the HCCC ILF fund will be used to implement high-priority restoration projects to ensure no net loss and with a goal of providing net resource gain within the watershed where the impacts occur. In accordance with 33 CFR § 332.3, mitigation sites will be selected based on an analysis of their ability to mitigate for impacts and provide significant and broad ecological benefits.

Mitigation projects will be planned, designed, and constructed to the highest standards and managed in perpetuity for their environmental benefits. Every dollar deposited into the fund will be tracked to ensure that the appropriate actions are funded. Program performance will be monitored and reported. Any deficiencies will be corrected or adaptively managed.

3.3 Regulatory Authorities

The HCCC seeks approval of the ILF Program through the federal rules for Compensatory Mitigation in 33 CFR Part 332. If approved, the HCCC ILF Program would become an option only after higher priorities in the mitigation sequence, such as avoidance and minimization, have been fulfilled.

Local and tribal jurisdictions will be encouraged to update their policies and regulations to authorize (or at a minimum, remove existing barriers to) use of the HCCC ILF Program as a means of complying with permitting and regulatory requirements for compensatory mitigation.

The establishment, use, operation, and maintenance of the HCCC's ILF Program will be carried out in accordance with all applicable authorities. The HCCC will be discussing with appropriate agencies at each level how the Program can help implement these authorities and their related permitting processes. The following list includes the most relevant authorities:

Federal

- Clean Water Act (33 USC §1251 et seq.)
- Rivers and Harbors Act of 1899 Section 9 and 10 (33 USC § 403)
- Regulatory Programs of the USACE, Final Rule (33 CFR Parts 320-332)
- Endangered Species Act (16 USC 1531-1544, 87 Stat. 884)
- Magnuson-Stevens Fishery Conservation & Management Act (16 USC § 1801 et seq.)
- Fish and Wildlife Coordination Act (16 USC § 661 et seq.)
- Coastal Zone Management Act (16 USC 1451-1465)
- National Historic Preservation Act, Section 106 (16 USC § 470)
- National Environmental Policy Act (42 USC § 4321 et seq.)

Tribal

- Skokomish Environmental Protection Act
- Jamestown S'Klallam Tribal Environmental Policy Act

- Tribal Comprehensive Plans
- Port Gamble S’Klallam Tribal Code

State

- Growth Management Act (Chapter 36.70A RCW)
- State Environmental Policy Act (Chapters 43.21C RCW and 197-11 WAC)
- Hydraulic Code (Chapter 77.55 RCW)
- Water Pollution Control Act (Chapter 90.48 RCW)
- Shoreline Management Act (Chapter 90.58 RCW)
- Aquatic Rehabilitation Act (Chapter 90.88 RCW)
- Interlocal Cooperation Act (Chapter 39.34 RCW)

Local (City and County)

- Comprehensive Plans
- Critical Areas Ordinances
- Shoreline Master Programs

3.4. Mitigation Sequencing and Process

Local, state, and federal governments all adhere to regulations requiring mitigation sequencing for proposals that otherwise would adversely affect wetlands and other aquatic resources. Mitigation sequencing refers to a series of steps permit applicants must follow to eliminate or decrease the negative effects of a proposed action. A 1990 Memorandum of Agreement (MOA) between the EPA and the USACE defines the mitigation sequence under the Clean Water Act Section 404(b)(1) Guidelines as being composed of the following steps:

1. Avoiding the impact altogether by not taking a certain action or parts of an action;
2. Minimizing impacts by limiting the degree or magnitude of the action and its implementation, by using appropriate technology, or by taking affirmative steps to avoid or reduce impacts;
3. Rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
4. Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action;
5. Compensating for the impact by replacing, enhancing, or providing substitute resources or environments; and/or
6. Monitoring the impact and taking appropriate corrective measures (WAC 197-11-768).

The 404(b)(1) guidelines prohibit the USACE from authorizing a project under an individual permit unless that project would use the “least environmentally damaging

practicable alternative” (as determined by the USACE and EPA). These guidelines presume, unless clearly rebutted by the applicant, that less environmentally damaging alternatives to filling aquatic sites, such as wetlands, are available for non-water-dependent activities. Whether a project is water dependent or not, the guidelines presume that all practicable alternatives that do not involve a discharge into special aquatic sites, which include wetlands, have less adverse impact on the aquatic ecosystem. A permit would be denied if a less environmentally damaging alternative were available and practicable.

It is expected that the HCCC ILF Program may be used to mitigate unavoidable impacts to aquatic resources in the Hood Canal Watershed where full impact avoidance is not practical. In order to participate in the HCCC’s ILF Program, a permit applicant would have to demonstrate that all practicable impact avoidance and minimization measures have been taken through the environmental review and permitting processes. The applicant would contact the ILF sponsor and determine HCCC interest in the applicant’s mitigation need. Provided both parties agree, the applicant would submit a mitigation plan with their permit applications specifying how many credits from the approved program they would need to offset the impact to their project. The permitting agencies approve the mitigation plan and the use of the program.

Upon approval of the mitigation plan using program credits and receipt of associated fees, the HCCC would propose which mitigation site best compensates for the functions being lost and has the potential to achieve the greatest “net resource gain” (as described in Section 3.5). After IRT review and DE approval of the site, the HCCC would then implement the mitigation, or contract with qualified third-party entities to do so.

The HCCC may enter into an agreement with a non-profit or governmental management entity to perform many of the required functions for the Program including fiscal management; grant making to entities that will purchase and hold mitigation sites in conservation status in perpetuity; reporting; contracting for the design, construction, and monitoring; and other functions as described in this Prospectus. Approaches will be developed in partnership with HCCC members and the IRT.

Though many of the tasks associated with operating the HCCC ILF Program may be delegated to a management entity if authorized by the IRT and USACE, the HCCC will retain sole responsibility for ensuring the success of its mitigation-receiving sites and the Program generally.

3.5 Mitigation-Receiving Site Selection and Overall Prioritization Strategy

One of the main objectives of the HCCC’s ILF Program is to compensate for resource impacts in a way that creates greater ecological benefit to a sub-basin, basin, or watershed than could be achieved through permittee-responsible mitigation. In addition the Program aims to achieve “net resource gain” on a watershed scale. Therefore, sites will be prioritized based on their ability to meet watershed goals and restore watershed-scale ecological processes.

The HCCC, in consultation with local, state, tribal, and federal environmental permitting Programs, intends to develop a list of candidate receiving sites that address watershed goals and objectives and have a high potential to provide “net resource gain” within the Hood Canal watershed, as well as meet future mitigation needs in the Hood Canal service area. The inventory will include both freshwater wetland sites and marine /nearshore sites throughout the service areas. The candidate sites will come from existing studies and other sources that identify priority habitats needing particular attention, vulnerable locations within the watersheds, and areas most likely to benefit from restoration, creation, enhancement, and preservation. The HCCC as ILF sponsor will utilize the following resources, among others, to develop an inventory of candidate sites:

- Nearshore Assessments and Restoration Prioritization Frameworks
- Watershed characterization plans, data or both
- Salmon Conservation and Recovery Plans and three year work plans
- Hood Canal Integrated Watershed Management Plan (IWMP)
- Watershed Plans, developed through Chapter 90.82 RCW
- Local Comprehensive Land Use Plans
- County Basin Plans
- Local Shoreline Master Programs and Restoration Plans
- Local Flood Hazard Management Plans
- Local Surface and Stormwater Management Programs
- Ecoregional Assessments: Willamette Valley/Puget Trough/Georgia Basin (Nature Conservancy, 2004)
- Puget Sound Partnership’s Action Agenda
- Puget Sound Nearshore Ecosystem Restoration Project guidance and inventory/assessment documents
- Staff resources, including HCCC staff and consultants, Puget Sound Partnership (PSP) Ecosystem Recovery Coordinators, Ecology Watershed leads, HCCC member County and Tribal staff

In addition to a site’s ability to provide ecological benefits at a watershed scale, potential sites will be reviewed to ensure that mitigation activities will be able to restore ecosystem processes by removing stressors and other site constraints thereby providing a sustainable lift in functions. In determining ecological suitability of a potential mitigation-receiving site, the HCCC’s ILF Program will refer to applicable federal and state agency guidance (e.g. Washington Department of Ecology, *Selecting Wetland Mitigation Sites Using a Watershed Approach* (December 2009)). Sites that have restoration potential will be given high priority because the likelihood of success is greater and the impacts to potentially ecologically important uplands are reduced compared to enhancement or creation, and the potential gains in aquatic resource functions are greater, compared to enhancement and preservation.

Priority will be given to candidate mitigation-receiving sites that meet the criteria identified below along with the specific freshwater and marine/ nearshore criteria described in the Compensation Planning Framework (Section 5):

- The site provides a significant opportunity to achieve net resource gain via restoration, creation, enhancement or preservation;
- The site has a high likelihood of providing sustainable ecological benefits for the watershed in the long-term;
- The site represents opportunities to reverse past ecosystem alterations through removal of stressors and other constraints that have altered hydrologic or other ecosystem processes; and
- There is a high likelihood of being able to implement the mitigation with minimal collateral environmental damage, and at a reasonable cost.

In identifying and selecting compensatory mitigation sites priority will be given to mitigation opportunities that augment and are compatible with regional and local shoreline management plans and salmon ecosystem recovery plans and goals. Such strategies include, but are not limited to, protection and restoration of critical resource areas, fee-simple purchase with a protective conservation easements, conservation easements, reconnecting pocket estuaries to tidal fluxes, shoreline rehabilitation, removal of fish migration barriers, stream restoration and reforestation of watersheds and marine/freshwater riparian zones. The HCCC ILF Program does not intend to implement as mitigation projects or elements of projects that have received salmon recovery funds or are slated to be implemented via other federally funded restoration programs, as the federal rule prohibits use of such projects for the purpose of generating mitigation credits.

3.6 Site Protection and Stewardship

The HCCC will protect and steward mitigation-receiving sites in perpetuity through legally protective mechanisms (such as conservation easements) as well as non-wasting endowment accounts for funding long-term protection and stewardship needs. Detailed approaches will be proposed in Long-Term Management and Maintenance Plans to be developed for each site that will dictate protection and stewardship of the sites post-establishment. The site protection mechanism will ensure the HCCC has access for monitoring and enforcement, and stipulate all other long-term protection obligations. Example mechanisms will be included with the Program Instrument.

The HCCC may transfer interest in property in part or in whole to a qualified local land manager such as a tribe, a local/state/federal government, a land trust or other non-profit organization that has experience in conservation land management. If mitigation properties are transferred the HCCC will also either transfer funds to the new owner or enter into an agreement to provide the necessary long-term stewardship through other means. The HCCC

will seek IRT review and DE approval before transferring mitigation site stewardship responsibilities to another entity. Regardless of the identity of the land stewardship entity, the HCCC ILF Program instrument will address costs and necessary financing to implement the Long-Term Management and Maintenance Plan.

4.0 Technical Feasibility and Sponsor Qualifications

4.1 Technical Feasibility

The HCCC is confident that the technical needs required to meet the objectives of the HCCC ILF Program are feasible. HCCC and other organizations and agencies are currently active in on-site restoration throughout the Hood Canal watershed. Communities, scientists, government, managers, and conservation groups are ripe with interest to protect and restore large areas of the Hood Canal watershed on the scale of effort envisioned by the HCCC ILF Program.

