

WASHINGTON STATE
DEPARTMENT OF
E C O L O G Y

Application for a 2015-2017 Floodplains by Design Project Grant

Submitted applications will be rated to create a ranked list in support of Ecology's FY 2015-2017 Floodplains by Design budget request.

Applications must be submitted electronically via email to Ecology by 5:00 pm, **September 8, 2014**. Send applications to:

Adam Sant at Adam.Sant@ecy.wa.gov

With the Subject line: 2015-2017 Floodplains by Design Project Grant Application

You will receive confirmation that your application has been received by close of business on September 15.

Applicants must use this form as provided. No alterations will be accepted.

Project Title: **Lower Big Quilcene Preliminary Design: A Community Approach to Restoration**

Jurisdiction Name: **Jefferson County Public Health – Env.Health & Water Quality**
Contact Name: **Ms. Tami Pokorny**
Address: **615 Sheridan Street**
City, State, Zip Code: **Port Townsend, WA, 98368-2439**

Phone: **360-385-9400**
Email: **tpokorny@co.jefferson.wa.us**

Legislative District(s): **24**
County: **Jefferson**
WRIA(s): **17**
Congressional District(s): **6**
Specific Project Location
Section **19 & 24** Township **27N** Range **1W** River Mile **RM0 to approx. RM1**
Latitude **47°49'** Longitude **122°52'** GPS coordinates, if available
Major Watershed Project is in **Hood Canal – Big Quilcene River**

***Full project (or phase proposed herein) should be completed in 3-4 years.
Project Narrative and Budget are limited to 20 pages.***

Scope of Work, Schedule, Maps and Photos can be in addition to those 20 pages.

1. Short Description of Project (500 words or less)

The lower Big Quilcene River floodplain, home to the town of Quilcene and community residential areas located within the flood hazard zone, is identified as a high priority area for restoration to recover ESA-listed salmon species and also produces abundant shellfish resources critical to the local economy.

A coalition led by Jefferson County (County), Hood Canal Salmon Enhancement Group (HCSEG), and The Nature Conservancy (TNC) is partnering on an ambitious, integrated floodplain restoration project along the lower mile of river. This proposal, to develop a preliminary design to restore the Lower Big Quilcene River through community collaboration, will lead to numerous, permanent, benefits that will be developed with the cooperation of the area's largest employer, Coast Seafoods. Benefits will include flood risk reduction, ecosystem restoration, improved salmon habitat, expanded floodplain connectivity and improved channel migration zone function, water quality improvements and protections, enhanced recreational access, and educational opportunities for local students and visitors. When combined, these benefits will support the long-term economic vitality of Quilcene.

Previous planning efforts identified actions in the lower Big Quilcene that will reduce flood risk, recover salmon, and restore ecosystem processes. Through community outreach in 2013, additional needs and priorities were identified for the lower Big Quilcene River. This proposal will complement and build upon past efforts by completing the following key step towards implementation of a well-defined, collective vision for floodplain restoration and flood risk reduction.

Within two years of the date funds are released, the County and project partners will:

- 1) Develop a preliminary design that integrates flood risk reduction, ecosystem restoration, and other community needs and priorities so the project provides a suite of benefits to the local community when implemented, including:
 - Developing models to assess the effects of alternative restoration actions on flood risk, ecosystem restoration, and shellfish resources.
 - Selecting an alternative that maximizes the outcomes for flooding, salmon, and shellfish.
 - Incorporating recreational access features and economic enhancement actions into the selected alternative.
 - Developing a preliminary (30%) design, draft permit applications, and an estimate of probable cost for implementation.
- 2) Acquire 1-3 floodplain parcels in the highest risk area for flooding, including structure demolition, and planting.

The products described in this phase are distinct deliverables, including preliminary (30%) design, draft permit applications, an estimated cost of implementation, and acquisition of 1-3 key floodplain properties from willing sellers that are critical in advancing the project toward final design and implementation.

HCSEG has secured \$200,000 through the Washington State Salmon Recovery Funding Board (SRFB). In partnership with TNC and HCSEG, Jefferson County is seeking the remaining funding necessary to complete these tasks. The intended result is a holistic preliminary restoration design that incorporates habitat restoration, flood risk reduction, recreational access and education, is compatible with shellfish resources and supports the local economy. Addressing community concerns up front gives the project a higher likelihood of success as it moves toward final design and construction.

2. Flood hazard / risk reduction (60 points)

Describe your project and how it will reduce the magnitude or frequency of flood damages to people, structures or infrastructure. Projects will be evaluated on the significance of the flood hazard and the ability of the solution to address the hazard. Evidence of flood hazard reduction can be demonstrated via flood storage added (acre-feet), flood stage reduction [reduced BFE (base flood elevation)], conveyance increased (cubic ft/sec), sediment storage added or inputs reduced, number or value of structures and/or development rights removed from hazard area (# or areal extent), critical facilities removed from high hazard area, transportation and infrastructure facilities removed from high hazard areas, and other project-specific goals. Describe both upstream and downstream effects of your project.

Answer question 2 here:

The community of Quilcene is located between the Big and Little Quilcene Rivers, where they enter Quilcene Bay (Figure 1). For decades flooding has been a problem for local residents and Jefferson County government as the primary infrastructure manager. FEMA has identified the lower Big Quilcene as a site of repetitive loss, and flooding was identified in TNC's 2013 stakeholder outreach efforts as an issue that the community is interested in addressing as part of a restoration project.

Many residences and businesses are in close proximity to the river (Figure 3). Along lower Big Quilcene River, over a mile of roads and more than 30 homes are located within the 100-year flood zone, including Linger Longer Road (Figure 4). This road provides the *only* access route for approximately 70 residences and Coast Seafood's Quilcene hatchery. Coast's hatchery is the largest employer in the community of Quilcene, the second largest employer in Jefferson County, and the largest supplier of juvenile oysters internationally. This important access route is subject to closures due to flooding during extreme precipitation events.

Dikes and riprap armoring on either side of the lower Big Quilcene River constrain flows to a single channel for much of its length (Figures 2). Because the river has only one channel and is constrained by dikes and armoring, sediment moving downstream has settled out in the relatively flat main channel resulting in a riverbed elevation that is higher than the surrounding floodplain. During high flows, homes in the floodplain are subject to flooding from overtopping of dikes, seepage, and backwater conditions created by Linger Longer Road. Floodwaters that overtop the north levee flow over the roadway causing road closures nearly every year. High groundwater associated with high river flows and floodwaters that overtop dikes have also contributed to septic system failure and water quality issues. See attached photos of road and private property flooding (Figure 6).

A Comprehensive Flood Hazard Management Plan for the lower Big Quilcene River was completed in 1998 to assess ways to reduce flood hazard and restore habitat for salmon. This plan noted that increased flood frequency caused by channel confinement and extensive channel aggradation, and flooding-related impacts to the health and safety of residents along the river were primary concerns. The actions called for in the plan for the lower mile of the river include reconfiguring Linger Longer Road and bridge, buying out floodplain properties, removing or setting back levees, repairing and maintaining levees where they must remain in place, and estuary restoration.

Jefferson County Public Works began to acquire flood-prone properties along the Big Quilcene River in 1999 and has purchased several properties in the floodplain. In 2012, Jefferson County Environmental Health Department was awarded funding to acquire 1.6 acres along Linger Longer Road. Additional acquisitions have been made by HCSEG, and a large portion of the floodplain is in public or conservation ownership and available for restoration.

In 2005, the Big Quilcene River Linger Longer Reach Feasibility Study and Action Plan (Linger Longer Action Plan) was completed for Jefferson County to assess the effect of seven different alternatives on flooding and habitat, including levee setback or removal in various locations, widening the existing Linger Longer Road bridge and/or installing culverts, bridges, or causeways at new locations under Linger Longer Road. The proposed project will build on Linger Longer Action Plan findings and the model that was developed as a result of that effort.

As part of the preliminary design phase described in this proposal, flood reduction measures, such as dike and levee setback or removal, bridge replacement, and other actions suggested in the Comprehensive Flood Hazard Management Plan and the Linger Longer Action Plan, will be assessed for their effectiveness in reducing flood risk in the lower Big Quilcene River. An alternative that reduces flood risk to the maximum extent possible, while also addressing other community needs, will be included in the preliminary design. The flood risk reduction benefits of the selected alternative will be quantified during the proposed phase of work.

3. Floodplain ecosystem protection or restoration element (60 points)

Describe the ecological benefit of the project, its significance, and the ability of the solution to address the overall need in the project area or watershed. Examples include, but are not limited to, reconnecting floodplains, salmon recovery actions, habitat restoration, Channel Migration Zone protections, etc. Evidence of ecosystem benefits include floodplain (including estuary) habitat type (e.g., wetland, side channel, forest) and area restored (# acres), floodplain area protected from bank armoring (# of acres), floodplain area protected from development or other land use change (# acres), hardened bank removal or levee/riprap removal (linear feet), levee setbacks constructed (linear feet, # acres), new side channels or reconnection of old side channels (linear feet or storage volume), salmon species benefitted (# of listed, non-listed species). Secondary evidence includes culvert replaced to restore fish passage or increase conveyance, logjam and or wood structures installed, riparian area planted, and other project-specific goals.

Answer question 3 here:

According to the recovery plan for ESA-listed Hood Canal summer chum (SRP) at least 800 additional acres of estuary habitat throughout Hood Canal is necessary for recovery. The SRP prioritizes recovery action across Hood Canal by first focusing recovery on eight extant populations' watersheds and associated marine areas. Quilcene is the largest extant population of Hood Canal Summer Chum, and the SRP notes that protection and restoration in Quilcene is critical for the recovery of Summer Chum salmon. Priority recommended actions in the SRP initially focus on the lower 1-2 miles of river and estuarine areas, noting protection, restoration, and maintenance of the Big and Little Quilcene watersheds are of paramount importance. The lower 1-2 miles, including estuarine areas, are targeted for restoration. Factors for decline for Quilcene identified in the SRP are: 1) loss of channel complexity and floodplain loss; 2) sediment aggradation; 3) loss of riparian forest; and 4) estuarine habitat loss and degradation (diking, filling, log storage, road causeways).

Specific recovery actions identified in the SRP for the Lower Big Quilcene include: 1) restore sinuosity to the Big Quilcene River in historically tide-influenced areas through levee removal or setback, large wood placement, or other channel complexity actions; 2) remove dikes on the northern side of the river; 3) remove dikes south of the Big Quilcene River to restore salt marsh habitat; and 4) remove artificially aggraded delta cone at the mouth of the Big Quilcene River.

In an analysis of six Hood Canal estuaries, TNC identified the Lower Big Quilcene as the largest and best opportunity to realize the habitat needs described in the SRP and address other community benefits. Ecosystem restoration in the lower Big Quilcene will restore and reconnect natural processes on up to 219 acres of floodplain and estuary, with direct restoration on up to 76 acres (depending on the configuration of design elements). It will restore habitat for ESA-listed Hood Canal summer chum, Chinook, and steelhead and non-listed coho, fall chum, and cutthroat.

