

**Port Gamble S’Klallam Tribe’s  
Wetland Conservation Program Plan  
2015-2020**



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Kilisut Harbor Salt Marsh: Photo Provided by Hans Daubenberger

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Kilisut Harbor Salt Marsh: Photo Provided by Hans Daubenberger

## Port Gamble S’Klallam Tribe Natural Resources Department Vision

Our vision is to provide optimal and sustainable management of the Tribe’s natural and cultural resources for now and at least seven generations to come, with special attention to the health and vitality of subsistence and commercial species populations and their associated ecosystems, while providing valuable conservation, research, monitoring and education to help ensure their health and abundance far into the future.

## Port Gamble S’Klallam Tribe Natural Resources Department Mission

The Port Gamble S’Klallam Tribe’s Natural Resources Department is committed to:

- Sustainably manage, protect, enhance, conserve, and restore culturally-relevant species, landscapes and seascapes integral to the unique identity of the S’Klallam People;
- Protect treaty rights of the natural and cultural resources of the Point No Point Treaty area; and
- Further educate the community and inspire future leaders and participants in this mission.

## Port Gamble S’Klallam Tribe Wetland Program Goal Statement

The intent of the Port Gamble S’Klallam Tribe’s wetlands program is to protect, preserve, enhance, restore, and manage wetlands as well as their ecological and cultural services on the Tribe’s reservation (Figure 1) as well as within the Tribe’s usual and accustomed harvest area (Figure 2); to the benefit of Tribal members now and in the future. The goals specifically developed for this five year wetland conservation program plan are provided at the corresponding core element framework descriptions in this document which will address the target wetland sites and potential projects The implementation tool, methods, process and

overall steps forward are described in detail in the PGST Identification and Prioritization Process for Wetland Conservation and/or Restoration Sites in Appendix E.

### **Port Gamble S’Klallam Tribe Wetland Conservation Program Plan Overview**

This Wetland Conservation Program Plan (WCPP) includes a Current State of Knowledge document in Appendix A that reviews what science and information exists for many of the wetlands in our area of interest as well as what inventories were available. Then, in Appendix B it provides an outline of our a five-year implementation/work plan listing priorities, actions and activities the Port Gamble S’Klallam Tribe intends on undertaking to monitor, protect, restore and manage wetlands on the Tribe’s reservation and within their usual and accustomed harvest area (U&A). These goals are outlined using the United States Environmental Protection Agency (EPA) developed Core Elements Framework. In Appendix C it provides a chart for our Proposed Timeline for PGST WCPP Activities. Appendix D lists our initial list of preliminary priority wetlands along with their respective GPS coordinates.

Then in Appendix E, we have our PGST Identification and Prioritization Process that we will use in our Wetland Conservation and Restoration planning. Appendix F is our PGST Tribal Wetland Ranking Spreadsheet in which tribal cultural and traditional values are scored and ranked as an overlay to any science values assigned. Appendix G is our PGST Water Quality Standards which we adopted in 2002. Appendix H is the Washington Department of Ecology Wetland Rating Form we will use in conjunction with the WDOE Washington State Wetland Rating System for Western Washington in Appendix I for evaluation and ranking freshwater wetlands. Then in Appendix J we have the National Guidebook for Application of Hydrogeomorphic Assessment to Tidal Fringe Wetlands we will use as a guidance document to assess, monitor and evaluate tidal fringe and pocket estuary wetlands. Finally, in

Appendix K as an additional tool for tidal fringe and pocket estuary assessments etc. we will use the Methods for Identification and Evaluating Pocket Estuaries which is from the “Regional Nearshore and Marine Aspects of Salmon Recovery” appendix B. This will help insure salmon recovery is specifically evaluated and addressed in these wetlands.

This WCPP was developed as a living document, in accordance with the principles of adaptive management. As shown above, it relies on many reference, guidance and process documents listed in the appendices. The actions described in this document may be stand-alone projects, or integrated products of larger tribal programs. The successful implementation of this WCPP will be dependent on funding and the availability of related resources both in the near term and long term. Our principle tool for implementation planning and process will be the “PGST Identification and Prioritization Process for Wetland Conservation and/or Restoration Sites” in Appendix D that was adapted from EPA’s Center for Watershed Protection’s WARPT: Wetlands-At-Risk Protection Tool. Our “Tribal Wetland Evaluation Matrix” has been incorporated into the above process document in section 6 and the spreadsheet is shown in appendix E. Our primary tools for actual assessments and more detailed monitoring and evaluation will be those documents mentioned above in Appendix I, J and K.