To meet the needs of each mitigation project, the best available science will be incorporated along with an appropriate monitoring program to evaluate the effectiveness of the implemented strategies and inform adaptive management. The mitigation and monitoring plans will be vetted by the IRT and other relevant experts to ensure the greatest chance of success for each project and the overall HCCC ILF Program.

4.2 Sponsor Qualifications

The HCCC is a watershed-based "council of governments" composed of local governments and Indian tribes with ownership, jurisdiction and other governmental interests in the watershed. The HCCC's member organizations include Jefferson, Kitsap and Mason counties, the Port Gamble S'Klallam Tribe and the Skokomish Tribe. The member organizations formed the HCCC in 1985 to coordinate their activities with each other and with other federal, state, tribal and local governments with jurisdiction over land and resource management in the Hood Canal. In addition to its member organizations, the HCC also includes the following federal and state agencies as ex officio, nonvoting members --

Federal Agencies:

- United States Navy
- United States Forest Service
- National Park Service
- Environmental Protection Agency, Region 10
- United States Fish and Wildlife Service
- National Marine Fisheries Service
- United States Army Corps of Engineers

State Agencies:

- Department of Natural Resources
- Department of Fish and Wildlife
- Department of Ecology
- Department of Health
- Office of Community Development
- Parks and Recreation Commission
- Department of Transportation
- Puget Sound Partnership

The HCCC serves a variety of functions and operates in a number of capacities. First, as an interlocal agency under Chapter 39.34 RCW, The HCCC coordinates the activities of its members and other public entities and Indian tribes in their efforts to protect and restore the Hood Canal watershed. HCCC's Board of Directors includes the County Commissioners of each member County and the Tribal Chairperson or a duly-authorized representative of each member Tribe. In this capacity the HCCC is preparing its Integrated Watershed Management Plan (IWMP), which is intended to develop a coordinated, cohesive strategy for protection and restoration efforts throughout the Hood Canal watershed.

In 2000 the HCCC formed a non-profit, public benefit corporation under Chapter 24.03 RCW, Washington's Nonprofit Corporations Act, to serve as the HCCC's fiscal agent. The Internal Revenue Service (IRS) has recognized the HCCC as a public charity under section 501(c)(3) of the Internal Revenue Code. Starting in 2011, the HCCC will comply with the audit requirements of Office of Management and Budget Circular A-133. The nonprofit corporation administers eleven grants for the habitat assessment and rehabilitation programs.

Finally, the HCCC serves a variety of functions pursuant to Chapter 90.88 RCW, the Aquatic Rehabilitation Act. The Act designates the HCCC as the local management board for Hood Canal rehabilitation under RCW 90.88.010(3). HCCC is the inter-WRIA coordinator for watershed planning under RCW 90.88.030(1)(b). The HCCC also is the lead entity and regional recovery organization for summer chum salmon recovery under RCW 90.88.030(1)(a). As the lead entity, HCCC develops both short term and longer term project lists, solicits sponsors to implement the programs and evaluates and ranks project proposals.

The HCCC will serve as sponsor of the HCCC ILF Program. As sponsor, the HCCC will identify, fund, operate, maintain, and manage HCCC ILF projects as described in this prospectus. The HCCC will be responsible for all roles required of a Program sponsor in 33 CFR Part 332.8, including:

- Assuming responsibility for a permittee's compensatory mitigation requirements.
- Ensuring the success of compensatory mitigation for which fees have been collected.
- Maintaining accounting ledgers, tracking all fees collected and expenditures.
- Selection and assessment of mitigation sites, as well as their design and construction.

- Monitoring and maintaining mitigation projects through their establishment period as well as implementing a Long-Term Management and Maintenance Plan.
- Attaining approval for mitigation plans and expenditures from the HCCC ILF account.
- Maintaining sufficient funds for the long-term management of mitigation projects.
- Annually reporting on the progress and status of the Program and its projects including financial accounting reports, credit transaction reports, mitigation receiving site monitoring and progress toward success, status of non-wasting endowment account, amount of mitigation provided for authorized impacts/fees collected, and any other changes in land ownership or transfers of long term management responsibilities.

The HCCC is responsible for evaluating ecosystem conditions and prioritizing the most important actions to restore the Hood Canal watershed to health. The HCCC accomplishes these tasks in part through review and coordination of existing land use plans, watershed plans, species recovery plans, and prioritized lists from other entities. The HCCC also serves an accountability and environmental outcome monitoring function for the Hood Canal watershed. Furthermore, the HCCC excels at coordinating restoration efforts and bringing together representatives from all levels of government agencies and non-government organizations.

The HCCC has staff with the expertise to review and revise mitigation plans and designs for proposed mitigation receiving sites to maximize sustainability and functional gain. The HCCC also have staff with experience developing performance standards that target the achievement of ecosystem function. In addition, the HCCC have staff with experience reviewing monitoring reports and developing contingency plans to correct poor site performance or address unforeseen circumstances. Examples of various types and sizes of projects that HCCC has coordinated, planned and/or implemented (other examples available upon request) are:

- Little Quilcene Estuary Restoration project that restored approximately 100 acres by removing 2200 feet of levees, reconfiguring 1900 feet of mainstem riverine habitat, creating 1600 feet of tidal channel, installing 8 engineered log jams, and removing 33,000 cubic yards of aggraded sediments in the sub-estuarine interface.
- Union River Headwaters Conservation project that conserved approximately 2600 acres of working forest land by purchasing conservation easements that extinguished development rights as well as created no-cut buffers that add a higher level of protection to aquatic resources than regulations provide.
- Lynch Cove Community Park Restoration project that restored approximately 2 acres by removing 100 feet of bulkhead, a derelict concrete wading pool in the intertidal zone, 0.5 acres of invasive weed removal, and planting and maintenance of 0.5 acres of native, salt tolerant plants.

5.0 Compensation Planning Framework

5.1 Introduction

The Compensation Planning Framework will be used to select, secure, and implement aquatic resource restoration, establishment, enhancement, and/or preservation activities. The compensation planning framework supports a watershed approach to compensatory mitigation within the Hood Canal service areas.

5.2 Hood Canal In Lieu Fee Service Areas

The service areas for the HCCC ILF Program would encompass those portions of WRIAs 14, 15, 16 and 17 draining to Hood Canal, defined by a line extending from Foulweather Bluff to Tala Point and Port Ludlow, south through the Great Bend to its terminus near the town of Belfair, WA (Figure 1). The service area is further divided into two components for purposes of this Program:

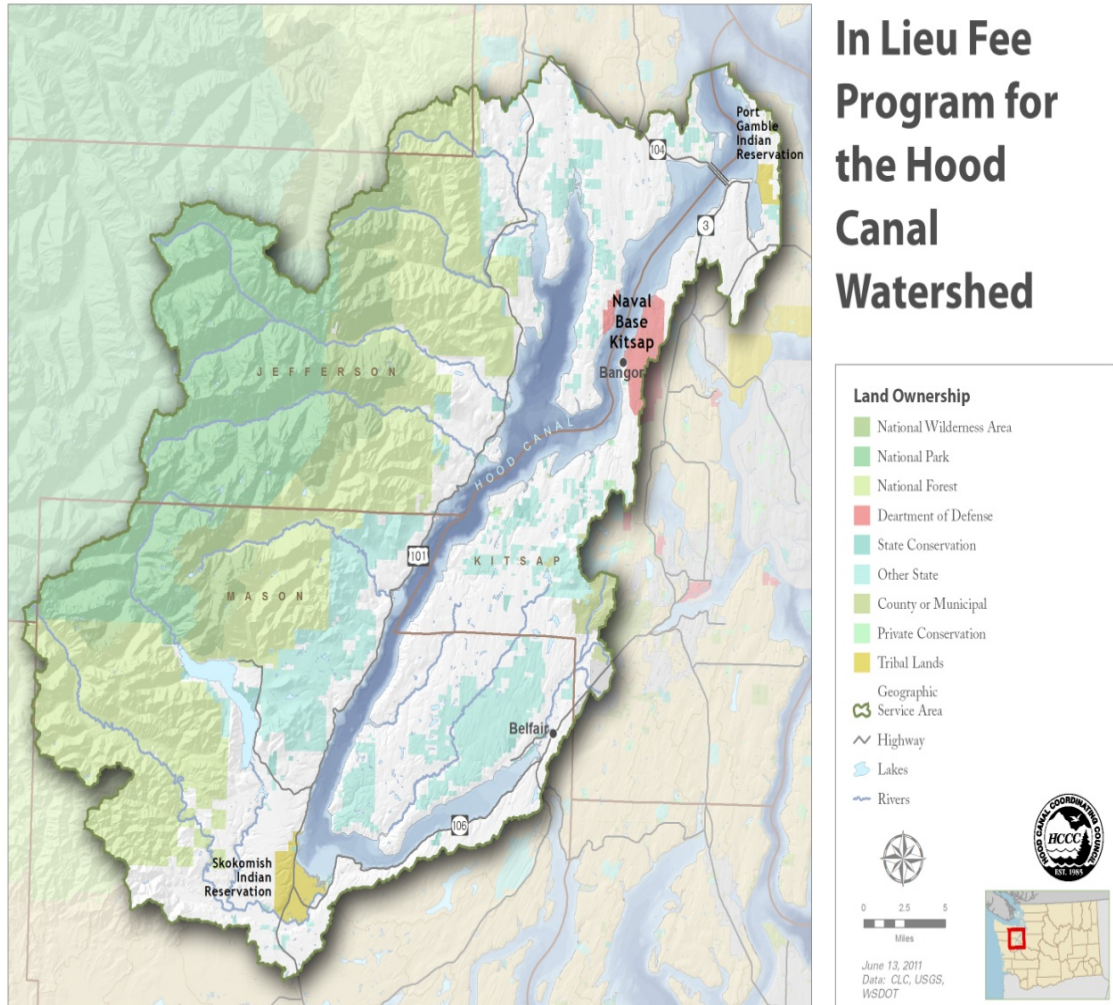


Figure 1. Hood Canal Service Areas

1. Freshwater Environment Service Area, which generally includes terrestrial and freshwater aquatic areas, including wetlands, freshwater tidal wetlands, rivers and streams, lakes, freshwater floodplains, and riparian areas up to and including National Forest lands; and
2. Marine / Nearshore Environment Service Area, which generally includes areas from the marine riparian area (landward of the nearshore geomorphic unit) through the adjacent aquatic intertidal and subtidal zones, and including sub-estuaries and beaches.

This means that projects with unavoidable impacts to freshwater or marine / nearshore resources within these geographic limits would potentially be eligible to purchase mitigation credits from the HCCC ILF Program subject to the Program procedures.

Within this large service area, decisions about where to locate mitigation for each eligible project would need to consider the specific resources and functions being impacted, the watershed context, the local jurisdictional boundaries, and other factors (see section 3.5 for other selection criteria). Impacts to freshwater wetlands would generally need to be mitigated at an appropriate receiving site within the same WRIA within the freshwater environment service area. Impacts to marine / nearshore resources would be mitigated at the most appropriate receiving site within the entire marine/nearshore environment service area.

For freshwater wetland impact projects requiring city or county permits, the mitigation receiving site would generally need to be within the same county as the impact site unless the county regulations specifically allow out-of-jurisdiction mitigation.

