



Nonpoint Source Pollution Management Program for The Port Gamble Reservation

SEPTEMBER 2023



**NONPOINT SOURCE POLLUTION MANAGEMENT PROGRAM
FOR THE PORT GAMBLE RESERVATION**

Kingston, Washington

Prepared for
The Port Gamble S'Klallam Tribe

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December 2022
Updated September 2023

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LIST OF ABBREVIATIONS AND ACRONYMS

ATV	All-Terrain Vehicle
BIA	United States Bureau of Indian Affairs
BMP	Best Management Practice
CWA	Clean Water Act
Department	Port Gamble S’Klallam Tribe Natural Resources Department
Ecology	Washington State Department of Ecology
FMP	Forest Management Plan
HUD	United States Department of Housing and Urban Development
IHS	Indian Health Service
L RTP	Long-Range Transportation Plan
MTCA	Model Toxics Control Act
NPS	Nonpoint Source
NRD	Natural Resources Department
PGST	Port Gamble S’Klallam Tribe
RGF	Recirculating Gravel Filter
TAS	Treatment in a similar manner as a State
Tribe	Port Gamble S’Klallam Tribe
USEPA	United States Environmental Protection Agency
WDNR	Washington Department of Natural Resources

1.0 OVERVIEW

The Port Gamble S’Klallam Tribe (PGST) is pursuing grant eligibility under federal Clean Water Act (CWA) Section 319 to address nonpoint source (NPS) pollution within the Port Gamble Reservation. To qualify for Section 319 funding, Tribes must meet four criteria:

1. Be a federally recognized Tribe
2. Complete an approved CWA Section 319(a) NPS Assessment Report
3. Complete an approved CWA Section 319(b) NPS Management Program
4. Be CWA Section 518(e) approved for Treatment in a Similar Manner as a State (TAS)

In 2022, the PGST completed a NPS assessment report that summarizes and characterizes the condition of water resources on the Port Gamble Reservation. The purpose of this document is to describe the components of a Nonpoint Source Pollution Management Program for the Port Gamble Reservation. The Management Program will help assure that nonpoint sources of pollution do not adversely impact water resources on Tribal lands. Because there are no point source discharges to Reservation waters, nonpoint source pollution is the most likely source of water quality impacts.

In 2003, the United States Environmental Protection Agency (USEPA) determined that the PGST met the requirements to be treated in a similar manner as a state to administer a water quality standards program under Section 303(c) of the CWA and for the purposes of certifications under Section 401 of the CWA. The Tribe’s water quality standards were approved by USEPA in 2005.

The Port Gamble Reservation is situated on the northern end of the Kitsap Peninsula in Western Washington, approximately 27 miles northwest of the City of Seattle and 6 miles northwest of the Town of Kingston, on unincorporated lands within Kitsap County (See Figure 1). The lands of the Port Gamble S’Klallam Tribe include 1,707 acres of Reservation lands held in Trust by the federal government for benefit of the Tribe, 60 acres of off-Reservation Trust lands, and 949 acres of off-Reservation fee lands owned by the Tribe (See Figure 2).

The Port Gamble S’Klallam Tribe conducts routine monitoring of surface water quality in all major watersheds on the Port Gamble Reservation. Based on the results of water quality monitoring from 2019 through 2021, water quality is considered good in all watersheds, and impacts related to nonpoint source pollution are minor and localized. Two locations exhibited water quality impacts related to NPS pollution resulting from flow restrictions caused by partially blocked culverts and surface runoff from adjacent roadways. At another location, streambank

erosion was observed that resulted from hydrologic modifications to the stream channel. Other than at these locations, nonpoint sources of pollution do not currently appear to be adversely impacting surface water quality on the Reservation.

While current NPS impacts are minor and localized, future development, particularly construction of Tribal housing and associated infrastructure, has the greatest potential to result in NPS impacts to Tribal waters. Since 2003, the Tribe has acquired nearly 1,400 acres of new lands. In 2016, 410 acres were proclaimed as new Reservation lands, effectively increasing the size of the Reservation by more than 30 percent. In 2019, the Tribe acquired in fee 925 acres of forestlands north of and contiguous with the Reservation.

As of 2019, more than 100 Tribal members and their families were on a waiting list for a housing site on the Reservation. To meet the high demand for on-Reservation housing, it is likely that areas of newly acquired lands will be developed for Tribal housing, with associated roadbuilding and infrastructure development. Management of these new lands will pose additional challenges for the Tribe in effectively addressing potential nonpoint sources of pollution and protecting Tribal water resources.