### Wetland Conservation Program Plan Background Information

The Port Gamble S’Klallam Tribe’s Reservation is located on the northern portion of the Kitsap Peninsula in Kitsap County, Washington, and is situated in portions of Township 27 North, Range 2 East, Sections 4, 5, 8, and 9, Willamette Meridian (Figure 1). Due to its proximity to the Puget Sound and Pacific Ocean, the reservation experiences a maritime climate typical of the Pacific Northwest, characterized by mild and wet winters with cool and dry summers. The mean July high temperature is 75°F and the mean January high temperature is 45°F. Rainfall in the



Puget Sound trough averages 38 inches a year, a majority of which falls during the winter months. High winds are typical with winter storm events gusting over 50 mph, not uncommon. The Port Gamble S'Klallam Reservation consists of 1,662 acres of which approximately 1,370 acres (82%) are forested. As reviewed in the Appendix B Compendium of Existing Knowledge, a 1992 inventory<sup>1</sup> of reservation wetlands identified a total of 86 acres of palustrine wetlands, and 8 acres of salt marsh (see Appendix D). We have more recent reservation lands both in Trust status and waiting for Trust status that we have updated GIS maps for inclusive of wetlands. The Port Gamble S'Klallam Tribe also asserts its rights to utilize its usual and accustomed hunting, fishing, and gathering locations as granted to signatories of the Point No Point Treaty of 1885 (Figure 2). For this reason, wetlands to be considered in this WCPP will extend beyond the reservation boundaries and into the areas of interest of the Port Gamble S'Klallam Tribe.

## **Wetland Loss**

Estimates of pre-settlement wetland acreage in Washington State range from 1.17 to 1.53 million acres, depending on the historical information and research assumptions used (Canning and Stevens, 1989; Dahl, 1990; Washington State Department of Ecology, 1992b). Based on a 1988 estimate by the FWS, about 20 to 39 percent of Washington's wetlands have been lost during the past two centuries. Other estimates place the total loss as great as 50 percent, and some urbanized areas of the Puget Sound area have experienced losses of from 70 to 100 percent. Estimates of continuing wetland loss range from 700 to 2,000 acres per year. In addition, most of the State's remaining wetlands have been significantly degraded (Washington State Department of Ecology, 1992).

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<sup>1</sup>The 1992 wetland inventory does not include wetlands located on lands brought into trust by the Port Gamble S'Klallam Tribe since 1992.

Several quantitative investigations into the degree of alteration of tidal wetlands have been conducted in Puget Sound. The earliest and most comprehensive assessment of areal coverage of tidal wetlands occurred in the mid 1880's by a Snohomish resident for the purposes of assessing agricultural development potential (Nesbit 1885). This endeavor used navigation maps, interviews with residents, and field observations to document the extent of tidal marshes and swamps (inclusive of saltmarsh and freshwater marsh) throughout Washington State from ca.1883. It found that tidal marshes greatly exceeded tidal flats in area on Puget Sound and that freshwater marshes were three to four times as great in extent as compared to the tidal marshes. Based on this early surveying effort by Nesbit (1885) , Thom and Hallum (1990) estimated approximately 26,792 hectares of tidal wetlands in seven of the nine counties bordering Puget Sound in the late 1800s. As such, approximately 38% of tidal marshes in Puget Sound may have already been converted to agricultural and urban land uses by the late 1800s (Nesbit 1885, Collins and Sheikh 2005).

The principal historical causes of wetland loss and degradation are the expansion of agriculture and the siting of ports and industrial facilities. The major causes of continuing loss and degradation of wetlands are urban expansion, forestry and agricultural practices, and the invasion of exotic plants and animals (Canning and Stevens, 1989; Washington State Department of Ecology, 1992).