5.2.1 Freshwater Environment Service Area

The following provides a brief overview of the portions of the four WRIsAs that comprise the proposed freshwater service area:

WRIA 14 covers approximately 243,840 acres at the southwest terminus of Puget Sound. Of this area, approximately 207,858 acres or 85% of the WRIA is located in Mason County; the remainder of this WRIA is located in Thurston County (outside the service area). The majority of the area is low elevation hills and valleys. Principal drainages in WRIA 14 include Cranberry, Goldsborough, Kennedy, Mill, Sherwood, Johns, Deer, and Skookum Creeks. Despite the abundance of creeks and numerous lakes, WRIA 14 has no major rivers. Only a small portion of WRIA 14 occurs within the freshwater environment service area by draining into Lower Hood Canal along the South Shore.

WRIA 15 covers approximately 631,100 acres of the Kitsap Peninsula, most of which lies within Kitsap County. The topography of WRIA 15 is generally low in elevation and gradient. Major water bodies in the Hood Canal drainage include the Union River, Mission Creek, Tahuya River, Rendsland Creek, Dewatto River, Big Anderson Creek, and Big Beef Creek; many small creeks, lakes, and wetlands are also present.

WRIA 16 covers approximately 428,800 acres and extends from southeast Jefferson County southward to, and including, the Skokomish watershed in northwest Mason County. The four principal watersheds within this WRIA—the Dosewallips, Duckabush, Hamma Hamma, and Skokomish—originate in the Olympic Mountains and terminate along the western shore of Hood Canal. Many smaller streams, some of which are intermittent, also flow directly into Hood Canal. This WRIA includes Lake Cushman which is a large reservoir expanded in the 1920s by damming the North Fork Skokomish River. Kokanee Dam is also located on the North Fork. Numerous small dams are located on smaller streams throughout the WRIA (Correa, 2003).

WRIA 17 is bordered to the north by the Strait of Juan de Fuca, to the east by Admiralty Inlet, northern Puget Sound and Hood Canal, and to the south and west by the Olympic Mountains and associated foothills and floodplains. The freshwater service area includes the sub basins that drain to Hood Canal including the Big Quilcene, Little Quilcene, Tarboo, Thorndyke, Shine, and Ludlow. Over 70 percent of the WRIA is privately owned (non-federal/tribal land).

Current Freshwater Conditions

Lying at the boundary of two physiographic regions, the Hood Canal basin supports diverse freshwater resources including a variety of wetland systems. The most common wetland types present within the service areas include:

- Wet meadows, which are characterized by having standing water from late fall to early spring, are often dominated by grasses, rushes, bulrushes, and sedges;
- Scrub/shrub wetlands, with seasonal flooding and vegetation dominated by species such as hardhack, willow and red alder;
- Sphagnum bogs, dominated by unique species assemblages adapted to acidic conditions;
- Forested wetlands, areas that are not usually flooded but have saturated soils, and where vegetation is dominated by large trees such as black cottonwood, red alder and western red cedar; and
- Shallow marsh, which includes freshwater marshes and open water wetlands.

These wetland types are found on organic soil deposits of peat and muck and on other types of hydric mineral soils which typically coincide with depressional areas, stream courses, and slopes/transitional areas where groundwater is expressed to the surface.

Wetlands are known to play a vital role in the landscape by performing biogeochemical functions related to trapping and transforming chemicals and improving water quality; hydrologic functions related to maintaining the water regime and reducing flooding; and food web and habitat functions (Granger et al., 2005).

Wetlands and riparian zones support muskrat, mink, river otter, beaver and other species. These areas also provide suitable nesting and feeding habitat for mallard duck, American widgeon, green-wing teal, great blue heron and a variety of other avifauna.

Wetlands in the service area also help support freshwater streams. The lowland glacial till plains are dissected by numerous low-gradient streams supported by large groundwater reserves and headwater wetland systems (Labbe et al., 2006). The upper watersheds have higher gradient streams with snowmelt-driven high flow periods. The streams draining to Hood Canal are considered to be priority and/or critical habitat that support several federally listed salmonid species including Chinook and summer chum salmon, steelhead and bull trout, along

with many other special-status species. The Skokomish River is largest salmon producing river in the West Sound.

Stream and riparian habitat conditions range from very good to highly degraded. Throughout the service area culverts, dams, tide gates, natural barriers (falls and cascades) and reduced instream flows limit anadromous salmonid distribution and productivity.

Riparian zones adjacent to streams contribute to healthy habitat by dissipating energy and inhibiting sediment input, suppressing the erosional processes that move sediment, and by mechanically filtering and/or storing upland sediments before they can enter stream channels (Knutson and Naef, 1997). Riparian areas also perform water quality functions related to pollutant removal. This occurs primarily through denitrification and trapping/storing phosphates and heavy metals that are adsorbed to fine sediments.

Riparian zones are a major source of large woody debris (LWD) input to streams. Approximately 70 percent of the structural complexity within streams is derived from root wads, trees, and limbs that fall into the stream as a result of bank undercutting, mass slope movement, normal tree mortality, or wind-throw. LWD creates complex hydraulic patterns that allow pools and side channels to form. It also creates waterfalls, enhances channel sinuosity, and instigates other physical and biochemical channel changes. The in-channel structural diversity created by LWD is essential to aquatic species in deep, low velocity areas for hiding, overwintering habitat, and juvenile rearing, in all sizes of streams and rivers (Knutson and Naef, 1997).

The upper watersheds of WRIA 14, 15, 16 and 17 are characterized by public and private commercial forest lands, National Forest and National Park lands. Agricultural development is concentrated in lowland areas such as the lower Skokomish and Quilcene watersheds. Private rural residential development is common throughout most of the lower and middle watersheds including along streams, rivers and lakes. These areas have relatively low levels of impervious surface and generally lack urban/industrial development (ESA Adolfson, 2009).

Historic Freshwater Resources and Threats

Wetland and stream resources have been impacted by past development practices including residential development, agriculture, road and utility construction and forest practices. These activities have reduced the type and amount of wetland and stream resources and diminished their value as habitat for some species. By 2025 the population in this general area is expected to increase by about 35% (more than 100,000 people in Kitsap, Mason and Jefferson counties). The following are examples of past and ongoing land use practices and their effects on the historic freshwater resources in the service area: Blocked habitat including North Fork of Skokomish blocked by Cushman dam, South Fork seasonally blocked by gravel aggradation and multiple culverts; loss of floodplain processes and functions due to decreased flood storage capacity; sediment scour and deposition; loss of wetlands; altered floodplain connectivity, hydrology, channel network, and riparian area; loss of channel function by

simplification and wood removal; increased sedimentation and altered hydrology from poorly maintained or abandoned logging roads.

Major alterations in flows have occurred in Union, Skokomish, Big Quilcene and Little Quilcene Rivers. Year round low flows, seasonal low flows, and extreme high flows have occurred in all Hood Canal WRIAs.

Invasive species (Japanese knotweed, reed canary grass, giant hogweed, yellow flag iris, purple loosestrife, Himalayan blackberry and European bittersweet) have affected native plant populations and aquatic functions.

Forest practices including clearcutting have damaged and degraded many of the riparian zones on state-owned and private forest lands throughout the service area, particularly past practices. For example the lower Dosewallips River and lower Little Quilcene River typically have degraded riparian habitats and consequently poor LWD recruitment potential (Correa, 2002, 2003; Kuttel, 2003).

The economy in WRIA 16 relies largely on shellfish harvesting, commercial forestry, tourism, Christmas-tree farming, and some agriculture (WRIA 16 Planning Unit, 2006). Agriculture and residential development within the floodplains of many WRIA 16 watersheds have resulted in channelization of rivers and tributaries, draining of beaver ponds for livestock grazing, and logging in forested riparian zones.

Development trends in WRIA 15 have resulted in an increase in impervious surfaces, associated with conversion of forestland to residential and commercial development. Major land uses in WRIA 15 are forest resources, agriculture, and urban uses such as near the community of Belfair at the southeastern end of Hood Canal and Seabeck in eastern Hood Canal. Another example of an imminent threat is the potential development of the forestlands around Port Gamble Bay and Hansville and their effect on water quality and wildlife habitat.

Changes in forest cover and composition of forest stands have been extensive in some areas. A study by Labbe et al. (2006) in Hood Canal showed dramatic changes in riparian forest composition and structure across different shoreline types, landforms, and landscape positions. Comparisons of historical and contemporary forest composition at 80 stream-riparian locations across Hood Canal showed significant vegetation change for particular vegetation types at lower elevation sites in/near bottomlands. Over the historical period, nearly 58 percent of cedar-spruce forest type sites transitioned to hardwood/mixed forest, as compared to other forest types, which showed change of 35 percent or less. Over two-thirds of sites that underwent vegetation change transitioned from conifer-dominance to hardwood/mixed forest (Labbe et al., 2006). Changes of this nature can adversely impact LWD recruitment to stream channels and cause loss of instream habitat complexity. Potential increases in nitrogen loading as a result of increased coverage of red alder are another concern, as alder has the capacity to fix nitrogen in soil. Also, reduced instream habitat complexity and duration will decrease the aquatic environment's ability to denitrify surfacewater before it reaches the sensitive marine water body.

Damming of streams and wetlands as well as shoreline modifications for residential development have been common in WRIA 14b (area of WRIA 14 draining into Hood Canal). These activities along with conversion of forestland to residential land uses have significantly altered the natural flow regime of many streams in the region.

Freshwater Goals and Objectives

While mitigation seeks to generally offset the impacts of development projects resulting in no net loss, this Program aspires to add value to mitigation processes by implementing projects in a coordinated and strategic manner. Freshwater HCCC ILF mitigation projects will be targeted toward fulfilling the following goals:

- Restore and protect natural conveyance systems and flow regimes by: removing fill; restoring forest cover and other natural vegetation; removing hydrologic barriers; preserving high quality wetlands; and taking similar appropriate actions.
- Restore and protect stream channel sinuosity and complexity and connection to floodplains by removing levees and revetments; removing fish passage barriers; removing floodplain fill; installing large woody debris; restoring or enhancing off-channel habitats and other refugia; revegetating riparian corridors; improving streambank conditions; and taking similar appropriate actions.
- Restore and protect flood storage, water quality, and habitat functions by restoring and enhancing depressional wetlands; restoring and protecting floodplains; preserving and revegetating floodplain and riparian corridors; and taking similar appropriate actions.

Freshwater Prioritization Strategy

The HCCC will select ecologically suitable freshwater mitigation sites that achieve specific mitigation goals. The prioritization of potential mitigation sites will also be informed by existing regional and county-scale watershed characterization studies and other pertinent information as described in Section 3.5. Within each watershed in the freshwater service area, mitigation sites will be selected based upon the criteria described in Section 3.5 and priority will be given to the following types of sites:

- Sites with hydrologic, soil, and other physical and chemical characteristics that indicate mitigation efforts will be sustainable over time;
- Sites that are connected hydrologically and ecologically to other important resources in the watershed in ways that support aquatic habitat diversity, habitat connectivity, and other landscape scale functions;
- Sites that when restored, enhanced or preserved will be compatible with the existing and planned land uses surrounding to the site; and

- Sites where mitigation will have beneficial effects on ecologically important aquatic or terrestrial resources and/or habitats for federally- or state-listed threatened and endangered species.