Currently, more than 80 percent of Reservation lands are undeveloped forestlands. Because of this, Tribal land management policy to date has focused primarily on forest management and has resulted in the development of a Forest Management Plan, which is periodically updated. However, specific guidance and best management practices (BMPs) for other types of land management are lacking. To address this gap, the Tribe is in the process of revising and updating environmental protection standards that will be included as a new chapter in the Tribe's Law and Order Code. These new standards are anticipated to address the design of stormwater treatment systems and to include enforcement mechanisms for implementation of BMPs to address NPS pollution. Development of a well-defined process for identifying and implementing land development BMPs is a critical need for the protection of Tribal water quality and water resources.

2.0 INTRODUCTION

The implementation of a Nonpoint Source Pollution Management Program provides a means for the Tribe to address currently identified nonpoint sources of pollution and to proactively eliminate or minimize potential future impacts from nonpoint source pollution.

The goals of the Tribe's NPS Management Program are to control pollution from nonpoint sources to Tribal waters and to protect, maintain, and restore waters that are vulnerable to, or are impaired by, nonpoint source pollution.

These goals will be accomplished by devoting staff resources and program funding to the following objectives:

- Work with other stakeholders to address current NPS water quality impacts related to hydrologic modifications.
- Develop updated environmental standards to ensure future development is conducted in a way that eliminates or minimizes NPS pollution impacts.
- Develop watershed-specific monitoring objectives focusing on projected activities and nonpoint sources.
- Review quarterly monitoring data related to remedial actions at the former Hansville Landfill to ensure acceptable progress toward cleanup goals and restoration of beneficial uses.
- Develop and implement a strategy for inter-departmental coordination and public involvement to identify and address nonpoint sources of pollution related to land management uses and activities.

The Tribe has developed management plans and general standards for certain types of land management activities; however, existing plans lack specific guidance and best management practices and may not adequately address all potential sources of nonpoint pollution. Forest management activities are subject the Tribe's Forest Management Plan, and certain other land development activities are subject to general permitting requirements and environmental standards included in the Tribe's Law and Order Code.

The Tribe's NPS Management Program will identify and address potential nonpoint pollution sources on Reservation lands and on adjacent Tribally owned lands.

3.0 MANAGEMENT PROGRAM SUMMARY

In 2003, the PGST received TAS to administer a water quality standards program for the Port Gamble Reservation. The Tribe's water quality standards were approved by USEPA in 2005. The legal authority for the administration of the PGST NPS Management Program is outlined in the Section 319 TAS application in Appendix A.

The Tribe's NPS Management Program is in the early stages of development. The Tribe's Natural Resources Department will have primary responsibility for developing, coordinating, and implementing the program. Existing plans, ordinances, and policies that address NPS pollution are described in the following section.

3.1 Existing Plans, Ordinances, and Policies

3.1.1 Forest Management

Potential nonpoint sources of pollution resulting from forest management activities are addressed in the Forest Management Plan (FMP) for the Port Gamble Reservation (International Forestry Consultants, 2020). The purpose of the FMP is to provide the Tribe with policy guidance in developing operational plans and silvicultural prescriptions for the forest resources of the Port Gamble S'Klallam Reservation.

In addition to general requirements for the protection of surface waters, the FMP requires that forest roads are constructed using BMPs as outlined in the Washington State Forest Practice Board Manual (Washington Department of Natural Resources, 2000).

Plans for timber harvest are developed through a review and decision process among the managers who report to the Director of Natural Resources. The proposed harvest areas or site conversion plans and maps are then reviewed by the Cultural Resources Director, the Habitat Biologist, other Natural Resource staff, and Tribal leaders. The Bureau of Indian Affairs (BIA) is then notified of the Tribe's decision and requested to issue a permit or contract for the harvest or conversion of a particular area.

3.1.2 Tribal Environmental Standards

Title 24 of the Port Gamble S'Klallam Tribe's Law and Order Code (Environmental Protection) provides a process for the review and approval of development projects. Chapter 24.08 (Environmental Standards) requires that projects are implemented in a manner that is protective of water quality and water resources. The Tribe's Planning Director, in consultation with the

Natural Resources Department, is responsible for making permit recommendations to Tribal Council.

