

SYNTHESIS OF SELECTED NEP WATERSHED LEAD ORGANIZATION
GRANTS ADMINISTERED BY THE DEPARTMENT OF ECOLOGY

PART 2

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Executive Summary

The Habitat Strategic Initiative Lead tasked the Puget Sound Institute at UW Tacoma (PSI) with synthesizing the results of 13 riparian and restoration grants awarded funding by the Environmental Protection Agency (EPA) through the [National Estuary Program \(NEP\)](#) Lead Organization grant (Watershed LO grant). Between 2011 and 2016, the Watershed LO grant program, administered by the Washington Department of Commerce and the Washington Department of Ecology, distributed over \$23 million in NEP funds to support 85 projects to implement recovery priorities identified by the [Puget Sound Partnerships' Action Agenda](#) incorporating watershed-scale strategies to protect and restore Puget Sound.

For this portion of the Watershed LO grants, PSI focused on riparian and restoration grants that occurred from 2014 to 2021. Of these grants, PSI analyzed over 150 documents including final summary reports, financial and progress reports, maps, meeting notes, economic analyses, and presentations provided by the grantees. PSI interviewed eight grantees to better understand grantee perspectives on the successes, challenges and next steps for the projects.

Alongside partners at the Department of Ecology and the Habitat Strategic Initiative Lead, PSI participated in several meetings in the spring of 2022 to scope the 13 grants, totaling approximately \$6.8 million, included in this synthesis. Criteria for inclusion of the grants in this synthesis included:

- Whether the projects had a “riparian” component
- Projects that fit within the sub-strategies of the [Land Development and Cover Implementation Strategy](#) and [Floodplains and Estuaries Implementation Strategy](#)
- Projects that included significant “lessons learned”
- Projects that had planning and/or design elements (such as the development of a reach-scale plan or similar conservation prioritization planning)

Watershed LO grants funded a range of activities included reach-scale planning, project design and scoping, land acquisition, riparian restoration activities (such as beaver management activities, invasive plant removal, stream re-meanderings, log jam installation, culvert removals and more), landowner and community outreach, data analysis and mapping, and water quality analysis, among others.

Grant locations ranged throughout Puget Sound from the Samish River watershed to the North Olympic peninsula to the Snohomish, Snoqualmie, Nisqually and Nooksack watersheds.

Grantee organizations included county governments like King County’s Water and Land Resources Division, municipality utilities such as Seattle Public Utilities, tribes including Nooksack Indian Tribe, Squaxin Indian Tribe, Suquamish Tribe, and non-profits and conservation districts including the Nisqually Land Trust, North Olympic Salmon Coalition, Snohomish Conservation District and the Skagit Land Trust.

By diving deep into these riparian and restoration-focused Watershed LO grants, several overarching grant themes emerged. These include:

Flexibility of the grant funding was key

The flexibility of the funding and low administrative burden of the grants was supported by interviews with grantees and in grantee documentation – every interviewee expressed the sentiment that the flexibility of the grants was instrumental in their success.

This flexibility included the ability to amend timelines and monetary amounts of the grants, not requiring matching funds, reducing administrative burden and allowing pivots to grant scope and statements of work because of a variety of factors including COVID-related closures and cessation of in-person events.

According to a representative from Ecology, the grants "offered maximum administrative flexibility because of where we wanted to focus the allotted amounts around conservation easements and associated restoration activities."

Land acquisitions are challenging and benefit from long-term funding that builds capacity for relationship-building and purchases

Land acquisitions are time-consuming and require due diligence, pre-planning, establishing and maintaining relationships with landowners. Although grant funding can help to set up land acquisitions (such as through identifying high-priority properties with the development of a reach-scale plan) because an organization has received grant funding for acquisition doesn't necessarily mean a land acquisition will be successful during a specific grant time period.

Having "cash-in-hand" for aspects of the land acquisition process (such as appraisals, conducting meetings with interested landowners) is instrumental to making a land acquisition more likely to be successful, though, and the Watershed LO grants did help the majority of grantees succeed with land acquisition projects because of the funding that was available.

The ability to build relationships for future acquisitions and prioritize those acquisitions through the development of reach-scale plans was noted as critical to future conservation efforts. The reach-scale plans additionally identified target priority properties for acquisitions – which allows for organizations to develop a short-list of high-value properties ready to engage with.

Lag time between grant close-out and synthesis work is a barrier to situating and understanding the work completed

The amount of time that passed between grant close-out and this synthesis projects varied between grants, but overall several years had elapsed. In some of the earliest grants which closed out in 2015 or 2016, the institutional knowledge loss was very high due to staff turnover.

This resulted in a lack of specific information on the successes, challenges and next steps of the projects themselves.

The remedy for this would be to build in synthesis work directly into the required grant close-out process for future grants. This process could include required close-out interviews upon immediate or near-immediate completion of the grant to capture lessons learned, barriers, challenges and successes that may not be captured in 'official' project close-out reports. This could also pre-identify some key management questions or lessons that the project is intended to support learning around, and improve our ability to draw out conclusions that are actionable.

Implementing these steps would ensure that the lessons learned from grants such as the Watershed LO grant program could be put towards improving future funding programs and provide valuable context, information and opinions on the work completed.

Additional findings from the grants include the importance of funding for implementation and maintenance of riparian restoration activities, using social marketing techniques for landowner and community outreach, sharing and open access for data and mapping, among others.

This synthesis serves as a resource for restoration practitioners in Puget Sound and can inform future funding opportunities in the region.

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Acronyms and Abbreviations

CWA	Clean Water Act
CD	Conservation District
DNR	Washington State Department of Natural Resources
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
FFF	Fish, Farm, and Flood
IS	Implementation Strategy (under the Puget Sound Action Agenda)
LO	Lead Organization (under NEP)
NEP	National Estuary Program
NFWF	National Fish and Wildlife Foundation
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NTA	Near-Term Action
PSAR	Puget Sound Acquisition and Restoration and Streamflow Restoration
PSP	Puget Sound Partnership
PSWC	Puget Sound Watershed Characterization Model
RCO	Washington State Recreation and Conservation Office
SFRB	Washington State Salmon Recovery Funding Board
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
WCTAT	Watershed Characterization Technical Assistance Team
WDFW	Washington Department of Fish and Wildlife
WRIA	Water Resource Inventory Area
WSDOT	Washington State Department of Transportation

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INTRODUCTION

The Environmental Protection Agency (EPA) awarded the Washington Department of Commerce (Commerce) and the Washington Department of Ecology (Ecology) a [National Estuary Program \(NEP\)](#) Lead Organization (LO) grant (Watershed grant) in 2011 to implement watershed-scale strategies to protect and restore Puget Sound. To accomplish these goals, Ecology and Commerce collaboratively developed the Watershed grant program to support local governments in carrying out projects that incorporate environmental needs into land use planning, urban development, climate adaptation planning and critical areas development. Between 2011 and 2016, the Watershed grant program distributed NEP funds to support 85 projects in implementing recovery priorities identified by the [Puget Sound Partnerships' Action Agenda](#).

The Puget Sound Institute at UW Tacoma (PSI) was tasked to synthesize selected 'Riparian Protection in Agricultural Landscape', 'Protecting Farmland and Improving Agricultural Riparian Management Practices', 'Floodplain Management/Floodplain & Riparian Restoration' grants in order to inform and advance future work at project, programmatic and Puget Sound recovery levels. Out of 85 total grants, 13 riparian and restoration grants were prioritized and selected

for inclusion in this synthesis by representatives from the synthesis planning team (members from the [Habitat Strategic Initiative Lead](#) and Ecology). A previous Watershed LO synthesis (Part 1) was completed in 2020 and analyzed 25 of the 85 grants.¹

The 13 grants synthesized in this report were selected because they inform the next steps of implementing the National Estuary Program with similar objectives in improving land use moving forward. The grants synthesized focus on investment areas of interest pertaining to the [Land Development and Cover Implementation Strategy](#) and the [Floodplains and Estuaries Implementation Strategy](#).

The Land Development and Cover Implementation Strategy (IS) was developed by the Puget Sound Partnership with a goal of slowing the pace of conversion of ecologically important lands in the Puget Sound region. The IS comprises [several strategies](#) collectively intended to meet this target. The strategies include protecting and restoring ecologically important lands, reducing barriers to infill and redevelopment in Urban Growth Areas (UGAs), and supporting working lands (for agricultural purposes). The Watershed LO grants are projects that put these strategies into practice in the Puget Sound region.

The Floodplains and Estuaries Implementation Strategy's goal is to accelerate progress toward achieving Floodplains Vital Sign and Estuaries Vital Sign indicator targets related to restoration of processes that increase the acreage of functioning floodplains and estuaries for species and food webs, as well as restore critical ecosystems services that support our communities. The IS comprises several collective strategies intended to meet these targets. The strategies include "Sound-wide Integrated Floodplain and Estuary Management", "River-Basin Scale Planning and Project Implementation" and "Risk Tolerance and Cost Subsidies Analyses".²

[Overview of this Synthesis](#)

PSI analyzed more than 150 documents including final summary reports, financial and progress reports, maps, meeting notes, addendums, land deeds, appraisals, economic analyses, presentations and more. The documents analyzed can be found in [this publically accessible Box folder](#), managed by the Puget Sound Partnership. To further understand the context of the projects since the completion of the grant funding, PSI contacted the grant recipients (including city and county planners, non-profit staff like conservation district staff, tribal representatives and consultants) requesting their participation in either: a) a semi-structured interview or b) answering a questionnaire created by PSI (see Appendix for interview questions).

This synthesis presents the results, findings and recommendations from the grantees themselves, alongside PSI's recommendations after analyzing grantees' deliverables. The selected grants included in this synthesis are listed below.

¹ The first synthesis is available from the [Puget Sound Institute's Document Library](#)

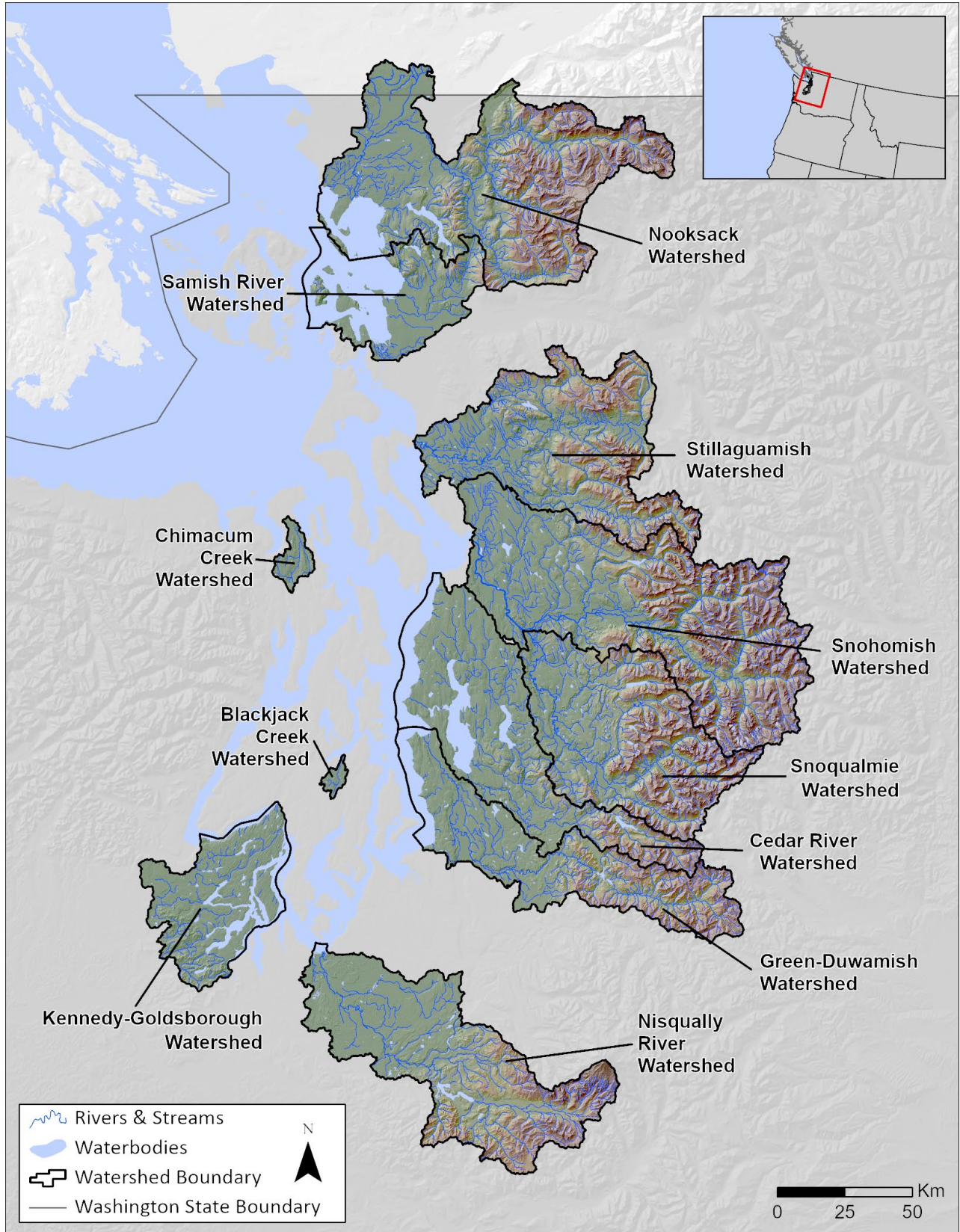
² <https://pspwa.app.box.com/s/c4vjba1kffsbfb87b157c00btkfvz8tz>

Grants Reviewed in this Synthesis (in order of appearance)

Primary Recipient and Partner Organizations	Project Title	Total Cost of Project	Grant Amount	Project State Date	Project End Date	Location (Watershed)
King County Water and Land Resources Division	Newaukum Creek Restoration	\$5,000,000	\$2,853,198	March 2016	June 2021	Green-Duwamish
King County Water and Land Resources Division	Improving Middle Green River	\$398,330	\$400,000	July 2012	July 2015	Snoqualmie
Snohomish Conservation District	Integrated Riparian Stewardship In Stillaguamish And Snohomish Basins	\$774,481	\$774,481	March 2016	June 2021	Stillaguamish, Snohomish
Snohomish Conservation District	Healthy Soils For A Healthy French Creek	\$245,346	\$207,846	June 2014	Sept. 2017	Snohomish
Seattle Public Utilities, City Of Seattle	Cedar River Stewardship-In-Action	\$328,142	\$250,000	April 2013	June 2016	Snoqualmie
North Olympic Salmon Coalition	Chimacum Creek Riparian Management Plan	\$746,973	\$746,973	2017	December 2020	Chimacum
Nisqually Land Trust	Ohop Restoration Phase III	\$2,679,413	\$250,542	June 2014	December 2016	Nisqually
Nisqually Land Trust	Protecting Habitat Along the Middle And Upper Nisqually River	\$333,600	\$333,600 (amended in 2017 and again in 2019)	March 2016	September 2019	Nisqually
Squaxin Indian Tribe	Goldsborough Creek Restoration	\$279,300	\$266,000	August 2014	October 2017 (extended from December 2016)	Kennedy-Goldsborough
Suquamish Tribe	Blackjack Creek Restoration	\$165,483	\$149,600	July 2015	December 2017	Blackjack Creek
King County Water and Land Resources Division	Snoqualmie Valley Agricultural Production District Riparian Restoration and	\$115,714	\$134,000	March 2016	March 2018	Snoqualmie

	Agricultural Partnership Building					
Skagit Land Trust	Samish River Riparian Zone Easements And Protection	\$199,900 (original grant amount of \$173,900 amended to \$199,900 in 2018)	\$199,900	March 2016	March 2021 (extended from September 2018)	Skagit/Samish
Nooksack Indian Tribe	Riparian Protection And Restoration South Fork Nooksack River	\$1,120,000	\$987,626	March 2016	June 2021	Nooksack

Map of the Puget Sound Watersheds Where Grant Activity Occurred



1.1 Stakeholder Interviews

The interviews were conducted from September 2022 to January 2023. Grantee representatives (program managers, grant leads and administrators) were requested to participate in a 1-hour semi-structured phone/in-person interview, using the developed interview questions as guidance. All but one of the representatives opted for a phone interview, with that interviewee preferring to answer the questions via a written email. The semi-structured interview was conducted following the guidelines established in social science literature (such as those best practices developed by Rubin and Rubin 1995).

1.1.1 Interview Disclaimer

Each interviewee was provided with a written and verbal explanation of the Watershed LO synthesis and why they were being contacted. Consent to participate was verbally confirmed at the beginning of each conversation. If requested by interviewees and/or project administrators, identifying features of the interviewees and questionnaire respondents were removed. No sentiments expressed in the interviewee responses should be attributed to a single interviewee at an organization.

While we highlight individual opinions in specific segments of this report, the interviewees do not necessarily support the views, findings, or recommendations of this entire document. Grant administrators, including representatives from Ecology were not interviewed and have not provided structured responses to the interview questions, although they have contributed comments and feedback regarding the opinions and findings expressed by the grantees.

Not all grantees responded to the request for interviews/questionnaires. This was due to a variety of reasons, including staff members having moved to other organizations, retired, or were unavailable during the interview timeframe. A list of the participating grantees is provided below.

1.1.2 Participating Grantees Table (in order of appearance)

Name	Type
King County Water and Land Resources Division	County government
Snohomish Conservation District	Conservation district
Seattle Public Utilities, City Of Seattle	Municipal utility
North Olympic Salmon Coalition	Non-profit
Nisqually Land Trust	Non-profit
Squaxin Indian Tribe	Indian Tribe
Suquamish Tribe	Indian Tribe
Skagit Land Trust	Non-profit
Nooksack Indian Tribe	Indian Tribe

1.2 How the Grants Were Selected

PSI, Ecology and the Habitat Strategic Initiative Lead held several meetings in the spring of 2022 to scope the second round of the Watershed LO Synthesis (the first synthesis analyzed 25 grants and is available on PSI's Document Library [here](#)). These scoping conversations were used to determine which of the remaining 60 Watershed LO grants were to be included in this synthesis. The group considered the trade-offs between including more projects but spending less time on each, or including fewer projects, leaving time for a more in-depth understanding. The group opted for the in-depth approach. Criteria for inclusion of the grants in this synthesis were:

- 1) Whether the projects had a "riparian" component, e.g. projects that included riparian protection or restoration work, land acquisitions, native plantings, stream re-meanderings, invasive plant removal, landowner or community outreach, etc.
- 2) Projects that fit within the sub-strategies of the Land Development and Cover Implementation Strategy and/or the Floodplains and Estuary Implementation Strategy
- 3) Projects that included significant "lessons learned" (as determined through brief analyses of grant close-out materials) and/or as deemed appropriate through previous conversations between the Watershed LO grant staff and the grantees
- 4) Projects that had planning and/or design elements (such as the development of a reach-scale plan or similar conservation prioritization planning)

Not all grants selected met every criteria noted above, and some grants were excluded because of time constraints or lack of documentation. Ultimately, the scoping team chose 13 riparian-focused grants for inclusion in this synthesis. Details on the individual projects are below.

2. Analysis of the Grants

2.1 King County Water and Land Resources Division — Newaukum Creek Acquisition and Restoration Plan

King County and Ecology have been collaborating to protect and restore riparian and wetland areas associated with Newaukum Creek and Big Spring Creek in the Green-Duwamish watershed on the Enumclaw Plateau since the early 2000s. NEP Watershed LO grant funding provided the King County Water and Land Resources Division with \$2.853 million to continue this work beginning in 2016 and concluding in 2021. This grant continued the riparian restoration activities King County and partners have been implementing for over fourteen years. This grant provided funding to complete a reach-scale planning document and pursue land acquisitions in the Newaukum Creek watershed. The Newaukum project cost \$5 million in total with Ecology's grant funding providing \$2.83 million with King County supplying the

remaining nearly \$2.17 million.³ Previous funding has included multiple NEP, Centennial Clean Water Fund Grant, Section 319 grants (see project WQC-2016-KCWLRD-00260 for more details) and [Coastal Protection Fund – Terry Husseman Account](#) grants.