Dikes on either side of the lower Big Quilcene River and the Linger Longer Road crossing currently constrain flows to a single channel for approximately one mile (Figure 3). This section of river has aggraded significantly in past decades (i.e. four feet between 1971 and 1993 in the vicinity of Linger Longer Road) and has prograded into the delta approximately 1500 feet since 1947. The lower mile of river consists of a long, shallow riffle with little habitat complexity or riparian cover and is cut off from historic distributaries, all of which decrease salmon survival. See photos in Figure 7.

Restoration actions that provide the river with greater access to the channel migration zone such as setback or removal of up to 1.5 miles of dikes and levees, bridge replacement, channel reconnection, and removal of bank armoring will be assessed as part of the proposed project and a preferred alternative will be advanced in the preliminary design. In addition, acquisitions of floodplain properties will facilitate future restoration activities, and protect floodplain areas from development and additional armoring. Restoration of processes in the lower river and estuary is expected to result in a diverse array of habitats from floodplain forests and riverine

wetlands to distributary channels and sloughs to tidal marsh, blind tidal channels and mud-flats. Benefits and habitats that will result from the selected restoration alternative will be quantified during the proposed phase of work.

Restoration in the lower Big Quilcene will re-establish estuarine hydrology, sediment transport, and other hydraulic and geomorphic processes by removing and relocating dikes, armoring, and roadways. Restoration will improve the survival of juvenile chum salmon and non-natal juvenile Chinook by improving access to nursery habitat in the estuary and floodplain wetlands, and by allowing for improved acclimatization to the salinity of Hood Canal. Chum smolts, which are quickly flushed out of the river, are subject to high rates of predation and will benefit from migrating through multiple tidal sloughs with healthy riparian cover where they can hide, rest and feed during acclimatization. Restoration to change the singular and channelized access to the estuary will benefit juveniles and will also provide improved passage and reduce predation rates on returning adult salmon by predators such as seals. Restoration will also benefit ESA-listed steelhead and non-listed coho, cutthroat, and fall chum by increasing available habitat.

This project also addresses a 303(d) water quality listing for temperature in the Lower Big Quilcene River and concerns about bacterial pollution in the lower Big Quilcene and Quilcene Bay. See other benefits section for more detailed information regarding this project benefit.

4. Is your project in a Puget Sound Partnership Priority Floodplain? (5 points)

(Deschutes, Dungeness, Duwamish/Green, Elwha, Hood Canal, Lake Washington, Lower Skagit, Nisqually, Nooksack, Puyallup, Sauk, Skokomish, Skykomish, Snohomish, Snoqualmie, Stillaguamish, Upper Skagit)

Answer question 4 here: Yes – Hood Canal No

5. Other benefits (40 points)

Describe how your project maintains or improves agricultural viability, water quality, public open space/recreation access, economic development, or other important local benefits or values, and does not conflict with other objectives of this program. Projects receive points based on the importance of the result produced, the ability of the solution to address the overall stakeholder need and the long-term improvement.

- a. Agricultural viability (evidence of agricultural benefits include reductions in flooding (acres), protection from development (acres), improvement of drainage infrastructure (acres), or other capital or non-capital benefits to agricultural productivity).
- b. Water quality improvement [e.g., through stormwater infrastructure upgrades, treatment of a TMDL or 303(d) issue, reduction in sediment, restoration of wetlands or riparian areas, implementation of related best management practices, etc.].
- c. Public access and recreation (e.g., through land acquisition, the development of trails or other recreational infrastructure, etc.)
- d. Other floodplain values or services of local importance.

Answer question 5 here:

The proposed project is intended to address numerous needs that have been identified by the community including flooding, estuary restoration for salmon, economic stability, educational opportunities, recreational access, and compatibility with shellfish. Flooding and ecosystem restoration have been discussed in the sections above. **Compatibility with shellfish, recreational access, water quality, education and economic stability** will be addressed in this section. These additional benefits will be incorporated into the project in a way that is compatible with floodplain ecosystem restoration and the objectives of the Floodplains by Design program.

Key project stakeholders have identified **shellfish resources** located in Quilcene Bay (Figure 2) as vitally important to the culture and economy of Quilcene. Tidelands owned by the Washington Department of Fish and Wildlife (WDFW) provide shellfish resources for recreational and tribal harvest. Coast Seafoods Company, which has a hatchery and shellfish beds in Quilcene Bay, is one of the largest employers in Jefferson County and is the largest oyster hatchery in the world, producing billions of clam, oyster, and mussel larvae that are shipped to growers along the Pacific Coast and around the world. Part of the proposed work is to assess various restoration actions for their potential to affect shellfish resources. The information that comes out of the assessment will inform decisions about which project features and alignments to move forward in the design process. The scope of work that was developed to address this issue has been vetted with WDFW and Coast Seafoods, and their input has been incorporated into the proposed next steps. This project, and the flood risk reduction and ecosystem recovery benefits it will provide, cannot be realized without addressing compatibility with shellfish and maintaining the support of the shellfish interests in Quilcene Bay.

Recreational access to the Big Quilcene River and Quilcene Bay will also be addressed. Currently there is a terminal coho fishery at the mouth of the Big Quilcene River that draws hundreds of local and regional fishermen starting in late summer each year. Public access facilities are not sufficient to handle the heavy use on the lower river during this fishery. Trespassing and littering on private property and water quality problems associated with human waste are all concerns associated with this recreational access. In addition to fishing, shellfish harvest, hunting, birding, and walking opportunities draw many local people to the Quilcene River and Quilcene Bay. There is an interest in enticing tourists off of Highway 101 with facilities and signage to local natural resource points of interest. As part of the proposed project, we will develop public access and facilities alternatives to facilitate appropriate access and responsible use of the river and bay for students, fishermen, hunters, birders, walkers, and other recreational user groups. These alternatives will be presented to the community and one will be selected for inclusion in the preliminary design.

This project also addresses a 303(d) **water quality** listing for temperature in the river and concerns about bacterial pollution. According to the Washington State Department of Ecology's Water Quality Assessment Program, the Big Quilcene River is a category 5 water [303(d) listed]

for temperature and the Big Quilcene River and Quilcene Bay are category 2 waters (waters of concern) for bacteria. Degraded riparian forests in the lower river contribute to high temperatures. Flooding of homes and septic systems negatively affects water quality. Bacteria problems have been partially attributed to poorly sited and managed recreation along the lower river as described above. The proposed project will address the root causes of bacterial water pollution by incorporating infrastructure and facilities to support recreational access and by reducing flooding of homes and their septic systems. The project will also restore riparian forests where appropriate, which will reduce water temperatures in the lower river.

Another point of interest for the Quilcene community is to connect local students with the rich natural resources in the river and bay through **educational programs**. Quilcene School is located 1/3 of a mile from the river and less than ½ a mile from the bay. In initial outreach, teachers at the school expressed a strong interest in access to the local natural habitats and facilities for outdoor education. Recreational access trails and other facilities will incorporate features that teachers need in order to use the river and estuary in their curricula. As part of later phases of the project (not under this proposal), teacher training will be provided with respect to the site's public access facilities and appropriate curricula for the site.

The Quilcene community lost its main economic driver, the logging industry, over 25 years ago and is interested in utilizing its natural features and landscape to regain **economic stability**. The community is very interested in improving local employment and revenue generation by making conservation and restoration relevant to job creation and local businesses. Highway 101 runs through the middle of Quilcene presenting an opportunity to capitalize on Highway 101 tourists and travelers. There is an opportunity to connect the Quilcene Village Center and estuary through interpretive signage, a trail network, and improved public access as described above. Additionally, there may be a need to improve wastewater and stormwater management systems to support tourism-related businesses. As part of the proposed project, project partners will develop alternative scenarios for economic stability that incorporate the roles of local institutions, marketing and communications audiences and messaging, and infrastructure needs. Working with stakeholders, one scenario will be selected for further development into an economic enhancement plan.

Finally, Jefferson County's economy is increasingly supported by small farm production and agro-tourism. This project will ultimately support the **agricultural viability** of Quilcene farms by complementing the visitor experience with new opportunities for recreation and exploration of the area's uniquely beautiful, productive and accessible floodplain complex.

6. Cost-effectiveness (20 points)

- a. Project will be judged on whether the budget is appropriate to the project scope, and designed for project success.
- b. Describe how the project will be continued or maintained after the grant has been completed.
- c. If project cannot be fully funded, explain how the project could be scaled downward.

Answer question 6 here:

The proposed project budget was developed by Jefferson County in collaboration with TNC and HCSEG. The budget is guided by these partners' experience in budgeting and managing habitat restoration projects in Puget Sound. In 2013, with funding provided by the National Fish and Wildlife Foundation (NFWF), TNC retained a consultant with many years of experience in developing and managing restoration projects to develop scopes of work and cost estimates for the work needed to move the lower Big Quilcene project from initial feasibility to preliminary design. The consultant's work included vetting scopes of work with appropriate stakeholders and incorporating their input. Summaries of these scopes of work are found in Attachment 3. The costs for tasks that will be completed by a consultant are based on rates for consultants doing similar work in the Puget Sound region and in line with costs presented by the preferred consultant (who is not yet under contract) in response to a recent RFP. Project collaborators Jefferson County, TNC, and HCSEG believe that the calculations provide a reasonable basis for identifying costs for each task.

Much of the total project cost identified relates to addressing recreational, tribal, and commercial shellfish stakeholder concerns. The support of Coast Seafoods is critical because of their influence (they are one of the largest employers in this economically depressed community). A foundation of trust has been built and a path forward addressing their concerns has been identified. While the work identified has increased costs for this phase, it is expected to prove cost-effective over the project's lifetime and into the future. Much like many Puget Sound communities, the project is not possible without the support of key stakeholders, particularly Coast Seafoods.

Please note that the deliverables described in this application are designed to stand on their own, including preliminary design and draft permit applications, which are critical in launching the project to final design and construction. Following completion of the preliminary design, the project will be ready to advance into final design where design elements will be finalized and permit applications submitted.

Jefferson County, HCSEG, and TNC are committed to seeing the project through final design to implementation. These entities have been involved in projects in Quilcene, Hood Canal, and Puget Sound for decades and continue to seek out and implement projects to protect and restore natural resources and advance community interests. Local community groups, including Quilcene Conversations, who are already organized and moving their own smaller projects forward, are engaged in this project and energized about the future potential outcomes of the collaborative, multiple-outcome approach.

Full funding is necessary in order to incorporate all community priorities and address all stakeholder concerns in the preliminary design, and to purchase key parcels in the floodplain. Without full funding for the preliminary design work, it is likely that one or more stakeholder interest would be sidelined and the project could come up against resistance as the project proceeds. By moving all priorities forward simultaneously in the preliminary design, the project

is more likely to be supported and proceed successfully through future project phases. If full funding is not possible, Jefferson County is open to discussing which pieces of the work might be removed with the least impacts to project support and success. Removing floodplain parcel acquisition from the scope of work is possible, but we have identified Conservation Futures, which is specifically tied to acquisition, as a potential source of matching funds.