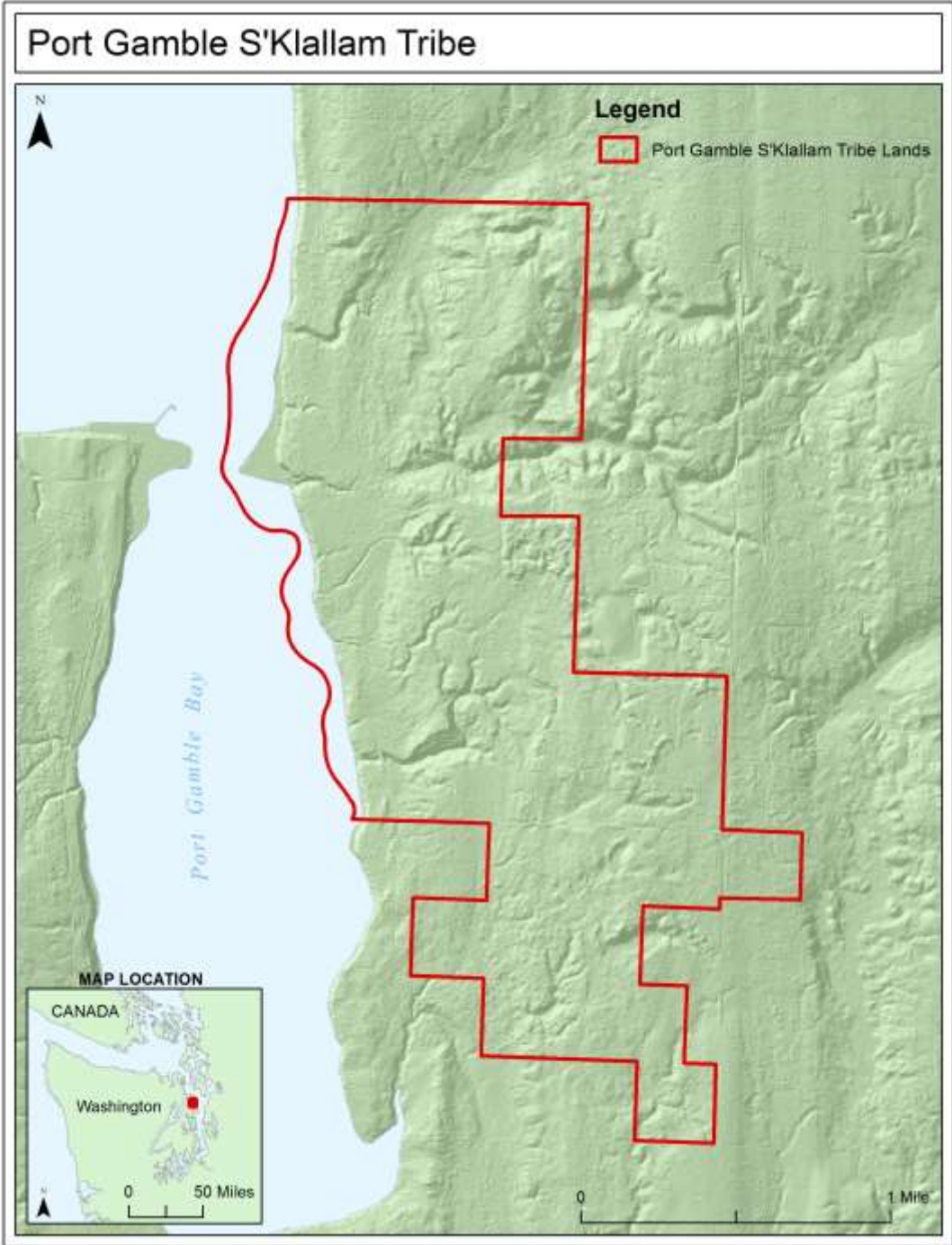
The historic extent of tidal wetlands in Puget Sound was also recorded on topographic charts known as "T-sheets," which were produced by the U.S. Coast Survey and the U.S. Coast and Geodetic Survey in 1884-1908. A review of comparisons between the T-sheets and more current sources including U.S. Geologic Survey topographic maps (produced in the 1970s) was conducted by Thom and Hallum (1990). This effort also drew upon analyses by Bortelson et al. (1980) and Boule et al. (1983). This investigation revealed that the most substantial intertidal wetland

losses occurred in the Snohomish, Duwamish and Puyallup river deltas, reported to have experienced loss of 32 %, 100%, and 99% respectively. Subaerial wetland loss (defined as those wetlands landward of the general saltwater shoreline, but exclusive of intertidal wetlands) was also significant, with total losses of approximately 73% in river deltas throughout Puget Sound since the late 1800s (Bortleson et al. 1980, Thom and Hallum 1990).

In Puget Sound, Collins et al. (2003) reconstructed historical environments of several estuaries in northern Puget Sound and concluded that a considerable amount of tidal wetland had already been converted to agricultural and other land uses prior to development of the T-sheets, particularly estuarine scrub-shrub and riverine tidal environments, which were the basis of previous studies. To provide a comprehensive assessment, the Washington Department of Natural Resources (WDNR) collaborated with the University of Washington (UW) to characterize the historic and current distribution, type, and amount of tidal wetlands in Puget Sound (2005). Collins and Sheikh (2005) used a number of other sources that supplemented and cross-referenced the T-sheets, including records of federal land survey, aerial photographs, the survey conducted by Nesbit (1885) and soil surveys. They developed an atlas of pre-settlement (mid 1880s) riverine and nearshore habitats consisting of a spatially explicit digital database based on a landform and process-based classification of nearshore wetlands (see Collins and Sheikh (2005) for a complete summary of methods and results).

They estimated the historic area of wetland habitat in Puget Sound to be 29,500 acres, indicating that the current tidal wetlands are 17 – 19% of their historical extent (Collins and Sheikh 2005). They found that the Whidbey basin (which includes the Snohomish, Skagit and Stillaguamish rivers) has experienced the largest total loss of areal coverage followed by the Sand Juan Islands/North Coast (which includes the Padilla Bay part of the greater Skagit River delta, and the Samish River), the Fraser

Lowland (which includes the Lummi and Nooksack rivers), and the Central Sound (which includes the Duwamish and Puyallup rivers) (Figure 4). Moreover, the median size of individual wetlands has decreased over time from approximately 0.93 hectares to 0.57 hectares (Figures 2 and 5)(Collins and Sheikh 2005). The composition of river delta wetlands has also undergone a major shift such that the relative abundance of emergent scrub-shrub and riverine-tidal vegetation were historically higher than current levels (Figures 3 and 6)(Collins and Sheikh 2005).