3.1.3 Wetlands Conservation Program Plan

The Tribe's Wetlands Conservation Program Plan (PGST NRD, 2014) identifies priorities, actions, and activities the Port Gamble S'Klallam Tribe intends on undertaking to monitor, protect, restore, and manage wetlands on the Reservation and within their usual and accustomed harvest area. The PGST Natural Resources Department is responsible for Plan implementation.

3.1.4 Long Range Transportation Plan

The Tribe's Long-Range Transportation Plan (LRTP) was prepared to plan, develop, and maintain a public transportation network that serves the needs of the community. The LRTP includes road standards and references BMPs for drainage and runoff controls. Implementation of the LRTP is the responsibility of the Tribal Planning and Utilities departments (PGST, 2021).

3.1.5 General Sewer and Wastewater Facility Plan

The Tribe's Utilities and Public Works Manager oversees maintenance of the residential wastewater collection and treatment systems, water distribution system, and roadways, and implements the General Sewer and Wastewater Facility Plan (Gray & Osborne, 2013).

3.2 Watershed Focus

The development and implementation of the NPS Management Program will be watershed-focused and will address NPS issues specific to each of the major watersheds on the Reservation and on adjacent Tribal lands. Table 3-1 identifies activities with potential NPS impacts anticipated for each watershed over the 5-year term of this Management Program.

Table 3-1. Anticipated Activities by Nonpoint Source Category and Affected Watersheds

Nonpoint Source Categories	Affected Watersheds			
	<i>Shipbuilders Creek</i>	<i>Little Boston Creek</i>	<i>Middle Creek</i>	<i>Martha John Creek</i>
Forest Management <ul style="list-style-type: none"> • Harvest • Land conversion 	X X			X X
Land Development <ul style="list-style-type: none"> • Residential • Commercial • Administrative 	X		X	X
Hydrologic Modification <ul style="list-style-type: none"> • Culverts • Streambank Erosion 	X	X		X
Wastewater <ul style="list-style-type: none"> • Septic systems • Landfill leachate 			X X	X

4.0 MANAGEMENT PROGRAM DESCRIPTION

The overall goal of the Tribe's Nonpoint Source Pollution Management Program is to protect and improve water quality on PGST lands. By establishing water quality standards, the Tribe has recognized a goal of ensuring that all Tribal waters meet water quality standards for their designated uses. This Management Program, in conjunction with other Tribal programs, will contribute to achieving this goal.

The implementation of a Nonpoint Source Pollution Management Program provides the Tribe a means of addressing currently identified nonpoint sources of pollution and serves as a general reference which the Tribe can use to coordinate and maximize the effectiveness of its internal and external efforts to prevent, reduce, and eliminate nonpoint source pollution of waters of the Port Gamble Reservation.

The major NPS categories on the Reservation include forest management, land development, hydrologic modification, and wastewater treatment and disposal.

4.1 Forest Management

Forested lands make up over 80 percent of all lands on the Port Gamble Reservation, and 75 percent to 94 percent of the lands in individual watersheds on and adjacent to the Reservation.

Sources of nonpoint source pollution associated with forest management activities include removal of streamside vegetation, road construction and use, timber harvesting, and mechanical preparation for the planting of trees. Road construction and road use are the primary sources of NPS pollution on forested lands, contributing up to 90 percent of the total sediment from forestry operations (USEPA, 2022).

The nonpoint source pollutant of greatest concern with respect to forest management is sediment. The potential for sediment delivery to streams is both a short- and long-term concern from almost all forest harvesting activities and from forest roads regardless of their level of use or age.

Other pollutants, including nutrients, temperature, toxic chemicals and metals, organic matter, pathogens, herbicides, and pesticides, may also be of concern.

Forest management activities on the Port Gamble Reservation are conducted in accordance with the Tribe's Forest Management Plan, which is periodically reviewed and updated. Impacts from

timber harvesting are controlled through retention of buffers for streams and wetlands, choice of machinery appropriate for the topography, proper timing of operations, wildlife habitat reservations, control of harvest size, and rigid enforcement of environmental protection standards for mechanical operations. Specific operating plans for timber harvest are developed through a review and decision process among the managers, who report to the Director of Natural Resources, and approved by the Tribal Council and the Bureau of Indian Affairs.

Forest management activities conducted on Tribal fee lands and non-Tribal lands adjacent to the Reservation are subject to Washington State Forest Practice Rules. Permits issued by the Washington Department of Natural Resources (WDNR) are reviewed by the Tribal Natural Resources Department.