7. Long-term cost avoidance: (30 points)

- a. Describe how your project minimizes or eliminates future costs for maintenance, operation, or emergency response. **(15 points)**

Answer 7.a. here:

Actions considered as part of the pre-construction design and acquisition work identified within this proposal have the potential to significantly reduce future maintenance, operation, and emergency response costs related to flooding. Setting back or removing dikes and levees and addressing a regularly flooded road and bridge will reduce costs associated with flooding homes and roads currently located in a FEMA repetitive loss area. These actions will also reduce maintenance costs due to flood damage and erosion. In addition, the access route to homes and the Coast Seafood's hatchery will be maintained so that emergency service response times and personal and commercial traffic are not compromised. Bacterial water pollution caused by recreational user issues and flooded septic systems will be addressed as part of the project, reducing the potential for emergency shellfish closures, which have been an issue in the past and impact businesses and jobs.

- b. Describe how your project accounts for expected future changes to hydrology, sediment regimes, or water supply resulting from other floodplain management efforts, land use changes, extreme weather events, or other causes. **(15 points)**

Answer 7.b. here:

Anticipated changes in sea level rise and 100-year river flows will be incorporated into project modeling and inform decisions about project element configuration in the preliminary design. The project design will accommodate future changes to hydrology, sediment supply, and other factors affecting the floodplain and estuary by providing more room for dynamic natural processes to unfold while limiting effects to human land uses and activities. We are interested in collaborating with NOAA, the UW Climate Impacts Group, and other partners to evaluate and quantify these and any other climate change impacts that could affect project design and implementation.

8. Demonstration of need and support (30 points)

- a. Describe how your project is consistent with the intent of existing floodplain management or habitat recovery plans or is specifically identified through existing plans or work programs. (Elements of the project may have been developed through more than one planning process. Please identify the planning process used for each major element if they are not from a common plan.) **(15 points)**

Answer question 8.a. here:

Restoration of the lower Big Quilcene River for salmon recovery and flood risk reduction has been identified in numerous planning documents:

- 1) Lower Big Quilcene River Comprehensive Flood Hazard Management Plan, 1998 – Recommends actions such as reconfiguring Linger Longer Road and bridge, buying out floodplain properties, removing or setting back levees, repairing and maintaining levees where they must remain in place, and estuary restoration, all of which will be assessed as part of the proposed preliminary design development.
- 2) Big Quilcene River Linger Longer Reach Feasibility Study and Action Plan, 2005 - Assessed levee setback or removal in various locations, widening the existing Linger Longer Road bridge and/or installing culverts, bridges or causeways at new locations under Linger Longer Road to reduce flood risk and improve habitat. The model will be updated and used to assess these actions as part of the proposed project.
- 3) Channel Migration Zone Study, Jefferson County, Washington: Duckabush, Dosewallips, Big Quilcene and Little Quilcene Rivers, 2004 - Recommends potential categories of actions that could be implemented to reduce flood hazard, improve health and safety, and restore habitat. Recommended actions include: reconfiguring Linger Longer Road to accommodate flood flows and traffic, property buy out and conversion of use, north side floodway conveyance improvement below RM 1.1, levee repair and maintenance, channel relocation/reconstruction and estuary restoration, among others.
- 4) Site of repetitive loss under FEMA (lower Big Quilcene) - FEMA identifies a repetitive loss area when a portion or portions of the community includes buildings on FEMA's list of repetitive losses and also any nearby properties that are subject to the same or similar flooding. Several buildings in the lower Big Quilcene project area are on FEMA's list of repetitive losses.
- 5) 2012/2013 Puget Sound Action Agenda - The proposed integrated project in the Lower Big Quilcene is expected to benefit a large number of Action Agenda indicators (italicized) of Puget Sound health, including addressing water quality affecting Quilcene *shellfish beds* by smart recreation siting; *quality of life* through focused attention to increasing opportunities for recreation and education and connecting both to local economic vitality; *recreational fishing and commercial fisheries harvest* by restoring and improving habitat for ESA-listed Hood Canal summer chum, *Chinook*, and steelhead and non-listed coho, fall chum, and cutthroat; *orcas* by restoring habitat for prey salmonids; *pacific herring* by restoring natural processes supporting spawning grounds in Quilcene Bay; reducing *shoreline armoring* through direct removal along the Big Quilcene; improving the natural processes and removing constraints to healthy functioning *floodplains* and *estuary* habitats; addressing *marine water* and *freshwater quality* through smart recreation siting; and *marine sediment quality* by restoring a more natural sediment regime.
- 6) Hood Canal and Eastern Strait of Juan de Fuca Summer Chum Salmon Recovery Plan, 2005 – Recommends actions such as levee setback or removal, protection and restoration of habitat areas in the lower 1-2 miles of the river and estuary, and removal

of artificially aggraded sediment at the River mouth are detailed in the. The proposed project assesses all of these actions.

- 7) Hood Canal Watershed Salmon Recovery Strategy, 2005 - Recommends re-establishing a functional link between estuary and freshwater habitat by addressing dike and road impacts in lower reach, restoring sinuosity and functional estuary/freshwater link including removal of estuarine levees, and addressing artificially aggraded delta cone sediments. It also recommends restoring natural riverine processes and functions, restoring sinuosity and natural channel/floodplain configuration in artificially confined reaches of the mainstem by removing riprap and levees, and restoring stream channel and floodplain habitat complexity through key large woody debris and log jam addition, and planting and maintaining riparian areas on both public and private properties. All of these actions will be considered in developing alternatives for this project.
- 8) Hood Canal Integrated Watershed Management Plan, 2013 – Recommends that ecological and human targets identified by the communities within the watershed are advanced simultaneously. These include salmon habitat and salmon fisheries as well as shellfish habitat and a viable shellfish industry as well as other community targets. The actions that will be assessed as part of this project recognize that ecological and human community needs must be considered.
- 9) Hood Canal Coordinating Council Community Engagement Strategy, 2012 – Recommends tailoring recovery strategies and actions to community-specific concerns and integration of the human/social elements with the environmental elements of Hood Canal protection and recovery. By working with the community at the beginning to develop integrated goals with both community and ecological needs, which will continue throughout the project lifetime, this recommendation is being carried out.
- 10) Ecology 303(d) and waters of concern listings for the Big Quilcene River and Quilcene Bay, 2012 - According to the Washington State Department of Ecology's Water Quality Assessment Program, the Big Quilcene River is a category 5 water [303(d) listed] for temperature and the Big Quilcene River and Quilcene Bay are category 2 waters (waters of concern) for bacteria. Recommended actions include those that address the root causes of bacterial water pollution. In the Quilcene, these include incorporating infrastructure and facilities to support recreational access and reducing flooding of homes and their septic systems. The project will also restore riparian forests where appropriate, which will reduce water temperatures in the lower river.
- 11) Puget Sound Nearshore Ecosystem Restoration Project (PSNERP) General Investigation Strategic Restoration Conceptual Engineering — Final Design Report, 2012 – Highlighted the lower Big Quilcene area for natural process restoration to restore floodplain and estuary function. It recommends a number of actions to restore natural processes in the lower Big Quilcene, including levee setbacks, bridge replacements, sediment removal, and road re-routing.
 - b. Describe which flood control authorities, Tribal Nations, local governments, lead entities, key stakeholders or decision-makers representing floodplain interests located within the river reach or affected by the project have provided letters of support explicitly endorsing the project and its outcomes for their interests. **(15 points)**

Answer question 8.b. here:

The proposed multiple benefits approach will combine concepts and actions identified in the plans above as well as the results of recent stakeholder outreach. Stakeholders identified six project goals to be incorporated into the project including habitat for salmon, reduced flood risk, compatibility with shellfish, education, recreational access and economic vitality. Stakeholders will continue to be consulted as alternatives are developed and assessed during the proposed phase of work to ensure that the goals are being met to the maximum degree possible.

Stakeholder outreach to the local community conducted by TNC in 2013 identified the key local and regional groups to engage at this location. Outreach has been and will continue to be central to work of project partners, including tribes, County leadership, the salmon recovery lead entity, local community groups, and a keystone business. There is no incorporated flood control authority for the Big Quilcene River. Jefferson County is the lead entity for maintenance of flood structures in this area.

One critical stakeholder is Coast Seafoods, which is the largest employer in the area and operates a regionally significant shellfish hatchery operation in Quilcene Bay. Coast was engaged from the inception of the project and supports pursuing the next phase of work. The project outcomes, including flood risk reduction and ecosystem restoration, would not be possible without the support of Coast and other shellfish interests.

Letters of support that specifically endorse the proposed work have been provided by:

- 1) Jefferson County
- 2) Hood Canal Salmon Enhancement Group;
- 3) The Nature Conservancy;
- 4) Coast Seafoods;
- 5) Hood Canal Coordinating Council (lead entity for Hood Canal);
- 6) Port Gamble S'Klallam Tribe;
- 7) Jefferson Land Trust;
- 8) Quilcene Conversations (local citizens group); and
- 9) Washington Department of Fish and Wildlife.

9. Readiness to proceed and complete the proposed phase of the project (25 points)

Describe how your project is ready to proceed with the scope of work, and your capacity to complete the project successfully and maintain it over time, including your project schedule and deliverables. Describe your experience with similar projects. If your project is acquisition only, describe how you will complete floodplain restoration subsequent to the acquisition.

Answer question 9 here:

The project is **immediately ready to proceed** upon notice of funding. Deliverables will be completed within two years. Stakeholder groups are in place, and a scope of work has been prepared to complete next steps (see attached scope of work summaries). HCSEG has a portion of the project funding in hand, and the County, HCSEG and TNC have the necessary staff in

place to begin work. Project partner organizations, Jefferson County, HCSEG and TNC, and the experience and qualifications of primary staff members from each organization who will be supporting the project are outlined below. The proposed project schedule is outlined in the scope of work section below and the project team is ready to proceed.

A large portion of the proposed budget will be dedicated to design work that will be completed by a consultant. HCSEG has identified a consultant through a competitive process to begin work with initial funding beginning in September 2014. The contractor process took into account all the work that will need to be completed when full funding is obtained. The hired consultant has the skills and experience needed to address all the project goals and integrate them into a preliminary design, and will be immediately ready to proceed on project scope described here when full funding becomes available.

Jefferson County has demonstrated its commitment to preventing impacts from flooding and to recovering salmon on the Big Quilcene River for nearly two decades. The County has taken title to key parcels, conducted restoration projects, addressed water quality impairments and initiated studies in the area. For this project, Environmental Health Department will engage the fiscal arm of our umbrella agency, Public Health, to help administer the grant. In a typical year, Public and Environmental Health manage over a dozen state grants including natural resource conservation and restoration projects through WDFW, Ecology, and the Recreation and Conservation Office. Partnerships are central to our efforts and Environmental Health routinely holds agreements with HCSEG and other conservation organizations.

Jared Keefer is the Director of Environmental Health and a Registered Sanitarian from the Washington State Board of Registered Sanitarians. He also holds an MPH and BS from the University of Washington. For Jefferson County Public Health, he directs two divisions that contain approximately 26 separate programs. Jared has over 12 years of public health experience practicing at the local, state, national and international levels. This experience also includes operating in both the governmental and private sectors. Throughout this time he has developed experience in project development, project management and policy & procedure development as well as resource allocation, field operations, field investigations, data collection and data analysis.