**Figure 1.** Port Gamble S'Klallam Tribal Lands

## Point No Point Treaty Area



*This map is for illustrative purposes only and should not be relied on for any purpose other than to ascertain the general area where the PNPTC member Tribes currently authorize fishing activities under the Boldt decision and the Treaty of Point No Point. Authorized areas of fishing can be subject to change and in no way should be considered to limit the treaty rights of the member Tribes. If there are any questions regarding the area illustrated, or activities of the member Tribes outside of the area illustrated, please call Randy Harder, PNPTC Executive Director, (360) 297-6500.*

**Figure 2.** Port Gamble U&A

### Important Factors to be considered during WCPP Implementation

A team generating projections for climate change and sea level rise in Port Gamble Bay is working concurrent with the development of this WCPP. It will be essential that future projections of climate change and sea level rise in the PGST reservation and U&A be considered with respect to future wetlands monitoring, assessment, protection, and enhancement. We will be working on several of our priority wetland sites for areas of intensive long term monitoring for review of possible future

changes due to climate change, environmental stressors and or development pressures.

Also essential to a comprehensive program of actions and activities is the consideration of tribal utilization of wetlands as a cultural resource. Wetlands are essential to tribal members for spiritual ceremony, medicinal and traditional harvest, as well as associated wildlife resources including elk, deer, shellfish, and juvenile salmonid rearing habitat. We will continue working with our technical advisory committee (TAC) and will establish a new tribal advisory committee (TRAC) which will help select wetlands for monitoring, assessment, and enhancement and will use and probably revise over time the Tribal Traditional and Cultural Evaluation process in Appendix F. A separate wetlands database specific to culturally significant wetlands will be developed with limited access to assure the protection of tribally sensitive information.

### Core Element Actions and Activities

The following 5 year plan lists our goals, objectives, actions, activities and current status for this Wetland Conservation Program Plan WCPP. The listed actions and activities are intended as guidelines for this program and as previously stated are subject to modification depending on needs and funding. A timeline of all listed objectives and activities for each core element is provided in Appendices A and B. The bolded objectives are those of which the Port Gamble S'Klallam Tribe has developed actions and activities and is committed to implementing with existing resources and funding.

### Monitoring and Assessment

#### **Goal:**

Continue updating our Wetland Mapping Tool and use the PGST Identification and Prioritization Process for Wetland Conservation and/or Restoration Sites” in Appendix E for program implementation with a focus on establishing efficient and effective

ranking, prioritization, monitoring and assessment and protection strategies capable of informing tribal members, tribal staff, and tribal leaders of the current and trending condition of wetlands deemed to be of the highest priority (both on reservation and within the larger U & A) by the technical advisory committee (TAC) and the tribal advisory committee (TRAC).

### **Objectives:**

- **Implement the program as resources allow using the PGST Identification and Prioritization Process for Wetland Conservation and/or Restoration Sites” in Appendix D).**
- **Update our Wetland Mapping Tool and Compendium to insure inclusion the best methods and process as well as culturally and environmentally significant wetlands to help prioritize the monitoring and assessment program.**
- **Utilize the guidance documents in Appendices E through K to insure the best methods and approaches are used throughout the implementation and ongoing efforts in the program.**
- **Build databases to store monitoring data with a separate database for Tribal specific data of interest such as traditional plants etc..**
- **Produce a yearly summary of collected data and project accomplishments.**

### **Future Actions:**

- Continue working with the technical advisory committee (TAC) and establish a tribal advisory committee (TRAC). Begin reviewing our initial list of prioritized wetlands for



available data while using our guidance documents in the appendices. We will go through the planning process using our PGST Identification and Prioritization Process Wetland Conservation and Restoration in Appendix E. We will work with our TRAC and TAC to go through a few wetlands to test drive our traditional and cultural ranking matrix in Appendix F (PGST Tribal Wetland Ranking Spreadsheet). As these tribal cultural and traditional values are scored and ranked they will be statistically weighted as to how many Tribal members, elders etc. ranked them and then used as an overlay to any science values assigned through more formal assessments and ranking processes. We will utilize our PGST Water Quality Standards for on reservation wetlands, especially for helping protect and conserve them via regulatory leverage.

- Evaluate priority freshwater wetlands using the Washington Department of Ecology Wetland Rating Form (Appendix H) in conjunction with the WDOE Washington State Wetland Rating System for Western Washington in Appendix I for evaluation and ranking freshwater wetlands.
- Evaluate priority tidal zone wetlands using the National Guidebook for Application of Hydrogeomorphic Assessment to Tidal Fringe Wetlands (Appendix J) to assess, monitor and evaluate our important tidal fringe and pocket estuary wetlands. For these wetlands, we will also use the Methods for Identification and Evaluating Pocket Estuaries (Appendix K) which is from the “Regional Nearshore and Marine Aspects of Salmon Recovery” (appendix B) to insure salmon recovery and restoration is focused on.
- The members of the technical advisory committee will be asked for occasionally scheduled technical meetings and or document reviews and will especially be asked for assistance

in site specific wetland actions. The Port Gamble S’Klallam Tribe’s tribal advisory committee or TRAC will work closely with the Natural Resources Department staff and from the outside partnering organizations listed under the potential partnerships section of this document. The Tribal advisory committee will be recruited by requesting participation form interested Port Gamble S’Klallam Tribal members and from the Port Gamble S’Klallam Tribe’s Cultural Resources Department.