4.1.1 Goals and Objectives

The overall goal for this NPS category is to minimize the likelihood of water quality impacts resulting from forest management activities. To support this goal, the Tribe will implement management practices to 1) avoid or minimize water quality impacts from harvest operations; 2) avoid or minimize water quality impacts from the use of herbicides and other chemicals; and 3) avoid or minimize water quality impacts from the construction and maintenance of forest roads.

4.1.2 Best Management Practices

4.1.2.1 Harvest Operations

Best management practices for harvest operations identified in the Tribe's Forest Management Plan include the use of Riparian Reserves as well as general standards for water quality protection.

4.1.2.1.1 Riparian Reserves

The long-term objective for Riparian Reserves is to maintain and enhance water quality along streams with potential fish habitat. Riparian Reserves are designed to maintain and enhance fish populations within the Reservation. An anadromous fishery is very important to the economy and culture of the Reservation. Prevention of warming and siltation of water are important for the management of the water-based resources. Prevention of damage to spawning beds and preservation of varied stream conditions for fish populations are essential to the management of the fishery.

4.1.2.1.2 *Water Quality Protection*

Water quality and quantity are important to the habitability of the Reservation as well as to the maintenance of fisheries resources. Forest practices will be conducted to avoid erosion, siltation, premature runoff, and degradation of water purity. Chemicals, fuels, and lubricants used in forest management and logging activities will be carefully used and controlled to prevent any introduction into surface or ground waters. The decision process for specific operations and forest management practices will include review of their effect on fisheries and water resources by Natural Resources personnel responsible for those resources.

4.1.2.2 ***Herbicide and Other Chemical Use***

Plantation maintenance may require the use of herbicides and other chemicals. These products will be used in strict compliance with label instructions and USEPA regulations, and then only with direct approval of the Tribal Business Council. Such compliance should hold environmental damage to an insignificant level. Further plantation maintenance may be deferred until the stand is ready for pre-commercial thinning at which time manual removal will be used to control unwanted species.

Herbicides and other chemicals will be used in strict compliance with label instructions and USEPA regulations. They will be applied by a licensed applicator under State licensing. There will be no chemicals used in stream and wetland buffer areas.

4.1.2.3 ***Road Construction and Maintenance***

As directed in the Forest Management Plan, forest roads will be constructed using Best Management Practices (BMPs). State-derived BMPs as outlined in the Washington State Forest Practice Board Manual Section 3 pertaining to roads should be used when designing road construction and maintenance for forest management roads in conjunction with timber harvesting (WDNR, 2000).

4.1.3 **Management Actions**

Proposed management actions for this NPS category include both short-term actions (1 to 3 years) and long-term actions (3 to 5 years). During the term of this Management Program most forest management activities are anticipated to occur on Tribally owned, non-Trust lands within the Shipbuilders Creek watershed. Some forest management activities may also occur as part of land conversion for housing development within the Martha John Creek watershed.

4.1.3.1 Short-Term Actions

1. Review State Forest Practice Rules permits for harvest and regeneration actions on Tribal fee lands north of the Reservation (Hansville Block) to ensure actions are protective of water quality and BMPs are effectively implemented.

Responsible entities: Washington Department of Natural Resources (WDNR) and PGST Natural Resources Department

Watershed: Shipbuilders Creek

2. Conduct a survey of forest road conditions to identify and document potential nonpoint source impacts.

Responsible entities: PGST Natural Resources Department

Watersheds: Little Boston Creek, Middle Creek, Martha John Creek

4.1.3.2 Long-Term Actions

1. Review and update the Forest Management Plan for the Port Gamble Reservation.

Responsible entities: PGST Natural Resources Department, BIA, PGST Tribal Council

Watersheds: All

2. Develop an education and outreach program for responsible all-terrain vehicle (ATV) use on forest roads.

Responsible entities: PGST Natural Resources Department

Watersheds: Little Boston Creek, Middle Creek, Martha John Creek

4.2 Land Development

Land development can increase the types and amounts of pollutants carried into the Reservation's waters. In developed areas, much of the land surface is covered by buildings, pavement, and compacted landscapes. These surfaces do not allow rain and snow melt to soak into the ground which greatly increases the volume and velocity of stormwater runoff. In addition to these impacts, pollutants from stormwater runoff include:

- Sediment
- Oil, grease, and toxic chemicals from motor vehicles
- Pesticides and nutrients from lawns and gardens
- Bacteria from pet waste
- Heavy metals from roof shingles, motor vehicles, and other sources

Both the density of development and the rate of land conversion can have a negative impact on water quality.