Tami Pokorny is an Environmental Health Specialist with eight years' experience initiating and managing floodplain acquisition and restoration projects in Hood Canal. She holds a Bachelor's degree in geology from Colorado College and has completed a year of Master's level coursework at Colorado State University in geo-hydrology. She contributed to the development of the Dosewallips and Duckabush River Comprehensive Floodplain Management Plan, manages the county's conservation futures program and coordinates the North Pacific Coast Marine Resources Committee.

Mike Dawson is an Environmental Health Specialist with a BA in environmental science/biology from Antioch College and a MEd in education from the University of New Hampshire. He has taught information technology in Seattle public schools and worked as a network technician in

public schools. With additional training through the Wetland Training Institute, the Department of Ecology, Environmental Systems Research Institute and others, he offered private wetland and biological consulting in the Puget Sound region. He brings to the team skills in biology, ecology, and GIS analysis. Mike currently coordinates the Water Quality Department as lead specialist and manages Jefferson County's grant projects.

TNC has identified Big Quilcene as a priority within Hood Canal because of the potential ecological benefits of restoration, diverse community needs, local support and capacity for implementation, project readiness and fundability. TNC's approach is based on its successful scoping, developing, and implementing estuarine restoration projects in the North Puget Sound by actively engaging community stakeholders. Success has been based on TNC's ability to incorporate community concerns such as drainage, infrastructure, and flood control, into the design of restoration projects.

TNC's Washington Field Office has nearly 50 years' experience protecting and restoring Washington ecosystems. In addition to the project staff named below, TNC has a broad range of highly qualified staff that will provide additional project support, including experienced grants specialists. These finance staff have years of experience working alongside restoration managers to implement large restoration projects in Puget Sound, including the Fisher Slough Restoration Project and the Port Susan Bay Estuary Restoration Project, both of which were funded by multiple grants through multiple agencies.

Jenny Baker is TNC's Senior Restoration Manager. Jenny successfully managed and completed the \$7 million Fisher Slough Restoration project in the Skagit Watershed. She also managed construction for the \$4 million Port Susan Bay Estuary Restoration project and has been working closely with a consultant and Hood Canal stakeholders to scope and develop costs for estuary restoration projects in Hood Canal, including in the Big Quilcene. Jenny has a Master's degree in Environmental Science and has been working in conservation for 16 years.

Kat Morgan is TNC's Puget Sound Community Partnerships Manager. Kat oversees TNC's work in Port Susan Bay, including the completed Port Susan Bay Estuary Restoration project, the Livingston Bay Pocket Estuary Restoration project, and relationships with community partners. Kat completed the initial outreach activities in several Hood Canal estuaries, including the Big Quilcene, to assess their potential to provide estuary restoration and community benefits. Kat has a Master's degree in the Human Dimensions of Natural Resources Management and has been working in conservation for 12 years.

HCSEG has been managing and implementing salmon habitat restoration projects in Hood Canal since 1990. HCSEG has completed over 130 projects Hood Canal-wide. This includes several restoration projects in the lower Big Quilcene River and multiple planning projects that have paved the way for implementation of successful habitat restoration projects in other Hood Canal estuaries. Key HCSEG staff who will be involved in this project include:

Michelle Myers is the restoration project manager for HCSEG and has been managing restoration and education projects for the past five years, including several projects in the Quilcene area. She holds a bachelor's degree in Biology from Seattle Pacific University.

Mendy Harlow is the HCSEG executive director. She has 9 years of experience successfully managing and supervising complex restoration projects throughout Hood Canal.

10. Pilot project and leverage opportunities (25 points)

- a. If applicable, describe how your project could serve as a pilot effort or result in changes or results with broader impacts to the state. **(10 points)**

Answer question 10.a. here:

The potential of floodplain and estuary restoration to adversely impact the shellfish industry in Hood Canal is slowing plans for restoration and/or flood risk reduction at five other rivers in Hood Canal and other locations around Puget Sound. As this project proceeds, it will be an important pilot for effectively addressing flooding issues and restoring natural functions in these areas while balancing the needs of shellfish stakeholders.

- b. If applicable, describe how your project leverages existing investments, such as SRFB, FCZDs, Dike Districts, TMDLs, WWRP, ESRP, NEP, and other funding sources. Evidence of this will be based on the amount and diversity of the leveraged funding sources. **(10 points)**

Answer question 10.b. here:

Jefferson County, TNC, and HCSEG have invested previously in this area, and continue to identify lower Big Quilcene River as an area worthy of further investment and restoration efforts. Floodplain by Design funds would leverage investments made by project partners and others, including:

1. Land acquisition: Jefferson County and HCSEG have acquired numerous parcels in the Big Quilcene River floodplain and estuary for the purpose of benefiting salmon and flood control. These properties have been acquired with funding from a variety of sources, including SRFB. Match in at least one purchase was provided by Title 3 of the Secure Rural Schools and Community Self Determination Act.
2. The Linger Longer Action Plan was funded through SRFB, the Department of Ecology's Flood Control Assistance Account Program (FCAAP), and Title 2 of the Secure Rural Schools and Community Self Determination Act.
3. The Lower Big Quilcene River Comprehensive Flood Hazard Management Plan was funded through FCAAP. The model developed as part of this study will be updated and used to model alternative restoration scenarios as part of the proposed work.
4. The US Army Corps of Engineers, in partnership with WDFW, completed a feasibility study of the project site as part of a General Investigation study (Puget Sound Nearshore Ecosystem Restoration Project, or PSNERP). Data and information that was generated as a part of that study will be used to inform the proposed work.

5. A model developed by CBEC for the US Navy will be updated and used to model alternative restoration scenarios as part of the proposed work (Hydrodynamic and Sediment Transport Modeling – Technical Report: Big Beef Creek and Big Quilcene River, Kitsap and Jefferson Counties, Washington. 2012)
6. HCSEG was awarded \$200,000 in SRFB funding and \$40,000 in USFWS funds which will cover a portion of the cost of the Preliminary Design described in this proposal.
7. TNC recently completed feasibility work – funded by the National Fish and Wildlife Foundation (NFWF) and the Laird Norton Family Foundation – which was instrumental in identifying the Lower Big Quilcene as a place where restoration is both necessary to recovery of Hood Canal Summer Chum and likely to be successful in garnering project funding and local support. The NFWF funding also paid for the development of the scope of work for the Lower Big Quilcene River preliminary design described in this proposal.
 - c. If applicable, describe how your project addresses inequity or social justice issue by benefitting underserved communities. **(5 points)**

Answer question 10.c. here:

The Town of Quilcene has a population of approximately 900, with the larger community serving approximately 1,500 individuals. After logging declined dramatically in the 1980’s and 1990’s, economic circumstances became more difficult for Local residents, particularly families with children. In the Quilcene area, 1 in 5 children lives below the poverty line, or 20%, which is higher than the state average at 13% and much of the rest of Jefferson County at 16%. The economic and educational components of this project in particular are directed at benefitting this vulnerable and underserved population. This is also one of the reasons why Coast Seafoods, the largest employer in the area is a critical partner, as well as the Quilcene School, which is the second largest employer.

11. Budget (add more tasks as needed).

Narrative and/or Table of other funding sources for project, here:

Task	Amount Requested	Other funding for Project	Total Current Request	Leveraged Funding	Total Project Cost
Task 1: Grant Administration	26,537		26,537		26,537
Task 2: Develop 30% design.	490,733	227,154	717,887	200,000	917,887
Task 3: Acquisition of up to 3 floodplain parcels	375,730		375,730	-	375,730
Subtotal Project Costs	893,000	227,154	1,120,154	200,000	1,320,154
Indirect Costs	15,617	-	15,617	-	15,617
Total Project Costs	908,616	227,154	1,135,770	200,000	1,335,770
Matching Percentage		20.00%			

This preliminary design and acquisition phase is an important early step in an ambitious project that seeks to integrate flood risk reduction, ecosystem restoration, and a number of community

benefits in a large integrated, floodplain restoration project along the lower mile of the Big Quilcene River. The costs of budget items are informed by:

- 1) In-depth scoping and budget development that was completed by experienced project managers and expert design consultants.
- 2) Past and ongoing incorporation of stakeholder concerns and questions. Addressing questions and concerns at an early stage reduces the likelihood of conflicts emerging in later project phases, when changes to the design, permits, or construction documents would be much more costly.
- 3) The large number of community benefits to be included presents an exciting opportunity to develop a project with a broad range of positive impacts while engaging much of the Quilcene community. As mentioned previously, the shellfish considerations and costs included in this project are essential. Without the support of shellfish growers, a project to reduce flood risk and restore the river and estuary ecosystem at this location and at this scale will not be possible.

Personnel: \$62,467

Jefferson County personnel will be responsible for overall project management, oversight of subrecipients, technical and strategic guidance, and input on all aspects of the project in Task 1. County staff will also be responsible for outreach, coordination, and all aspects of land acquisition in Task 3.

Travel: \$500

Travel costs include vehicle trips from Port Townsend to Quilcene and other locations for project team meetings and land acquisition activities. Mileage is calculated at the current IRS rate of \$0.56 per mile and total mileage for the project is estimated to be 892.

Supplies: \$300

Supplies for this project include various supplies needed for partner meetings.

Contractual: \$717,887

Contractual costs include the specific subawards outlined below to achieve the 30% design. Subaward costs were estimated by technical and financial personnel from each agency involved in the project. Subawards will be executed after agreement with WDOE is finalized.

- **TNC – \$64,303** – Engage stakeholders in the community, secure and maintain support from key partners, and provide technical and strategic guidance and input to develop the preliminary 30% design that incorporates community needs and priorities.
- **HCSEG – \$653,584** – Engage and provide oversight of consultants needed to address the areas of flood risk, salmon recovery, and community needs and priorities to complete the development of alternatives, modeling, alternative selection, draft permits, and 30% design. In addition to overseeing the consultant work, HCSEG will also participate in engaging stakeholders and community partners, and facilitating communications among the partners.

Land Acquisition: \$335,000

Acquisition of up to three floodplain parcels including appraisals, survey, title review, and closing costs, is estimated at \$300,000. These parcels may require structure demolition and restoration work estimated at \$35,000. This number does not include personnel costs for land acquisition efforts, which is included under “Personnel” above.

Other: \$4,000

Other expenses for this project include costs associated with meetings and community outreach, which will include room rental, teleconference, printing/copying, postage, and other fees.

Indirect Costs: \$15,617

Pursuant to the Administrative Requirements for the WA Department of Ecology, indirect costs for this project are limited to 25% of total personnel expenses.

Match and Leverage:

The project leverages investments made to date by local, state and federal entities as detailed in section 10, Pilot project and leverage opportunity. This proposal builds on their previous investments. At present, HCSEG has secured funding of \$200,000 from the Washington State Salmon Recovery Funding Board for a portion of the proposed work.

Additional funding is currently being sought through a variety of sources. A proposal was recently submitted to the U.S. Fish and Wildlife Service and a proposal is being submitted to the Estuary and Salmon Restoration Program. A future request for NOAA funds is planned as well. Additional funding will also be sought from the Washington Recreation and Conservation Office, and from the Jefferson County Conservation Futures fund, which is specifically designated for land acquisition.