- The technical advisory committee (TAC) and the tribal advisory committee (TRAC) will be charged with reviewing, ranking and making changes to the preliminary list of wetland sites selected for monitoring and assessment (Figure 3 and Appendix D). These sites were selecting using our Wetland Mapping Tool and several of the working group (TAC) meetings in addition to several internal Natural Resources staff work sessions. The TAC and the TRAC will then be asked to review the proposed monitoring activities and develop a monitoring and assessment strategy aimed at integrating the sites selected for monitoring with the resources available to implement the reviewed monitoring activities.
- The Port Gamble S’Klallam Tribal staff members of the technical advisory committee and the tribal advisory committee will be charged with producing a yearly summary assessment of collected data and project accomplishments. This annual summary will be kept in our Wetlands Compendium and any available data and useful information will be added into the appropriate spreadsheets and or data bases.

### **Future Activities:**

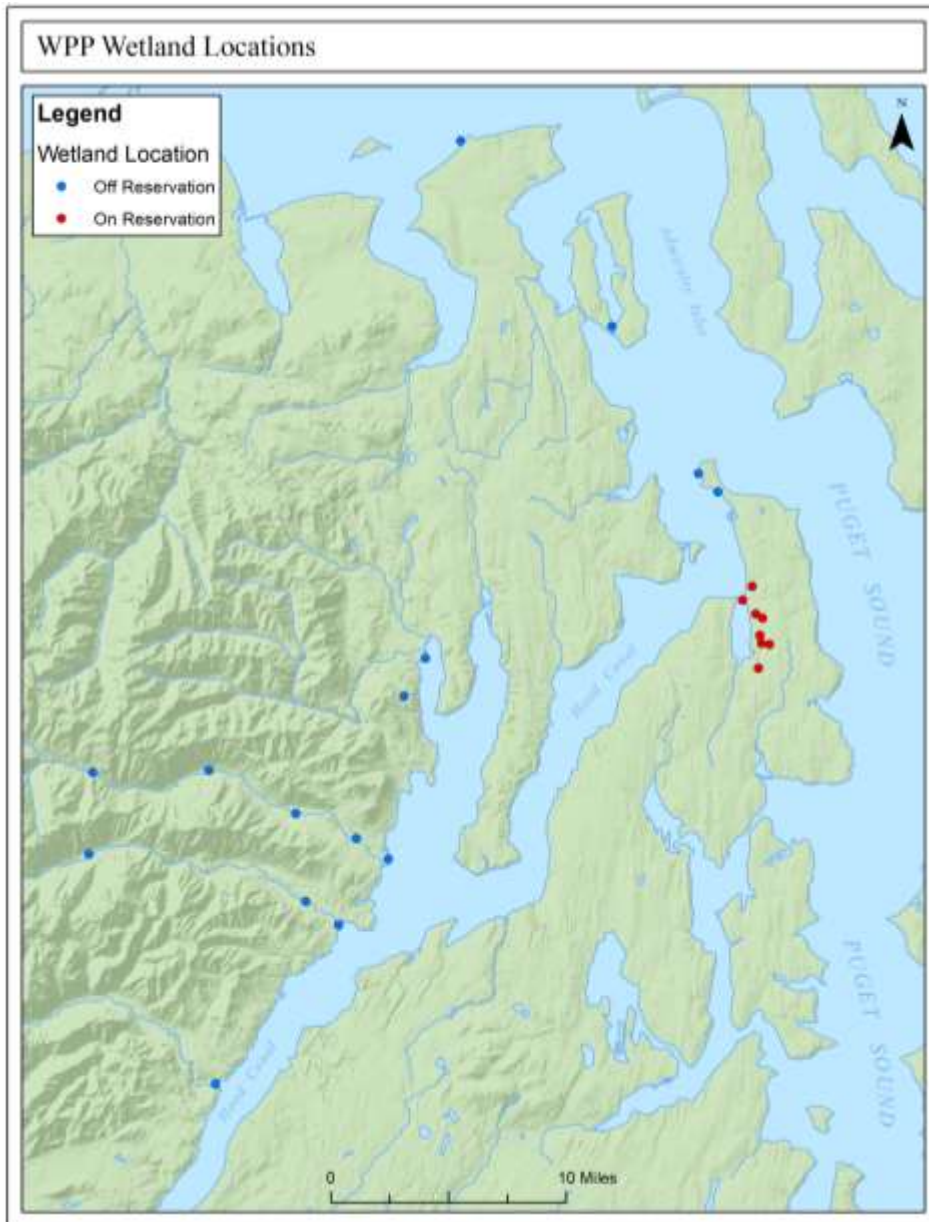
- Deploy onset Hobo U20L water level/temperature loggers (or similar product) at the top five ranked wetlands sites as identified by the technical advisory committee (TAC) and the tribal advisory committee (TRAC). The data collected by the water level/temperature loggers will be used to assess the current hydrologic and thermal conditions of these sites and will provide the committees with a tool for monitoring changes at these locations in respect to both anthropogenic and natural forces.
  - Climate change
  - Local development
  - Seasonal variability
  - Change in hydrology
  - Storm water influence
  - Change in sea-level
  - Change in sediment deposition
  - Restoration action
  