Background

Agricultural practices and development in the region have degraded riparian and wetland habitat along Newaukum and Big Spring creeks. Portions of Newaukum Creek “exhibit unhealthy temperature and oxygen conditions...for several salmon species”⁴ in addition to high levels of fecal coliform. Since 2006 Ecology, King County, the Muckleshoot Indian Tribe, and others have collaborated to develop a TMDL and conduct water quality monitoring in Newaukum Creek. In 2011 Ecology released a Newaukum Creek Temperature Total Maximum Daily Load Water Quality Improvement Plan.

Because Newaukum Creek and its tributaries are not meeting water quality standards for temperature, the Plan recommends increasing shade through riparian plantings and habitat restoration to reduce stream temperatures. The WRIA 9 Green-Duwamish Forum recommended “riparian restoration of Newaukum Creek...and re-alignment and restoration of Newaukum Creek tributary Big Spring Creek” in order to meet water quality standards for temperature by 2040. The Newaukum Creek Basin Characterization Project Report (King County, 2007) and the WRIA 9 Salmon Habitat Plan (WRIA 9, 2005) recommend similar restoration actions to benefit the five anadromous fish species that reside in the creek.

³ [Project close-out report](#)

⁴ <https://apps.ecology.wa.gov/publications/documents/1110047.pdf>

GREEN-DUWAMISH WATERSHED

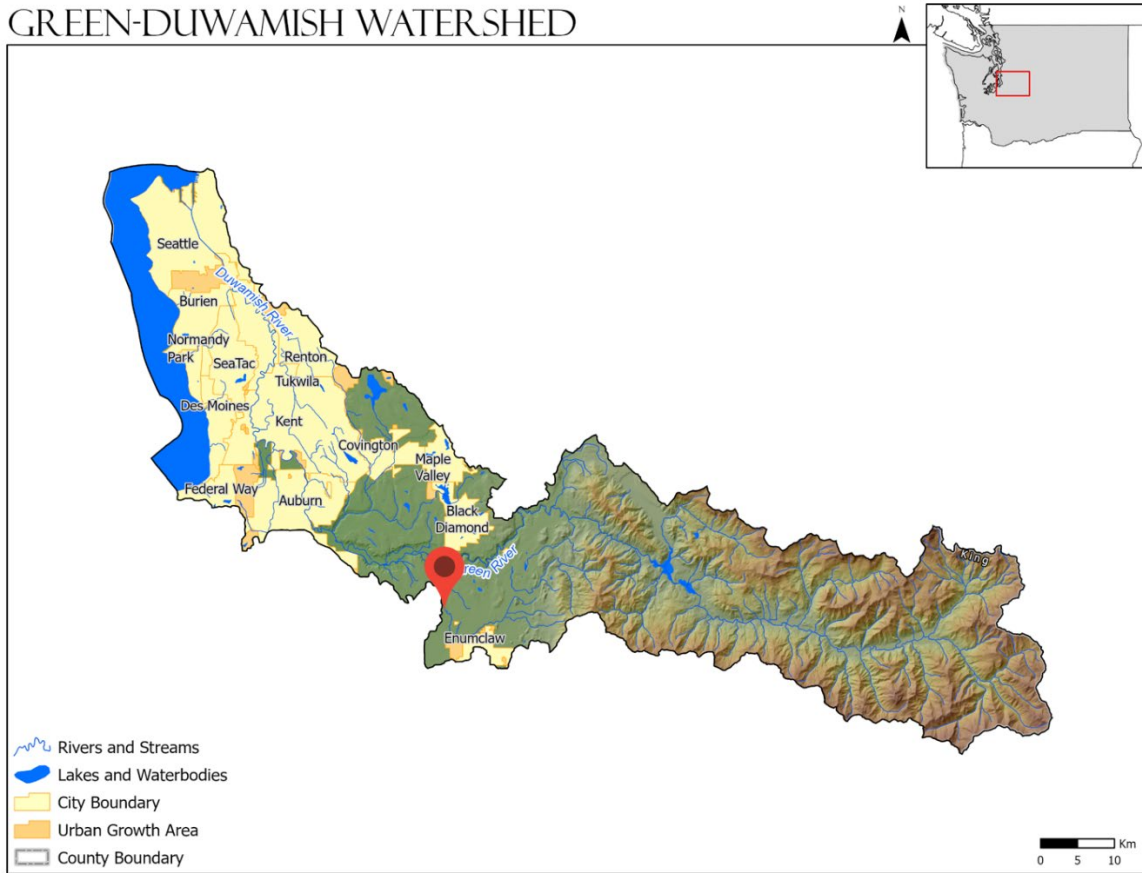


Image 1. Map of the Green-Duwamish Watershed, Puget Sound Institute (pin indicates approximate location of project activities)

This grant included the following activities:

- Completing the Newaukum Creek Reach-scale Acquisition and Restoration Plan.
- Acquiring 11 properties (Bremmeyer, Josie, Young, Gunter, Gaddy, Harris, Browne, Schaefer, Litowitz, Dutton, Brandjes) totaling 84 acres through fee simple purchases and 14 acres through conservation easement acquired; total protected acres over the course of the grant were 98.
- Demolition of seven structures, all with septic systems (Josie, Young, Gaddy, Harris, Browne, Schaefer, Dutton). A structure on Brandjes was removed after the grant ended.⁵
- Planting trees and shrubs on acquired sites

⁵ A contributing factor to fecal coliform issues in Newaukum Creek has been septic systems that are not fully functional

Newaukum Creek Reach-scale Plan

The Reach-scale plan document “provided direction regarding the land acquisition and restoration of project sites along Newaukum and Big Spring creeks.” The project targeted landowners in high-priority target sites using the criteria developed in the reach-scale plan as a guide.

Land Acquisitions and Structure Demolitions

The project included sending letters of interest to over 30 landowners. 11 properties were eventually acquired totaling 98 acres. Ten of the properties were fee simple acquisition and one was a conservation easement. These 11 properties are part of the 48 properties to date acquired by King County for Newaukum Creek restoration. The 11 properties will be monitored “by the King County Parks Division for a minimum of 10 years” with maintenance actions “implemented as needed.”⁶ According to a project representative, over 700 acres have been acquired so far. Of the total properties acquired by King County since project inception, it is estimated that 90 percent are fee simple, entire property acquisitions, with 10 percent being conservation easements on a portion of a landowner’s property.⁷

In addition to land acquisitions, house demolitions and removal of septic systems were a significant portion of the project. Seven properties of the 11 acquired had out-building and miscellaneous structures that were demolished (with an eighth removed immediately following grant close-out). These structures had been built on wetlands and were impeding stream flow. In the majority of cases, these demolitions were looked upon favorably by the landowners, as river flooding had caused the structures to be unusable. Septic systems that were part of the properties were removed as well.

⁶ [WDOE Newaukum Creek Reach Report 1.25.17](#)

⁷ Project representative, personal communication, 2022

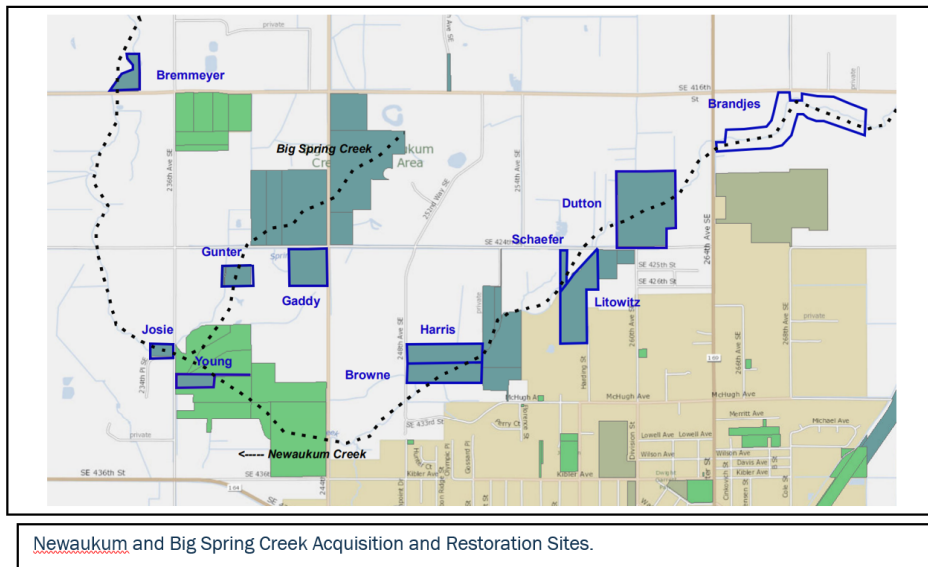


Image 2. Map of Newaukum Creek Restoration Sites from Close-out Report submitted to Ecology by King County

Riparian Plantings and Restoration

A total of 55,000 native trees and shrubs were planted on the Young, Harris, Browne, Schaefer, and Dutton properties. In the fall of 2021, King County began the revegetation of the Bremmeyer, Josie, Gunter, Gaddy, and Brandjes parcels. Litowitz did not require additional planting. King County will fund the removal of old fencing as part of the revegetation effort and will extensively monitor and maintain the restoration sites for a minimum of 10 years. King County will monitor all restored properties for restoration performance for a minimum of 10 years. All required maintenance actions will be implemented as needed.

Successes

One success of the project was landowners' willingness to sell property. According to a project representative, there were several elements that contributed to the 11 successful land acquisitions.

First, the properties are now largely unusable for agriculture. This is because previously drained wetlands that had historically been used for grazing are now reverting back to wetlands because of frequent flooding of the creek. The creek floods neighboring land since it cannot be dredged due its protected status (as it contains ESA-listed salmon habitat) and thus the "land is not of value for other uses" and in particular poorly suited for agriculture, according to a project representative. Additionally, septic systems on the property were becoming increasingly challenging for landowners to maintain.

Another reason for the success of the project was the ability of the grantee to offer competitive purchase prices that were above appraised Fair Market Value of the properties to the seller. This was because the grant provided enough money to King County that the County could compete with other interested parties for the desired properties (although very few of the properties were listed on the open market, according to a project representative). This reduced the administrative burden on King County staff and allowed them to make competitive offers for the prioritized land acquisitions. According to a project representative, this was the “best grant” they had ever received.⁸

Challenges

The major challenge of the project was finding interested landowners for property acquisition. However, as noted in the above section, the unique nature and combination of undesirable land and appropriate purchase offers made this challenge minimal, according to a project representative.

Next Steps

Three more properties are being targeted for acquisition according to a project representative. Ideally, the land acquisition portion of the project will be complete within five years and monitoring to ensure water temperature will continue alongside riparian vegetation maintenance. By 2027, project representatives are expecting that water temperatures may decline because planted vegetation will have matured.

There is an active agreement funded by the Centennial Clean Water Fund in the amount of \$375,000 to continue revegetation along Newaukum and Big Spring Creek.⁹

2.2 King County Water and Land Resources Division — Improving the Middle Green River

NEP Watershed LO grant funding provided King County Water and Land Resources Division with \$400,000 to address impaired water quality standards for salmonids (due to high temperatures) in the Middle Green River from 2012 to 2015. This grant builds on previous and ongoing stewardship activities in the Middle Green River including those implemented in the WRIA 9 Habitat Plan and activities of the South Central Local Integrating Organization as well as King County River Basin Stewards and SRFB funding of related projects. Extensive work to repair and improve water quality in the Middle Green have been undertaken since 2011. Because portions of the Green River and its tributaries (including Newaukum Creek, Soos Creek and other tributaries in WRIA 9) exhibited impaired water quality, Ecology published a TMDL in 2011.¹⁰

⁸ Project representative, personal communication, 2022.

⁹ Search WQC-2021-KCWLRD-00117 here <https://apps.ecology.wa.gov/eagmap/>

¹⁰ <https://apps.ecology.wa.gov/publications/SummaryPages/1110046.html>

GREEN-DUWAMISH WATERSHED

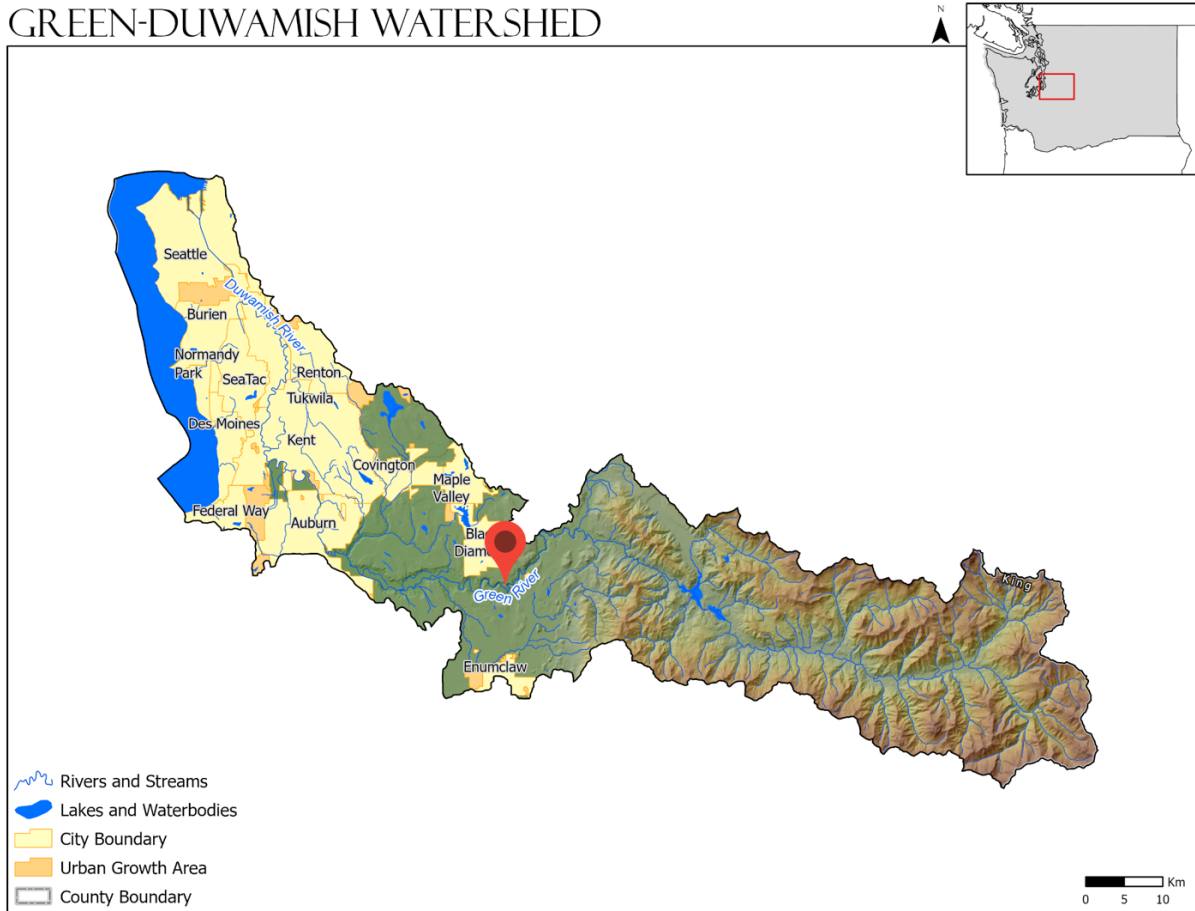


Image 3. Map of the Green-Duwamish Watershed, Puget Sound Institute (pin indicates approximate location of project activities)

Specific project elements funded by this grant include riparian plantings, modeling of heat change in the creek using photography and modeling, treatment of Japanese knotweed along Soos Creek and the Middle Green, and outreach to landowners on noxious weeds and their impacts on aquatic environments.

Riparian Plantings

King County installed 55,286 plants along 466,060 square feet of riparian buffer on private property in the Green River watershed to increase stream shading along the Newaukum and Soos Creeks. The plantings included native species such as Sitka spruce, a variety of willows, Oregon ash, dogwood and black twinberry. The plantings, monitored from 2012 to 2014, had an over 80 percent survivorship, with some re-plantings necessary due to beaver “chewing or

harvesting the [willow] stakes planted close to”¹¹ lower Soos Creek. In 2015, replanted stakes were protected by a 6 foot fence. Surveys and treatment of Japanese knotweed infestations were also carried out along approximately 45 non-contiguous river miles annually from 2012 to 2014.

Hemispherical Photography

To assess the amount of solar radiation reaching the stream, King County made “hemispherical photographs of the canopy”¹². Initial photographs were taken in 2012 to establish a baseline prior to riparian plantings. Follow-up photographing occurred in 2014 after plants matured.

The “Estimation of Effective Shade, Heat Load, and Stream Temperature Improvements Associated with Mature Revegetation in Newaukum, and Soos Creek” report describes the findings of the photographs and concludes that the increase in canopy coverage from the plantings did result in reduced solar inputs to the stream. The report states that smaller streams “reached canopy coverage more quickly”¹³ than the larger streams. From 2012 to 2014 mean change for the restored reaches was 8.2 percent for effective shade change and 6.42 percent for canopy cover change. Values ranged from as high as 12 percent improvement in canopy cover change along one section of Newaukum Creek to a decrease in canopy cover by 16 percent along a different section. Along the lower Soos Creek, effective shade change improved by 6.51 percent and canopy cover changed by 1.72 percent. Along the final stretch of the Green River planted, a tributary near Kanasket-Palmer State Park, mean effective change improved by 20.54 percent and canopy cover change improved by 17.7 percent.

According to the report, hemispherical photographing is a cost-effective way to measure the effectiveness of revegetation projects, but careful consideration of atmospheric conditions (which may affect the accuracy of the photographs) should be taken into account.¹⁴

Estimation of Stream Temperature Improvements

Revegetation of Newaukum and Soos Creek occurred in 2012. The project also included modeling of the intended effects of the riparian plantings along Newaukum and Soos Creek to estimate thermal benefits resulting from the revegetation activities. Modeling indicted that the activities would result in increases in effective shade and reductions in solar heat loads and maximum temperatures.¹⁵ According to the models, effective shade would increase by 58

¹¹ [Final Project Summary Report for G1200472 “Improving Water Quality and Habitat Through Riparian Restoration in the Middle Green Sub-Basin](#)

¹² [King County. 2015. Hemispherical Photo Canopy Analysis on Revegetated King County Streams. Prepared by Chris Knutson, Water and Land Resources Division. Seattle, WA.](#)

¹³ *ibid*

¹⁴ *ibid*

¹⁵ [King County. 2015. Estimation of Effective Shade, Heat Load and Stream Temperature Improvements Associated with Mature Revegetation in Newaukum and Soos Creeks. Prepared by Andrew Miller, Water and Land Resources Division. Seattle, WA.](#)

percent in Newaukum Creek and 18 percent in Soos Creek over several years. Water temperature would decrease on average 0.3 degrees Celsius in Newaukum Creek and 0.1 degree Celsius in Soos Creek (likely due to the “increased stream width and flow in Soos Creek”).¹⁶

Recommendations from the report include the importance of continued monitoring of the revegetated areas to determine if the modeled activities did, in fact, occur, in particularly quantifying effective shade.

Workshops

Landowner workshops and noxious weed information were provided at educational events every year in 2012-2014.

Successes

Project successes included the completion of the hemi-photos and the riparian planting activities.

Challenges

While not killing live stakes outright, beavers along lower Soos Creek proved to be a major problem by chewing or harvesting the stakes planted close to the river. Replanted stakes in winter 2015 were surrounded by a stout 6 feet fence to keep beavers away, but cannot be permanent, so there is a potential for this problem to be recurrent.

Next Steps

Monitoring of the planted areas will continue. Additional funding is being sought to continue the hemi-photos to follow the rate of growth of the planted vegetation as well.