If it’s not possible to fully fund this proposal, please describe a *phased* approach that would still significantly advance the effort

This is addressed in question # 6 above

- 12. SCOPE OF WORK:** Please attach a Scope of Work and schedule. If your proposal is a phase of a larger multi-year project, please place this proposal in the context of the overall project and provide preliminary cost projects to complete the project.

Please see Attachment 1 for the Scope of Work described in this proposal.

- 13. Maps:** Please attach at least two (2) maps to your application. The first map should be a vicinity map and the second should be a map of your project.

See Figures 1 – 5.

- 14. Planting Maintenance/Survival:** If your project includes plantings, please provide a description of how you will ensure plant survival and maintenance.

A planting plan will be developed during future phases of work (final design) that are not

included in this proposal.

15. **Photos:** Photos are not required, but if you think they enhance our understanding of your application, please include them. We are particularly interested in "before" photos that can be matched with "after" photos.

See Figures 6 and 7.

16. **Executive order 05-05, Archaeological and Cultural Resources** (online at http://www.governor.wa.gov/office/execorders/eoarchive/eo_05-05.pdf) directs state agencies to review all capital construction projects for potential impacts to cultural resources to make sure that reasonable action is taken to avoid adverse impacts to these resources. If this grant program is funded by the 2015 Legislature, successful grant applicants will be required to submit additional information to Ecology to comply with this Executive Order.

An assessment of cultural resources as related to draft permit applications is included in the scope and budget of this project.

Additional factors in ranking and award: This is a very new funding source. To ensure that projects meet the objectives of the program, these additional factors will be considered in creating the proposed funding list:

- **Balance of project types:** Balance funding ready-to-proceed construction projects with funding pre-construction activities. This balance in project types is vital to ensuring success over time.
- **Geography:** There is strong interest in ensuring that projects in all areas of the state receive funding.
- **Advancing multi-benefit floodplain management:** It is important that the project list advance the principles and practical application of multi-benefit floodplain management.

Certification

I certify to the best of my knowledge that the information provided above is true and correct and that I am legally authorized to sign and submit this information on behalf of the organization applying for this grant.


Signature

9-8-14
Date


Printed name and Title


Name of Organization Applying for Grant

Attachment 1

Lower Quilcene Preliminary Design: A community approach to restoration Scope of Work

Task 1 - Project Administration:

Task Description:

- A. The RECIPIENT will administer the project. Responsibilities will include, but not be limited to: maintenance of project records; submittal of payment vouchers, fiscal forms, and progress reports; compliance with applicable procurement, contracting, and interlocal agreement requirements; application for, receipt of, and compliance with all required permits, licenses, easements, or property rights necessary for the project; and submittal of required deliverables.
- B. The RECIPIENT will manage the project. Efforts will include conducting, coordinating, and scheduling project activities and assuring quality control. Every effort will be made to maintain effective communication with the RECIPIENT's designees; grant managers at Ecology; all affected local, state, or federal jurisdictions; and any interested individuals or groups. The RECIPIENT must carry out this project in accordance with any completion dates outlined in this agreement.
- C. The RECIPIENT will ensure this project is completed according to the details of this agreement. The RECIPIENT may elect to use its own forces or it may contract for professional services necessary to perform and complete project-related work.

Deliverables:

1. Quarterly progress reports and financial vouchers
2. Final project summary report

Task 2 - Project management to produce a 30% design:

Task Description:

- A. The RECIPIENT will provide a subaward to HCSEG for consultant management on this task. HCSEG will hire a consultant to develop a 30% restoration design that incorporates diverse and specific community needs, and provides benefits to communities and ecosystems. In so doing, and under direction of HCSEG and the RECIPIENT, the consultant's work will include: compiling and collecting data; meeting with stakeholders; developing restoration alternatives; developing and running models to assess the effects of alternate restoration actions on habitat, flooding and shellfish; producing a shellfish, water quality, and sediment monitoring plan; and producing a 30% design. HCSEG will manage the consultant contract and process.

As currently scoped, the consultant will complete the following tasks:

- i. Modeling to assess the effects of alternative restoration actions on flood risk and habitat restoration. This includes: 1) compiling existing data and collecting field data as needed to fill data gaps (known field studies will include topographic surveys to ground-

- truth LIDAR and soil sampling and analysis); and 2) geomorphological and hydraulic analysis of restoration alternatives to assess effects on habitat and flooding.
- ii. Hydrodynamic modeling to explore the effect of restoration alternatives on shellfish resources. Shellfish resources of interest include WDFW-owned tidelands and Coast Seafood's hatchery and tidelands. This work includes: 1) convening an expert panel to determine shellfish tolerances; 2) an analysis of channel migration potential to inform restoration alternatives; 3) developing and calibrating a hydrodynamic model for the shellfish areas of interest; and 3) running the model on a suite of restoration alternatives to determine the predicted effects on shellfish.
 - iii. Selection of a preferred restoration alternative with HCSEG, TNC, and stakeholders that incorporates flood risk, habitat restoration, and shellfish considerations.
 - iv. Inclusion of appropriate recreational access features and facilities into the preferred alternative. Recreational uses include fishing, shellfishing, hunting, student education, birding and walking. This work includes: 1) compiling existing information and defining resource attractions, usage periods, and geographic extent of public access improvements; 2) identifying key features, access points, linkages, and support facilities; 3) developing public access alternatives; and 4) preparing a plan based on the community's preferred alternative.
 - v. Development of cost information for the purpose of comparing alternatives, and development of an opinion of probable construction cost for the 30% design.
 - vi. Identification of permits necessary for project implementation and development of draft permit applications. Permits are likely to include:
 - o State Environmental Policy Act checklist,
 - o Shoreline Substantial Development Permit,
 - o Joint Aquatic Resource Permit Application,
 - o Endangered Species Act compliance,
 - o NPDES Construction Stormwater Permit and Stormwater Pollution Prevention Plan,
 - o Jefferson County Clearing and Grading Permit, and
 - o National Historic Preservation Act Section 106 consultation.
 - vii. Development of a plan to provide economic stability to Quilcene by making conservation and restoration relevant to job creation and local businesses. This work includes: 1) compiling existing information about resource supply and demand and other communities' lessons learned; 2) defining the needed economic plan elements related to institutions, infrastructure, marketing and communications; 3) identifying economic enhancement alternatives; and 4) preparing a plan based on the community's preferred alternative.
 - viii. Development of a plan to monitor shellfish, water quality, and sediment before and after restoration. The plan will include use of WDFW protocols and will be developed in close coordination with WDFW and other shellfish managers and experts.

- B. The RECIPIENT will provide a subaward to TNC for ongoing support and technical expertise to HCSEG and the consultant related to all aspects of project management and development of the deliverables.

Deliverables:

1. Model completion related to flood risk and habitat considerations is highlighted in quarterly report
2. Model completion related to shellfish considerations is highlighted in quarterly report
3. Selection of a preferred alternative is highlighted in quarterly report
4. 30% design based on preferred alternative to advance multi-benefit project goals

Task 3 – Acquisition of up to three properties within the lower Big Quilcene River floodplain

Task Description:

- A. The RECIPIENT will conduct outreach to landowners within the general project area to identify those that are willing sellers. Where willing landowners are within the floodplain, the RECIPIENT will contract with a qualified appraiser to provide an estimate of value and seek to enter negotiations with the landowner. If successful, the RECIPIENT will acquire fee simple interest on up to three properties within the lower Big Quilcene River floodplain.

Deliverables:

1. Assessment of landowner willingness in project area
2. Appraisals
3. If negotiations are successful, deeds for up to three properties

Attachment 2. Lower Big Quilcene Design - Deliverables Timeline

Timeline (July 1, 2015 - June 30, 2017)

Project Tasks		2015		2016				2017	
		Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2
Deliverable	Description and Notes								
Task 1. Project Administration (Leads: Tami Pokorny, Jefferson County)									
<i>The Recipient will administer, manage, and ensure this project is completed according to the details of this agreement.</i>									
Quarterly Progress Reports		■	■	■	■	■	■	■	■
Final Project Summary Report								■	■
Task 2. Project management to produce a 30% design (Leads: Michelle Myers, HCSEG; Jenny Baker & Kat Morgan, TNC)									
<i>The Recipient will provide a subaward to HCSEG for consultant management on this task. HCSEG will hire a consultant to develop a 30% restoration design that incorporates diverse and specific community needs, and provides benefits to communities and ecosystems. The Recipient will provide a subaward to TNC for ongoing support and technical expertise to HCSEG and the consultant related to all aspects of project management and development of the deliverables.</i>									
Request for proposals out for bid to consultants	RFP broadly released for bid with intent of securing expertise in all areas needed to complete work scoped, including engineering, biology, economics, and community organizing	■							
Consultant hired	A consultant has been selected and will be begin work under HCSEG's SRFB award. If this proposal is successful, contract will be extended and expanded.	■							
Habitat and flood risk modeling completed	Modeling to assess relative flood risk and habitat value of restoration options	■	■	■	■				
Hydrodynamic model to assess potential shellfish impacts completed	Modeling to assess potential shellfish impacts of restoration actions		■	■	■	■	■		
Preferred restoration alternative selected	Selection of preferred alternatives based on multi-benefit criteria					■	■		
Development of 30% multiple benefit design	Selected alternative developed to 30% engineering design level						■	■	■
Development of shellfish monitoring plan	Plan for shellfish population data collection related to potential restoration effects							■	■
Task 3: Acquisition (Leads: Tami Pokorny, Jefferson County)									
<i>The RECIPIENT will conduct outreach to landowners within the project area to identify those that are willing sellers and pursue acquisition as appropriate.</i>									
Assessment of landowner willingness	Identifies where willing sellers exist within the Big Quilcene River area	■	■	■					
Appraisal and due diligence	Determine market value of properties and conduct other due diligence, such as title review and hazards assessment			■	■	■	■		
Acquire up to three properties	Assuming successful negotiations with priorities landowners, acquire up to three identified properties within Big Quilcene River area						■	■	■
 Light blue: interim processes and products  Dark blue: final products		Q1 (Jan-Mar), Q2 (Apr-Jun), Q3 (Jul-Sep), Q4 (Oct - Dec)							

ATTACHMENT 3

Summaries of the Scopes of Works to be completed by the contractor selected to develop the preliminary design.

Hydrodynamic Modeling of Potential Shellfish Effects SOW Summary

The hydrodynamic modeling will be designed to evaluate potential impacts to habitat for Manila littleneck clams (*Tapes philippinarum*), native littleneck clams (*Protothaca staminea*), Pacific oysters (*Crassostrea gigas*), and Olympia Oysters (*Ostreola conchaphila*), and changes to water quality at the Coast Seafoods hatchery intake from proposed estuary restoration actions.