The Washington Department of Ecology has analyzed all of the sub basins in the Puget Sound region to characterize their water flow processes and has identified a set of priority areas for restoration and protection based on that analysis. Kitsap, Jefferson, and Mason Counties have worked with Ecology in this characterization to inform their decisions about freshwater restoration, protection and mitigation investments (Figures 2 and 3). The HCCC would use these analyses as a basis for prioritizing freshwater mitigation sites throughout the service area because they provide vital information on:

- Hydrological conditions, soils, geology and vegetative characteristics that influence the value of the mitigation and its potential to successfully contribute to net resource gain;
- Watershed-scale features, such as wetland condition, floodplain condition, drainage patterns, and landscape-scale functions; and
- The degree of impairment or alteration present.

The HCCC will also consider other relevant factors including, but not limited to, development trends, habitat status and trends, the relative locations of the impact and mitigation sites in the watershed, local or regional goals for the restoration or protection of particular habitat types or functions (e.g., re-establishment of habitat corridors or habitat for species of concern), water quality goals, floodplain management goals, and the relative potential for chemical contamination of the aquatic resources.

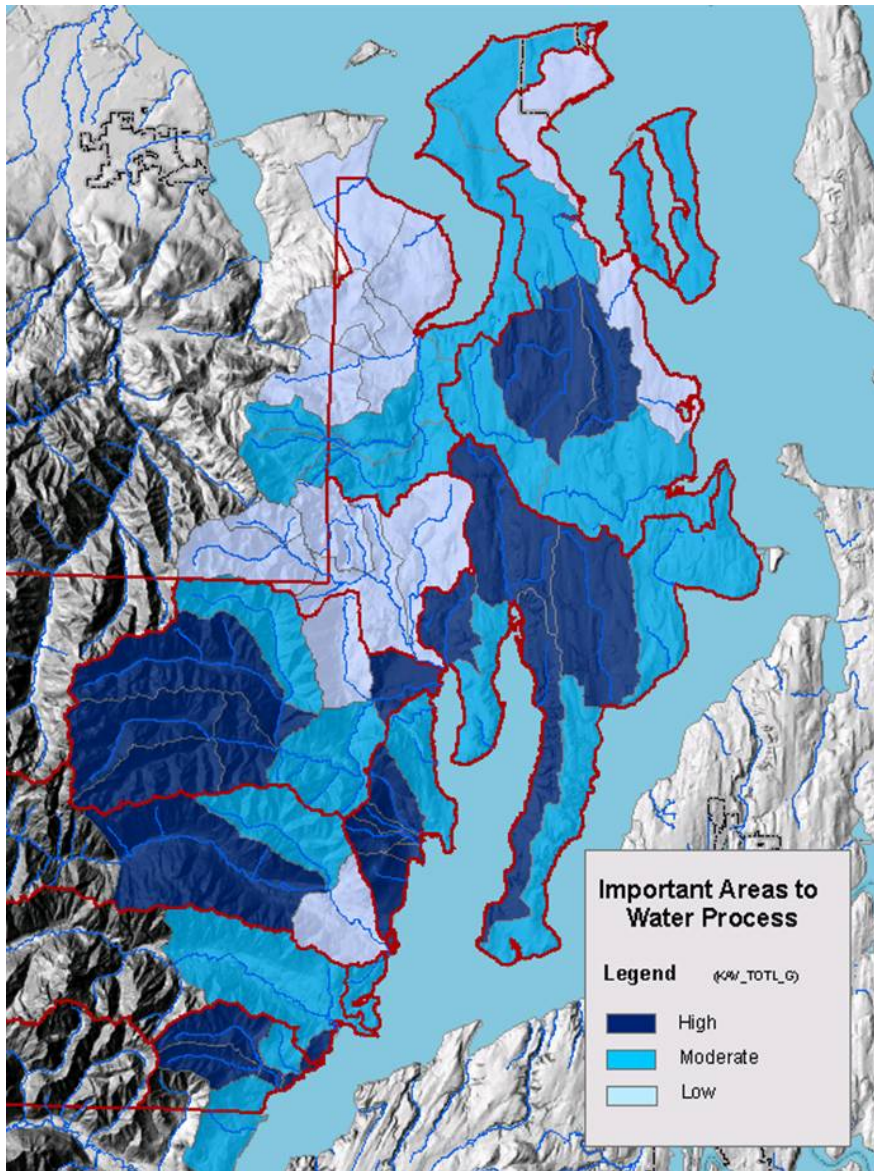


Figure 2. Example of watershed characterization results from Jefferson County showing the relative importance of sub basins for water flow processes that could inform selection of freshwater mitigation sites (Ecology 2006)

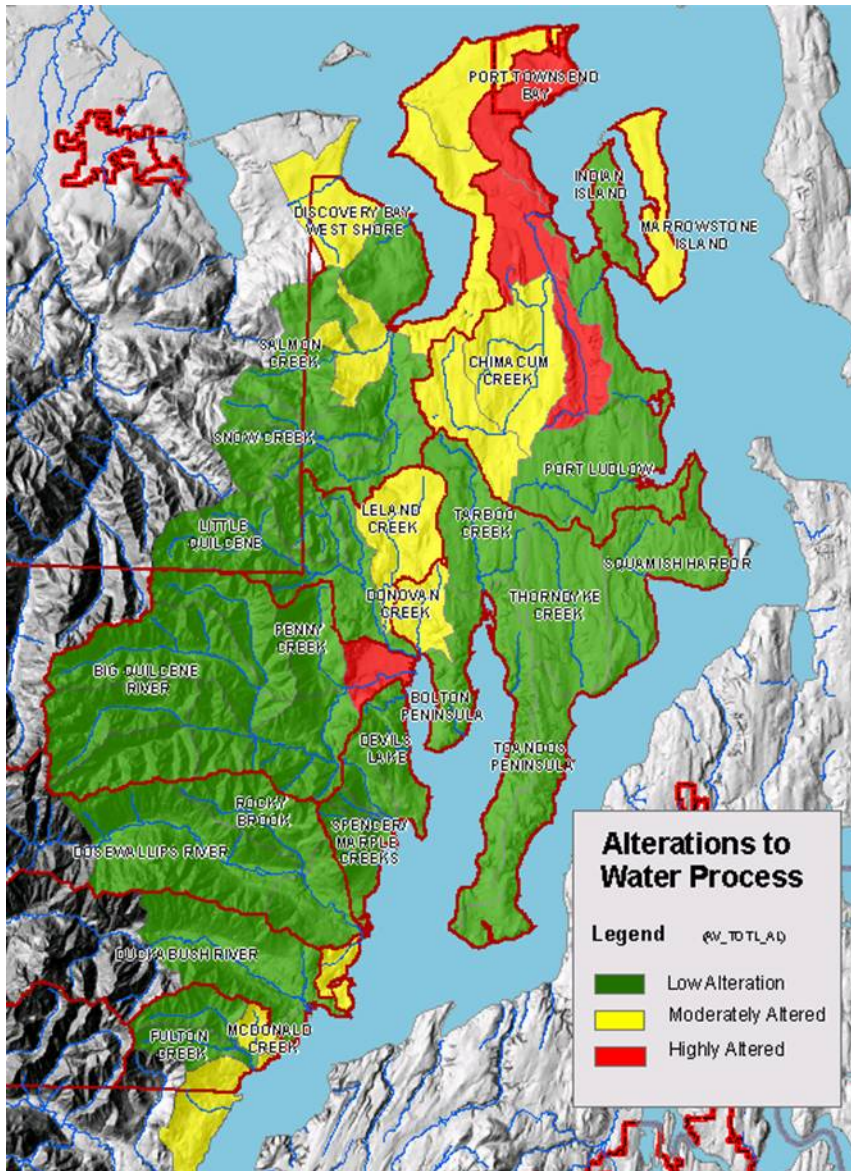


Figure 3. Example of watershed characterization results from Jefferson County showing the relative degree of water flow alteration that could inform selection of freshwater mitigation sites (Ecology 2006)

5.2.2 Marine / Nearshore Environment Service Area

Current Marine / Nearshore Conditions

Hood Canal is a natural, glacier-carved fjord, which forms the westernmost waterway and margin of the Puget Sound basin. It encompasses a highly interactive, fairly natural system that is well known for its high quality freshwater and salt water habitats, scenic beauty, recreational benefits and economic value.

The Hood Canal has approximately 358 miles of marine shoreline which because of the interaction of currents, wave energy, tidal fluxes, salinity and substrate, support an incredible array of plant and animal species. The condition of the marine / nearshore ecosystem ranges from fairly unmodified stretches of natural shoreline, to private residences with associated armoring structures, to highly developed industrial areas. Several of these species, including summer chum, Chinook and coho salmon and marbled murrelet, are federally listed as threatened.

Hood Canal has a surface area of approximately 1,205 square miles. It is approximately 62 miles long and has a maximum depth of nearly 626 feet or 200 m (Kellogg, 2004; Labbe, et.al, 2006). The basin is relatively straight for the majority of its length, with the exception of Port Gamble, Dabob, and Quilcene Bays, major embayments, and the Great Bend. Over most of its length the Hood Canal varies in width from 1.0 to 2.5 miles or 2 km to 4 km (Simonds, et al., 2008).

A shallow sill extends across the short axis of the canal south of the Hood Canal Floating Bridge (State Route 116) and the northern end of NKB Bangor in the vicinity of South Point and Thorndyke Bay. The main current, or thalweg, runs along the west side of the channel, forming a hanging valley at the sill crest. The sill limits exchanges of dense water between the deeper southern reach and Admiralty Inlet, the channel linking Puget Sound to the North Pacific Ocean via the Strait of Juan de Fuca. South of the sill, the bottom along the thalweg is extremely rough, varying by + 80 feet (25 m) over 0.6 miles (1 km) or less (Gregg and Pratt, 2010).

The sill, canal cross-sectional area and bathymetric irregularities exert a controlling affect on tidal currents, flow stratification, tidal energy and exchange of nutrients and dissolved oxygen (DO) (Gregg and Pratt, 2010; Kellogg, 2004; Gustafson, et al., 2000). Due to stratification and modest freshwater input, bottom water in southern Hood Canal has a long residence time, on the order of one to four months. There is little exchange with overlying oxygenated water and DO concentrations in parts of the canal can become very low, a condition commonly referred to as hypoxia (Fagergren and Criss, 2004). However, an accurate description of the hydraulic properties of Hood Canal is hindered by its complex geometry and bathymetry (Gregg and Pratt, 2010).

Sediments at the northern end of Hood Canal are primarily composed of relatively coarse sands near the entrance, on the sill, and in the shallows along the shorelines of both the main axis of the canal and the adjoining bays. Sediments south of the sill, down the central axis of the canal, at the greatest depths, and in portions of the terminal inlets are primarily finer-grained silts and clays.