2.3 Snohomish Conservation District — Integrated Riparian Stewardship in the Stillaguamish and Snohomish Basins

In 2016, Snohomish Conservation District and partners, including the Stillaguamish Tribe, Tulalip Tribes, Washington Farmland Trust, Forterra, Sound Salmon Solutions and the Adopt-a-Stream Foundation initiated an integrated effort to restore floodplain habitat and identify riparian reforestation activities in the Stillaguamish and Snohomish watersheds. The effort leveraged “tribal and land trust land acquisitions” to “create forested corridors on priority reaches”¹⁷ to contribute to water quality and salmon habitat improvements. The Snohomish Conservation District leads riparian restoration and protection efforts in three areas in

¹⁶ [King County. 2015. Estimation of Effective Shade, Heat Load and Stream Temperature Improvements Associated with Mature Revegetation in Newaukum and Soos Creeks. Prepared by Andrew Miller, Water and Land Resources Division. Seattle, WA.](#)

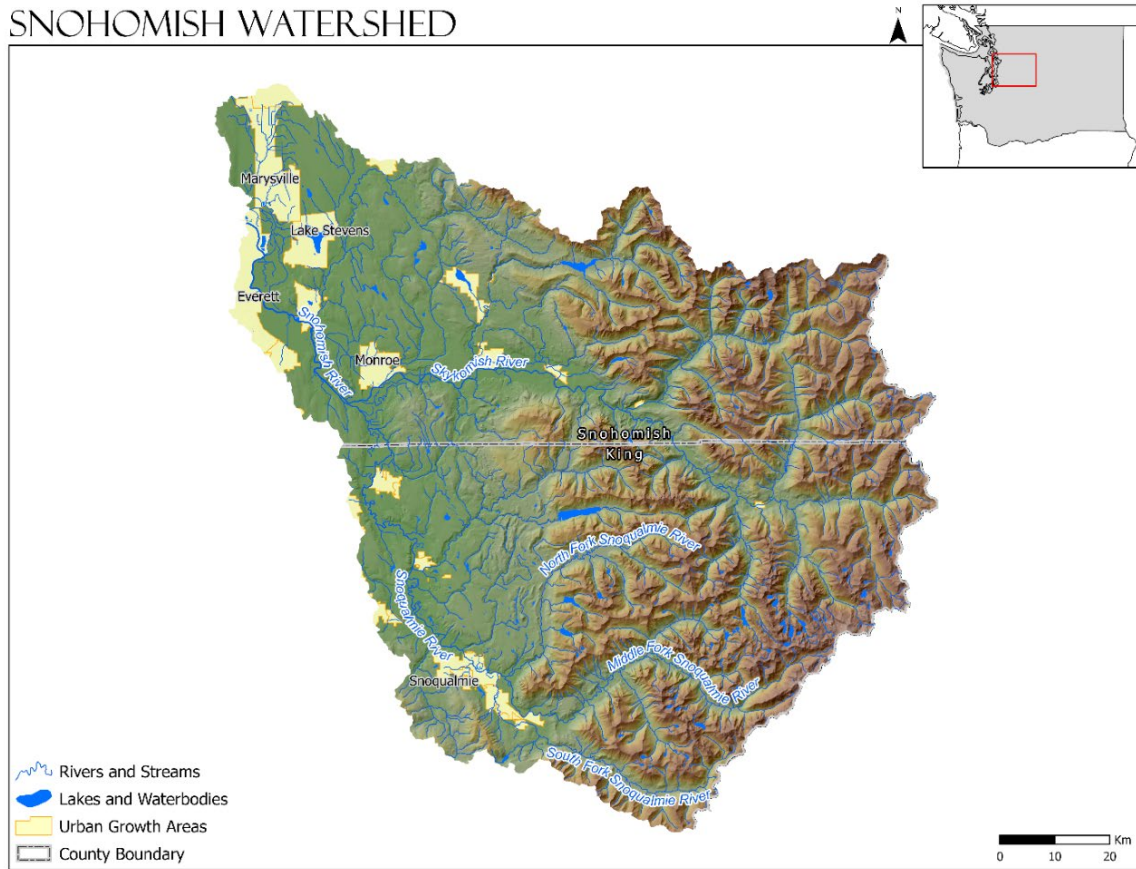
¹⁷ [Integrated Riparian Stewardship in the Stillaguamish and Snohomish Basins Final Project Report](#)

Snohomish County:¹⁸

- 1.) Lower and Middle Pilchuck River sub-basins¹⁹
- 2.) French Creek sub-basin
- 3.) Stillaguamish River Confluence

The French Creek riparian and restoration work is detailed in the following section.

This Watershed LO grant funding provided the Snohomish Conservation District (CD) with \$774,481 to pursue riparian restoration activities and land acquisitions beginning in 2016 and concluding in 2021. Ultimately, the project restored 16.54 acres of native forest buffers on private land, assisted the Stillaguamish Tribe with acquiring 158 acres of floodplain habitat, and project efforts established a foundation for continued targeted investments that are expected to result in an additional 160 acres of acquisition for restoration and 40 acres of riparian reforestation on private land, according to project documentation.



¹⁸ [Snohomish Integrated Riparian Stewardship Plan](#)

¹⁹ A TMDL report on the Pilchuck was released in 2020

Image 4. Map of the Snohomish River Watershed, Puget Sound Institute

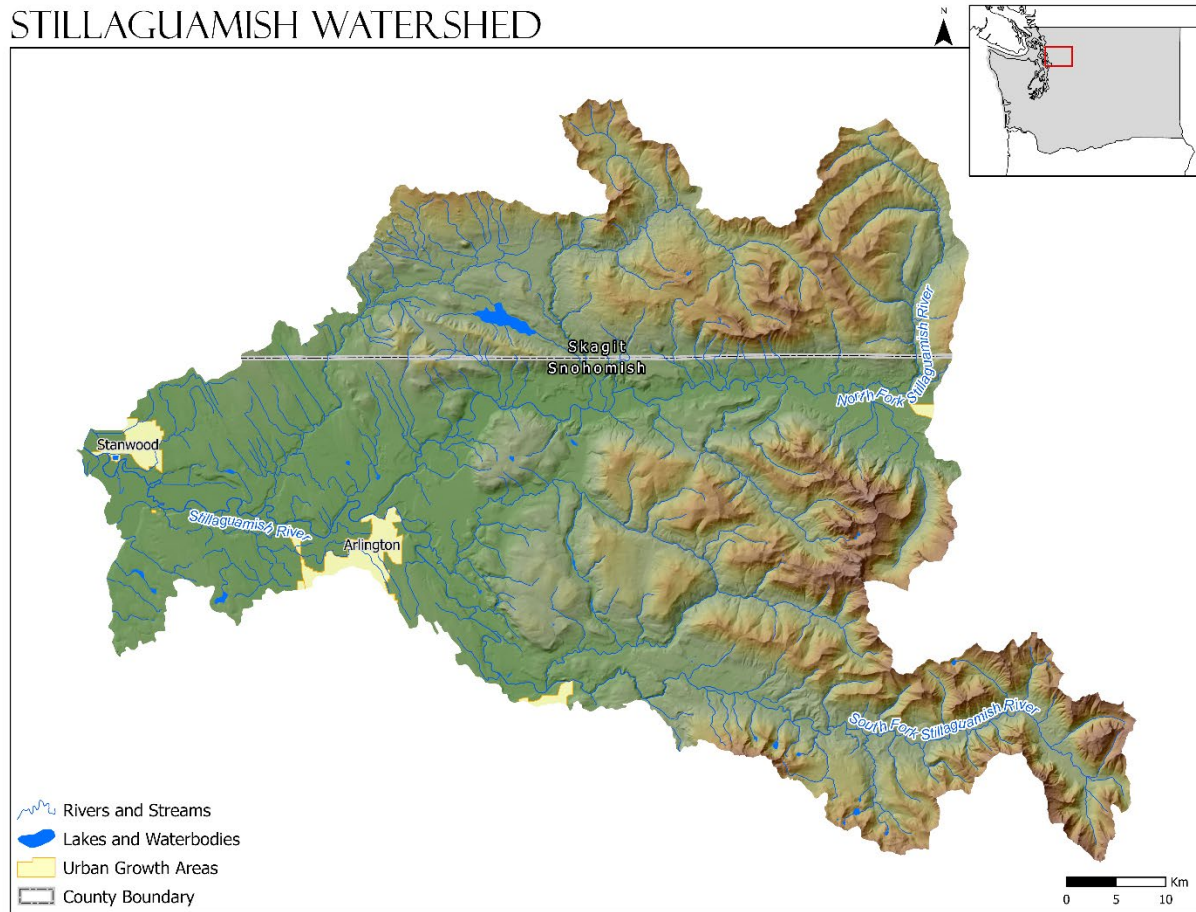


Image 5. Map of the Stillaguamish River Watershed, Puget Sound Institute

Reach-scale Planning

The CD generated two Riparian Stewardship Plans for the Stillaguamish Confluence and Pilchuck River/French Creek basins with project partners Snohomish County, Forterra, NOAA and the Adopt-a-Stream Foundation as part of the project. The riparian stewardship plans identify priority reaches in the basins that “would benefit the greatest from both riparian enhancement and protection through easements” along with identifying those parcels which may have the largest possibility of success in terms of landowner willingness and ecological benefit.²⁰

²⁰ [Snohomish Integrated Riparian Stewardship Plan](#)

Additional components of the plan included land-cover analysis and GIS mapping of the area that indicates locations of highest risk of development for the two selected basins.

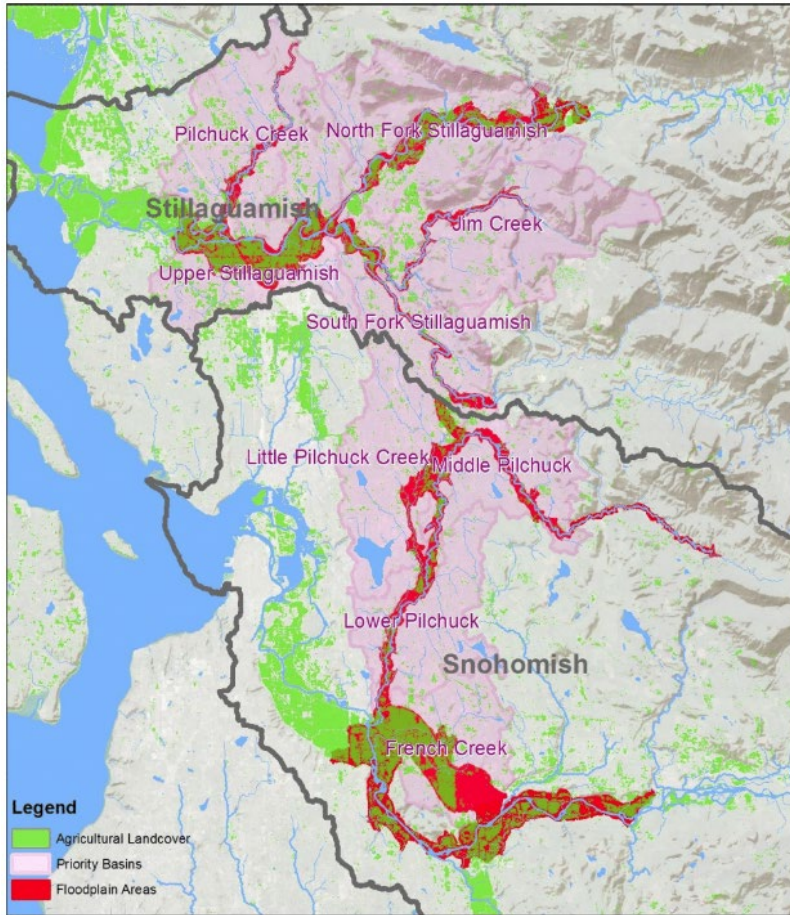


Image 6. Map of the priority basins of the riparian stewardship/reach-scale plans, Snohomish Conservation District²¹

Land Acquisitions

Following an outreach strategy completed in 2017, initial outreach to 141 landowners included sending mailers and door-knocking to inquire about potential easements and/or riparian protection actions. The properties were those identified in the reach-scale plan. Additional outreach included landowner meetings at the local Grange and individual site visits. Site visits consisted of the CD speaking with landowners about land acquisition options, buffer options, succession planning and other stewardship activities. According to a project representative, the individual mailers were the most successful outreach activities conducted, with landowners still responding to the mailers at the time of the interview.²²

²¹ [Snohomish Integrated Riparian Stewardship Plan](#)

²² K. Marshall, personal communication, 2022.

Although the CD did not successfully acquire any land or place easements, grant funding enabled the CD to assist the Stillaguamish Tribe with the acquisition of 158 acres of floodplain property (the “Trafton” property) on which to complete floodplain habitat restoration. Following property appraisal and due diligence activities, the Tribe completed the land acquisition for approximately \$2 million for the property and water rights. The CD reimbursed \$565,000 of the purchase using grant funding.²³

According to project reports, the Stillaguamish Tribe is in the process of acquiring another 100+ acre property on the North Fork Stillaguamish River, and the Tulalip Tribes is in the process of negotiating an approximately 40 acre acquisition on the Pilchuck River. Watershed LO funding allowed the CD to “conduct initial outreach to those properties and connect the landowners with the tribes”.²⁴

Riparian Restoration and Plantings

The CD used existing and anticipated grant funding for riparian restoration work on a total of 16.54 acres at one of the sites identified in the Lower-Middle Pilchuck reach-scale plan. This riparian restoration work included restoring 3,100 linear feet of the Pilchuck River to improve degraded conditions for salmon habitat. Riparian activities including invasive weed control and plantings that occurred in two phases from 2018 through 2019. NEP funding supported riparian plantings on roughly half of the 16.54 acres, while additional funding of \$38,064 came from State Conservation Commission.²⁵ The CD is conducting maintenance for a minimum of three to five years after installation was completed (approximately late 2020).²⁶

Successes

According to the project final report, the Watershed LO funding “demonstrated the importance of sustained, flexible, long-term funding in achieving habitat restoration objectives” (the project was funded for a total of five years). The long-term funding enabled the CD to “solidify a foundation of a strong partner network in the priority reaches to achieve broad habitat restoration objectives and allowed the CD and our partners to develop trust and longevity with the property owners in the priority reaches.”²⁷

According to a project representative, the NEP funding enabled the CD to “put [new landowner] relationships in place so that there was something that the CD could move forward on” as well as providing the CD with the “opportunity to explore [land acquisition] concepts”²⁸ so that they could find the correct properties to acquire.

²³ [Trafton Covenant Report March 2021](#)

²⁴ [Snohomish Conservation District Integrated Riparian Stewardship Project Final Report](#)

²⁵ [FEATS report](#)

²⁶ [Snohomish Conservation District Integrated Riparian Stewardship Project Final Report](#)

²⁷ *Ibid*

²⁸ K. Marshall, personal communication, 2022

Challenges

A challenge noted was that the phased approach of the project did add some administrative burden. This project operated in two phases, with the second phase occurring in 2020. According to a project representative, in order to receive funding for the second phase the reach-scale plan identified in the first phase had to be completed. Although, it was noted that the administrative burden of this phased approach was far less than having to re-apply to another grant round and ultimately the burden was “lower than [many other funding] models.”²⁹

While the Stillaguamish Tribe succeeded in their property acquisition, the CD failed on three potential land acquisitions. Varying reasons for the failure of the land acquisitions included a willing landowner passing away and heirs to the property not interested in a sale and a family wanting to sub-divide agricultural land rather than protect it through an easement.

Next Steps

Next steps include continued maintenance on the acquired properties and identifying future land acquisitions. In particular, the CD is working towards additional floodplain restoration projects in the watershed, such as at the “Holy Cross” property on the Pilchuck River. The project allowed the CD to connect the church’s landowners to the Tulalip Tribe, who are currently conducting acquisition negotiations and seeking funding. The Tulalip Tribes’ effort is funded through Centennial Clean Water funding, with the Tribe potentially pursuing additional funding through the Salmon Recovery Funding Board and the [Pacific Coastal Salmon Recovery Fund](#). Centennial Clean Water funding is also supporting riparian restoration at another property on the South Fork Stillaguamish. Additional funding for further activities has come from the Washington State Streamflow Restoration Competitive Grant Program for work on the Pilchuck.³⁰ HSIL is funding the Stillaguamish Tribe to complete restoration at the Trafton site.

[2.4 Snohomish Conservation District — Healthy Soils for A Healthy French Creek](#)
NEP Watershed LO grant funding provided Snohomish Conservation District with \$207,846 to address impaired water quality standards for salmonids in French Creek from 2014 to 2017. Project components included riparian buffer restoration and re-vegetation, technical assistance and on-going outreach and education to landowners in the French Creek and nearby sub-basins.

Portions of French Creek, particularly in the power portion of the floodplain, exhibit degraded water quality including high temperatures, nutrient loads, and fecal coliform contamination. This leads to low dissolved oxygen levels in the summer and autumn and impairs salmon habitat. Ecology planned to release a combined Pilchuck River and French Creek TMDL project

²⁹ K. Marshall, personal communication, 2022

³⁰ [Snohomish Conservation District Integrated Riparian Stewardship Project Final Report](#)

in 2012, but “as part of the 2013 data assessment, [Ecology] determined that [they] could not use some of the data collected in lower French Creek because stream flows were extremely low.”³¹ Therefore, additional data was collected on the Pilchuck in 2014 and 2016 and the TMDL report was released in 2020, following public comment periods. The French Creek TMDL is still under revision as modeling for the project is on hold as of 2020.³²

The French Creek watershed is approximately 28 square miles and empties into the Snohomish River. The lower portion of the watershed is located in the floodplain and supports a commercial agricultural industry.



Image 7. Map of the Snohomish River Watershed, Puget Sound Institute (pin indicates approximately location of project activities on French Creek)

Riparian Buffer Restoration and Plantings

This project established 10.45 acres of riparian forest buffer on private land. The breakdown of the acres was a total of 8.2 at two different sites (mentioned below in the Outreach and

³¹ <https://ecology.wa.gov/Water-Shorelines/Water-quality/Water-improvement/Total-Maximum-Daily-Load-process/Directory-of-improvement-projects/French-Creek-Pilchuck-watersheds>

³² *ibid*

Education section) and an additional 2.25 acres of riparian buffer at a property on French Creek which included stream exclusion fencing.

Additionally, the project provided 2,677 native free trees to landowners and installed 1,365 linear feet of fencing along French Creek tributaries.

Technical Assistance

Snohomish Conservation District assisted three owner-operators - Keffler, Jensen and SnoValley Milk with nutrient management plans. They engaged 20 urban landowners through the healthy soils program, and provided ten of those landowners with information on soil testing for healthy yards. The CD conducted 63 agricultural site visits with 41 different landowners. In total, the CD conducted 29 agricultural soil tests for 17 different landowners.

Outreach and Education Events

This grant funded three workshops between April and May 2015 for residents nearby to French Creek. Topics ranged from “Landscaping for Wildlife (April 28 2015)”, “The Law: Information About Living Along a Stream (April 30 2015)”, and “Farming Practices for Healthy Streams (May 5 2015)”. A tour at [Grateful Pine Farm](#), an equestrian and farming facility in Snohomish, WA was conducted in the summer of 2015. Additional outreach components including displaying information at the Evergreen State Fair in 2015 and 2017, the Country Living Expo Agroforestry Workshop annually from 2015 to 2017, and a native plant sale in 2016. Mailings to residents included information on manure shares in 2017.

Additional stewardship activities included a riparian planting event at the Aldergrove Meadow Community which resulted in 6.1 acres of plantings at the HOA. Another 2.1 acres of wetland plantings were conducted at the Lords Lake HOA. Both of these sites also received information on composting and healthy soils and information on natural yard care and rain barrels at Lords Lake.

Successes

The project resulted in over 10 acres of riparian buffer and stream-side restoration as well evidence of installed BMPs (particularly exclusion fencing) reducing animals’ access to surface waters.

Education and outreach campaigns also yielded healthy results, according to project close-out documents, particularly when geared towards the economic benefits of stewardship activities and letting landowners choose their particular course of action.



Image 8: Examples of education and outreach events, Snohomish Conservation District³³

French Creek

Landowners living along French Creek or its tributary streams may be eligible for the following assistance:

- Off-stream watering - up to 75%, up to \$30,000 per landowner (including solar)
- Livestock exclusion fencing - up to 100%
- Streamside planting - up to 100% including site prep, planting and partial maintenance
- Wetland planting - up to %100
- Free soil testing
- Free stream and farm planning
- Heavy use area for livestock - up to 75%
- Manure and compost bins - up to %75
- Roof Run-off structures - up to %75

For help with cost-share practices, call Carrie Brausieck, 425-377-7014

Image 9: Information on economic-oriented benefits, Snohomish Conservation District

Challenges

No challenges were identified in project documents, although continued funding to sustain on-going activities conducted by the CD is needed, according to project representatives.