Steps:

1. Determine shellfish physical change tolerances
 - a. Literature review to develop draft tolerances
 - b. Convene expert shellfish panel to review tolerances
2. Conduct a site geomorphic analysis, including:
 - a. Risk analysis of channel migration
 - b. Potential extent of distributary channel formation and migration
 - c. Changes to the suspended sediment load during flood events
 - d. Use results to develop modeling scenarios for hydrodynamic modeling
3. Complete hydrodynamic modeling for shellfish effects using a 2-D hydrodynamic model of the Big Quilcene estuary
 - a. Collect bathymetry, topography, velocity, water level, and salinity data
 - b. Develop and calibrate model
 - c. Run scenarios (including SLR scenarios)
 - d. Look at fine sediment effects at hatchery intakes
 - e. Use results to develop 30% design
4. Develop a shellfish mitigation framework with shellfish experts and stakeholders to identify response actions if there are unanticipated project effects on shellfish resources.

Shellfish Monitoring SOW Summary

Shellfish monitoring activities will be designed to evaluate habitat conditions and population numbers for Manila littleneck clams (*Tapes philippinarum*), native littleneck clams (*Protothaca staminea*), Pacific oysters (*Crassostrea gigas*), and Olympia Oysters (*Ostreola conchaphila*) before (baseline) and after restoration actions (post-Project) are implemented to determine how restoration actions are influencing shellfish resources.

Steps:

1. Prepare a shellfish monitoring plan to document baseline conditions and post-project changes including:
 - a. Shellfish beach surveys

- b. Salinity monitoring
 - c. Sedimentation monitoring
- 2. Conduct shellfish beach surveys using established protocols
- 3. Conduct salinity monitoring using protocols TBD, but likely involving data loggers at multiple locations from the river mouth to Coast's hatchery
- 4. Conduct sedimentation monitoring via aerial photography and bed pins
- 5. Prepare a shellfish monitoring report

Economic Enhancement Plan SOW Summary

Steps:

1. Develop baseline:
 - a. Compile existing information
 - b. document known and anticipated resource usage in terms of supply and demand
 - c. look for information from similar communities & lessons learned
 - d. summarize information
2. Identify locally appropriate ways to support the local economy using the following building blocks:
 - a. Infrastructure: wastewater management system; public water system; trails; improved parking and sanitation facilities
 - b. Marketing and communication: key audiences and messages
 - c. Institutions
3. Prepare a minimum of three alternative economic enhancement scenarios
4. Develop a draft plan describing the economic benefits of the Big Quilcene Estuary project to the community including:
 - a. goals and objectives
 - b. strategy
 - c. implementation plan

Educational Opportunities SOW Summary

This scope of work does not cover trails and public access facilities since these are covered by the Public Access Improvements scope of work. However, this scope of work assumes that public access trails and facilities that support educational uses will be developed. This scope of work takes place after project construction is completed.

Steps:

1. Teacher training workshop #1 will provide local teachers with basic instruction on:
 - a. possible uses of any improved trail and access facilities for environmental education
 - b. existing educational resources and curricula that could be used with features
 - c. avoiding overuse and inadvertent resource damage

2. Teacher training workshop #2 will instruct teacher-leaders on how to monitor and adjust use of the site for educational purposes over time based on changing site conditions or new curricula that become available, so that these teachers can then provide training to new teachers.

Permitting SOW Summary

Steps:

1. Prepare draft permit applications, including:
 - a. draft SEPA checklist
 - b. pre-submittal paperwork, as required by Jefferson County for the Substantial Shoreline Development pre-application meeting and permit application
 - c. draft JARPA
 - d. draft Specific Project Information Form (SPIF) after confirming adequacy of SPIF to comply with Section 7 of the ESA
 - e. NPDES Stormwater General Permit for Construction Activities Notice of Intent and public notice
 - f. draft Stormwater Pollution Prevention Plan
 - g. draft Clearing and Grading Permit application

2. Initiate National Historic Preservation Act Section 106 Consultation including:
 - a. Background research and literature review
 - b. Cultural resources field survey
 - c. Shovel/auger survey completed if necessary based on field survey (above)
 - d. Assistance with pre-permit application stage agency and tribal coordination
 - e. A report documenting resources and recommended determinations of project effects.
 - f. An Unanticipated Discovery Plan to be maintained on site during construction

Public Access Improvements SOW Summary:

Steps:

1. Compile information
 - a. Compile existing site information and base map
 - b. Define resource attractions, usage periods, and geographic extent of public access improvements
 - c. Identify data gaps

2. Site analysis and preparation of preliminary design

- a. Identify site constraints and opportunities
 - b. Prepare preliminary design that includes:
 - Key entrance and access points and linkages
 - Outdoor education facilities
3. Prepare alternative designs for stakeholder review.
4. Prepare draft and final trails and recreation access plan that reflect stakeholder preferred elements including:
 - a. Potential locations for signage and wayfinding, recreation and trail features
 - b. Two to three typical cross-sections
 - c. Opinion of probable construction cost
5. Prepare a 30% design including:
 - a. Survey to fill existing survey gaps
 - b. Design sheets:
 - Cover Sheet
 - Existing Conditions
 - Demolition and Clearing Plan
 - Grading Plan
 - Trail and Recreation Facilities Layout and Materials Plan
 - Planting and Vegetation Restoration Plan
 - b. Opinion of probable construction cost

ALL OTHER WORK

SUMMARY

Task Name	Description	Deliverable(s)
Topographic Surveys	<ul style="list-style-type: none">• Ground truth LiDAR for core project location*	Draft and Final CAD survey map
Preliminary Property Appraisals	<ul style="list-style-type: none">• Obtain appraisals for core project location*	Written property valuations of parcels needed for project implementation
Field Based Soils Analysis	<ul style="list-style-type: none">• Review existing geotechnical information within Project location• Conduct field based soils sampling and analysis for core project location*	Draft and final geotechnical technical memorandum
Field Based Archeological Survey	<ul style="list-style-type: none">• Review existing cultural resources information for project area• Conduct field based cultural resource assessment (shovel probes) for core area*	Draft and final cultural resource assessment
Development of Restoration Alternatives	Develop three restoration alternatives.	Draft and Final conceptual level alternative restoration plans. Drawn to scale and color rendered for community presentations.
Hydraulic and Geomorphic Analysis	<ul style="list-style-type: none">• Obtain existing NAVFAC (2012) and Jefferson County (2006) models• Flood Risk and Salmon Habitat Restoration Assessment	Draft and final Geomorphic Assessment technical memorandum Draft and final flood risk and salmon hab. hydraulic modeling assessment report
Development of Draft 30% Restoration Design	Develop draft preliminary design and 30% design for three alternatives	Draft and Final 30% Restoration Design in CAD. Color rendered plan and sections for community meetings. Design reports for funders.

Development of Construction Cost Estimates	<ul style="list-style-type: none"> • Draft Preliminary restoration cost estimates • Final 30% restoration cost estimates 	Draft and Final 30% construction cost estimate for restoration
Compile existing shellfish distributions	<ul style="list-style-type: none"> • Review and compile existing shellfish distribution data • Field reconnaissance to verify existing shellfish data 	Draft and final Shellfish distribution technical memorandum and GIS map
Wetland Delineation	<ul style="list-style-type: none"> • Conduct wetland delineation and mapping for core project area* 	Draft and final wetland delineation report and CAD map
Survey, Property Appraisals, Soils, Archeology, Wetlands	<ul style="list-style-type: none"> • Collect new data if project area is expanded through selection of preferred alternative 	Updates to previous deliverables covering any changes in Project

Attachment 4

Letters of Support

Lower Big Quilcene Preliminary Design



1820 Jefferson Street
PO Box 1220
Port Townsend, WA 98368

Phil Johnson, District 1 David W. Sullivan, District 2 John Austin, District 3

January 16, 2014

Re: Letter of Support for the **Lower Big Quilcene Preliminary Design: A Community Approach to Restoration** grant proposal.

Dear funder,

Jefferson County has been involved in efforts to advance a restoration project that benefits the local community and wishes to acknowledge our support of the **Lower Big Quilcene Preliminary Design: A Community Approach to Restoration** grant proposal. Development of a restoration design for this important project will pave the way for estuary restoration that will enhance salmon habitat and address community needs, such as flood control, shellfish, water quality, and recreational access.

We support this project because it has the potential to address several issues that are of interest to Jefferson County. Water quality, which has been degraded by sanitation issues related to a recreational fishery (among other sources), is linked to \$20M per year in revenue in Jefferson County. Flooding in the lower river affects private landowners and has resulted in closures of a County-owned road. In addition, we are interested in the ways that the project might pull tourists off of Highway 101 to enjoy the river and estuary and encourage them to spend a few dollars in Quilcene, also known as "The Pearl of the Peninsula." Additionally, we support the approach that The Nature Conservancy (TNC) and The Hood Canal Salmon Enhancement Group (HCSEG) are using to include community benefits in a salmon habitat project, as well as the plan for extensive outreach.

The work described in the proposal builds upon work already completed by Jefferson County (related to assessing potential flood reduction and salmon habitat actions), as well as by HCSEG to secure partial funding for a preliminary restoration design and by TNC to understand the local community's needs and concerns.

The **Lower Big Quilcene Preliminary Design: A Community Approach to Restoration** proposal is an important component to salmon restoration and recovery in Hood Canal and we thank you for considering this project for funding.

Sincerely,


John Austin, Chairman


David Sullivan, Member


Phil Johnson, Member

February 7, 2014

Re: Letter of Support for the ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal

Dear Funder:

The Nature Conservancy (TNC) has been involved in efforts to advance a restoration project at the Big Quilcene River in Hood Canal that addresses salmon restoration goals and flood management issues and benefits the local community. We wish to acknowledge our support of the ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal.

Restoration of the Big Quilcene River and estuary is a priority within Hood Canal because of the potential ecological benefits of restoration, diverse community needs, local support, and capacity for implementation. The long term project goal is to restore estuarine hydrology, sediment transport, and other hydraulic and geomorphic processes by developing a community supported, multiple benefit restoration design that supports ESA listed Hood Canal Summer Chum. The work described in the proposal builds upon work already completed by The Nature Conservancy and project partners to identify the Lower Big Quilcene as a priority, develop stakeholder groups to identify and address community concerns, and secure funding for a restoration design plan.

Development of a restoration design for this important project will pave the way for estuary restoration, which will enhance salmon habitat and address community needs, such as flood control, water quality, and recreational access. The proposed approach, of including compatible community benefits in the estuary restoration project, is intended to build broad community support and provide a positive example of a win-win for salmon and community values.

The ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal is an important component to salmon restoration and recovery in Hood Canal and we thank you for considering this project for funding.

Sincerely,



Chris Davis
Director of Conservation, Puget Sound



Hood Canal Salmon Enhancement Group

PO Box 2169 Belfair, WA 98528

mendy@hcseg.org

fax 360-275-0648

phone 360-275-9722

January 16, 2014

Re: Letter of Support for the ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal.

Dear funder,

The Hood Canal Salmon Enhancement Group (HCSEG) has been involved in efforts to advance a restoration project that benefits the local community and wishes to acknowledge its support of the ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal. Development of a restoration design for this important project will pave the way for estuary restoration which will enhance salmon habitat and address community needs, such as flood control, water quality, and recreational access.

HCSEG has a long history of completing river and estuary restoration projects in the Quilcene area and has a strong interest in continued salmon recovery efforts, including estuary restoration. The proposed approach, of including compatible community benefits in the proposed estuary restoration project, is intended to build broad community support and provide a positive example of a win-win for salmon and people in Hood Canal.