Geographic Sub-regions

The marine environment consists of six geographic sub-regions (Todd et al., 2006). Each sub-region has distinct geography, geology, patterns of littoral drift and habitat complexes and there are specific management recommendations to guide resource protection and restoration in each region (Figure 4) that are available from a variety of sources. These sub-regions include:

- Hood Canal Entrance (the Hood Canal Entrance sub-region is amended by this ILF to reflect the service area boundary from Foulweather Bluff to Tala Point)
- North Hood Canal
- Dabob Bay
- Central Hood Canal
- South Hood Canal
- Hood Canal Hook

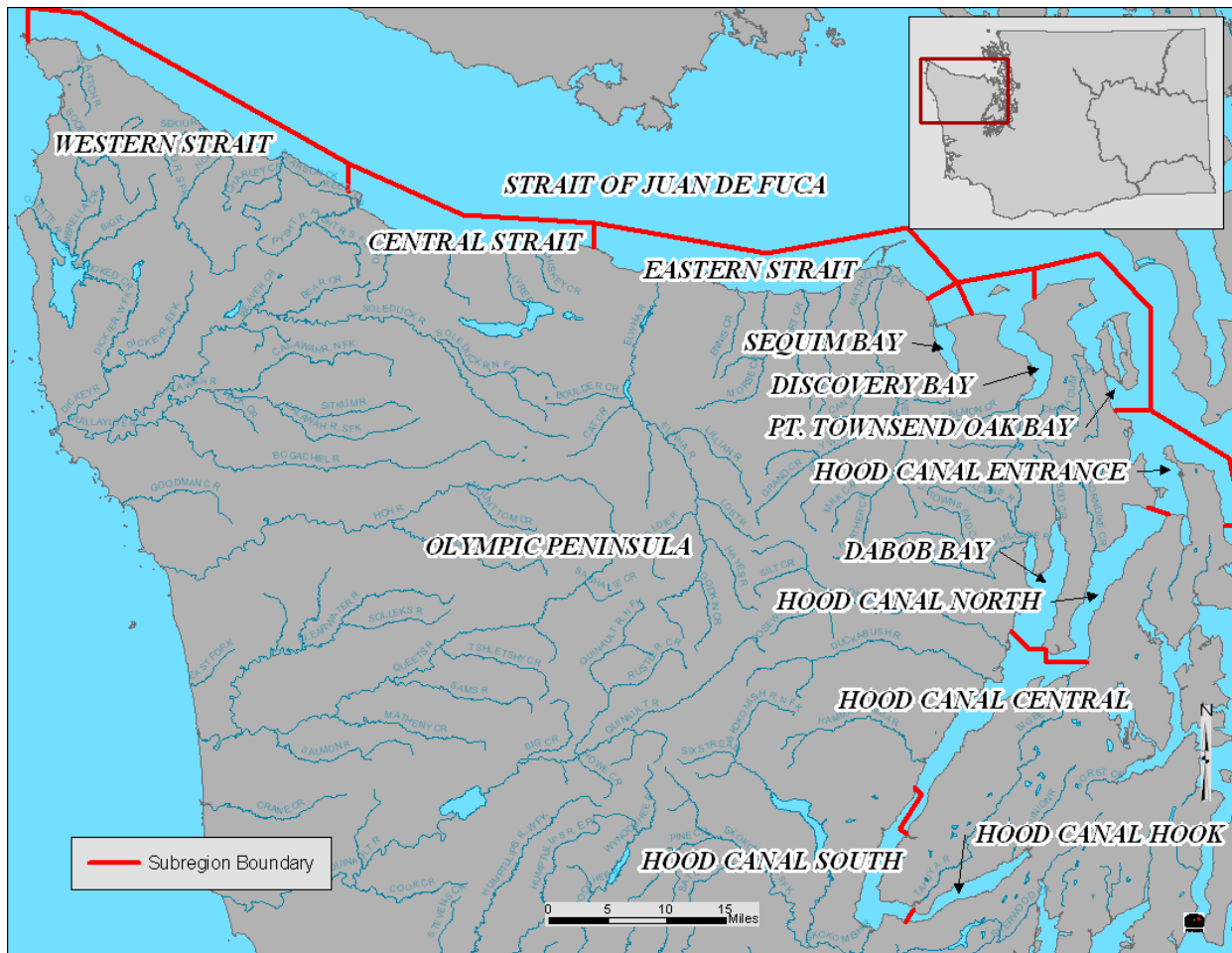


Figure 4. Geographic Sub-Regions of the Marine Environment (Todd et al. 2006)

Drift cells are an important characteristic of the marine /nearshore ecosystem in Hood Canal and elsewhere in Puget Sound. Drift cells are partially compartmentalized zones that act as closed or nearly closed systems that transport beach sediment (Washington DOE, 1991). The sediment transport is the result of wind generated waves and the geographic limits of drift cells

are determined by geomorphic and sedimentological indicators (Washington DOE, 1991). Drift cells are comprised of three zones: erosion, transport and deposition. Drift cells are distinct ecological units delimited by physical parameters such as wave action, currents, erosion, sediment transport, deposition and substrate.

Sediment transport within shoreline drift cells determines the ultimate size, shape and configuration of sediment depositional features such as beaches, spits, berms and mudflats. These sediment transport processes form the basis for establishing and maintaining beach habitat structure and function. Typically, there are two types of beach features: 1) bluff-backed beaches, which are erosional regions, and 2) barrier beaches, which are generally depositional in nature.

While the streams and rivers entering the Hood Canal are sources of sediment to the drift cells, the majority of sediment comes from the miles of bluffs that line the canal's shorelines. These bluffs are referred to as "feeder bluffs" because erosion and mass wasting supply the sediments that maintain the physical, chemical, biological and geomorphologic characteristics of the drift cells and beach formations (Johannessen and MacLennan, 2007).

Hood Canal supports valuable estuarine habitat. Estuaries are semi-enclosed, protected inland waters where the mixing of freshwater from the uplands/terrestrial environment and saltwater from Hood Canal occurs. The canal itself is an estuary. Sub-estuaries occur at large river deltas, such as the Dosewallips River, where the slowing of water flow results in sediment deposition, and at smaller stream mouths and embayments around the canal. Estuaries are well known as productive environments for primary and secondary productivity that supports a wide variety of fauna such as salmon, shellfish, and birds. Tidal wetland habitats including tidal marshes and tidal flats with mud, sand, or gravel substrates are a significant component of estuaries (Todd et al. 2006). Todd et al. (2006) inventories and characterizes these habitats in detail.

Nearshore habitats also include riparian areas, which are transitional areas between the aquatic and terrestrial systems where the interactions and influences between these two environments create biophysical gradients and distinctive ecological processes and biota. In Hood Canal the nearshore riparian areas perform functions such as pollution control, fish and wildlife habitat, soil stability, sediment control, microclimate, shade, and inputs of nutrients, macroinvertebrates and large woody debris (Brennan, 2007).

Submerged aquatic vegetation such as eelgrass is another important component of the marine /nearshore environment (Dowty et al. 2010). Eelgrass and other seagrasses are known to provide extensive ecosystem services worldwide (Costanza et al. 1997; Green and Short 2003; Larkum et al. 2006). In Puget Sound specifically, eelgrass provides spawning grounds for Pacific herring and rearing/foraging habitat for out-migrating juvenile salmon and important feeding and foraging habitats for waterbirds such as the black brant and Great blue heron (Phillips 1984; Simenstad 1994; Wilson and Atkinson 1995; Butler 1995). Eelgrass also improves water quality by reducing particle loads and acting as a sink for nutrients (Short and Short 1984;

Asmus and Asmus 2000), and stabilizes sediment, thus counteracting erosion processes (Harlin et al. 1982; Fonseca 1996).

Historic Marine / Nearshore Resources

Environmental conditions in Hood Canal have changed significantly since European settlement. Several investigators have attempted to reconstruct historic shorelines, tidal marshes, wetlands and riparian forests in and around the Hood Canal and Puget Sound areas as it existed prior to European settlement (Todd, et.al, 2006; Collins and Sheik, 2005; Collins, 2000; Collins, et.al, 2003; Labbe et.al, 2006).

Collins and Sheik (2005), using topographic sheets surveyed by the U.S. Coast and Geodetic Surveys between 1850 and 1890, estimated nearshore habitat in Puget Sound at 29,490 hectares. Fifteen hundred hectares were associated with Mason, Kitsap, and Jefferson Counties, which includes the Hood Canal nearshore environments within the service area, and Clallam County.

Collins and Sheik (2005) estimated that 40 percent of the nearshore habitats within the Hood Canal were lost by the time of their study. The most common direct causes of habitat change were attributed to fill associated with transportation infrastructure and residential development. Other important direct causes included urban, industrial, and military-related development, dredging and channelization activities, and diking and armoring (Hirschi, et.al, 2003).

Dikes built to create farmland and reduce flooding have altered estuarine sedimentation patterns and eliminated the tidal influence that forms salt-marshes; dams built to manage water supplies and generate power have reduced the magnitude and frequency of floods and limited sediment inputs that sustain river deltas; and seawalls and bulkheads built to protect shoreline properties have reduced sediment supplies that feed beaches from naturally eroding bluffs (Gelfenbaum, et al., 2006).

Bailey et.al, (1998) estimated that over 32 percent of Hood Canal shoreline has been modified. Hirschi, et al., (2003) determined that bulkheads covered approximately 18 percent of the total mapped Hood Canal shoreline. Armoring, especially bulkheads, disrupts sediment supply, transport and deposition along drift cells and can result in loss or alteration of critical eelgrass habitat. Bulkheads can also block fine sediments from entering the transport zone along spawning beaches or increase wave energy resulting in a shift from fine grained to coarse grained sediments. This can affect the suitability of beaches for forage fish spawning. For example, when sandy beaches change to substrates with cobble and gravels above the 3cm size, spawning habitat for Pacific sandlance, an important forage fish, is greatly impacted. Also, when bulkheads extend seaward, well beyond the mean high water mark, former and/or potential Pacific sandlance spawning habitat is lost altogether.

The Lower Hood Canal exhibits the greatest extent of bulkhead armoring of any sub-region within the canal: 66 percent of the north shore and 70 percent of the south shore. Todd et al., (2006) estimated that only 22 percent of Hood Canal nearshore habitat complexes are

unimpaired whereas 30 percent are moderately impaired, 31 percent severely impaired, and 17 percent are lost altogether (Figure 5).

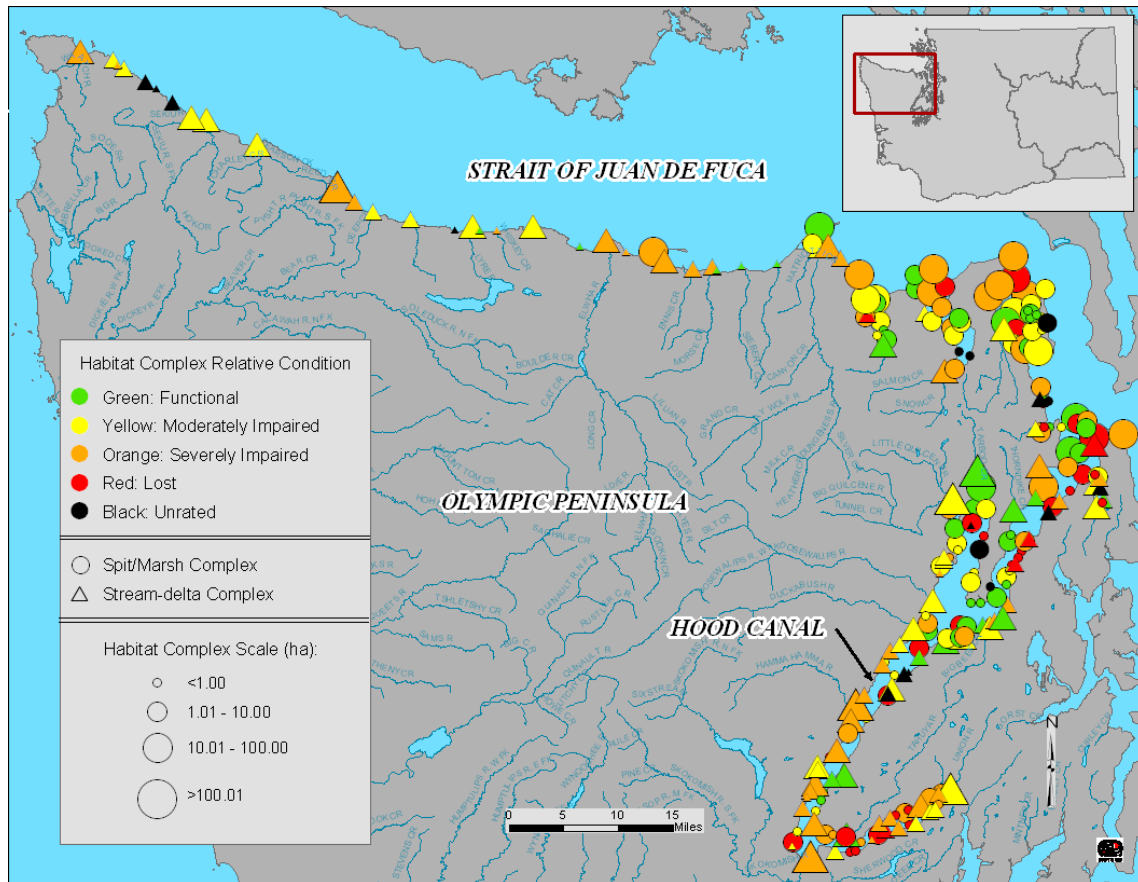


Figure 5. Nearshore habitat condition (Todd et al., 2006)