Next Steps

The CD will continue with outreach and technical assistance efforts for targeted parcels. More funding would be required to see this towards fruition, according to project documentation.³⁴ Long-term maintenance of tree plantings will continue and monitoring of any decreases in solar radiation (to depress water temperatures) will be implemented. Lastly, the CD will continue

³³ [Snohomish Conservation District Integrated Riparian Stewardship Project Final Report](#)

³⁴ *ibid*

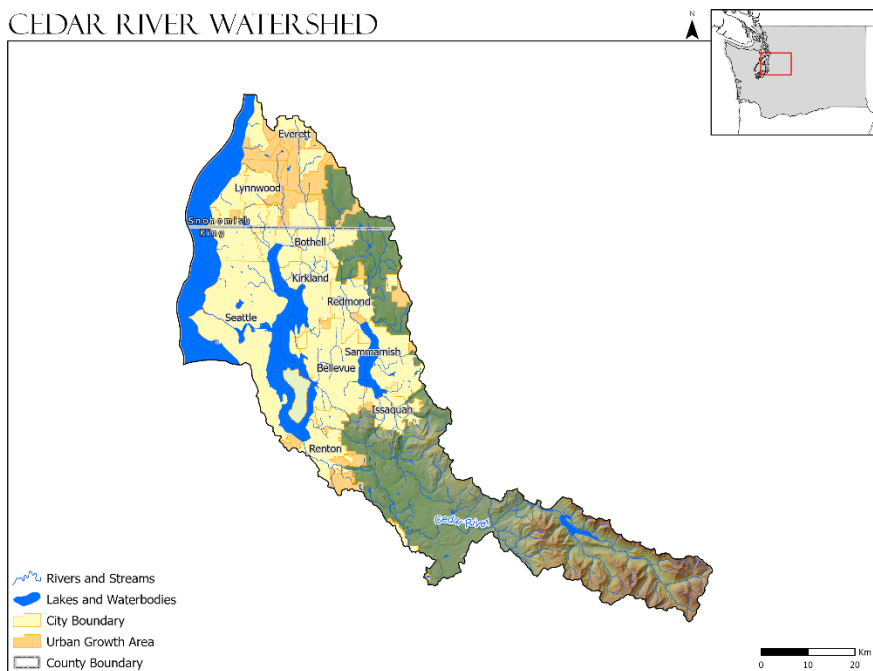
outreach to farmers and provide funding for best management practices such as off-stream watering, fencing, and heavy use footing of livestock in order to improve soil health.

2.5 Seattle Public Utilities and the City Of Seattle — Cedar River Stewardship-In-Action

NEP Watershed LO grant funding provided Seattle Public Utilities with \$250,000 to restore riparian ecosystems in the lower Cedar River from 2013 to 2015. The large-scale, collaborative effort, “Stewardship-in-Action (SiA)” removed knotweed, planted native species along riparian corridors and conducted education and stewardship activities. SPU partnered on SiA with Forterra, King County Noxious Weed Control Program, King County Parks, King County River and Floodplain Management and the City of Renton.

The King County Noxious Weed Control Program began controlling knotweed on the Cedar River in 2007, at local landowners’ request.³⁵ In 2010, the Stewardship in Action (SiA) partnership was formed to bring more resources to the effort. The partnership includes Forterra, Seattle Public Utilities, and King County Noxious Weed Control Program and aims to engage the local community to restore the banks of the Cedar River.³⁶

The 95,000-acre Cedar River Municipal Watershed is set aside as an ecological reserve and provides over 70 percent of the Greater Seattle region’s drinking water.



³⁵ <https://kingcounty.gov/services/environment/animals-and-plants/noxious-weeds/knotweed-control-projects.aspx>

³⁶ <https://forterra.org/projects/cedar-river/>

Image 10. Map of the Cedar River Watershed, Puget Sound Institute

KNOTWEED CONTROL ON THE CEDAR RIVER 2015

Project area extends from river mile 21 downstream to the I-405 overpass

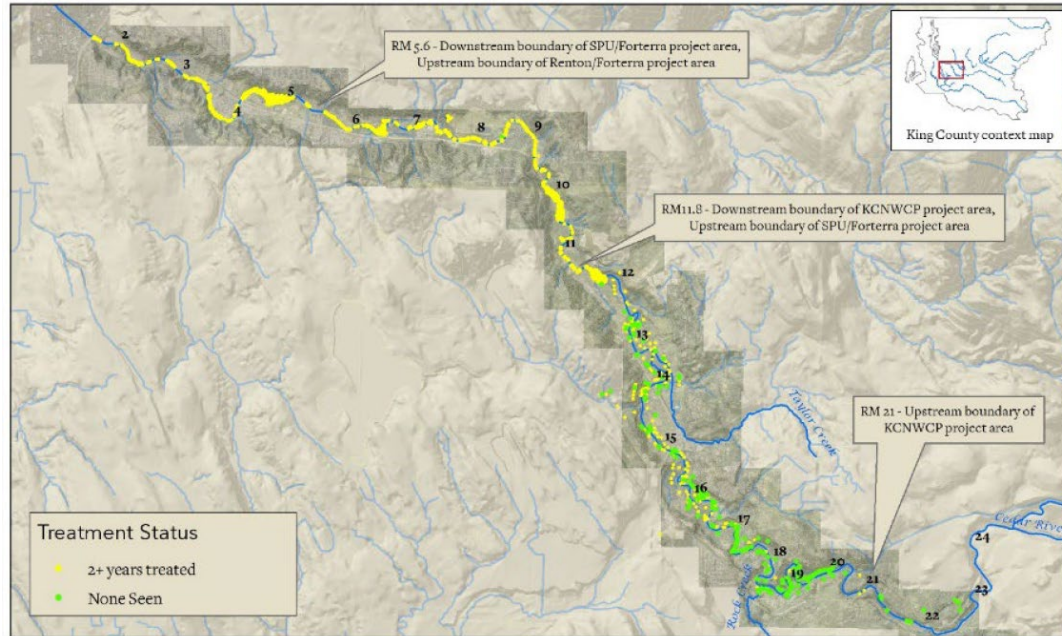


Image 11. Map of the Cedar River Restoration project area, Seattle Public Utilities

Knotweed Removal and Riparian Restoration

The Watershed LO grant funding allowed the SiA project to continue knotweed removal SPU and partners had been conducting. Knotweed removal occurred for three consecutive years (from 2013 to 2016) and knotweed was surveyed along 11 river miles. More than 66 landowners have participated in the King County Noxious Weed Control Program since its inception³⁷. According to the project report, the knotweed removal during this portion of the project amounted to over 15 percent of the total knotweed removal that has occurred. Linear footage of the riverbank where no knotweed was observed for two consecutive years was increased by approximately 9,000 feet. Additionally, over 6,500 native plants were planted in the riparian zone during the project period.

Landowner Outreach and Education

During this Watershed LO-funded portion of the SiA project, 15 landowners were introduced into the SiA program as “stewards of the riparian areas on their properties”³⁸ wherein the

³⁷ [King Conservation District. Member Jurisdiction and WRIA Forum Grant Progress Report. Cedar River Invasive Knotweed Control Project, 2009](#)

³⁸ [Cedar River Stewardship-in-Action Project close-out report](#)

landowners allowed for and conducted knotweed removal and control on their property. According to a project representative, a strategic approach to obtaining private landowners' consent was through "intensive efforts to understand landowner concerns"³⁹ and consisted of several focus groups and meetings, alongside the distribution of brochures and printed communications materials. Forterra led the project's meetings and landowner events, as Forterra was considered a "non-government entity" to the landowners, according to a project representative.

Education efforts at the workshops included demonstrating why knotweed was a problem for stream health through reducing the technicality of knotweed infestation and speaking about planting "stream gardens", according to a project representative. Landowner participation was increased through word of mouth and awareness of the regulatory relationship between the City of Seattle and the Cedar River watershed through the education and outreach efforts.

Successes

"In the fall of 2018, after eight years of hard work, restoration efforts finally reached the mouth of the Cedar River at Lake Washington in Renton. With knotweed under control, a future forest is taking root along all 22 miles of the lower Cedar River. This work supports a healthy system that stabilizes banks, casts shade to keep the river cool for salmon, and provides food and shelter for wildlife."⁴⁰

Overall project accomplishments include a reduction in total knotweed infestation, over 100,000 native trees and shrubs planted, over 2,000 people educated about knotweed, and over 50 landowners who have received native plant gardens. Through partnerships with homeowners and volunteers working on public and private lands, SiA has reduced the footprint of invasive knotweeds along the length of the river by 90%.

Challenges

No specific challenges were noted in project documentation.

Next Steps

Next steps include continued monitoring and maintenance of the planted areas as well as continued expansion of the riparian area planted with native plants and continually recruiting more landowners into the program. Seattle Public Utilities is stewarding the 70 acres the entity owns through providing funding to Forterra for stewardship activities.⁴¹

³⁹ Lackey, B. Personal communication, 2022

⁴⁰ <https://forterra.org/projects/cedar-river/>

⁴¹ <https://www.seattle.gov/utilities/protecting-our-environment/our-water-sources/habitat-conservation-plan/restoration/river-restoration>

2.6 North Olympic Salmon Coalition — Chimacum Creek Riparian Management Plan

The North Olympic Salmon Coalition (NOSC) and partners including the Jefferson Land Trust, Jefferson County Conservation District and others have been working in the Chimacum Watershed for over 30 years to improve the health of the creek and restore salmon habitat. Chimacum Creek struggles with drainage issues, has limited native riparian plants on stream banks and is over-run with reed canary grass infestation over the last two decades.⁴² This NEP Watershed LO grant funding provided NOSC, in partnership with Jefferson Land Trust, \$746,973 to pursue riparian restoration activities, conservation easements and beaver management in Chimacum Creek from 2016 and concluding in 2021.

Activities conducted during this project were guided by the [Chimacum Creek Restoration and Protection Plan \(2018\)](#) and included protection of 45 acres of riparian habitat and farmland, beaver management activities and developed 60% design for restoration of that reach. Project activities are discussed below.

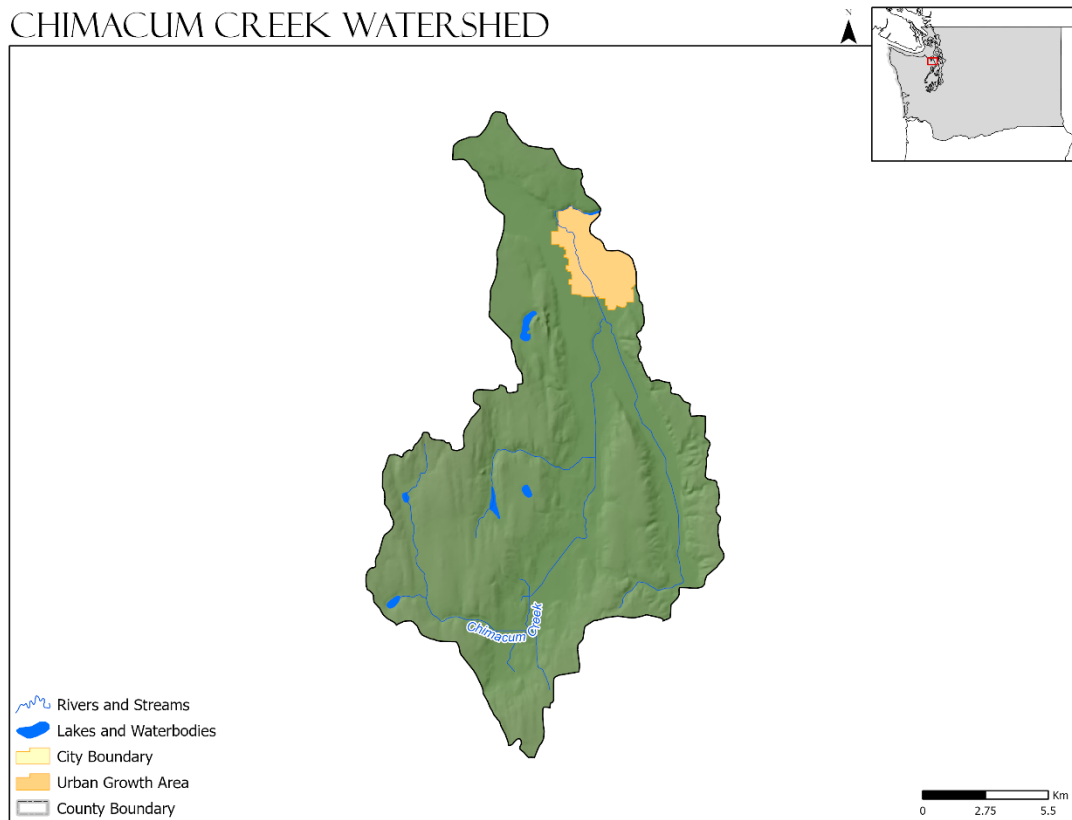


Image 12. Map of the Chimacum Watershed, Puget Sound Institute

⁴² [Chimacum Riparian Management Plan](#)

Riparian Plantings

Riparian plantings occurred on four different properties totaling 0.7 acres along Chimacum Creek. Native plantings were intended to eventually shade out invasive reed canary grass and improve habitat and water quality conditions on the creek. Nine beaver dam devices were installed by Jefferson County Conservation District (JCCD) and Washington Conservation Corps (WCC) crew members on the four different properties to help reduce the impacts of flooding to nearby agricultural operations. The long-term outcome for this aspect of the project is to find balance between working lands and riparian habitat restoration. Jefferson County Public Health is working with a landowner at the confluence of Chimacum Creek's main stem and east fork to acquire acreage of critical floodplain habitat. To prepare for acquisition of the property, this grant funded due diligence efforts.

Landowner Outreach

NOSC recruited landowners with WSU Jefferson County Extension staff support. The grant funded a "Chimacum Creek Audience Research and Outreach Strategy: Building Relationships for the Future"⁴³ study that was developed by WSU Jefferson County Extension. The study documents social marketing techniques to best connect with landowners. These techniques were then used to recruit landowners for riparian vegetation activities.

Conservation Easements

This project resulted in the protection of a 44.94-acre farm site in Jefferson County. The farm site, Kodama Farm, is zoned as Prime Agricultural Land and the land is divided into 3 sections: a 2-acre residential zone, a 22-acre conservation zone and a 20.94-acre agricultural/farm zone with approximately 3,500 feet of stream access.

The Kodama Farm land was historically wetland then converted to pasture with part of the land's western border abutting up against DNR land. The area of Chimacum Creek running through the property has no native riparian vegetation. In part because of its adjacency to DNR-owned land, the acquisition has required negotiations with Jefferson County to approve a "plat alteration to certify the purchase of development right and establish a future building footprint"⁴⁴.

Kodama Farm was initially a rent-to-own agreement between three young farmers and the landowner. The renters reached out to Jefferson Land Trust to begin conversations around purchasing and conserving the land. Following negotiations, funding and pending Jefferson County approval, Jefferson Land Trust will own a conservation easement and manage the land in perpetuity. According to project representatives, Jefferson Land Trust has extensive

⁴³ [McNamara, Darcy and Bob Simmons. 2016. Chimacum Creek Audience Research and Outreach Strategy: building relationships for the future. Prepared for North Olympic Salmon Coalition, Port Hadlock, WA 98339](#)

⁴⁴ [C. Hume and H. Bush. Riparian Protection and Restoration Initiative. Briefing to the EPA Puget Sound Team on May 19th, 2020](#)

experience in the area and annually monitors 63 Trust-owned easements. The project resulted in a conservation easement being placed on the land and one of two development rights sold.

One of the two residential development rights on the property was extinguished. Because the conservation easement prohibits timber harvest as well, the combined 22 acres are removed from “economic production”.⁴⁵

Beaver Management

The Chimacum Creek Adaptive Beaver Management Plan (2016) provided information on appropriate beaver management techniques for the Chimacum River. Beaver management outreach was achieved through targeted mailings to find appropriate river sections along with Jefferson County Conservation District, WDFW and NOSC-hosted “Living with Beaver” workshops. NOSC installed nine beaver management flow devices along Chimacum Creek.

Successes

The beaver dam flow devices helped to reduce flood impacts to farm productivity. In one case, a farmer’s blueberries that were flooded for months due to the presence of three large beaver dams were relieved of flooding after the crew installed the devices.

Project representatives, remarking on the grant, stated that it was “incredibly rare to have this type of funding with no match requirement” and the grant was crucial to the success of the land acquisitions.⁴⁶

Another successful outcome of the project was the production of a [short film](#) that highlights fish and farm partnerships on the Chimacum as well as engagement and outreach activities conducted alongside the Conservation District.

Challenges

According to project representatives, one notable challenge has been working through the land acquisition approval process with Jefferson County officials. According to project representatives, NOSC has worked with approximately five different project managers at the county.

Next Steps

NOSC will continue with restoration activities and monitoring of beaver management flow devices. Jefferson Land Trust is continuing to protect farmland and implement conservation easements in the valley.

⁴⁵ [Kodama Farm Conservation Easement Appraisal Report_08_23-2019](#)

⁴⁶ Doyle, S. Personal communication, 2022

2.7 Nisqually Land Trust — Ohop Restoration Phase III

This NEP Watershed LO grant funding provided Nisqually Land Trust with \$250,542 to conduct floodplain restoration activities along the Ohop Creek from 2014 to 2016. Partners included the Nisqually Indian Tribe, the Nisqually River Foundation and the South Puget Sound Enhancement Group This funding was a part of the \$2,679,413 total for the 2014 to 2016 phase of the Lower Ohop Valley restoration project.⁴⁷

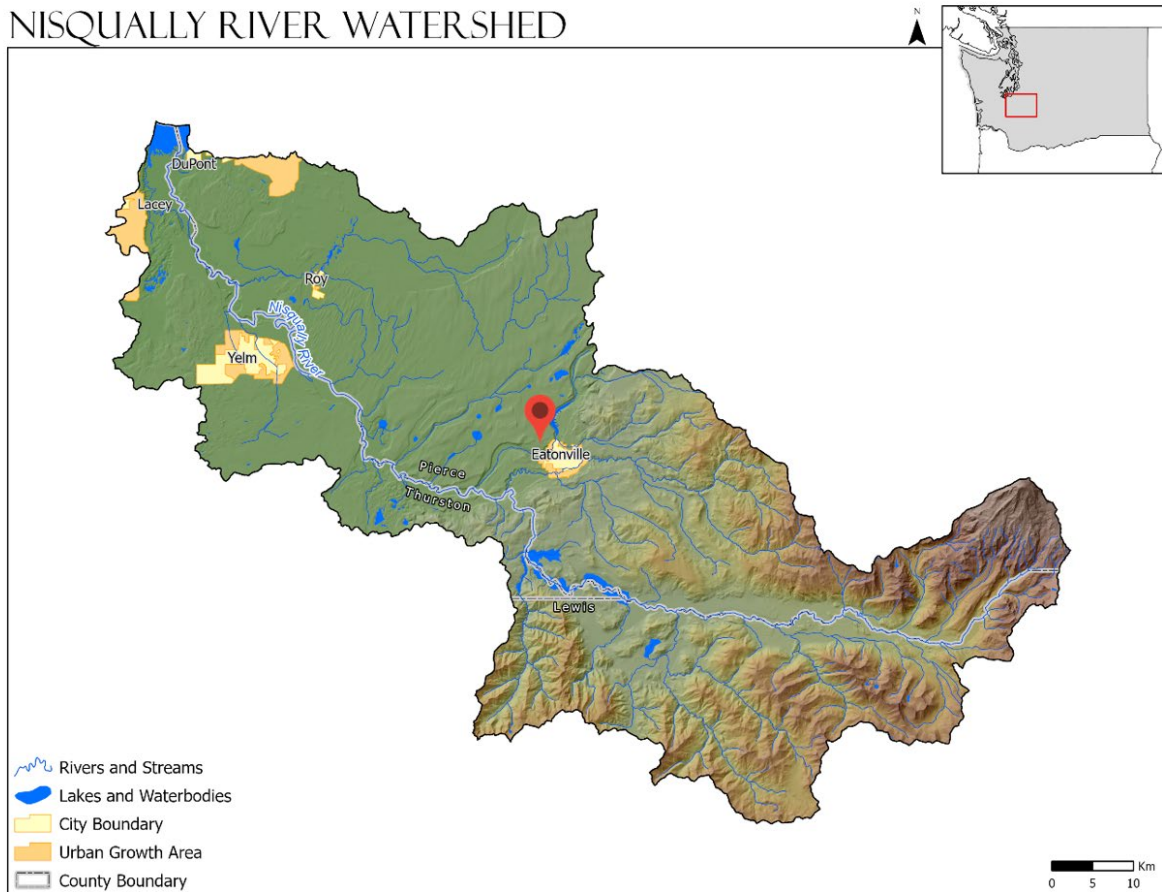


Image 13. Map of the Nisqually River Watershed, Puget Sound Institute (pin indicates approximate location of project activities)