Restoration of the Big Quilcene river and estuary is a priority within Hood Canal because of the potential ecological benefits of restoration, diverse community needs, local support, and capacity for implementation. The long term project goal is to restore estuarine hydrology, sediment transport, and other hydraulic and geomorphic processes by developing a community supported, multiple benefit restoration design that supports ESA listed Hood Canal Summer Chum. The work described in the proposal builds upon work already completed by HCSEG to secure funding for a restoration design plan and work completed by The Nature Conservancy to understand the local community's questions and concerns.

The ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal is an important component to salmon restoration and recovery in Hood Canal and we thank you for considering this project for funding.

Sincerely,

A handwritten signature in blue ink that reads "Mendy Harlow". The signature is written in a cursive, flowing style.

Mendy Harlow

Executive Director

Hood Canal Salmon Enhancement Group

Hood Canal Coordinating Council

JEFFERSON, KITSAP & MASON COUNTIES
PORT GAMBLE S'KLALLAM & SKOKOMISH TRIBES
STATE & FEDERAL AGENCIES

January 30, 2014

Re: Letter of Support for the ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal.

Dear funder,

The Hood Canal Coordinating Council (HCCC) is a council of governments dedicated to the health and well-being of the Hood Canal watershed. HCCC supports the efforts of The Nature Conservancy, a long-time partner and supporter of the Hood Canal community. HCCC has been a proponent of efforts to advance a restoration project that benefits the local community and wishes to acknowledge our support of the ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal. Development of a restoration design for this important project will pave the way for estuary restoration which will enhance salmon habitat and address community needs, such as flood control, water quality, and recreational access.

HCCC is the local integrating organization (LIO) for Hood Canal Action Area as designated by the Puget Sound Partnership and so works with the entire community to plan and prioritize actions that ensure a future in which the Hood Canal remains a special place to live work and play. As the lead organization for salmon recovery in Hood Canal, HCCC supports actions that address salmon needs. The proposed estuary restoration project is an important action for salmon. The proposed approach to include compatible community benefits in the proposed estuary restoration project is consistent with our Integrated Watershed Management Plan vision statement: *Humans benefit from and coexist sustainably with a healthy Hood Canal*. The work described in the proposal builds upon work already completed to identify salmon needs around Hood Canal, by the Hood Canal Salmon Enhancement Group to secure partial funding for a restoration design plan and by The Nature Conservancy to understand the local community's questions and concerns.

The ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal is an important component to salmon restoration and recovery in Hood Canal and we thank you for considering this project for funding.

Sincerely,



Scott Brewer
Executive Director
Hood Canal Coordinating Council



State of Washington
DEPARTMENT OF FISH AND WILDLIFE

Mailing Address: 600 Capitol Way N · Olympia, WA 98501-1091 · (360) 902-2200, TTY (800) 833-6388
Main Office Location: Natural Resources Building · 1111 Washington Street SE · Olympia, WA

February 6, 2014

SUBJECT: ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration***

Dear Reviewer,

The Washington Department of Fish and Wildlife (WDFW) has been a key partner in development and implementation of a portfolio of over a dozen habitat protection and restoration projects within Quilcene Bay. The ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal will advance one of the highest priority projects and build on the work already completed by WDFW and a number of partners. Development of a restoration design for this important project will pave the way for estuary and lower river restoration that will enhance floodplain habitats for salmon and address community needs, such as flood control, shellfish, water quality, and recreational access. This project has been particularly challenging to work with stakeholders and the local community, but is critical to the overall success of the restoration efforts, particularly related to federally listed Hood Canal summer chum salmon habitat. A focused effort on community outreach and engagement is needed to advance this project.

WDFW's responsibilities touch down in a number of aspects of this project, including habitat, salmon recovery, and shellfish management. As co-managers of the state salmon resources, WDFW understands the critical importance of restoring habitat in the altered areas of our Puget Sound floodplains, such as the Big Quilcene River. We also have a management responsibility for the state-owned shellfish beds in Quilcene Bay. In my capacity as a habitat restoration biologist for WDFW, I interact on behalf of these resources with the local communities of Hood Canal and support the approach that The Nature Conservancy (TNC) and The Hood Canal Salmon Enhancement Group (HCSEG) are using to include community benefits in the habitat restoration project, as well as the plan for extensive outreach.

The ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** proposal is an important component to salmon restoration and recovery in Hood Canal and we thank you for considering this project for funding.

Sincerely,

Doris Small
Fish and Wildlife Biologist
Habitat Program – Restoration Division
Washington Department of Fish and Wildlife



COAST SEAFOODS COMPANY

SOUTH BEND CORPORATE OFFICE

P.O. Box 166

South Bend, WA 98586-0166

(360) 875-5557 FAX (360) 875-5559

BELLEVUE OFFICE

14711 NE 29th Place, Suite 111

Bellevue, WA 98007

(425) 702-8800 Sales (800) 423-2303

FAX (425) 702-0400

January 28, 2014

Re: Letter of Support for the ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal.

Dear funder,

Coast Seafoods Company (Coast) wishes to acknowledge our support of the ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** grant proposal. Coast strongly supports development of a restoration design for this important project that not only paves the way for estuary restoration to enhance salmon habitat, but also addresses community needs, such as flood control, maintenance of shellfish hatching and growing, water quality, and recreational access. In particular, any restoration project along the Lower Big Quilcene River must ensure that critical shellfish resources in Quilcene Bay, including Coast's oyster hatchery and Penn Cove Shellfish's oyster and mussel farms, are fully protected. We understand that the grant funding requested by the project proponents will be used to design a project that will not negatively impact these valuable resources.

Coast is one of the largest employers in Jefferson County where the project is located, and these jobs are very important to the local community. Additionally, Coast's hatchery in Quilcene Bay is an important asset to the shellfish industry on a larger scale. The Quilcene Bay hatchery produces 10's of billions of clam, oyster and mussel larvae that are shipped to shellfish growers up and down the Pacific Coast and around the world. We are appreciative of the project proponents' efforts to engage us early in the process to ensure that any restoration project being pursued will not negatively impact our operations. We look forward to remaining engaged in the process to identify and design restoration actions that support salmon recovery and protect the shellfish industry.

The ***Lower Big Quilcene Preliminary Design: A Community Approach to Restoration*** proposal is an important component to salmon restoration and recovery in Hood Canal, and it is vital that the project be undertaken in a manner that ensures full protection of Quilcene Bay's shellfish resource. We thank you for considering this project for funding.

Sincerely,

A handwritten signature in blue ink, appearing to read "John Petrie".

John Petrie, President
Coast Seafoods Company



JEFFERSON LAND TRUST

Celebrating our 25th year
Helping the community preserve open space, working lands and habitat forever
1033 Lawrence Street, Port Townsend, WA 98368
360-379-9501 – office 360-379-9897 – fax
www.saveland.org jeffersonlandtrust@saveland.org

February 4, 2014

Re: Letter of Support for the **Lower Big Quilcene Preliminary Design: A Community Approach to Restoration** grant proposal.

Dear funder,

Jefferson Land Trust has been involved in efforts to initiate a habitat restoration project that benefits the local community and wishes to acknowledge its support of the **Lower Big Quilcene Preliminary Design: A Community Approach to Restoration** grant proposal. Development of a restoration design for this important project will pave the way for estuary restoration which will enhance habitat and address community needs, such as flood control, water quality, and recreational access.

Jefferson Land Trust has a long history of helping communities conserve some of the most iconic, productive, and ecologically significant lands and waters in Jefferson County, including protection of key habitat sites in the Quilcene estuary. The proposed approach, of including compatible community benefits in the estuary restoration project, is intended to build broad community support and provide a positive example of a win-win for the wildlife and people in Hood Canal.

“Habitat is biologically diverse, interconnected, and supports viable populations of keystone species” is Jefferson Land Trust’s vision for habitat conservation work. Restoration of the Big Quilcene floodplain and estuary is a habitat priority within Jefferson County and Hood Canal because the area is consistently identified as a hotspot for multiple conservation needs and actions, including community –identified priorities, proximity to river and marine waters, and salmon habitat. The work described in the proposal builds upon work already completed by Jefferson Land Trust and a number of other partners to protect and restore critical habitats in the Quilcene estuary and tackles needed and complex objectives of weaving community and habitat needs together in priority outcomes.

The **Lower Big Quilcene Preliminary Design: A Community Approach to Restoration** grant proposal is an important component to habitat conservation in Jefferson County and Hood Canal and we thank you for considering this project for funding.

Sincerely,

Sarah Spaeth
Executive Director
Jefferson Land Trust





PORT GAMBLE S'KLALLAM TRIBE
NATURAL RESOURCES DEPARTMENT
31912 Little Boston Rd. NE – Kingston, WA 98346

February 5, 2014

Re: Letter of Support for the Lower Big Quilcene Preliminary Design: A Community Approach to Restoration grant proposal.

Dear funder,

The Port Gamble S'Klallam Tribe's natural resources staff has been involved in efforts to initiate habitat restoration projects in Hood Canal for several decades. All of the large estuaries in Hood Canal are within our Usual and Accustomed Area (U&A) and many are within our own priority areas of interest for restoration which include the three mid Hood Canal rivers and both of the Quilcene rivers. Our tribal members have lived and depended upon the shores and waters of Hood Canal for countless generations. For these and many other reasons, we wish to acknowledge our support of the Lower Big Quilcene Preliminary Design: A Community Approach to Restoration grant proposal. Development of a restoration design will pave the way for a project which will enhance habitat and address community needs, such as shellfish, salmon, forage fish, flood control, water quality, subsistence, recreational access, education and economic vitality.

The Port Gamble S'Klallam Tribe is a co-manager of both finfish and shellfish resources in Quilcene Estuary and Bay, where high numbers of Hood Canal Summer Chum and other salmon species historically spawned and reared. The tribe is actively involved in salmon recovery work, including habitat restoration in Hood Canal in an effort to recover populations to a level where treaty rights to harvest can be exercised. The project identified here is an important step forward in recovering critical floodplain and estuary habitat in the lower Quilcene River that has been lost due to alteration. We are also active co-managers of shellfish resources and see great cultural and economic value in developing this restoration project in a way that ensures that important shellfish and finfish resources rebound and persist in the Bay.

The work described in the proposal builds upon work already completed in Quilcene and other areas to restore critical habitat, while understanding that durable solutions to recovering Hood Canal salmon require the engagement and support of the local community, including tribes. This project tackles needed and complex objectives of weaving community and habitat needs together in priority outcomes.

The Lower Big Quilcene Preliminary Design: A Community Approach to Restoration grant proposal is an important component in finding opportunities to restore abundant salmon runs and improve shellfish and forage fish habitat while embracing and strengthening other community needs in Hood Canal. We appreciate your consideration of this project for funding.

Sincerely,

Paul McCollum
Director of Natural Resources

Quilcene



Conversations

*Community volunteers capitalizing on Quilcene's assets
and addressing its citizens' needs.*

February 12, 2014

Re: Letter of Support for the **Lower Big Quilcene Preliminary Design: A Community Approach to Restoration** grant proposal.