PSNERP also documented evidence of degradation in Hood Canal. According to the Strategic Needs Assessment (Schlenger et al., 2010), Hood Canal nearshore processes were classified as having “high” degradation in 23 to 30 percent of all analysis units, which corresponded to 16 to 21 percent of the total shoreline length in the sub-basin. The four most degraded processes in the sub-basin (sediment transport, sediment accretion, detritus import and export, and exchange of aquatic organisms) were categorized as having “high” or “medium” degradation along more than 50 percent of the shoreline length. The least degraded processes in the sub-basin were solar incidence, tidal channel formation, and freshwater input.

With these anthropogenic stressors on the environment came a concomitant affect on the functions and structures provided for clean water and biological communities. It has been hypothesized that the decreasing health of eelgrass communities in Hood Canal is a result of decreasing water quality, increasing sedimentation, direct dredging and shading, and general shoreline development, among others (Simenstad et al., 2006). Riparian habitats have been degraded along fresh and marine shorelines, changing from conifer-dominated systems to red alder-dominated systems (Labbe et al., 2006), or exhibiting direct loss altogether (Correa 2002;

Kuttel 2003). Migratory corridors for salmon have been significantly altered, with a preponderance of evidence suggesting behavioral affects on salmonids as they emigrate from the system. Recent work by the Hood Canal Dissolved Oxygen Program suggests anthropogenically derived nitrogen can exacerbate the frequency and intensity of hypoxia events in the marine environment, and may result in decreased marine biota (University of Washington, HCDOP).

There have been both historic and contemporary occurrences of hypoxia in the marine waters of Hood Canal that increase stress and mortality on those fauna, particularly fish and marine invertebrates in the benthic and pelagic zones. Areas most sensitive to water quality problems are generally those with high runoff, low mixing, and anthropogenic inputs of nutrients, sewage and other runoff. Climate, stratification and flushing are further variables compounding the difficulty assessing the impact of humans on water quality in Hood Canal.

Marine / Nearshore Threats

Currently, about 70 percent of Washington's population lives in the Puget Sound basin (Cuo et al., 2009). Mason County grew 17.4 percent between 2000 and 2009. Jefferson County's population increased 13 percent in the same period. Kitsap County, the most densely populated of the counties bordering Hood Canal, increased 4 percent during the same time period (US Census Bureau).

As the population continues to increase, additional pressure will be placed on the Hood Canal's nearshore environment and its contributing watersheds. Redman et.al, (2005) has estimated that nearly half of shoreline modification is the result of residential development. Shoreline armoring constrains, redirects, disrupts or eliminates the processes that control the delivery and distribution of sediment, water, energy, organic matter, nutrients and other chemicals. Cuo et.al, (2009) has shown that land use changes in the watershed can impact both microclimate and streamflows. Property owners may experience increased desire to armor shorelines to prevent erosion as climate impacts become more noticeable or concerns about sea level change and storm damage become more prominent.

Human sources of nitrogen represent a significant portion of the total nitrogen load to Lower Hood Canal (LHC) during summer months (University of Washington, HCDOP). Nitrogen from On-Site Sewage (OSS) systems along the canal contributes the majority of the LHC summertime load. Other anthropogenic alterations contribute nitrogen loading as well, including nitrogen-fixing red alders, agriculture, stormwater, and land use practices such as fertilization, among others. The nitrogen load is of the magnitude to affect the low dissolved oxygen condition in Lower Hood Canal during low rainfall periods in summer and early fall, when plankton growth is greatest in these marine and estuarine waters. In years when dissolved oxygen is low from natural processes, this further depression increases risk of fish kills and other harm to biota. There is strong inter-annual variation in oxygen levels from ocean and climate forcing, so in some years this effect will not be noticed and in other years it could extend the severity and duration of anoxic conditions.

Mallin et.al, (2000) found that fecal coliform abundance was significantly correlated with watershed population and the percentage of developed land within the watershed. Furthermore, they found that the percentage of watershed-impervious surface coverage was the most important anthropogenic factor associated with fecal coliform abundance.

Exacerbating population increases will be the threat of global climate change and interrelated sea level rise and ocean acidification.

Marine / Nearshore Goals and Objectives

The primary goal of the HCCC ILF Program is to achieve a net resource gain in the Hood Canal watershed. Marine / nearshore ILF mitigation projects will be targeted toward fulfilling the following goals:

Restore and protect marine /nearshore sediment supply and transport processes by:

- Removing hard shoreline armoring and nearshore fill
- Removing piers, groins, and other structure that impede littoral drift
- Preserving intact feeder bluffs and undeveloped accretion beaches

Enhance marine water quality by:

- Re-establishing nearshore forest cover in riparian areas and throughout the watershed
- Removing pollutant sources
- Preserving and restoring depressional wetlands and other areas that sequester and treat nutrients and pathogens
- Removing existing or preventing new impervious surfaces

Increase the extent of eelgrass and other submerged aquatic vegetation by:

- Removing overwater structures
- Implementing transplantation projects
- Restoring riparian cover
- Improving water quality

Increasing the extent and quality of nearshore habitat for forage fish and other marine species by:

- Restoring riparian vegetation, particularly shifting from alder dominated forests to conifer dominated forest cover
- Removing nearshore fill, bulkheads and other structures that degrade beaches and displace habitat
- Restoring salt marshes, embayments, inlets and other nearshore features that have been disproportionately impacted by past development

Improve exchange of aquatic species and access to high-quality aquatic habitat by:

- Removing or breaching dikes and levees that block or limit tidal exchange
- Restoring, enhancing and creating tidal and distributary channel habitats

- Removing or replacing culverts and other barriers that restrict salmonid migration and rearing

Marine / Nearshore Prioritization Strategy

Each marine/ nearshore candidate mitigation site will be evaluated for its potential to provide compensatory mitigation. Priority site will be those that have the following characteristics:

- The mitigation site supports multiple nearshore habitat components (for example, barrier beach, coastal bluff, alluvial floodplain, lagoon, salt marsh, tide flat, distributary channel, tidal channel and riparian forest);
- The site is contiguous to or well connected to the surrounding alluvial, terrestrial and marine landscapes;
- The system can be internally connected to allow for the movement of organisms, water, and sediments;
- The contributing basin provides for flood discharge, wood recruitment, organism dispersal and sediment supply to support functions; and
- The mitigation site will contribute to regional aquatic resource conservation initiatives.

The HCCC will rely on the nearshore assessments completed by PNPTC (Todd et al., 2006) PSNERP, Jefferson County (Diefenderfer et al., 2006) and Kitsap County (Borde et al., 2008) which identify priority restoration sites at the drift cell scale. Battelle (Diefenderfer et al., 2006) evaluated the marine nearshore conditions of 50 nearshore drift cells in Jefferson County to assess the potential for long-term, self-sustaining shoreline restoration, considering the importance of watershed condition, function, and presence of biological resources to estuarine and marine riparian areas of eastern Jefferson County. Drift cells were evaluated for the presence and significance of a series of stressors and a series of functions to identify nearshore areas with the greatest potential for restoration success. Not all nearshore functions or sources of stressors were assessed.

Stress and function scores were calculated for each drift cell and watershed in eastern Jefferson County. A reach with a combination of low stress and high function was indicative of the best ecosystem conditions. Conversely, a reach with high stress and low function was indicative of the poorest ecosystem conditions (Diefenderfer et al., 2006).

Battelle's analysis also considered the condition of the surrounding watershed. Where disturbance is high on the drift cell and watershed scales, then landscape-scale restoration is required to achieve restoration success. Low disturbance on both small and large scales indicates the need for preservation and/or conservation. Sites with moderate disturbances have a greater choice of options, depending on the outcome of specific evaluation criteria.

Watersheds with low stress scores indicate that landscape processes are sufficiently intact to make them suitable for restoration.

Kitsap County conducted a nearshore assessment along the 66 miles of Hood Canal shoreline within Kitsap County in 2008 (Figure 6). The overall goal of Kitsap County’s nearshore assessment was to develop a science-based protocol for determining priorities and strategies for improving nearshore ecosystem functions. Similar work is now underway in Mason County, which can be used to inform the selection of priority marine / nearshore sites in that jurisdiction.