- Deploy a soundscape acoustic monitoring system and dissolved oxygen and temperature loggers at the wetland site identified by the tribal advisory committee to be of the highest priority. The soundscape acoustic monitoring system will be used to characterize the current conditions of the wetland site with respect to anthropogenic influence and natural ecosystem diversity and robustness. The soundscape acoustic monitoring system will also be used to monitor for longer term ecological changes caused by anthropogenic and natural influences. See <http://www.acousticecology.org/wildlandsoundresource.htm> and <http://www.wildsanctuary.com/BioScience2011-SoundscapeEcology.pdf>

## Current Status:

- Our Wetland Mapping Tool will be continually updated and revised and will be used in conjunction with our PGST Identification and Prioritization Process for Wetland Conservation and/or Restoration Sites in Appendix E to help locate and prioritize wetland areas within our U&A though most of our wetland planning and conservation etc. will be within our preferred area of interest as shown below in Figure 3. This wetland mapping geodatabase currently contains topographic sheet (T-sheets) data digitized by the Point No Point Treaty Council (PNPTC), shoreline alterations (source: PNPTC), current day shoreline features (source: PNPTC), forest practice wetlands within the U&A from the Washington State Department of Natural Resources (DNR), parcels within the U&A from the University of Washington, and the National Agriculture Imagery Program (NAIP) 2011 aerial imagery for the U&A. The Wetland Mapping in Section 1 of our PGST Identification and Prioritization Process for Wetland Conservation and/or Restoration Sites” in Appendix E will be used for additional data options that will support wetland mapping and planning processes and will be added as resources allow. Several options are available for updating our Wetland Mapping Tool in Section 1, Table 1.1 of our above mentioned implementation planning document in Appendix E. The most accurate yet resource intensive methods include digitizing or photo-interpreting wetlands directly from digital imagery or high resolution aerial photos. To offset the associated costs, we will collaborate on a regional basis to acquire imagery (which has many uses besides wetland mapping) and/or mapping wetland resources. Potential partners may include: land trusts, non-

profits, transportation and utility departments, universities, federal and state agencies, private consultants, and regional governing bodies. For additional information on identifying partners and building mapping coalitions, we will refer to Stetson (2009), Christie and Stetson (2009), and NACo (2007).

- Our preliminary list of selected culturally and environmentally important nearshore and upland wetland sites for future monitoring efforts will be reviewed and updated annually. This list (Figure 3 and Appendix D) is expected to change with input provided by TAC and TRAC in the future, especially after or Tribal Traditional and Cultural Ranking is used (Appendix F)



**Figure 3.** Map of preliminary selection of significant wetlands within the U&A.

## Regulation & Mitigation

### **Goal:**

For regulation and mitigation we will primarily utilize Section 5 of our PGST Identification and Prioritization Process for Wetland Conservation and/or Restoration Sites” in Appendix E to develop an effective protection strategy that helps conserve, restore and maintain the physical, chemical, and biological integrity of

wetlands with the ultimate objective of “no net loss” of wetland area or function.

### **Objectives:**

- **Participate in the development of local environmental mitigation tools; intended to improve the success of meeting the no net loss of aquatic resource functions standard.**
- **Work toward achieving the goals identified in the April 29, 1999 Forests and Fish Report.**
  - **Provide compliance with the federal Endangered Species Act for aquatic and riparian-dependent species on state and private forestlands.**
  - **Restore and maintain riparian habitat to support a harvestable supply of fish.**
  - **Meet the requirements of the Clean Water Act for water quality on non-federal forest lands.**
  - **Keep the timber industry economically viable in the State of Washington.**

### **Future Actions:**

- Continue to participate in the development and implementation of the Hood Canal Coordinating Council (HCCC) In-Lieu Fee (ILF) mitigation program.
- Continue to participate in the Forest Practice Compliance Monitoring Program (CMP) by reviewing Forest Practice Applications (FPAs) to ensure that the appropriate buffers and protections are being applied to wetlands during forest practice operations.

### **Future Activities:**

- Provide interagency review team (IRT) membership for the development and implementation of the Hood Canal Coordinating Council (HCCC) In-Lieu Fee mitigation (ILF) program.
- Review/Screen forest practice applications (FPA's) within the Port Gamble S'Klallam U&A for issues of concern; coordinate with other reviewers, landowners and agencies to address concerns that arise as a result of the review process.
- Provide interdisciplinary (ID) team membership for ID team reviews of forest practice applications (FPA's); within the Port Gamble S'Klallam U&A.
- Participate in the Washington Department of Natural Resources (WDNR) forest practices compliance monitoring program; within the Port Gamble S'Klallam U&A.

### **Current Status:**

- The Port Gamble S'Klallam Tribe is a member of the Hood Canal Coordinating Council (HCCC) In-Lieu Fee (ILF) program interagency review team (IRT).
- Port Gamble S'Klallam Tribal staff actively review forest practice applications (FPA's) and participate in interdisciplinary (ID) teams and the Washington Department of Natural Resources (WDNR) forest practices compliance monitoring program; within the Port Gamble



## S'Klallam U&A



Kilisut Harbor Salt Marsh: Photo Provided by Hans Daubenberger

### Voluntary Restoration and Protection

#### Goal:

Using Section 5 or our PGST Identification and Prioritization Process for Wetland Conservation and/or Restoration Sites” in Appendix E and our PGST Tribal Traditional and Cultural Ranking spreadsheet in Appendix F, we will continue to identify and prioritize environmentally and culturally significant wetlands on the reservation and within the Tribe’s U&A and seek out opportunities to protect and restore these sites.