⁴⁷ [G1400644 Final Project Summary Report](#)

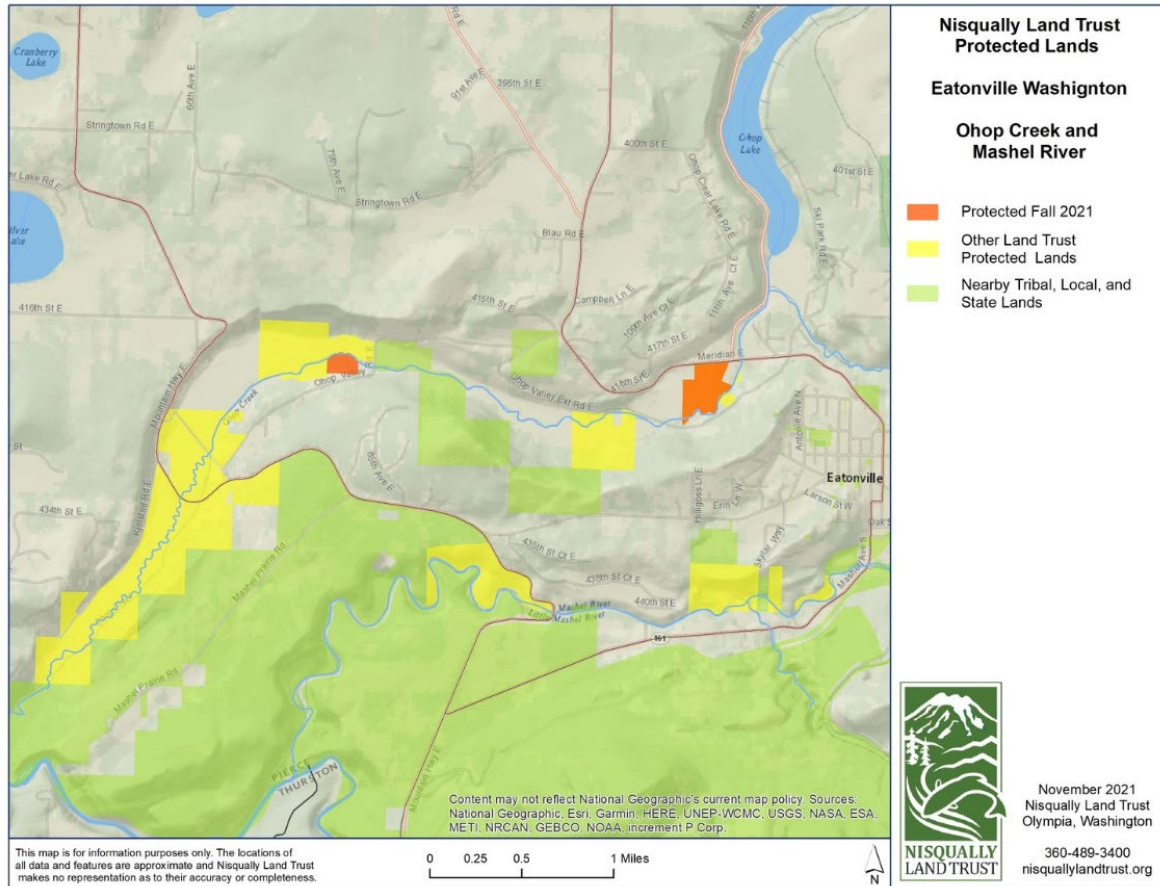


Image 14. Map of Nisqually Land Trust Protected Lands (newly acquired properties marked in red), Nisqually Land Trust (2021)⁴⁸

Nisqually Land Trust has been working for over 20 years to protect land and restore habitat along the Lower Ohop Valley. Property acquisition activities began in 2001 and are ongoing. The initial phases of Lower Ohop Valley Restoration Project, an intensive channel and floodplain restoration project, started in 2009 and were completed in 2017. A total of 549.1 acres and 7.62 miles of Ohop Creek shoreline has been protected to date.⁴⁹

Project activities thus far have included removing derelict structures, eradicating invasive plant species, replanting over 180 acres in the floodplain with native trees and shrubs, and realigning over two miles of Ohop Creek to mimic its meandering, pre-settlement location in the center of the valley.⁵⁰

Funding and partnership for the three phases of the Ohop Creek floodplain restoration project includes: Ecology, EPA, NRCS, Northwest Trek, Nisqually River Foundation – Education Project,

⁴⁸ <https://www.thejoltnews.com/stories/nisqually-land-trust-acquires-two-key-properties-along-ohop-creek>

⁴⁹ <https://nisquallylandtrust.org/our-lands-and-projects/protected-areas/ohop-creek/>

⁵⁰ *ibid*

Nisqually Indian Tribe, Pierce County, Pierce Conservation District, Puget Sound Acquisition and Restoration Fund, the Salmon Recovery Funding Board, the South Puget Sound Salmon Enhancement Group, WDFW and USFWS .

This NEP funding supported a portion of the third phase of this ongoing floodplain restoration project and included channel re-meandering, reconnecting stream hydrology with the floodplain and restoring native trees and shrubs, along with environmental education servicing learning for school groups and volunteers.

According to a project representative, the NEP grant “provided important match funding for the in-stream work during the 2014 to 2016 phase of the project”.⁵¹

River Re-meandering, Native Plantings and Service Learning/Volunteer Activities

A total of 7,400 linear feet of stream channel was re-meandered and native trees and shrubs were planted across 70 acres of the floodplain as part of the Phase III aspect of the Lower Ohop Valley project. Watershed LO funding specifically funded over one mile of stream channel re-meandering, 11 acres of tree plantings, service learning events for 60 school groups (comprising over 1,200 students in total) and eight volunteer events with 160 volunteers.

Vegetation monitoring was completed across the site for three years post-initial planting, a wildlife monitoring project was completed, and fish monitoring was completed.

Landowner Outreach

Although private landowners have not been directly involved in the restoration activities of this project, the Land Trust works to address any impacts and concerns that restoration projects may have on adjacent landowners. The completed restoration activities have all occurred on property acquired by the Land Trust to facilitate this restoration project, and on public lands. The Land Trust has been working with landowners in the project area and elsewhere since the 2000’s. According to a project representative, most acquisition projects are a result of a landowner inquiry or an inquiry by a neighbor who is familiar with the Land Trust and occur when a landowner decides to sell all or part of their property (more information on the Land Trust’s experience with land acquisition can be found in the subsequent summary “Protecting Habitat Along the Middle and Upper Nisqually River”).⁵²

Successes

The project overall has been considered a success, particularly considering the diversity and breadth of funding sources and the ongoing collaboration among salmon recovery partners in the watershed, according to project close-out documents. One particular success noted in project documentation includes the transferring of three acres along the northwest side of the

⁵¹ Bredensteiner, K. Personal communication, 2022

⁵² Bredensteiner, K. Personal communication, 2022

valley, immediately adjacent to the project area, from the Land Trust to the Eatonville School District in 2016. The school district now uses this as a STEM campus and education center for students.⁵³

A project representative noted that the NEP funding was key to completing this phase of the project and that had funding not been provided, several project components would not have progressed.

Challenges

Challenges were minimal in part because project partners had lessons learned from previous phases of the project, according to project documentation. This included knowledge of which native species would respond well to planting as part of the re-vegetation efforts and how to minimize effects of construction access to sensitive habitat at the project site. Weather conditions did present small challenges for plant survival during the planting summer (2016), project documentation noted.

Next Steps

Nisqually Land Trust is continuing to work with landowners in the valley, protecting lands that may, one day, be a part of the next phase of the Lower Ohop Valley Restoration Project, and areas upstream of the restoration project area.

The Nisqually Indian Tribe is leading implementation of the project area's monitoring plan and additional vegetation and fish monitoring may be conducted.

Ongoing maintenance activities include basic maintenance of noxious weeds at the project site conducted by the Land Trust and funded through the Land Trust's annual fundraising.

The South Puget Sound Salmon Enhancement Group is currently leading a supplemental planting project in the buffer of the re-meandered channel which is funded through a combination of SRFB and PSAR funds. Additionally, the Nisqually Indian Tribe's Natural Resources Restoration Crew and Nisqually Land Trust volunteers are working on removing tree protectors throughout the site and controlling invasive weeds as time and funding allows.⁵⁴

2.8 Nisqually Land Trust — Protecting Habitat Along the Middle and Upper Nisqually River

Nisqually Land Trust and partners including representatives from the Pierce County Conservation District, Nisqually Tribe Natural Resources Department, South Puget Sound Salmon Enhancement Group, Thurston Conservation District, USFWS and WDFW have been

⁵³ Bredensteiner, K. Personal communication, 2022

⁵⁴ Bredensteiner, K. Personal communication, 2022

working in the Nisqually watershed since 1989 to restore salmon habitat and permanently protect the shoreline, riparian and floodplain habitats of the Nisqually River.⁵⁵

This NEP Watershed LO grant funding provided Nisqually Land Trust with \$330,600 to develop a reach-scale plan, conduct landowner outreach and acquire land in four reaches of the Middle and Upper Nisqually River. The project began in 2016 and concluded in 2019. Originally a smaller grant of \$63,000 was awarded but the project was amended in 2017 to \$131,388 and again in 2019 for a total of \$333,660 in awarded funding to accommodate project scope.

In addition to this NEP funding, the Land Trust has previously received grants from several sources including SRFB, PSAR, WWRP Riparian Habitat, WWRP Urban Wildlife, Pierce County Conservation Futures, Thurston County Conservation Futures, National Coastal Wetlands Conservation Program, Nisqually Indian Tribe, USFW Cooperative Endangered Species Conservation Program, USFW Partners Program, USFW Coastal Program, USFS, WA Ecology Streamflow Restoration, NRCS, the Pierce Conservation District Green Partnership Fund, WDFW's ALEA Cooperative Volunteer Program, and grants from private foundations.⁵⁶

To date, the Land Trust has completed 69 conservation project and permanently protected 1,545 acres along the Nisqually River mainstem through conservation easements and fee simple land acquisitions.⁵⁷

⁵⁵ [Project Final Report 33505_884823_36-SEANEP-2015-NiLaTr-00009_FinalReport](#)

⁵⁶ Bredensteiner, K. Personal communication, 2022

⁵⁷ Bredensteiner, K. Personal communication, 2022

NISQUALLY RIVER WATERSHED

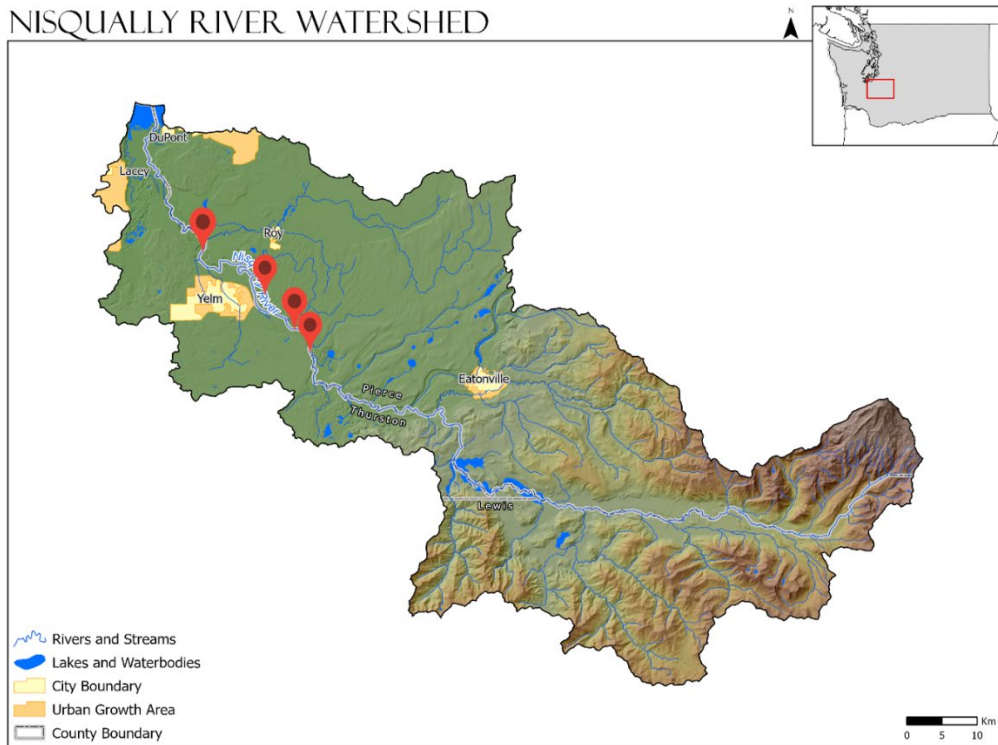


Image 15. Map of the Nisqually River Watershed, Puget Sound Institute (pins indicate approximate locations of project activities – the Whitewater Reach, McKenna Reach, Wilcox Reach, and Middle Reach)

Reach-scale Plan

Through this NEP funding, Nisqually Land Trust developed a reach-scale plan for four reaches of the Middle and Upper Nisqually River: Whitewater Reach, McKenna Reach, Wilcox Reach, and Middle Reach. The plan advances the goals of the Nisqually Chinook Recovery Plan in 2001 and the Nisqually River Steelhead Recovery Plan in 2014, developed by the Nisqually Indian Tribe and salmon recovery partners involved in WRIA 11; and the Salmon and Steelhead Habitat Limiting Factors for Water Resource Inventory Area 11 by the Washington State Conservation Commission in 1999.

The reach-scale plan defines the priority river reaches of the Middle and Upper Nisqually River, the watershed and floodplain/riparian zone characteristics, land use patterns, salmon habitat and health, and water quality. The plan also expanded the 2005 Nisqually River Shoreline Assessment with updated GIS analysis and identification of priorities areas for salmon habitat. Areas within the flood zone were assigned attributes for several characteristics including riparian forest cover, salmon tributaries and off-channel habitat as well as current protection status, designations (like shoreline and critical areas) and zoning.

Criteria maps and assessment score maps were used to develop a scored result of seven focus areas targeted for restoration. The seven target areas identified are (from downstream to upstream):

1. Confluence of Nisqually River and Murray Creek (Pierce County)
2. Lower McKenna Reach (Thurston County)
3. Lower Wilcox Reach (Pierce County)
4. Confluence of Nisqually River and Lackamas Creek (Thurston County)
5. Confluence of Nisqually River and Toboton Creek (Thurston County)
6. Confluence of Nisqually River and Tanwax Creek (Pierce County)
7. Middle Reach Upstream of Confluence of Nisqually River and Powell Creek (Thurston County)

The focus areas were ranked in terms of habitat value, estimated cost for protection and potential project feasibility.⁵⁸ An additional six focus areas were identified for future outreach opportunities. Outreach to landowners in the priority focus areas is described below.

Landowner Outreach

The Nisqually Land Trust coordinated with partners including Thurston and Pierce County Conservation Districts, PCC Farmland Trust, South of the Sound Community Land Trust and the Nisqually Salmon Habitat Recovery Group beginning in 2016 to compile outreach materials and gather information on outreach techniques suitable for the Nisqually Valley.⁵⁹

Outreach to landowners in the seven areas identified in the reach-scale plan was conducted in 2017 and 2018 as part of the Phase II of this grant (following the completion of the reach-scale plan), but according to project documents, the Land Trust had been engaging with shoreline landowners in Nisqually River since the early 2000's. These existing and ongoing relationships enabled the Land Trust to eventually focus in on several properties that were secured through fee simple land acquisitions. Within the reach-scale plan each of the priority areas was assigned a timeline that detailed which properties to acquire, projects to pursue, and restoration, maintenance and monitoring activities to implement.

According to a project representative, the Land Trust endeavors to have enduring, ongoing relationships with landowners which include allowing landowners to contact the Land Trust when they are interested in learning about conservation options. The Land Trust aims to move quickly on acquisitions and have the capacity to pursue funding, or "utilize bridge loan funding" to complete purchases on a landowner's preferred timeline.

⁵⁸ [Nisqually Land Trust. Revised Reach Scale Plan. May 11, 2017](#)

⁵⁹ [Nisqually Land Trust Statement of Work Task 3 Outreach Status Memo](#)

Land Acquisitions

Three properties comprising 10 parcels/208 acres were pursued during this project by the Land Trust. The three properties were owned by one agricultural landowner. The three properties were:⁶⁰

- Three parcels totaling 59 acres along the Middle Reach of the Nisqually River in Thurston County Mid-Reach Floodplain
- Two parcels totaling 49 acres of non-shoreline on the Wilcox Reach at the Lackamas Creek Confluence of the Nisqually River in Thurston County. The property included 3.4 acres in the Nisqually River flood zone, 6.9 acres in the flood zone 250' buffer, and 5.1 acres in the 100' Lackamas Creek buffer
- Five parcels totaling 100 acres on the McKenna Reach of the Nisqually River in Thurston County. These parcels included 0.7 mile of Nisqually River shoreline and one off-channel habitat site. The property includes 43.5 acres in the flood zone and 21 acres in the flood zone 250' buffer.

The project acquired the three parcels totaling 59 acres along the Middle Reach of the Nisqually River through a fee simple acquisition in 2018. That acquisition led to a site-wide restoration project focused on reforesting the floodplain across the acquired property. Restoration activities included non-native invasive species removal, native vegetation re-establishment, and monitoring and maintenance. The parcels acquired have become part of the Land Trust's Powell Creek Protected Area and "increases protection of the Nisqually River floodplain to over 80 percent along this reach."⁶¹

Subsequently, the Land Trust completed a second fee acquisition project of the two parcels totaling 49 acres that contain the lower reach of Lackamas Creek (second entry above). This property was acquired in 2019 and funded by Puget Sound Acquisition and Restoration and Streamflow Restoration funding.

Since completion of the NEP project, the Land Trust has completed eight other fee acquisition projects along these reaches of the river that permanently protect over 220 acres and nearly two miles of shoreline.⁶²

Successes

The project successfully developed a reach-scale that identified priority areas to pursue restoration activities along the Middle and Upper Reaches of the Nisqually River and completed one NEP-funded property acquisitions and one non-NEP funded property acquisition.

⁶⁰ [Conceptual Scope of work template for NEP Riparian Conservation Easement Phase II Proposals](#)

⁶¹ [Stewardship Plan Middle Reach Nisqually River](#)

⁶² K. Bredensteiner. Personal communication, 2022

Challenges

According to project representatives, acquiring properties is an “opportunistic process” and the Land Trust has to be ready to move on a timeline suitable to a landowner – which requires having funding available or readily available to secure. Although not unique to this project, in general sometimes landowners are not willing to sell or funding is not available at the same timeline as the seller.

Next Steps

Reforestation activities are underway throughout the acquired properties including invasive weed control and re-vegetation plantings. The Land Trust has secured funding for these activities and will be working with the Nisqually River Foundation Education Project and the Nisqually Indian Tribe Natural Resources Department on implementation of these restoration activities on the 59-acre property and has secured funding for similar activities on the 49-acre property through PSAR.⁶³

2.9 Squaxin Indian Tribe — Goldsborough Creek Restoration

This NEP Watershed LO grant funding provided the Squaxin Indian Tribe with \$266,000 to reconnect the Goldsborough Creek floodplain in Shelton Harbor. The Tribe provided approximately \$13,300 in leveraged funds in addition to grant funding to complete the \$279,300 design project. Partners include the Capitol Land Trust, Mason Conservation District, Port of Shelton, Sierra Pacific, Simpson Lumber, and the South Puget Sound Salmon Enhancement Group (SPSSEG).