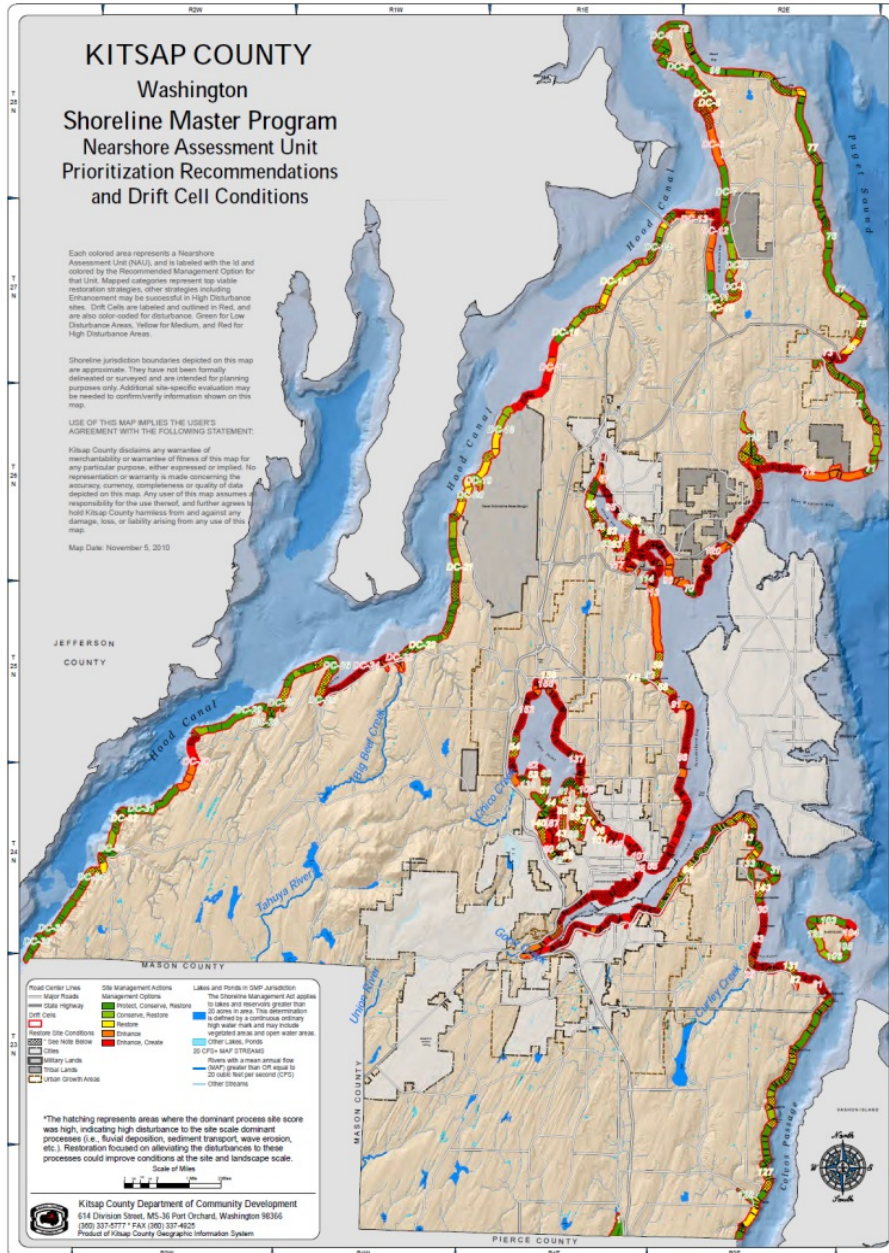


Figure 6. Hood Canal Nearshore Assessment results for Kitsap County (Borde et al., 2008)

6.0 Public and Private Stakeholders

A number of governments, non-governmental organizations, private businesses, and citizens are working to protect and restore the natural resources of the Hood Canal watershed. The HCCC will coordinate and partner with these entities to help identify and prioritize potential candidate sites within the service areas, as well as implement and monitor actions.

These entities have expertise in the aquatic resources of interest in addition to broad perspectives on the watershed as a whole. They can help define the list of potential candidate sites, ensure consistency and synergy with local and regional mitigation and restoration priorities, promote landowner support and cooperation and provide on-the-ground expertise in mitigation feasibility. Local government, tribal government and non-profit participation will be strongly encouraged.

The HCCC has already developed a stakeholder group that has begun advising it on development of the Program. We anticipate this group will continue through development and implementation of this program as a mechanism to improve coordination. Additionally, the HCCC will work to ensure there are substantive public comment opportunities during the development and implementation of this Program.

7.0 Program Account

After program approval and prior to accepting any funds, the HCCC will establish a mechanism to ensure that funds from in-lieu fee permittees are deposited into a specific HCCC ILF Program account. This account will be separate from any accounts that receive funds from entities other than permit applicants. The HCCC will ensure that the Program account is established at a financial institution that is a member of the Federal Deposit Insurance Corporation (FDIC). All interest and earnings accruing to the Program account will remain in that account for use by the HCCC ILF Program for the purposes of providing compensatory mitigation.

Payments to the HCCC ILF Program for permitted resource impacts will be calculated according to the established fee schedule (cost per credit) and the number of credits required to compensate for resource impacts. The required compensation will be determined through application of the Credit/Debit Mitigation Assessment Tools described in Section 8 or by mitigation ratios (as described in the interagency mitigation guidance, Wetland Mitigation in Washington State).

The HCCC's ILF Program will obligate funds for compensatory mitigation after fees are collected and associated Program mitigation plans, sites, and disbursement of mitigation funds are reviewed by the IRT and approved by written authorization of the DE. Costs associated with

in-lieu fee compensatory mitigation projects will by fall into one of the following general categories:

1. Project Implementation and Coordination used for:
 - Developing mitigation plans for submittal to IRT for review, including but not limited to preliminary design, acquisition, and development of permit applications for potential mitigation sites.
 - Implementing the mitigation after site selection and IRT review, including final design, applying for permits to construct mitigation receiving site construction, performance monitoring maintenance, and management.
2. Non-Wasting Endowment used for enforcement, site management and maintenance (if needed), and long-term reporting.
3. Program Administration, a small percentage justified by the sponsor in the Instrument, such as:
 - Coordination and outreach for site selection, concept design and general Program development.
 - Establishing formal working agreements and memoranda of understanding with HCCC ILF partners including but not limited to counties and state and federal resource agencies; all such agreements would be in accordance with the Program Instrument.
 - Fee and Credit accounting
 - Legal fees
 - Data management
 - Reporting
 - Correspondence and meetings with the IRT
 - Other program administration duties as necessary

Long-term management funds must be kept separate and used exclusively for the implementation of long-term management. These are referred to as “reserve” funds, which will be available for the sponsor to disburse in accordance with established procedures. Any unused contingency funds will be transferred into long-term management category at the end of the performance-monitoring period.

The HCCC shall spend collected funds to acquire lands and/or implement site improvements by the third full growing season after the first advance credit is secured. If the IRT determines that the HCCC is failing to provide compensatory mitigation in a timely manner,

the District Engineer and/or Ecology shall have authority to direct the funds to alternative compensatory mitigation projects.

7.1 Ledger and Reporting

The HCCC will maintain an HCCC ILF Program ledger to account for all credit transactions. The ledger will track credits that are sold, as well as fulfillment credits that will be released once mitigation projects achieve success standards.

The HCCC will compile an annual ledger report for the District Engineer of the Seattle District, USACE and the Wetland Section of the Washington State Department of Ecology that will include the following information:

- Size, type and location of all permitted projects using HCCC ILF Program credits
- Beginning and ending balances of available credits for each resource type and service area
- Beginning and ending balances of permitted impacts for each resource type and service area
- All additions and subtractions of credits
- Any other changes in credit availability (e.g., additional credits released, credit sales suspended)
- All income received, disbursements made, and interest earned
- An itemized list of program expenditures

The HCCC ILF Program ledger will separately track funds and credits based upon the type of resource impact being mitigated (Freshwater Wetland or Marine/Nearshore) and the permitting jurisdiction involved (federal, state, and city or county).

As performance standards are met and credits released by the IRT, advanced credits will be fulfilled and new projects funded through ongoing credit transactions. In some instances, a mitigation-receiving site may end up exceeding its proposed performance (i.e., generating more credits than anticipated), resulting in a positive ledger balance. In other instances, unforeseen circumstances or challenging site conditions may result in underachievement of the mitigation-receiving site (i.e., generating fewer credits than anticipated), resulting in a negative ledger balance. In the case of a negative ledger balance, the Program sponsor will be obligated to offset the loss with surplus credits generated in the service area through other projects or utilize contingency funds and adaptive management measures. On balance, the HCCC ILF Program aspires to allocate Program funds towards a 'neutral' Program account, neither progressing significantly into the black or red on the ledger. At a minimum, however, the sponsor will maintain a fund balance to permit ongoing monitoring, maintenance, and long-term stewardship activities, as well as to implement any necessary contingency measures.

7.2 Advance credits

Advance credits pertain to any credits that are available, after the program is authorized, and for sale prior to being fulfilled as specified in an approved mitigation project plan. As described in the federal rule (33 CFR 332.8.D.6.iv.D), the HCCC ILF Program sponsor may request advance credits within each service area based on the projected volume of development activity occurring in that service area.

8.0 Calculating Credits and Debits

The HCCC proposes to use different credit / debit tools and procedures for the freshwater and marine/nearshore environments. The credit / debit tools, as currently proposed, will consider the existing condition of aquatic resources and/or buffers relative to potential project effects. As execution of HCCC ILF Program proceeds, modifications to the credit / debit tool may be proposed and developed as needed, to provide for continuous process improvement.

The HCCC ILF process will begin with the assessment of impacts to resource functions resulting from the proposed development. Applying the appropriate credit / debit tools will result in the quantification of “units” of functional loss, or “debits,” associated with the development project. A “debit” equates to one unit of function per unit area (acre or square foot) of impact. Once the number of debits has been determined, then the appropriate number of credits can be purchased from HCCC’s ILF Program to offset the debits.

At the proposed mitigation-receiving site, the appropriate credit / debit tool will be applied to document existing conditions (units of function currently being provided). The tool also will be applied to determine the potential lift associated with the conceptual mitigation plan (anticipated units of function provided by the site after the proposed mitigation has been implemented). A “credit” equates to one unit of function gained per unit areas (acre or square foot) of mitigation at the receiving site. The use of the tool offers a critical step needed to establish a functional equivalency of credits and debits.

8.1 Calculating Freshwater Wetlands Credits and Debits

To determine the number of credits needed to offset impacts to freshwater wetlands in the service area, the Program will use Ecology’s Calculating Credits/Debits for Compensatory Mitigation in Wetlands in Western Washington (Operational Draft Feb 2011). King County has adopted this method, which incorporates several general steps:

- Classify the wetland unit at the impact site using the HGM classification system;
- Rate the water quality, hydrology and habitat functions of the wetland at the impact site using the Wetland rating system (Hruby 2004);
- Estimate the amount of mitigation needed to replace the functions lost by calculating the basic mitigation requirement and factoring in temporal losses of function (as appropriate);

- Select an appropriate mitigation-receiving site mitigation site and develop a plan for wetland creation, re-establishment, rehabilitation, enhancement, and or preservation;
- Rate the expected future functions at the mitigation site by determining which functions would be present when all the goals for mitigation site have been achieved. If the mitigation site is already a wetland and the mitigation plan proposes re-habilitation or enhancement) the functions for the existing conditions must be score first to estimate the net change in functions following mitigation;
- Identify the risk factors that could reduce the effectiveness/success of the mitigation.

The Ecology/King County Credit/Debit Tool is designed to assess wetland and buffer impacts and wetland and buffer mitigation, including the preservation, enhancement, restoration, and creation of wetlands. It provides a framework for standardized wetland assessment across community type and assessment area. Currently, scientists from King County and Ecology are testing the tool. Once approved, HCCC intends to make use of the Credit/Debit Tool for the assessment of impacts and mitigation needs within the Program's freshwater environment service area.

The HCCC will employ either standard wetland mitigation ratios or an approved Credit/Debit Tool. Mitigation ratios would be based on area and wetland category, as described in the interagency document, Wetland Mitigation in Washington State – Part 1: Agency Policies and Guidance or in the regulations of the local jurisdiction permitting the impact. An explanation of the Credit/Debit Tool selected for this Program, or how mitigation ratios will translate into credits and debits, will be included in the HCCC ILF Program Instrument.