#### Objectives:

- **Identify voluntary restoration and conservation opportunities, prioritized on cultural value and environmental function (TAC/TRAC). Ideas include;**
  - **Invasive species removal**
  - **Creosote piling removal**
  - **Restoration of historical waterways**
  - **Conservation easements**

- Enhance the native vegetation species diversity and complexity of wetlands and riparian areas within the Port Gamble S’Klallam Tribe’s U&A.
- Develop a live biological buffer protection tool, focused on reducing anthropogenic impacts to wetlands and waterways associated with treaty resources.

**Future Actions:**

- Participate in the Hood Canal Coordinating Council (HCCC) Lead Entity for Salmon Recovery process.

**Future Activities:**

- Continue to provide technical advisory group (TAG) membership for the development of the Lead Entity for Salmon Recovery 3 Year Work Program and the Habitat Work Schedule.
- Continue to provide technical advisory group (TAG) membership for the evaluation and ranking of salmon recovery projects, brought forward through the Lead Entity process.

**Current Status:**

- Port Gamble S’Klallam Tribal staff are members of the Hood Canal Coordinating Council’s (HCCC) Lead Entity for Salmon Recovery technical advisory group (TAG).

Potential Partnerships

**Goal:**

Develop partnerships with outside organizations to improve the efficiency and effectiveness of current and future wetland assessment, monitoring, education and restoration actions occurring within the Tribe’s U&A.

## **Objectives:**

- **Foster partnership with outside organizations including:**
  - Hood Canal Coordinating Council
  - Point No Point Treaty Council
  - Washington State Department of Natural Resources
  - Washington State Department of Fish and Wildlife
  - Washington State Department of Ecology
  - Kitsap County
  - Jefferson County
  - Jamestown S’Klallam Tribe
  - Lower Elwha Klallam Tribe
  - Skokomish Tribe
  - Suquamish Tribe
  - Northwest Indian Fisheries Commission
  - National Oceanic and Atmospheric Administration
  - U.S. Geological Survey
  - U.S. Environmental Protection Agency
  - U.S. Army Corps of Engineers
  - Northwest Indian College
  - University of Washington

## **Future Actions:**

- Work with partnering organizations to implement the actions and activities described in this wetland conservation program plan (WCPP).
- Seek out new opportunities to work with partnering organizations to achieve the overarching goal described by the Port Gamble S’Klallam Tribe Wetland Program Goal Statement.

## **Future Activities:**

- The Port Gamble S’Klallam Tribal staff will continue to work with partnering organizations as described in the actions and activities of the core elements of this wetland conservation program plan (WCPP).

- The Port Gamble S’Klallam Tribal staff will seek, outside partner participation and continue to work with the technical advisory committee (TAC) as described in this wetland conservation program plan (WCPP).

## Education and Outreach

### **Goal:**

Develop and implement an effective method to improve the public's understanding of the importance of functioning wetlands within the environment by incorporating suggested actions from pages 44 through 46 or our PGST Identification and Prioritization Process for Wetland Conservation and/or Restoration Sites" in Appendix E ; and to encourage the public to recognize their roles and responsibilities as stewards of the natural environment.

### **Objectives:**

- Create signage and public art to convey information on the importance of wetland functions, health, and cultural importance.
- Develop a geocaching like game "app" to encourage children to have an outdoor moment.
- Develop an elementary school floor game to be played in the school gym with role play from fish, herons, osprey, developers, biologist etc.
- Develop two day grade 3 educational curriculum of "basic steps" to minimize anthropogenic impacts to wetlands.

## Appendix A: Current State of Knowledge (Separate Document)

## Appendix B: 5 Year Implementation/Work Plan

### **Year 1 (Completed or in Progress)**

Compile list of prioritized wetlands for PGST. Develop a technical advisory committee (TAC) and tribal advisory committee (TRAC) to help select wetlands for monitoring, assessment, and enhancement.

Select wetlands for comprehensive toxicological analysis and other water quality and quantity analysis.

Develop a wetlands functional assessment tool (level 2-3) with sections for uplands, forest and coastal wetland types.

Preliminary development of biological buffer protection tool focusing on reducing anthropogenic impacts to wetlands associated with treaty resources (literature review).

Develop databases to house monitoring data with one being for Tribal data that is not for public disclosure.

Produce summary of program development and collected data.

Update and revise our a Wetland Mapping Tool to allow staff biologists and resource managers to review important biological and environmental aspects of each priority wetland.

Seek out opportunities to participate in partnerships in line with our restoration and educational objectives.

### **Year 2**

Begin implementation of functional assessment tool on wetlands prioritized by TAC/TRAC.

Continue developing “bio buffer protection tool” (experimental design).

Finalize Wetlands Geo-Database.

Produce summary of program development and collected data.