This ongoing project consists of multiple phases. This NEP grant funding funded Phase 1 of the project which began in 2014 and concluded in 2017. The project and the proposed future phases aim to reverse large-scale degradation of lower Goldsborough Creek and its delta.

Goldsborough Creek is in the Kennedy-Goldsborough watershed in Shelton, WA.

⁶³ [Goldsborough Off-Channel Phase 1 Project Final Report](#)

KENNEDY-GOLDSBOROUGH WATERSHED

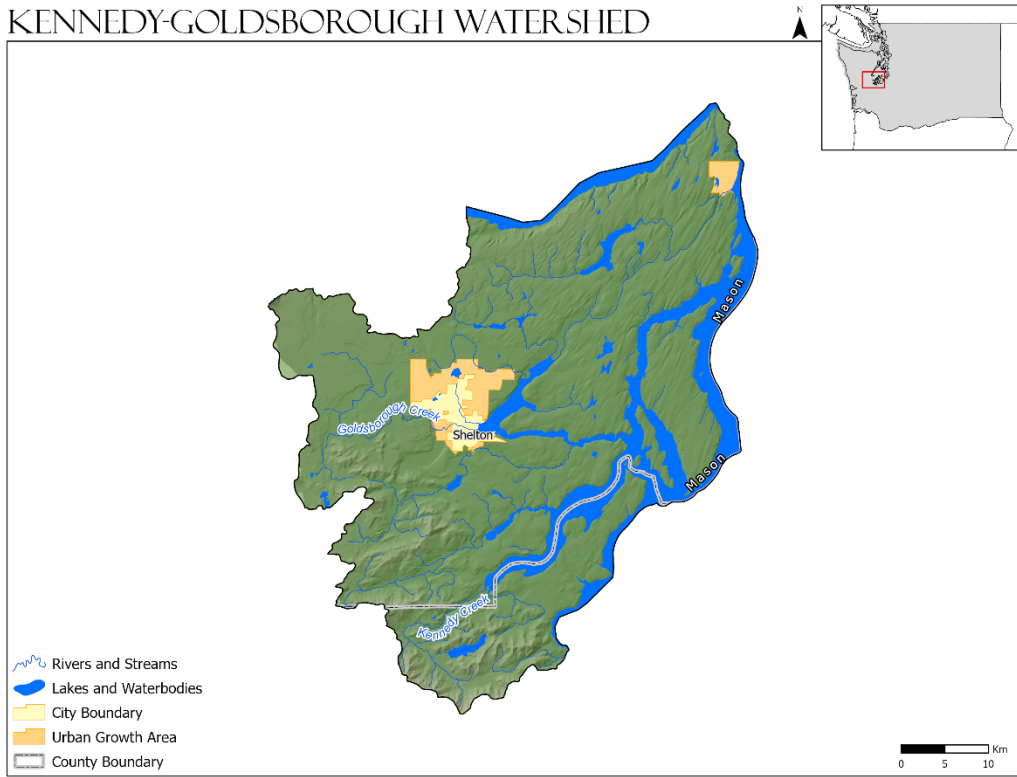


Image 16. Map of the Kennedy-Goldsborough Watershed, Puget Sound Institute



Image 17. Map of the Goldsbrough Creek Project Area⁶⁴



Image 18. Aerial photograph of the Shelton Harbor project site

⁶⁴ [South Puget Sound Salmon Enhancement Group. Project Report Goldsbrough Off-Channel Phase I \(Pond C\) Final Project Report. 2016](#)

Design Phase

NEP Watershed funding enabled the Tribe and SPSSEG to develop a conceptual design for the completed project.⁶⁵ Initial design work (Phase 1) concluded in 2016. The Tribe then launched Phase II, which began construction work.

Shelton Harbor Restoration and Log Jam Placement

The project aimed to reconnect key wetland floodplain and restoration of fish access to a site in middle Goldsborough Creek in Mason County, Shelton Harbor. The project built on previous work by reconnecting seven acres of floodplain to Goldsborough Creek through the installation of culverts under an existing railroad line.

Fourteen engineered log jams were placed in strategic locations at the mouth of Goldsborough Creek to “increase hydraulic complexity, promote sediment depositional areas, develop distributary channels, and provide woody cover and habitat for juvenile salmonids.”⁶⁶ This work was [completed in 2018](#).

Next phases of the project will include construction work on the land previously owned by Simpson Lumber/Green Diamond. Simpson Lumber sold the section of the harbor they had previously owned and used for daily lumber transport between two mills, enabling the restoration work to proceed.”⁶⁷

Successes

Project documents did not list any specific successes.

Challenges

Project documents did not list any specific challenges.

Next Steps

Construction work includes depositing new sand and gravel near the creek mouth. Additional restoration work includes purchasing 14 acres of salmon habitat on Eagle Point.⁶⁸ RCO funding provided \$1.6 million for the additional phases of Shelton Harbor restoration which are to be implemented.

⁶⁵ <https://squaxin-nr.org/2016/06/shelton-harbor-restoration/>

⁶⁶ [Shelton Harbor Restoration Phase 1 Report](#)

⁶⁷ [FEATS Report Spring 2016](#)

⁶⁸ <https://srp.rco.wa.gov/project/160/82602>

2.10 Suquamish Tribe — Blackjack Creek Restoration

This NEP Watershed LO grant funding provided the Suquamish Indian Tribe with \$149,600 to develop a watershed assessment and identify priorities for restoration in the Blackjack Creek Watershed. Project activities totaled \$165,483. The Tribe used EPA Tribal Capacity Program Grant funds to leverage the NEP Grant fund for certain administrative tasks such as reporting and conducting RFPs.⁶⁹ The project began in 2015 and concluded in 2017.

The primary purpose of the project was to identify and prioritize strategies and actions to protect and restore ecosystem processes, structures, and functions within the Blackjack Creek Watershed, with a focus on salmon habitat. Project partners included the City of Port Orchard and Kitsap County. Key stakeholders included Kitsap Conservation District, Great Peninsula Conservancy, West Sound Watersheds Council, Ecology and WDFW.⁷⁰

The Blackjack Creek Watershed, located in Kitsap County, is high priority habitat for salmonid species including chum, Coho, chinook, steelhead, and native cutthroat trout. The Blackjack Creek Watershed is 12.3 square miles and enters Sinclair Inlet within the City of Port Orchard. The Watershed includes Ruby Creek and Square Creek. The watershed, its estuary, adjacent nearshore, and the waters of Sinclair Inlet are part of the Suquamish Tribe's Usual and Accustomed fishing area.

⁶⁹ [Suquamish Tribe, Blackjack Creek Watershed Assessment and Protection and Restoration Plan Scope of Work, August 11, 2015.](#)

⁷⁰ [SSEC Presentation 2018 PDF. Using a watershed approach to identify protection and restoration actions in the Blackjack Creek watershed, Kitsap County, Washington. Todd, S.](#)

BLACKJACK CREEK WATERSHED

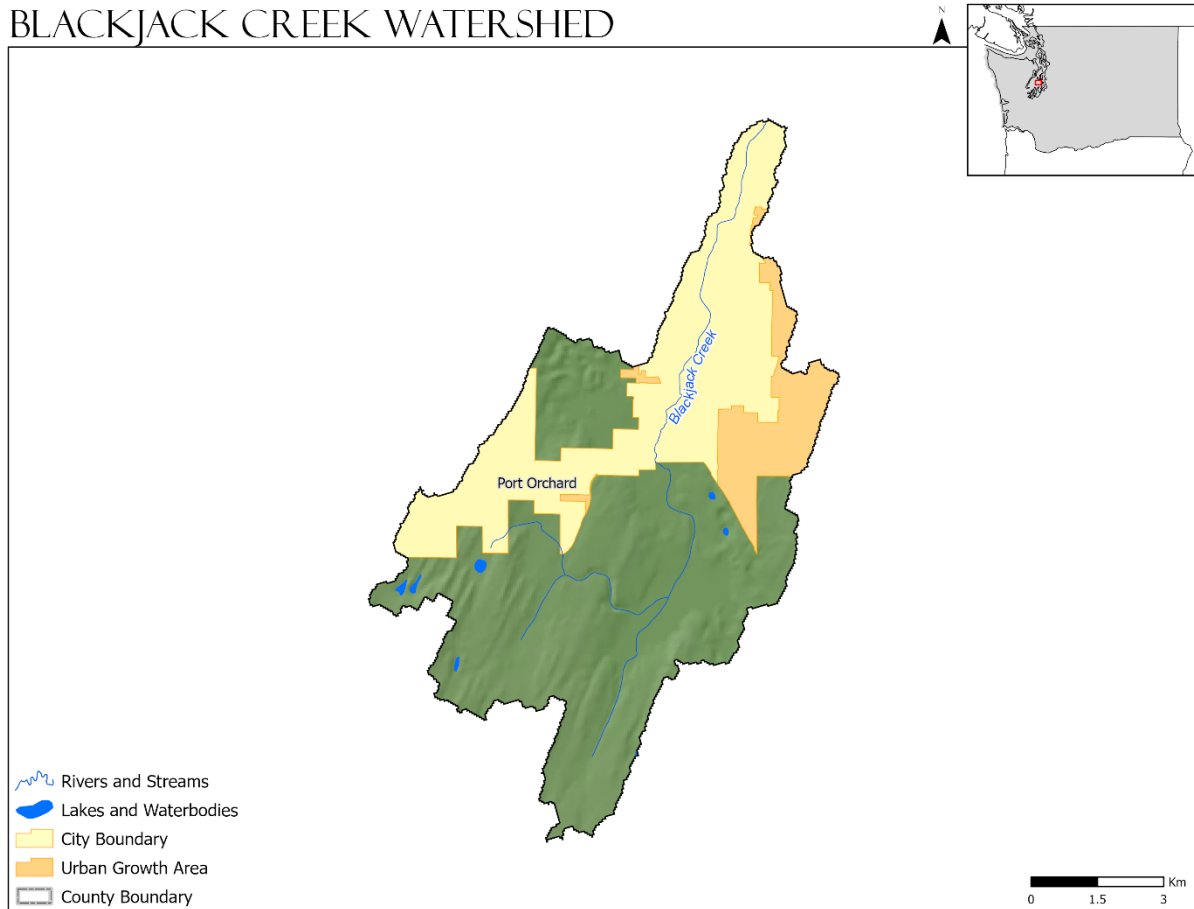


Image 19. Blackjack Creek Watershed, Puget Sound Institute

Watershed Assessment

The goal of the watershed assessment was to “compile and synthesize existing knowledge of the Blackjack Watershed”⁷¹, utilize the knowledge to assess watershed and habitat conditions, and to develop recommendations for strategies and actions that will protect and restore ecosystem processes and habitats for salmon.⁷²

Components of the assessment include:

- 1) Identifying ecosystem components (e.g., habitat, fish populations)
- 2) Determining key ecological attributes (e.g., abundance, habitat-forming processes) and indicators (e.g., large woody debris)
- 3) Assessing human-caused impacts/pressures (e.g., increasing impervious surface) and stressors (e.g., effect of increased peak flows on bed scour and egg survival)

⁷¹ [Squamish Tribe Draft Agreement Report 11.30.2015](#)

⁷² Todd, S. Personal communication, 2023

- 4) Developing strategies and actions to protect and restore ecosystem functions
- 5) Establishing goals for future conditions

The 2017 Blackjack Creek watershed was one of three watershed assessments conducted by the Suquamish Tribe alongside consultants (Environmental Service Associates and Natural Systems Design) in Kitsap County (the other two being the [Chico Creek Watershed Assessment \(2017\)](#) and the [Curley Creek Watershed Assessment \(2017\)](#)).⁷³ The assessment included GIS mapping and spatial data analysis. Hydrologic assessment was also conducted using the Puget Sound Watershed Characterization model which analyzed water flow and water quality by catchment including water flow importance, water flow degradation, surface storage of wetlands, lakes, and floodplains in the catchment and groundwater recharge/discharge. Land cover change was additionally cataloged using WDFW's High Resolution Land Cover model with review of aerial imagery and some field reconnaissance.

The watershed assessment developed a key ecological attributes and pressures report which informed appropriate protection and restoration strategies and actions. According to a project representative, the “real value [of an assessment like this] is having a team collectively understand the challenges, pressures, bottlenecks [and] limiting factors”⁷⁴ to protecting and restoring the creek. The watershed plan proposed 13 strategies “for addressing functioning and degraded watershed processes and 46 protection/restoration actions.”⁷⁵

Develop Protection and Restoration Strategies and Actions

Using results from the watershed assessment, the Tribe completed the second aspect of the Watershed LO funded project, to develop protection and restoration strategies and actions.

The development of these strategies included a watershed tour and meeting with several landowners. Informal meetings with landowners occurred during the project, although a formal workshop was not part of the project scope of work and not funded. According to a project representative, the Tribe used the Plan to look at parcel scale opportunities for protection and restoration as well as tee up future salmon recovery funding opportunities.

Successes

The project enabled the Tribe to develop a watershed assessment and identify next steps. According to a project representative, the project also brought the “on-the-ground knowledge of multiple entities together and included meetings with several landowners in key parts of the

⁷³ [Todd, S. SSEC Presentation 2018 PDF. Using a watershed approach to identify protection and restoration actions in the Blackjack Creek watershed, Kitsap County, Washington.](#)

⁷⁴ Todd, S., personal communication, 2022

⁷⁵ [Todd, S. SSEC Presentation 2018 PDF. Using a watershed approach to identify protection and restoration actions in the Blackjack Creek watershed, Kitsap County, Washington.](#)

watershed with the common goal of understanding watershed pressures and identifying actions to address the pressures.”⁷⁶

Challenges

No challenges were reported in project documentation. According to a project representative, the project did not do as much “engagement with landowners as [the Tribe] would have liked” due to a lack of additional budget and time.⁷⁷

Next Steps

According to a project representative, Kitsap County, the City of Port Orchard and the Kitsap Conservation District are using the recommendations from the assessment to guide current on-the-ground actions such as outreach to landowners and implementation of protection and restoration strategies and actions.

As of 2021, Kitsap Conservation District is operating a fully-reimbursable Rain Garden program for landowners and low-impact development outreach program to landowners consisting of free online workshops and site visits. The Rain Garden program began in 2020 and is ongoing.⁷⁸

Additionally, a recently completed NTA, Kitsap Conservation District’s “the Triad Restoration Project for Blackjack Creek” (NTA #2018-0691) was funded by the Stormwater SIL in 2020 and concluded in 2022.⁷⁹ The NTA budget was \$175,000 (with \$100,000 contributed by the SIL and \$75,000 awarded by State Conservation Commission). The NTA enabled Kitsap Conservation District to address stream restoration and wetland enhancement on three nearby properties in the Blackjack watershed, design plans for culvert replacement and address nutrient run-off from small nearby farms. Future work will aim to connect and integrate stormwater plans with salmon recovery plans to “look at the [Blackjack] watershed more holistically.”⁸⁰

2.11 King County Water and Land Resources Division — Snoqualmie Valley Agricultural Production District (SVAPD) Riparian Restoration and Agricultural Partnership Building

This NEP Watershed LO grant provided the King County Water and Land Resources Division with \$115,714 for the Snoqualmie Valley Agricultural Production District (SVAPD) Riparian Restoration and Agricultural Partnership Building project to use the Ecosystem Management Decision Support System (EMDS) to develop a viable buffer model for the Snoqualmie watershed and build upon progress made during the Fish, Farm, and Flood (FFF) integrated

⁷⁶ Todd, S., personal communication, 2023

⁷⁷ Todd, S., personal communication, 2022

⁷⁸ https://kitsapcd.org/wp-content/uploads/2021/06/NEP_Factsheet_Final.pdf

⁷⁹ <https://nepatlas.pugetsoundinfo.wa.gov/Activity/Detail/1294>

⁸⁰ Todd, S., personal communication, 2022

floodplain management process in King County. The project began in 2016 and concluded in 2018.

The primary purpose of the project was to identify and prioritize strategies and actions to determine the best areas to replant riparian buffers that would have minimal impact of productive farmland in King County. Partners included King Conservation District and USFS. Individual tasks of the project included the development of the EMDS model, outreach to agricultural stakeholders, development of a reach-scale plan, and the acquisition of easements to conduct riparian restoration in those areas.

The Snoqualmie River Watershed covers nearly 700 square miles and is located almost entirely in King County with a small portion in Snohomish County. The river originates as a west-flowing drainage from the crest of the Cascade Mountains. Its principal forks – the North Fork, Middle Fork and South Fork – come together near the city of North Bend to form the mainstem Snoqualmie River. Approximately forty miles upstream from its confluence with the Skykomish River, the Snoqualmie plunges 270 ft. over Snoqualmie Falls near the City of Snoqualmie before flowing northward past the cities of Carnation and Duvall toward the Snohomish County line. Snoqualmie Falls is a barrier to salmonid migration, thus most of the habitat restoration is focused below the falls, in the lower 38 miles of the Snoqualmie River, its floodplain, and streams that feed into the river below the falls.⁸¹ The watershed has a large amount of degraded salmon habitat that is a high priority for restoration.