Dear funder,

As convener of the *Quilcene Conversations* community visioning, I have been involved in efforts to initiate a habitat restoration project that holds the potential to greatly benefit this community. I want to assure you of the enthusiastic support of the "Quilcene Conversationalists" for the grant proposal titled **Lower Big Quilcene Preliminary Design: A Community Approach to Restoration**. Development of a restoration design for this important project will pave the way for a project which will enhance habitat and address community needs, such as flood control, water quality, recreational access, education and economic vitality.

Quilcene Conversations was organized in late 2010 to open a community-wide discussion about Quilcene's assets, the needs of its residents, ways to increase Quilcene's appeal to visitors, and projects for the community. In each of 10 group meetings, Quilcene's natural abundance featured prominently in the list of "assets," while outdoor recreation, economic enhancements, and opportunities for kids to get involved were strong themes in the list of Quilcene projects for the community. The proposed project approach, of including compatible community benefits in the estuary restoration project, is right in line with the intent of *Quilcene Conversations* and provides a positive example of a win-win for the people in Hood Canal and its natural resources.

The work described in the proposal builds on work already completed in Quilcene to protect and feature its natural assets while taking the necessary steps to strengthen its vibrant and vital community. This project tackles needed and complex objectives of weaving community and habitat needs together in priority outcomes.

The **Lower Big Quilcene Preliminary Design: A Community Approach to Restoration** grant proposal is an important component in finding opportunities to strengthen and enrich our communities while conserving and restoring our natural heritage in Hood Canal. We thank you in advance for funding this very important project.

Sincerely,

A handwritten signature in black ink, appearing to read "Linda Herzog".

Linda Herzog
Convener, Quilcene Conversations
3914 E Quilcene Rd, Quilcene WA 98376

FIGURE 1



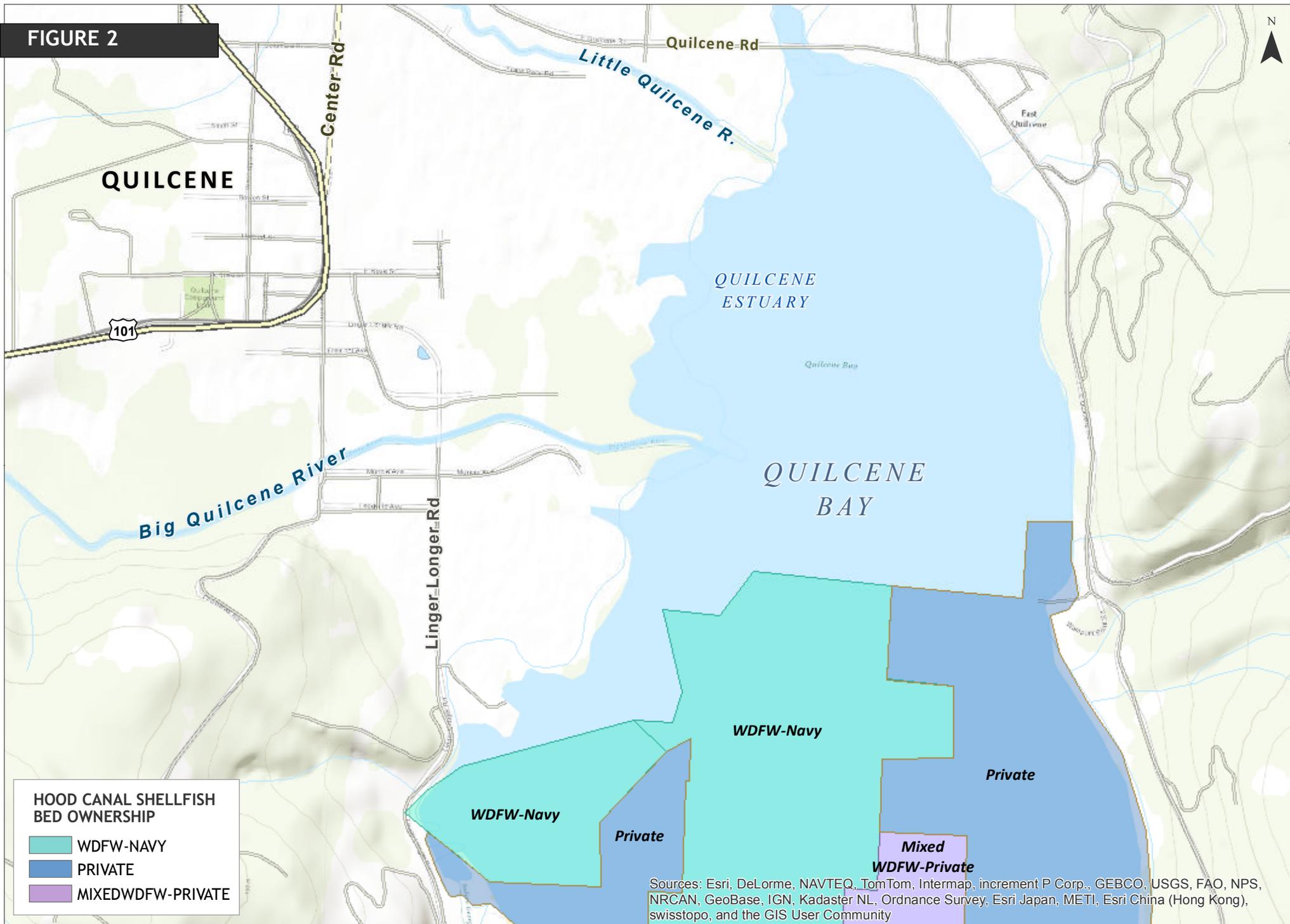
Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

IGIS_Data\USA\Washington\PugetSound\1 Maps\DabobBay\LowerBigQuilcena_HoodCanal_Regional_20120410_11x8.5.mxd

HOOD CANAL - LOWER BIG QUILCENE

JEFFERSON COUNTY, WASHINGTON

FIGURE 2

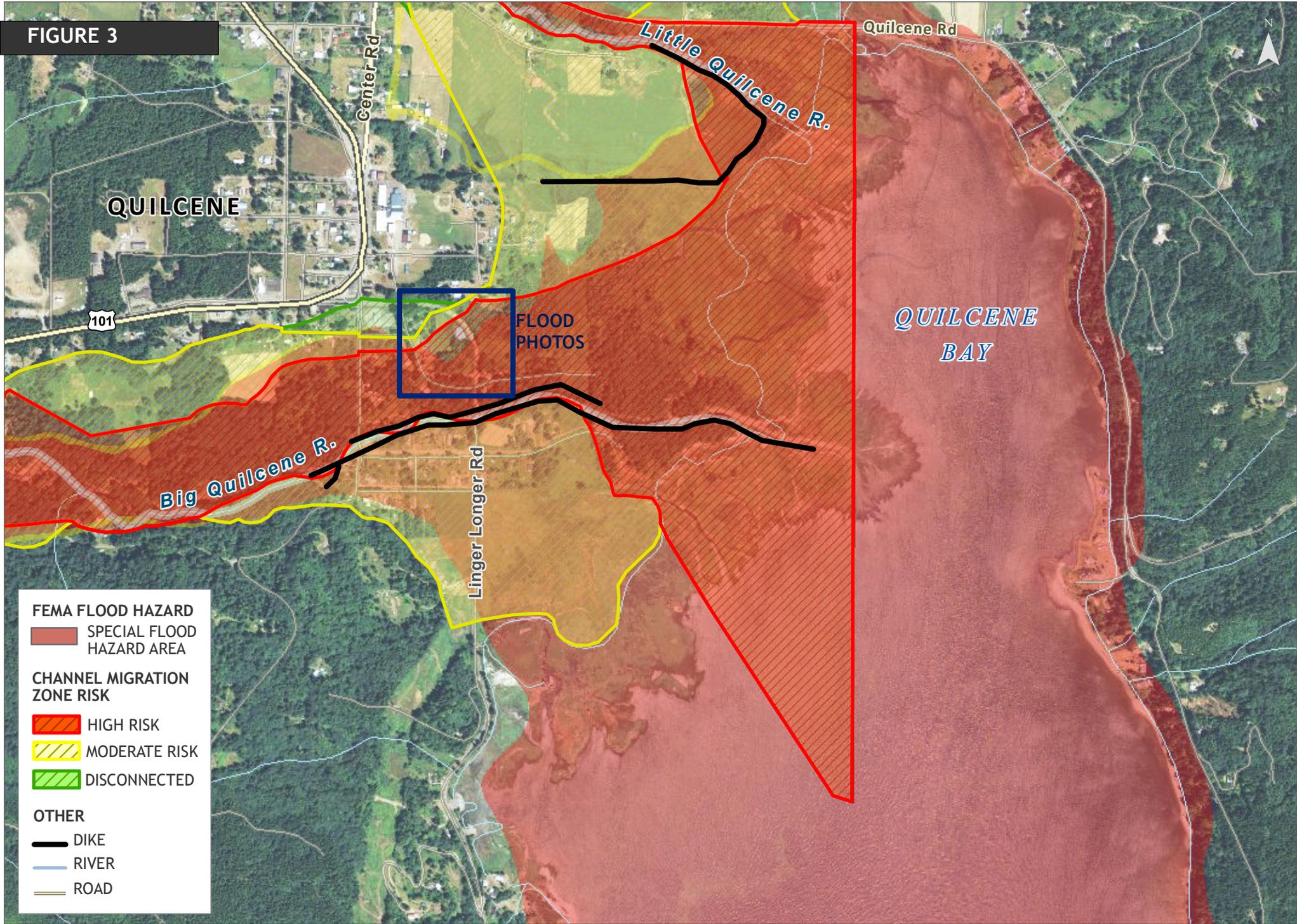


HOOD CANAL SHELLFISH BED OWNERSHIP

- WDFW-NAVY
- PRIVATE
- MIXEDWDFW-PRIVATE

Sources: Esri, DeLorme, NAVTEQ, TomTom, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), swisstopo, and the GIS User Community

FIGURE 3



\\GIS_Data\USA\Washington\PugetSound\11Maps\DabobBay\LowerBigQuilcene_HoodCanal_Aerial_20120410_11x8.5.mxd

2013 IMAGERY (NAIP)

Figure 4. Lower Big Quilcene River and Quilcene Bay



Figure 5. Lower Big Quilcene 2006 Oblique Aerial



Lower Big Quilcene River 2006 Oblique Aerial (Department of Ecology) – Levees have channelized the lower Big Quilcene River and cut it off from historic distributaries where it enters Quilcene Bay. Homes to the left of the river are subject to flooding. Quilcene village center is at the top of the photo.

Figure 6. Flooding Photos
Photo location shown on
Figure 3.



Figure 7. Lower Big Quilcene River area photos



Photo 1. Lower Big Quilcene River Looking west toward Olympic Mountains. The shallow riffle demonstrates the aggradation in this part of the river. Much of the flow is below the substrate surface.



Photo 2. Big Quilcene River estuary. Looking south toward shellfish beds and the mouth of Quilcene Bay

Figure 7. Lower Big Quilcene River area photos



Photo 3. Big Quilcene River. Looking east toward Quilcene Bay.



Photo 4. Big Quilcene River at Rogers Road. There is armoring along the levees on both sides here, restricting access to habitat and natural river flow.