Because of the high demand for on-Reservation housing, much of the current and proposed future development on the Reservation is focused on single and multi-family housing development and associated infrastructure. Housing and infrastructure development for the foreseeable future will involve the conversion of forestlands.

Additionally, commercial development is proposed on previously developed lands within the existing Business Park area of the Reservation along Hansville Road.

4.2.1 Goals and Objectives

The Tribe's long-term goal for this category is to minimize NPS pollution from stormwater runoff in residential and commercial areas with a focus on potential sources of sediment, nutrients, and bacteria. In support of this goal, the Tribe will revise and update environmental standards and BMPs for development as part of the Tribe's Law and Order Code and will develop procedures for improving coordination and communication between Tribal departments and funding and oversight agencies.

4.2.2 Best Management Practices

Land development on the Reservation, including residential and commercial development, is subject to the requirements included in Title 24 (Environmental Protection) of the Tribe's Law and Order Code. General requirements for development projects are established through the

permitting process and include requirements for the maintenance of stream and wetland buffers, water quantity and quality protection, and erosion and runoff control measures. Additionally, BMPs outlined by the federal Department of Housing and Urban Development (HUD) for construction currently serve as minimal standards that apply to Tribal housing projects. All development projects must also ensure compliance with the Tribe's water quality standards.

4.2.2.1 Stream and Wetland Buffers

Undisturbed, natural, vegetated buffers will be maintained adjacent to rivers, streams, and wetlands, marine shorelines, flood plains, and erosion hazard areas. A buffer of 150 feet shall remain adjacent to all fish-bearing streams, including Shipbuilders Creek, Little Boston Creek, and Middle Creek. A buffer of 100 feet shall remain adjacent to all non-fish-bearing perennial streams. A buffer of 50 feet shall remain adjacent to all non-fish-bearing seasonal streams and all mapped and unmapped wetlands.

4.2.2.2 Water Quality Protection

Activities shall be located, designed, constructed, and operated in a manner which minimizes adverse effects on fish, shellfish, wildlife, wildlife habitat, water quality, water quantity, and existing shore and stream processes.

4.2.2.3 Erosion and Runoff Control.

Erosion control measures must be approved prior to issuance of a permit for any activity which would pose a risk of erosion during or after the activity. No earth, debris, wastes, or other chemicals resulting from the activity shall be allowed to enter streams, lakes, or marine waters. No activity shall contribute to foundation instability or mass soil movement.

4.2.3 Management Actions

Proposed management actions for this NPS category include both short-term actions (1 to 3 years) and long-term actions (3 to 5 years). Land development activities during the term of this Management Program are anticipated to occur within the Warrior Ridge housing development area in the Martha John Creek watershed, and at the Old Red Cedar and North Kloomachin housing development areas in the Shipbuilders Creek watershed.

4.2.3.1 Short-Term Actions

1. Develop an updated and expanded Environmental Protection ordinance as part of the Tribal Law and Order Code to include requirements for environmental review,

development BMPs, stormwater management requirements, and other environmental standards.

Responsible entities: PGST Natural Resources and Planning Departments

Watersheds: All

2. Conduct site visits to ongoing development projects to ensure that environmental protection requirements are being implemented and effective in minimizing NPS impacts.

Responsible entities: PGST Natural Resources Department

Watersheds: Shipbuilders Creek, Martha John Creek

4.2.3.2 Long-Term Actions

1. Develop and implement a baseline water quality monitoring program focused on areas of proposed future development to evaluate potential NPS water quality impacts related to land development.

Responsible entities: PGST Natural Resources Department

Watersheds: Shipbuilders Creek, Martha John Creek

4.3 Hydrologic Modification

This category includes any anthropogenic alteration of the bed, banks, flow path, bottom depth, velocity, water volume, or water regime of a river, lake, stream, shoreline, or wetland. Historically, waterbodies have been reshaped for a variety of purposes, such as enhancing water supplies, flood control, drainage, and creation of areas to construct roads, buildings, and other structures. It is now recognized that these alterations have adverse effects on water quality and watershed stability, most often resulting in destabilized stream channels, head cutting of stream profiles, and displacement of water from wetlands filled or drained. Interference with natural channel process and hydrologic function leaves the watershed vulnerable to the impacts of climate change.