This area includes the 14,600-acre Snoqualmie Agricultural Production District and some of the most important habitat for Chinook salmon, which was listed as threatened under the endangered species act in 1999.⁸² The Snoqualmie Valley has a “mile-wide floodplain” with a large portion of that floodplain in agricultural use. The Snoqualmie River basin and the Snohomish River basins produce between 25 to 50 percent of Coho in Puget Sound. The Chinook populations in the basin are measured at less than “10% of historic levels.”⁸³

In 2011, the EPA approved a Total Maximum Daily Load (TMDL) for temperature on the Snoqualmie River as temperatures in the Snoqualmie River watershed had exceeded standards and have periodically risen above lethal levels.⁸⁴

⁸¹ https://www.govlink.org/watersheds/7/pdf/Snoqualmie_Water_Quality_Synthesis-150_COMPILED.pdf

⁸² <https://www.fisheries.noaa.gov/topic/laws-policies#endangered-species-act>

⁸³ [Snohomish River Basin Salmon Conservation Plan](#)

⁸⁴ <https://apps.ecology.wa.gov/publications/documents/1110041.pdf>

SNOQUALMIE WATERSHED

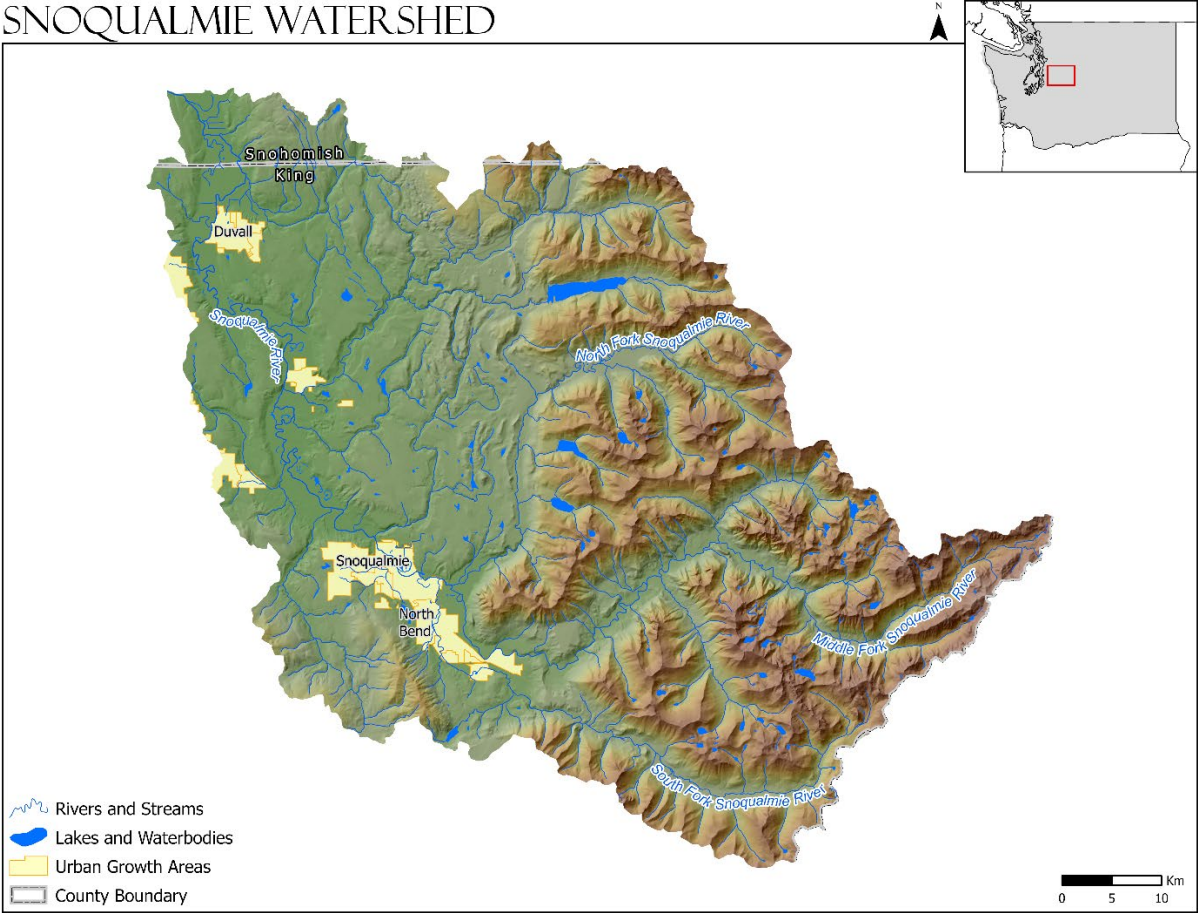


Image 20. Map of the Snoqualmie Watershed, Puget Sound Institute

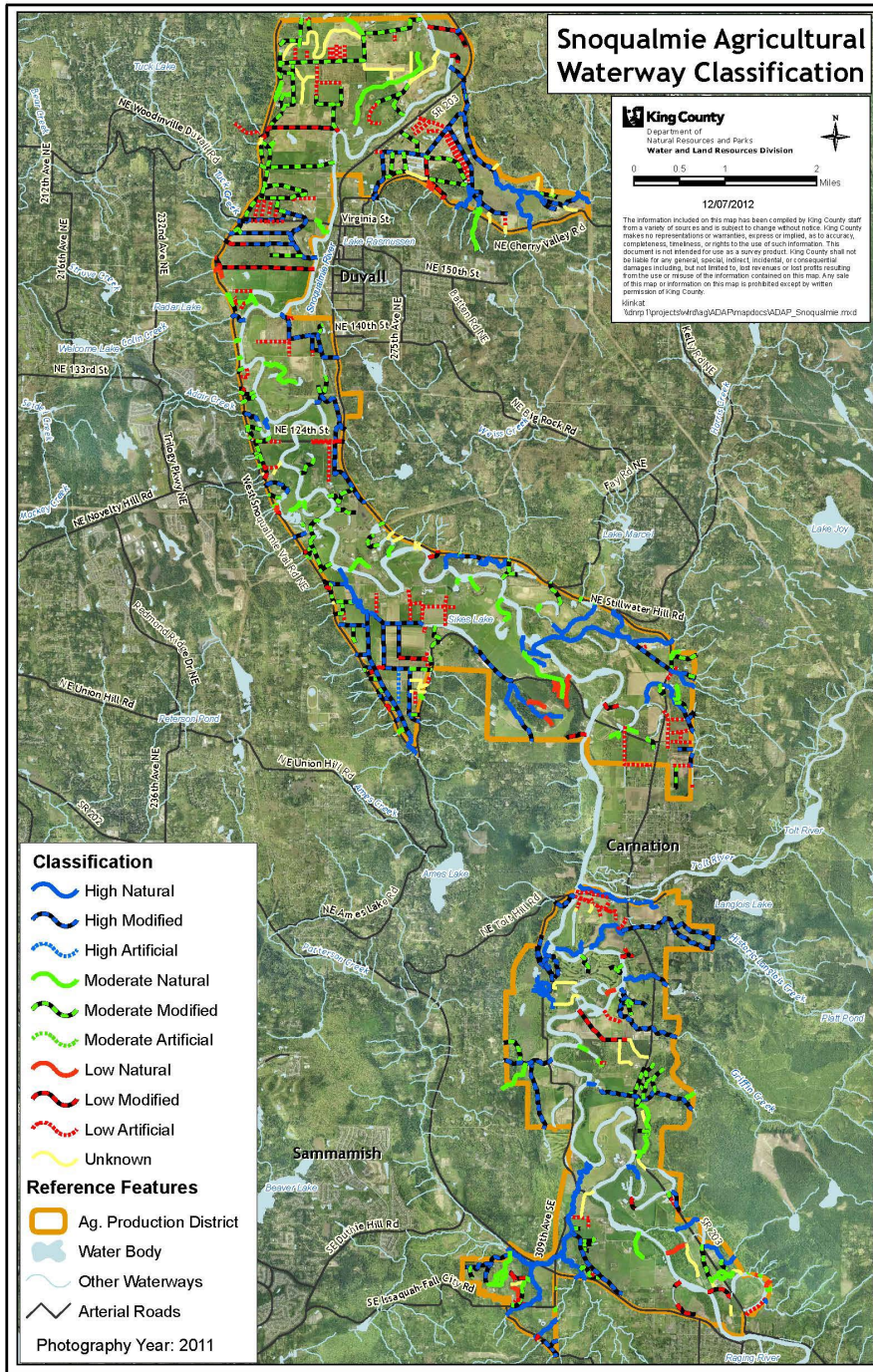


Image 21. Map of the King County Agricultural Production Districts, King County⁸⁵

⁸⁵ <https://your.kingcounty.gov/dnrp/library/water-and-land/agriculture/drainage-assistance-program/waterway-classification-maps/snoqualmie.pdf>

Reach-scale plan and Ecosystem Management Decision Support System

One of the goals of the Snoqualmie Valley APD was to use the USFS-developed Ecosystem Management Decision Support (EMDS) System model to identify riparian restoration opportunities with minimal to no impact on agricultural lands. The EMDS is a GIS-based tool developed by USFS and one of the earliest examples of a spatial decision support system “that provides graphical outputs delineating the process and outcomes of prioritizing riparian buffer enhancement areas through logic and decisions engines integrated with GIS.”⁸⁶

The EMDS tool was used in this project to develop a reach-scale plan to identify areas of high priority for riparian restoration activities in the watershed, and classify the relative value of agricultural land in order to find areas where high priority riparian need lined up with relatively lower value agricultural lands. A requirement of the activities identified at each site by King County were that they would have “little to no impact to agriculture.”⁸⁷ According to a project representative, the EMDS model identified high priority riparian areas well, but was unable to differentiate agricultural value. This led to a qualitative definition of low value agricultural land being used by the agricultural stakeholders that equated to areas that were already un-farmable due to existing trees and shrubs.⁸⁸

Connection to King County’s Farm, Fish and Flood and Engagement with Landowners

King County’s Farm, Fish and Flood is a related effort to the APD project. Farm, Fish and Flood (FFF) was created out of a King County Council request during a Comprehensive Plan update process in 2012 to create a “collaborative watershed planning process with the goal of maintaining and improving agricultural viability, improving ecological function and habitat quality, and restoring floodplains through integrated, watershed-wide strategies”.⁸⁹ Phase 1 of the FFF (spanning from 2013 to 2017) led to approximately 42 fish, farm, and flood-related recommendations. In 2018, the Phase 1 FFF process graduated to become ‘FFF 2.0’, or Phase 2, with the establishment of an Implementation Oversight Committee (IOC). The APD project occurred between ‘FFF 1.0’ and ‘FFF 2.0’. Prior to the APD project identification of key properties, the first phase of the FFF process concluded.

At the inception of the second phase of FFF, three disappearing task forces were created. These task forces are a [Riparian Buffers Task Force](#) (formed in 2018 and completed in 2019), a [Regulatory Task Force](#) (completed in 2020), and the [Agricultural Land Resource Strategic Plan Task Force](#) (ongoing).

The first phase of the Buffer Task Force developed a set of voluntary riparian planting recommendations based upon land use, watercourse type and/or needed riparian habitat

⁸⁶ [Statement of Work submitted by King County](#)

⁸⁷ [Final Project Summary Report](#)

⁸⁸ Project representative, personal communication, 2023

⁸⁹ [R650 Proviso Final Report](#)

function for salmon, ultimately agreeing to a variable width strategy for watercourses for implementation in the King County Snoqualmie Agriculture Production District.⁹⁰

According to a project representative, since the EMDS project was not successful, the County moved from using EMDS to focusing on a Phase 1 FFF recommendation to form a riparian buffer task force to engage the fish and agricultural communities.

Although the APD project initially engaged with 15 landowners to determine “low-value agricultural land” suitable for restoration activities and landowners were asked to assist with the identification of this land using the EMDS, ultimately, the majority of the funding for outreach and acquisition aspects of the sub-award was returned to Ecology and the project concluded.⁹¹

Successes

Although King County returned the grant money to Ecology as they “could not use it after the EMDS modeling process”, according to the project representative, the money was subsequently awarded to King County for their Newaukum Creek Acquisition and Restoration Plan project (see section 2.1 for more information). This was deemed a success because that money assisted in King County completing several acquisitions in the watershed.⁹² In addition, the EMDS project helped the County learn lessons that it applied in the Snoqualmie Riparian Buffer Task Force the following year.

Challenges

According to a project representative, the EMDS project was unable to come to agreement around what is low value agricultural land, partly due to the model not recognizing the data differences in how crop and livestock farmers value land. The project representative also noted that “as challenging as the modeling effort was, the identification and willingness of land owners to sell property for riparian health restoration [continues to be] even more challenging.”⁹³

Next Steps

Several related next steps are underway following the conclusion of the APD project. First, the BTF has been reconvened as a Buffer Implementation Task Force (BITF) to follow up what was accomplished in the first effort. The focus of the BITF is to focus on how to implement the buffer widths agreed to in the first task force and the goal of the BITF is to produce a riparian buffer implementation plan that “strategically accelerates riparian plantings to benefit salmon

⁹⁰ https://www.kingcounty.gov/~media/services/environment/watersheds/snoqualmie-skykomish/snoqualmie-fish-farm-flood/Buffers_Task_Force/BufferTaskForce_FinalReport.ashx?la=en

⁹¹ Project representative, personal communication, 2022

⁹² Project representative, personal communication, 2022

⁹³ Project representative, personal communication, 2022

recovery in the APD” while considering agricultural impacts. As of January 2023, the BITF has a work plan and is meeting monthly to discuss minimum buffers, near and long-term planting goals, and conduct workshops about incentive programs to “increase private landowners’ participation in riparian buffer plantings.”⁹⁴

Another next step is efforts by the FFF Flood Caucus to utilize 2D HEC-RAS modeling in evaluating flood effects in the lower Snoqualmie Valley. These efforts began in 2019. The intent of the model development is to model regional flooding with a particular focus on analyzing potential flood impacts of large scale tree plantings.⁹⁵⁹⁶ As of 2021, FFF applied for funding through a FEMA grant.⁹⁷⁹⁸ According to a 2021 newsletter, the model could “help with developing a better understanding of local effects of flooding, specifically smaller-scale floods (in particular two, five, and ten-year flood events), upon local communities and related infrastructure.”⁹⁹

2.12 Skagit Land Trust — Samish River Riparian Zone Easements and Protection
The [Skagit Land Trust’s Conservation Easements and Protection in Samish River Riparian Zones](#) project began in 2016 and concluded in 2020. The goal of the project was to establish conservation easements and protection in the Samish River Riparian Zone. NEP grant funding provided Skagit Land Trust (SLT) with \$199,900 (an original grant amount of \$173,900 was amended and extended in 2018) for the duration of the project.

Samish Bay and the Samish River (and tributaries, Friday Creek, and Thomas Creek) contain high levels of fecal coliform bacteria at many locations. The Department of Ecology began measuring concentrations and distributions of fecal coliform bacteria in freshwater sources into Samish Bay from 2005 to 2007, and published a two-part [TMDL report](#) in 2009. The TMDL found that bacterial load in the Samish Bay area needs to be reduced by 72 percent in order for Samish Bay to meet strict marine standards and that some tributaries need to reduce bacteria by as much as 95 percent.

The main objectives of this project were to identify the highest conservation needs and most viable opportunities for riparian protection on agricultural lands and increase protection in riparian zones through conservation easements or fee simple acquisitions. The focus areas were the Middle and Upper reaches of the Samish River (see images below) because fewer outreach efforts had previously been implemented in this area.

⁹⁴ BITF Work plan for Task Force, King County. Request access.

⁹⁵ Fish, Farm and Flood 2.0 Actions List. Request access.

⁹⁶ https://kingcounty.gov/~media/services/environment/watersheds/snoqualmie-skykomish/snoqualmie-fish-farm-flood/2020_Meetings/FFF_IOC_Meeting_Packet_02-26-2020.ashx?la=en

⁹⁷ Fish, Farm and Flood 2.0 Actions List. Request access.

⁹⁸ King County Water and Land Resources [Snoqualmie Valley 2d Model] Application to FEMA. Request access.

⁹⁹ <https://content.govdelivery.com/accounts/WAKING/bulletins/2c4139d>

SAMISH RIVER WATERSHED

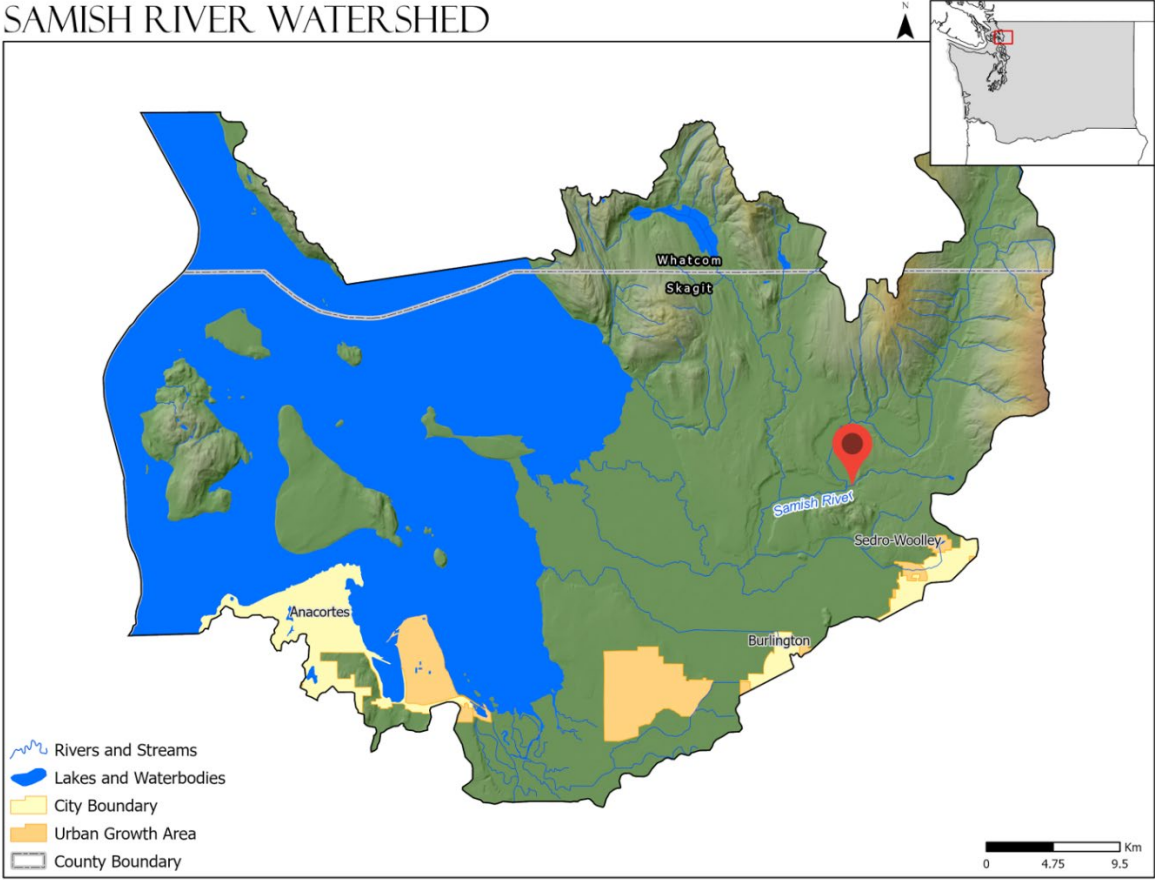


Image 22. Map of the Samish Watershed, Puget Sound Institute (pin indicates approximate location of project activities)

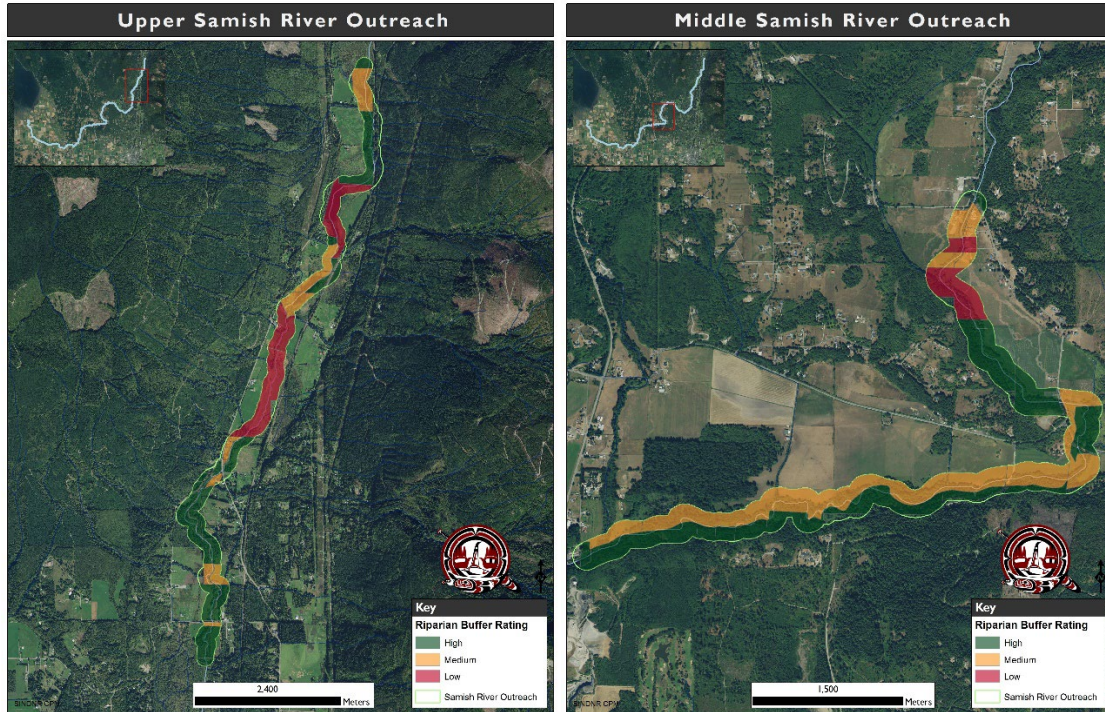


Image 23. Areas of project focus – Samish River Middle and Upper Reaches

Reach-scale Plan

According to SLT representatives, this project was the first to focus on restoration and acquisition activities in the Samish River basin. Previous work conducted by SLT has focused on the Skagit River basin. The reach-scale plan developed during this grant identified 31 properties along the Middle Reach of the Samish River for acquisition and restoration efforts and 37 properties in the Upper Reach. SLT screened for properties by ranking several factors:

- 1) Selecting properties with low to medium buffer ratings
- 2) Prioritizing by stream length (higher stream length = higher priority)
- 3) Determining the subjective probability of a successful transaction. This was based on using “local knowledge about individual properties and land”¹⁰⁰

Riparian Restoration and Outreach

Original outreach efforts were extensive and involved reaching out to 40 landowners, completing site visits to 17 landowners and submitting scopes of work for 7 projects. However, through the course of the grant, SLT modified project objectives to focus instead on developing a relationship with one landowner. Over the course of the grant, SLT attempted to acquire 3 properties through purchase. One landowner agreed to a fee simple donation, known as the

¹⁰⁰ [Conservation Easements and Protection in Samish River Riparian Zone Final Project Summary Report](#)

“Cougar Peak – Tope Ryan” property. The protected property is approximately 4.5 acres with 860 feet of shoreline.¹⁰¹ SLT restored the property with the Watershed LO funding and an adjacent SLT property for a total of 5,370 native plants installed over 11.9 acres with maintenance funds provided by the Skagit Conservation District and NRCS.