Review CWA 401 activity and implementation using our PGST WQS's.

Conduct staff informational training sessions on Wetland Assessment processes.

Seek out opportunities to participate in partnerships in line with our restoration and educational objectives.

### **Year 3**

Continue development of bio buffer protection tool (experimental implementation).

Review and update Wetlands Geo-Database.

Produce summary of program development and collected data.

Review CWA 401 activity and implementation.

Review HCCC In-Lieu Fee Mitigation Program participation and effectiveness.

Seek out opportunities to participate in partnerships in line with our restoration and educational objectives.

Develop curriculum, sign design – where, what does it say, etc.

Signs, App development, preschool/grade school fieldtrip.

Conduct staff informational training sessions.

### **Year 4**

Select test site(s) for bio buffer protection tool.

Begin evaluation of effects of buffer system.

Review and update Wetlands Geo-Database.

Produce summary of program development and collected data.

Seek out opportunities to participate in partnerships in line with our restoration and educational objectives

Continue signs, App development, preschool/grade school fieldtrip

Conduct staff informational training sessions.

### **Year 5**

- Continue evaluation of buffer system.
- Review and update Wetland Geo-Database.
- Seek out opportunities to participate in partnerships in line with our restoration and educational objectives.

- Continue signs, App development, preschool/grade school fieldtrip
- Conduct staff informational training sessions.

### Appendix C: Proposed Timeline for PGST WCPP Activities

	Year 1	Year 2	Year 3	Year 4	Year 5
<b>Monitoring and Assessment</b>					
Develop prioritized wetlands list - TAC/TRAC	X				
Develop Functional Assessment Tool	X				
Implement Functional Assessment Tool on prioritized wetlands		X	X	X	X
Bio Buffer protection tool	X	X	X	X	X
Database for monitoring data	X	X	X	X	X
Geo-Database (develop, finalize, review annually)	X	X	X	X	X
Summary of program development and data	X	X	X	X	X
<b>Regulation and Mitigation</b>					
CWA 401 – review activity/implementation		X	X	X	X
Geo-Database (develop, finalize, review annually)	X	X	X	X	X
ILF participation and effectiveness review			X	X	X
<b>Restoration and Protection</b>					
Bio Buffer protection tool	X	X	X	X	X
Invasive removal, historical waterway restoration, native vegetation enhancement				X	X
<b>Water Quality Standards</b>					
CWA 401 – review activity/implementation		X	X	X	X
Implement new WQ monitoring strategies (if necessary)			X	X	X
<b>Partnerships</b>					
Seek out partnerships in line with restoration and educational objectives	X	X	X	X	X
<b>Education and Outreach</b>					
Staff informational training		X		X	
Educational curriculum development and education, signage, App development, public art.			X	X	X

\* Note: some actions fall under more than one Core Element and so are repeated in this timeline.



## **Appendix D: List of preliminary wetland selections with GPS coordinates.**

### **On Reservation**

Miller Lake and associated wetlands: 47.813793, -122.558249

Middle Creek/Dump Plume Area: 47.844580, -122.555660

Unnamed creek behind Reservation Cabins: 47.847193, -122.562087

Shipbuilders Creek: 47.863867, -122.565540

Unnamed wetland (largest on reservation): 47.828442 -122.548629

Wetland on trust land adjacent to Martha John tribs: 47.829178 -  
122.556097

Wetland at Martha John East WQ monitoring site: 47.47.833911, -  
122.557659

Point Julia salt marsh: 47.855411, -122.574217

### **Off Reservation**

Gamble Creek Drainage: (To be identified via site visits)

Foulweather Bluff: 47.921439 -122.599406

Twin Spits: 47.932540 -122.617719

Hamma Hamma delta: 47.548452 -122.041287

Dosewallips delta: 47.690102 -122.890699

Duckabush delta: 47.648727 -122.934031

Quilcene: 47.814174 -122.862288

Kilisut Harbor: 48.021519 -122.700532

Glass Beach kelp bed: 48.132902 -122.844391

Lower Dosewallips: 47.716164 -122.976396

Lower Dosewallips: 47.702238 -122.920350

Upper Dosewallips washout area: 47.741022 -123.056670

Upper Dosewallips north of washout area: 47.737491 -123.162268

Upper Duckabush: 47.687083 -123.163241

Lower Duckabush: 47.662415 -122.964526

Devil's Lake: 47.790554 -122.881029

**Appendix E: PGST Identification and Prioritization Process for Wetland Conservation and/or Restoration Sites (Separate Document)**

**Appendix F: PGST Tribal Wetland Ranking Spreadsheet (Separate Document)**

**Appendix G: PGST Water Quality Standards (Separate Document)**

**Appendix H: WDOE Wetland Rating Form – Western Washington (Separate Document)**

**Appendix I: WDOE Washington State Wetland Rating System for Western Washington (Separate Document)**

**Appendix J: National Guidebook for Application of Hydrogeomorphic Assessment to Tidal Fringe Wetlands (Separate Document)**

**Appendix K: Methods For Identifying And Evaluating Pocket Estuaries from “Regional Nearshore & Marine Aspects of Salmon Recovery” Appendix B (Separate Document)**