As discussed in the Tribe's Assessment Report, the primary NPS concerns associated with hydrologic modification on the Port Gamble Reservation are altered hydrology resulting from undersized culverts and other in-channel impediments, and streambank erosion.

4.3.1 Goals and Objectives

The Tribe's long-term goal for the hydrologic modification NPS category is to restore and protect hydrologic and habitat conditions to reduce sedimentation and erosion and restore flow where practical.

Near term objectives and management actions will focus on the implementation of projects with existing funding and gaining a better understanding of locations and scope of other work to be completed. Using information from on-the-ground reconnaissance and water quality data, a list of impacted sites will be developed, with priority for action going to those that have the largest impact on water flow and water quality. Priority will also be given to projects that are cost-effective or may be completed in partnership with other entities that can assist with funding and implementation.

4.3.2 Best Management Practices

Two locations identified in the Assessment Report where hydrologic modification is impacting water quality are related to culverts under County roads. Best management practices for road construction, including the design and construction of culverts, are included *Kitsap County Road Standards* (Kitsap County Public Works, 2021) and in the *Port Gamble S'Klallam Tribe Long Range Transportation Plan* (PGST, 2021). For construction of forest roads, the Tribe's Forest Management Plan requires that forest roads are constructed using BMPs as outlined in the Washington State Forest Practice Board Manual.

4.3.3 Management Actions

Proposed management actions for this NPS category include both short-term actions (1 to 3 years) and long-term actions (3 to 5 years). Management actions planned during the term of this Management Program will focus on areas impacted by hydrologic modifications within the Shipbuilders Creek, Martha John Creek, and Little Boston Creek watersheds.

4.3.3.1 Short-Term Actions

1. Shipbuilders Creek – Culvert Replacement and Creek Restoration

The proposed management action includes the installation of a 12-foot wide by 50-foot-long pre-cast concrete box culvert with streambed aggregate placed on the bottom. This culvert will be installed approximately 150 feet north of the existing culvert and perpendicular to the roadway. The minimum length of culvert is desired to provide the shortest path for migrating fish. This location appears to be an original stream channel crossing. Downstream of this location a channel continues to meander south and west, at a location farther from the road than the existing roadside ditch. Channel improvements to connect the outlet of the new culvert will be made along the old channel bed, with some new excavation as necessary. There is a wetland associated with the old channel location that will be modified to accommodate the channel width and restored to provide fish and wildlife habitat and function. Approximately 250 lineal feet of channel improvements will be made including placing streambed sediment and cobbles.

The existing culvert will remain with some channel improvements at the inlet and outlet. The culvert will continue to convey roadside stormwater under the road, but will no longer carry the mainstem of Shipbuilders Creek, which will be rerouted north to the new concrete box culvert location. Separating the stream from the roadside ditch is preferable from a habitat perspective and provides additional water quality treatment of stormwater flow from the road prior to reaching the stream.

This project will be implemented with mitigation funds provided by the United States Navy.

Responsible entities: PGST Natural Resources Department, PGST Utilities, Loving Engineering & Consulting, P.S. Inc.

Watersheds: Shipbuilders Creek

2. Inventory and assess culverts, road crossings, and other potential hydrologic alterations to identify priority sites in need of upgrade or replacement.

Responsible entities: PGST Natural Resources Department, Kitsap County Public Works

Watersheds: All

4.3.3.2 Long-Term Actions

1. In cooperation with Kitsap County Public Works, pursue funding for culvert replacement on Martha John Creek at Northeast 288th Street.

Responsible entities: PGST Natural Resources Department, Kitsap County Public Works

Watersheds: Martha John Creek

2. Evaluate areas on lower Little Boston Creek impacted by hydrologic modifications and identify restoration needs and potential funding sources.

Responsible entities: PGST Natural Resources Department

Watersheds: Little Boston Creek

4.4 Wastewater Disposal

This category includes activities related to consolidation and management of wastes generated by residential, commercial, and industrial processes, including sewage. Many of these activities are regulated, and extensive requirements are typically placed on these systems; however, the potential for offsite transport of NPS pollutants remains, as does the potential for better management with improved BMPs. Possible pathways for NPS pollution to enter surface and groundwaters of the Reservation primarily include migration of contaminated leachate from the former Hansville landfill and leaking septic tanks and septic drainfields.