8.2 Calculating Marine / Nearshore Credits and Debits

To ensure the mitigation objectives of increasing nearshore ecosystem functions, not just area, an assessment of ecosystem functions will be a critical accompaniment when determining compensatory mitigation requirements. The HCCC is working with a broad array of partners including the US Navy and Puget Sound Partnership, and soon the IRT, to develop a specific functional assessment tool appropriate for the nearshore ecosystem. The nearshore assessment framework will be based on the Hydrogeomorphic Functional Assessment model (HGM), modification of the Jefferson County Marine Shoreline Restoration Prioritization: Summary of Methods (Diefenderfer, et al., 2006), West Kitsap Addendum to East Kitsap County Nearshore Habitat Assessment and Restoration Prioritization Framework (Borde et al., 2009) (Figure 7), Californian Rapid Assessment Methodology (CRAM), and Wetland Ecosystem Services Protocol for the United States. The framework will extend beyond marine wetlands and incorporate geomorphic units and hierarchical components within those units, such as tidal flats, bluff backed beaches, and riparian areas. The current scope of work for this development

process includes review of existing information, data analysis and draft methodology development, and implementation and field assessment of HGM and CRAM methods at 12 Puget Sound sites.

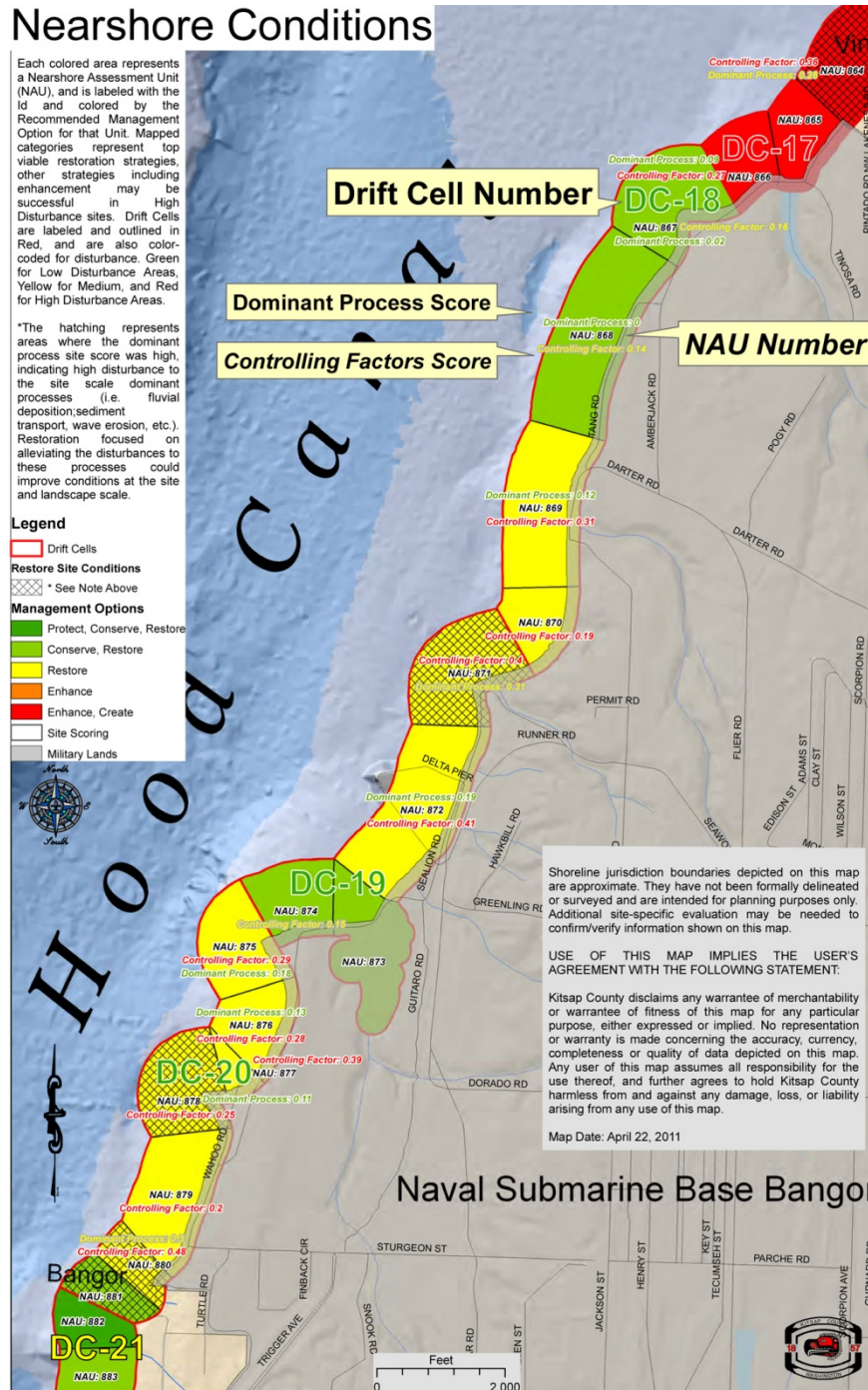


Figure 7. NBK Bangor Nearshore Assessment (Borde et al, 2009)

The assessment framework will analyze the type and severity of disturbance upon nearshore ecological processes at the reach and site scales. It will also be used to determine the area impacted by actions permitted by the U.S. Army Corps of Engineers and the amount of required mitigation. It will also be used to satisfy the regulatory requirements of other federal, state and local agencies. When determining compensatory mitigation, the same assessment framework will be used to identify and assess those assessment units with restoration potential and prescribe management options that will mitigate in-kind lost nearshore aquatic resource functions.

The affected nearshore habitats at both the impact site and the mitigation site will be scored using the ratios or indices calculated by the assessment tool. The scores will be based upon the type of disturbance (e.g., shoreline hardening, urbanization, residential, commercial, etc.) and the degree of stress placed upon nearshore ecological processes. The scores will serve as the basis for determining debit and credit mitigation requirements.

8.3 Credit Fulfillment/Releases

Credit fulfillment refers to the process by which mitigation-receiving sites are planned and constructed to offset credits that have been sold. Actual credit fulfillment would require a determination that the site is functioning or providing functional lift as planned. Each step in the fulfillment process will be described in detail in the Program Instrument. The fulfillment process will generally correspond to the following sequence:

1. Prioritization of sites based on established site selection criteria
2. Identification of a preferred receiving site
3. Review of preferred receiving site by IRT
4. Site assessment
 - a. Collection of baseline information
 - b. Validation of design assumptions
 - c. Preliminary determination of credits potentially available through implementation of the proposed site design – Credit/Debit Tool, or other method for determining credits would be used
5. Development of a Mitigation Plan for receiving site (see section 9.0)
6. IRT review of mitigation-receiving site plan and other permitting processes, including any necessary permits for site construction
7. Implementation of approved plans
8. Reporting

9.0 Mitigation Plan Requirements for Receiving Sites

For each site selected for funding by the Program a mitigation action plan will be submitted to USACE and the IRT. In accordance with the federal rule, the plan would contain the following information:

- **Goals and Objectives** – Goals and objectives for the mitigation project.
- **Site Selection Criteria** – Receiving site characteristics relative to the prioritization criteria described in this Prospectus.
- **Site Protection Instrument** – Process to be utilized to guarantee that the mitigation site will not be adversely affected by future projects or development. A specific Site Protection Instrument will be submitted and approved by the IRT for each mitigation site. Protections may include conservation easements in perpetuity, transfer of land ownership to a natural resource conservation agency or organization, designation as parklands, or similar mechanisms.
- **Baseline Information** – Attributes of both the compensatory mitigation site(s) and the project (impact) site to determine the ecological and aquatic health of the sites. As the mitigation should seek to replace the damaged site in type and character, baseline information is used in assessing the success of mitigation actions and determining whether the site can adequately compensate for HCCC ILF Program impacts, is appropriately placed in the landscape and is important for the watershed.
- **Credit Determination Methodology** – Number of credits required to mitigate the permitted impacts. This determination will incorporate the type of project, ecological value, size, and location. Much of this determination will come from discussion with IRT and from the credit determination worksheet.
- **Mitigation Work Plan** – Details of the mitigation steps, schedule and construction sequence.
- **Ecological Performance Standards** – Measurement standards used to determine the success of the mitigation and the timeline for meeting these standards. These standards must be objective, achievable, enforceable, verifiable and appropriate for the mitigation site. The standards will vary by resource type, and location.
- **Monitoring Requirements** – Procedures and timeline for monitoring and documenting site performance. The federal rule requires monitoring of mitigation projects for a minimum of 5 years, with longer monitoring periods required for aquatic resources with slow development rates.
- **Maintenance and Adaptive Management Plan** – Procedures and timeline for maintaining the site during the establishment period to ensure that it stays on track to meet established performance standards. If the project is not meeting its timetable and needs to be modified, the adaptive management plan details how to

proceed. It will include changes that could be used to improve success and adapt to unforeseen issues

- **Long-term Management and Maintenance Plan** – Procedures for ensuring protection of the site following the site establishment period, once performance standards have been achieved. This will describe steps for ensuring the site remains functional and protected for the long term. Estimated management and maintenance costs and funding mechanisms will be described. Ownership arrangements and long-term management requirements and processes will vary depending on the type of mitigation action, the size and complexity of the action and location of the mitigation site.
- **Financial Assurances** – Each compensatory mitigation project must be adequately funded to ensure project success. The financial assurances are determined by IRT in consultation with the project sponsor, and must be based on the size and complexity of the compensatory mitigation project, degree of completion of the project at the time of the project approval, likelihood of success, past performance of the sponsor, and any other factors deemed appropriate. Financial assurances may be performance bonds, escrow accounts, casualty insurance, letters of credit, legislative appropriations for government sponsored projects, or other appropriate instruments.

10.0 Periodic Reporting and Monitoring

The Sponsor will provide annual reports to the IRT until otherwise directed. General information will include:

- Project summaries of each project (description of mitigation activities, partnership opportunities, conservation and ecological benefits, and current status of each project).
- Tables that include summaries of the status, proposed mitigation activity type and associated acreage, and proposed credit for each ILF mitigation project pursued by the Sponsor in the Hood Canal Service area.
- Tables that provide the amount of impacted acres in the service area including a designation for each permit action, the total mitigation liability in credits, and a measure of the aquatic resource that is proposed to be replaced through mitigation activities in comparison to the amount impacted.
- Status of progress toward mitigation performance standards.
- Detailed financial statements.

An initial evaluation of the entire Program will be conducted after three years and five years thereafter to update and revise as necessary. The collective status of all compensatory mitigation projects would be reviewed to evaluate projects and determine causal factors in

success and/or failure. This type of review will assist in revision of future compensatory mitigation plans, particularly in light of any new scientific understanding of nearshore resource restoration science. The contribution by partners and contractors will also be documented and evaluated at this time. Subsequent regular evaluations will occur.

The suite of potential compensatory mitigation sites would be revisited, mainly to evaluate the need to add new sites to the list of potential restoration sites. Some potential mitigation sites may be removed from the list to account for compensatory mitigation sites that have been successfully restored or have been permanently impacted. Lastly, the financial status of the Program would be evaluated. The main focus of this evaluation would be the adequacy of the funding mechanism for future long-term management and regulatory permitting activities, especially after considering recent changes in costs related to compensatory mitigation, interest rates, and the current state of the economy.

Monitoring of the sites is generally differentiated into two time periods: establishment and post-establishment. Establishment monitoring will be conducted and reported as described in the mitigation plan with the primary purposes being to assess the status of progress towards meeting mitigation performance standards and whether maintenance/adaptive management is warranted to facilitate meeting those standards. Post-establishment monitoring will be conducted as described in the mitigation plan and its Long-Term Management and Maintenance Plan with the primary purpose being to ensure site protection and stewardship. Further details on monitoring approaches will be provided in the Instrument.

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