Successes

Despite a lack of landowners willing to negotiate a conservation easement with SLT, the establishment of landowner relationships for long-term opportunities was just as important, project representatives said. To that end, landowners are now notified about activities such as CREP plantings (which have occurred on a few properties managed by SLT) and SLT continues to recommend CREP to landowners.

Additionally, a site adjacent to the donated property has become an education site, also known as a ‘conservation classroom’. These education sites, of which SLT maintains several, are routinely visited by students, particularly those in the Sedro-Wooley school district. A grant helped pay for informative signage at the education site. Over 41 volunteers participated in restoration work on the property, totaling 337 volunteer hours.

Challenges

According to an SLT representative, conservation easements were a challenging sell for landowners in the Samish River Basin during this project because of two reasons:

First, there are many aging and out-of-area landowners (approximately ten) in the priority reaches who were ready to sell their property outright instead of encumbering it with a conservation easement. Landowners felt that placing a conversation easement would “diminish property value in the long-term and require landowners [to be] engaged in routine maintenance with SLT, the Conservation District and other organizations.”¹⁰²

Second, the appraised values for riparian conservation easements are low unless the landowner is also selling a development right. Enrollment in the Conservation Reserve Enhancement Program (CREP) appeared to be a better financial choice for landowners who were willing to plant in the riparian zone.

Next Steps

SLT continues to perform riparian plantings, and maintenance work on the acquired property. Activities includes beaver fencing and reed canary grass removal. Riparian plantings were funded through the Skagit Conservation District and NRCS funding and maintenance activities continue to be supported through SFRB.

¹⁰¹ Odden, K. Personal communication, 2023

¹⁰² Odden, K. Personal communication, 2022

SLT continues to be looking for potential properties to acquire and maintains a list of potential properties for land acquisition in the Samish and Skagit watersheds. Unlike in the Skagit Watershed, which uses a more collaborative vetting and ranking process alongside the Skagit Watershed Council to systematically identify and rank properties for land acquisition, for properties in the Samish it is up to SLT to identify critical properties and build up trust with those landowners “in order to have the potential to purchase when an opportune time arises.”¹⁰³ SLT continues to actively work in both watersheds.

2.13 Nooksack Indian Tribe — Riparian Protection and Restoration along the South Fork Nooksack River

This NEP Watershed LO grant provided the Nooksack Indian Tribe with \$987,626 to conduct landowner outreach, develop a reach-scale plan, and acquire land in the South Fork Nooksack River (SFNR). The project’s two phases began in 2016 and concluded in 2021. Partners included Cascadia Farm and Forestry, Ecology, Evergreen Land Trust, Kulshan Consulting, Northwest Ecological Service, Northwest Real Estate Valuation, Spectrum, Washington Water Trust, Whatcom County, Whatcom Land Trust, University of Washington, Western Washington University (WWU) among the other governmental, non-profit, agricultural districts and small businesses consulted during the course of the public outreach and engagement activities.

The South Fork Nooksack River (SFNR) watershed is approximately 186 square miles. The South Fork does not meet federal and state Clean Water Act (CWA) standards, and as such, the river is listed on the CWA Section 303(d) as an impaired water body for high temperatures and excessive fine sediment. The watershed is also home to ESA listed threatened species, including the spring Chinook salmon, which are “particularly important to the Nooksack Indian Tribe for subsistence, cultural, and commercial uses.”¹⁰⁴ Previously, the Tribe was an active participant in the [EPA-led climate change pilot research project](#) (2016) in the SFNR and the [TMDL](#) (2020) for the SFNR.¹⁰⁵

¹⁰³ Odden, K. Personal communication, 2022

¹⁰⁴ [Riparian Protection and Restoration along the South Fork Nooksack River Final Project Summary Report](#)

¹⁰⁵ *ibid*

NOOKSACK WATERSHED

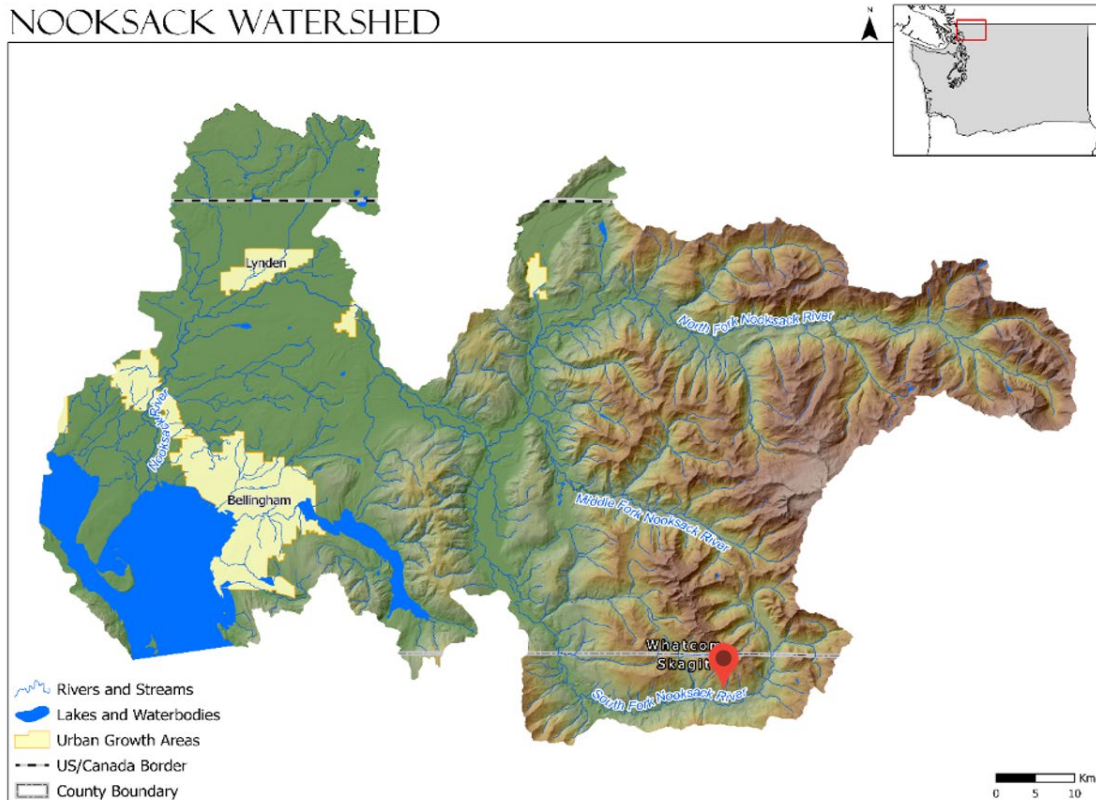


Image 24. Map of the Nooksack Watershed, Puget Sound Institute (pin indicates approximate location of project activities)

Public Outreach and Landowner Engagement

Two years of extensive public outreach and community engagement, beginning in 2016, were conducted by the Nooksack Indian Tribe Natural and Cultural Resources Department to inform the community about current watershed, floodplain, and riparian conditions of the SFNR. The outreach and facilitated community involvement informed the development of the Watershed Conservation Plan and the Reach-Scale Plan. The Tribe used Kulshan Consulting to develop a public outreach and stakeholder engagement strategy.

To start, a representative from the Tribe formed a project team with partners from Whatcom County, Whatcom Land Trust, Evergreen Land Trust, Natural Systems Design, Western Washington University, and Washington Water Trust.¹⁰⁶ Termed the ‘watershed group’, this group formed a watershed plan that developed a framework to talk about “conservation and

¹⁰⁶ [South Fork Nooksack River Public Involvement Report, 1.31.2017](#)

restoration efforts in the South Fork...strengthen communication...and provide an opportunity for meaningful dialogue”.¹⁰⁷

The Tribe, consultants, and the watershed team held four meetings with members of a management team, a salmon staff team, and a planning unit throughout spring and summer 2016. Simultaneously, six open meetings were held for community members, government and non-governmental representatives, forest, agricultural, recreation and small business owners, agencies and tribes, organized by interest group. The interest group meetings included presentations from staffers followed by facilitated discussion.¹⁰⁸

In addition to the interest group meetings, individual meetings were held with government, conservation district, forest service and agricultural district representatives from Whatcom County, the City of Bellingham, Williams Pipeline, Whatcom Conservation District, Whatcom County Agriculture Water Board, Whatcom County Public Works Department, Whatcom County Parks and Recreation, USFS, WSDOT, and the Nooksack Salmon Enhancement Association. An open-to-all public meeting was held in 2016 to develop a SFNR community watershed framework and was attended by over 100 community members.

Facilitators of all the meetings then summarized the concerns generated over the course of the meetings.¹⁰⁹ Those concerns were developed into recommendations that were used by the SFNR watershed group to develop shared values and next steps to restore the watershed. The next steps included recommendations regarding floodplain reconnection, riparian restoration, land acquisitions and easements, and fish passage barrier removal, as well as further community engagement and to address data gaps.¹¹⁰

Reach-scale Plan

Phase 1 of the project involved detailed research and analysis of existing conditions on the floodplain and SFNR watershed as well as community outreach and stakeholder engagement. The reach-scale plan was developed simultaneously with the public outreach and engagement activities. The reach-scale plan included details on the “watershed, floodplain, and riparian zone characteristics, legacy impacts from land management and use, and projected impacts due to climate change. The plan offered recommendations on actions that could reduce the severity of climate impacts, such as high temperatures and excessive fine sediment, through landowners’ voluntary action.”¹¹¹

Additionally, a water rights inventory assessment was done by Washington Water Trust. This assessment included a quantification of every water right and common water uses, particularly

¹⁰⁷ [South Fork Nooksack River Public Involvement Report, 1.31.2017](#)

¹⁰⁸ *ibid*

¹⁰⁹ *ibid*

¹¹⁰ [South Fork Nooksack River Final Reach Scale Plan 6.21.17](#)

¹¹¹ *ibid*

agricultural uses, in the watershed between Skookum Creek and the confluence of the SFNR with the North Fork Nooksack River.¹¹² The actions identified in the assessment were ultimately not pursued during the course of the grant, although the data from the assessment is discussed in the reach-scale plan.

The reach-scale plan additionally assessed all parcels that partially or totally fell within 300 feet of the SFNR and 100 feet of all tributaries for environmental condition, current function (e.g. in use for agricultural purposes, residential, industrial, etc.), protection potential, restoration potential, and landowner willingness. The analysis reviewed a total of 345 parcels that met the criteria.¹¹³

Of those 345 parcels, a select few were identified as high priority parcels for restoration and protection, in combination with landowner willingness to participate.

Land Acquisitions and Easements

Twenty-four “high priority parcels for consideration of grant funding for riparian restoration, and protection through conservation easements, fee simple purchase, and/or conservation covenants” were identified. Phase 2 funding, secured in 2020, allowed the Tribe to pursue potential land acquisition of these parcels.

Sixteen landowners were contacted by the Tribe and partners, with eight that showed interest in participating in conservation actions. Eventually, two parcels from two landowners were acquired. The two parcels, one a 37-acre parcel with 6.5 acres of riparian buffer that was restored and the other a 40-acre parcel with 6 acres of riparian buffer that was restored were successfully acquired by Whatcom Land Trust. The Land Trust was reimbursed monetarily by the Tribe and subsequently the land was put under restoration implementation and conservation covenants. The latter parcel’s development right was extinguished and 40 acres were converted from agricultural use to protected habitat. The properties are now being managed by Whatcom Land Trust, with additional funding from Ecology (\$20,000) to complete restoration design.

Successes

One success of the project included the permanent protection of 77 acres (and one development right extinguished) under the ownership in perpetuity by the Whatcom Land Trust and the restoration of 12.5 acres of riparian buffers and 750 feet of restored streambank. Additional successes included high levels of community engagement during the watershed

¹¹² [Nooksack Indian Tribe. Riparian Protection and Restoration along the South Fork Nooksack River Final Project Summary Report](#)

¹¹³ [Nooksack Indian Tribe, Tasks 7.1 and 7.2 Memo, 7.23.2021](#)

planning meetings, as evidenced by more than 100 community members attending one meeting.

Challenges

According to the submitted reports, some of the challenges the project experienced included interactions with parties that “overtly oppose[d] the project as an example of wasted taxpayer’s money and that the project is a government plot to take property”.¹¹⁴ One of the properties slated for acquisition by the Whatcom Land Trust was ultimately unable to be acquired because the landowner declined to participate because of the above sentiment.

Next Steps

The Tribe continues to pursue opportunities for acquisition and restoration of riparian and wetland habitats as per the reach-scale plan. Currently, Ecology plans to file for adjudication in 2023 involving all water users throughout Whatcom County. The Tribe and members of the South Fork Nooksack River Watershed Project are involved in outreach and community engagement around this adjudication, last meeting in autumn of 2022.

Additional activity includes the aim to eventually establish the 6,000-acre [Stewart Community Forest](#) with funding provided by “the National Park Service for technical assistance in a comprehensive community engagement plan” alongside pursuing additional funding for the acquisition. A community forum on the community forest was held in spring of 2022.

Modeling efforts are underway to assess the effects of commercial forest harvest impacts on late summer streamflows in SFNR using digital hydrological models (VELMA and DHSVM). The [pilot research study](#) was conducted in 2022 by the Tribe, Natural Systems Design and WWU.

Lastly, the Tribe continues to support community education and engagement in the Nooksack Watershed, supported by multiple grants, including from Whatcom County Public Utilities District #1.¹¹⁵

3. Key Findings for the Grants

The sections below describe several key findings from the projects detailed above.

#1: Flexibility of the grant funding was key

The flexibility of the funding and low administrative burden of the grants was supported by interviews with grantees and in grantee documentation – every interviewee expressed the sentiment that the flexibility of the grants was instrumental in their success. This flexibility included the ability to amend timelines and monetary amounts of the grants, not requiring

¹¹⁴ [Nooksack Indian Tribe. Riparian Protection and Restoration along the South Fork Nooksack River Final Project Summary Report](#)

¹¹⁵ *ibid*

matching funds, reducing administrative burden and allowing pivots to grant scope and statements of work because of a variety of factors including COVID-related closures and cessation of in-person events. Two of the grants were amended significantly and three of the grants were granted extensions. The Watershed Lead Organization's ability to offer this type of flexibility and the resources to provide additional amended funding was acknowledged and reiterated in its importance by the grantees. According to a representative from Ecology, the grants "offered maximum administrative flexibility because of where we wanted to focus the allotted \$6 million around conservation easements and associated restoration."

A notable aspect of this approach was that a sub-set of the grants were offered a two-phased approach to receiving funding: first, complete a reach-scale plan, and subsequently, receive reserved funding for implementing stated activities such as land acquisition — provided the first phase of activities were successfully completed according to the statement of work without having to re-apply. Ecology administrators worked closely with grantees to ensure this two-phased approach was seamless, with grantees noting that "not having to re-apply for funding" was critical to continuing their work.

#2: Land acquisitions are challenging and benefit from long-term funding that builds capacity for relationship-building and purchases

Land acquisitions are time-consuming and require due diligence, pre-planning, establishing and maintaining relationships with landowners. To have all the pieces fall into place also requires a bit of luck, according to several interviewees. Expecting that a land acquisition will "work" in the timelines of a grant is unrealistic, they noted. Although the grant can help to set up land acquisitions (such as through identifying high-priority properties with the development of a reach-scale plan) because an organization has received grant funding for acquisition doesn't necessarily mean a land acquisition will be successful during a specific grant time period.

Key reasons for land acquisition success included the NEP funding providing grantees with enough funds to reimburse above Fair Market Value as established through a standard appraisal, allowing grantees enough time to forge and maintain relationships with landowners, and the geophysical, ecological and environmental state of land desired for land acquisition itself. One notable aspect of the land acquisition process noted by grantees was the high cost of conducting appraisals – which sometimes didn't come to fruition. Having the money for appraisals alone, though, was still deemed critical.

Having "cash-in-hand" for aspects of the land acquisition process (such as appraisals, conducting meetings with interested landowners) is instrumental to making a land acquisition more likely to be successful, though, and the Watershed Lead Organization grants did help the majority of grantees succeed with land acquisition projects because of the funding that was available. Several of the grantees stated that, once potential properties were identified and

conversations with landowners were progressing, additional funding to realize the land acquisitions and follow through on the purchase was provided.

Despite several of the grants failing to acquire land during the course of the project period, the “ability to build relationships for future acquisitions” and prioritize those acquisitions through the development of reach-scale plans was noted as critical to future conservation efforts.

Several organization representatives commented that the Watershed LO grant funding offered the time (through paying for staff time) and resources (such as hosting workshops and conducting outreach) to build relationships – which may pay dividends and result in future acquisitions. The reach-scale plans additionally identified target priority properties for acquisitions – which allows for organizations to have a “short-list” of high-value properties ready at hand.

Although difficult to quantify in project close-out reports and quantitative-based metrics tracking, grant programs that enable organizations to advance land acquisitions closer to completion, through relationship-building and reach-scale planning, without penalizing a lack of numerical success (such as parcels acquired or acres restored), are critical to Puget Sound recovery and should continue be implemented by funders.

#3: Lag time between grant close-out and synthesis work is a barrier to situating and understanding the work completed

The amount of time that passed between grant close-out and this synthesis project varied between grants, but overall several years had elapsed. In some of the earliest grants which closed out in 2015 or 2016, the institutional knowledge loss was very high due to staff turnover. In those cases, almost no one left at the organization was familiar or had worked on the projects under consideration in this synthesis. This resulted in a lack of specific information on the successes, challenges and next steps of the projects themselves. In two cases, representatives from the organizations had no knowledge of the projects at all.

The remedy for this would be to build in synthesis work directly into the required grant close-out process for future grants. This process could include required close-out interviews upon immediate or near-immediate completion of the grant to capture lessons learned, barriers, challenges and successes that may not be captured in ‘official’ project close-out reports. This could also pre-identify some key management questions or lessons that the project is intended to support learning around, and improve our ability to draw out conclusions that are actionable.

Further improvement upon the process would be timely submittal of final paperwork and/or follow-up scheduling workshops to discuss lessons learned immediately upon completion of a project, rather than several months or years later. Implementing these steps would ensure that

the lessons learned from grants like these could be put towards improving future funding programs and provide valuable context, information and opinions on the work completed.

4. Appendix

Interview Questions for Grant Recipients

(Note from the author: Not all questions were applicable to all grantees. Not all questions were asked. Rarely were questions asked in exactly the order listed below, as conversations were allowed to flow as interviewees answered.)

- 1) Can you provide background information on the project? Can you situate how this project in particular fits into the broader conservation/restoration/land acquisition efforts your Organization is implementing?
- 2) Did you feel this project was successful? Is the work on-going and are you directly involved?
- 3) What were some challenges you encountered during the course of this project? Do you anticipate future challenges? What might be creative ideas for resolving the challenges?
- 4) Please provide information on what, if any, additional funding sources were used?
- 5) What are your projections for future conservation (number of acres and by what date)? How are these future conservation efforts funded?
- 6) Please comment on what landowner/community outreach efforts were most successful (if a component of the project)? What worked best with contacting stakeholders and participants? Physical mailers? Workshops? Tabling at events? What was the response rate?
- 7) How successful do you consider the creation and current use of the reach-scale plan (if applicable)? What elements of the reach-scale plan development were most helpful (using GIS, conducting water quality assessments, etc. as applicable)?
- 8) What ongoing community and stakeholder awareness efforts are being implemented as a result of this work?
- 9) What are your thoughts on the flexibility, administrative burden, communications, and grant close-out requirements? How did you find the grant application process and on-going administration required during the course of the grant (including components such as expanding scope of work or adding addendums)?
- 10) Have you experienced staff turnover during the project and did it affect the project and if so, how?

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¹¹⁶ Additional references and all project files can be found in [this Box folder](#).

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