The Hansville Landfill operated as a municipal landfill serving the northern portion of Kitsap County from about 1962 until June 1989. Contaminated groundwater flows from the landfill onto the Port Gamble S’Klallam Reservation. The contaminant concentrations are expected to decrease due to natural decay, and the rate of decrease is being monitored. The contamination is projected to decay to a concentration that’s below applicable water quality standards by 2034 (Ecology, 2022).

As discussed in the Assessment Report, in response to concerns about the effluent from the septic tanks and the associated potential water quality impacts to Port Gamble Bay, the Indian Health Service (IHS) constructed a recirculating gravity filter (RGF) treatment system, and a large portion of the lower Reservation sewer collection system in 1996. The individual septic tanks were retained and connected to the sewer collection system (Gray & Osborne, 2013). Although

individual septic tanks no longer discharge untreated wastewater to individual septic drainfields, the potential for septic tanks to leak and contaminate groundwater remains.

4.4.1 Goals and Objectives

The Tribe's long-term goal for the wastewater disposal NPS category is to restore and protect water quality and eliminate impacts from wastewater disposal practices affecting the Reservation's surface and groundwaters. To support this goal, the Tribe will evaluate the progress of cleanup actions to address the migration of contaminated leachate from the Hansville Landfill and develop and implement a monitoring program to identify water quality impacts associated with aging residential septic tanks.

4.4.2 Best Management Practices

Best management practices for addressing contamination from closed landfills are included in the regulations for implementing the Washington State Model Toxics Control Act (MTCA).

4.4.3 Management Actions

Proposed management actions for this NPS category include both short-term actions (1 to 3 years) and long-term actions (3 to 5 years).

4.4.3.1 Short-Term Actions

1. Review quarterly groundwater and surface water monitoring for the Hansville Landfill to evaluate trends and compliance with water quality criteria.

Responsible entity: PGST Natural Resources Department.

Watersheds: Middle Creek

2. Conduct water quality sampling in surface and groundwaters within the Hansville Landfill contaminant plume for per- and polyfluoroalkyl substances (PFAS). These long-lived contaminants may be present in landfill leachate but were not sampled as part of the investigation and cleanup of the Hansville Landfill.

Responsible entity: PGST Natural Resources Department.

Watersheds: Middle Creek

4.4.3.2 Long-Term Actions

Develop and implement a water quality monitoring plan to identify impacts from residential septic tanks on the lower Reservation.

Responsible entity: PGST Natural Resources Department.

Watersheds: Middle Creek

4.5 Implementation Schedule

To implement the long- and short-term actions identified for each NPS category, the Tribe proposes the schedule shown in Table 4-1. Some actions will be implemented using existing funding sources, including CWA Section 106 grant funds and mitigation funds provided by the United States Navy, while other actions will be implemented as supplemental funding allows.

Table 4-1. Nonpoint Source Management Implementation Schedule

Management Action	NPS Management Program Year				
	1	2	3	4	5
Forest Management					
Review State Forest Practice Rules permits for timber harvest in the Hansville Block	X	X	X		
Survey forest road conditions and identify areas of NPS impacts			X		
Identify needs for updating the Forest Management Plan					X
Develop an education and outreach program for responsible ATV use				X	
Land Development					
Develop a new Environmental Protection chapter of the PGST Law and Order Code	X	X			
Conduct site visits of ongoing development projects to ensure effective BMP implementation	X	X	X	X	X
Develop baseline water quality monitoring plan for potential development areas			X	X	
Hydrologic Modification					
Implement Shipbuilders Creek culvert replacement and creek restoration	X	X	X		
Inventory and assess culverts, road crossings, and other potential hydrologic alterations to identify priority sites in need of upgrade or replacement		X	X		
Evaluate areas on lower Little Boston Creek impacted by hydrologic modifications and identify restoration needs and potential funding sources				X	
In cooperation with Kitsap County Public Works, pursue funding for culvert replacement on Martha John Creek at Northeast 288th Street				X	X
Wastewater Disposal					
Review quarterly monitoring of surface and groundwater impacted by the former Hansville Landfill	X	X	X	X	X
Sample area impacted by Landfill leachate for PFAS chemicals	X	X			
Develop and implement a monitoring plan to identify water quality impacts from existing residential septic tanks				X	X

5.0 REFERENCES

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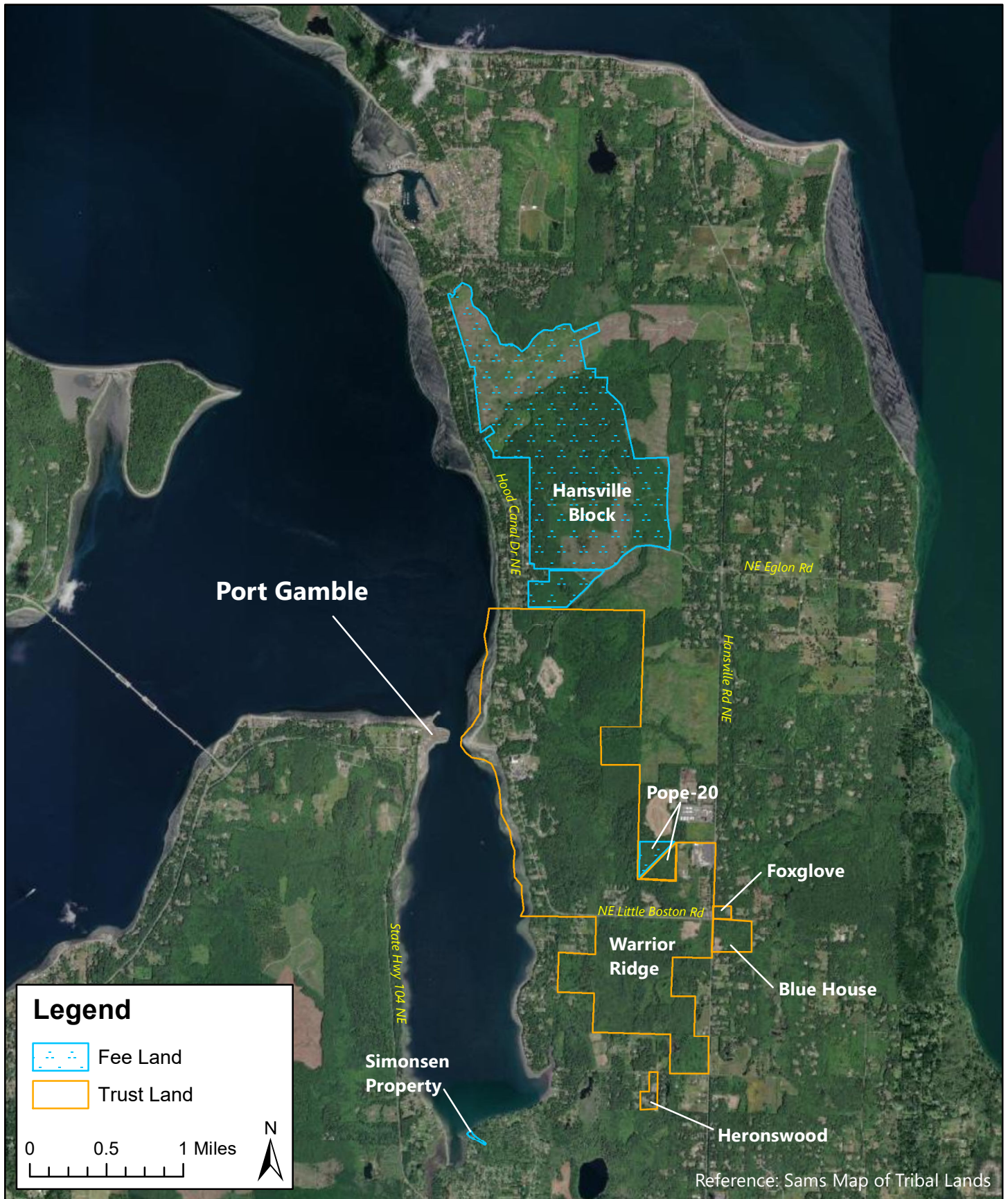
Figures






	Nonpoint Source Pollution Management Program for the Port Gamble Reservation	September 2023	Figure 1
	Prepared for the Port Gamble S'Klallam Tribe	Vicinity Map	

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Reference: Sams Map of Tribal Lands

	Nonpoint Source Pollution Management Program for the Port Gamble Reservation	September 2023	Figure 2
	Prepared for the Port Gamble S'Klallam Tribe	Port Gamble S'Klallam Tribal Lands	

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