

Project #15-1110, Knotweed Control in NF(Oso-Arlington) & SF Stilly

Current Status: Application Submitted

Project Details

Primary Sponsor: Snohomish County Public Works

Primary Contact: Geraldine Saw
(425) 388-7534
geraldine.saw@snoco.org

Funding Program: Salmon State Projects

Lead Entity: Stillaguamish River Salmon Recovery
Co-Lead Entity

Project Type: Restoration

Project Description

This is a restoration project. Snohomish County proposed to continue knotweed control in first and second priority riparian habitat restoration areas along the SF and NF of the Stillaguamish River. The goal of the project is to accelerate the natural recruitment and re-introduction of native conifers along the South Fork Stillaguamish and on the North Fork from the Oso slide and downstream by reducing knotweed infestations to a level where knotweed is no longer an environmental threat. Knotweed has been shown to degrade salmon habitat by reducing instream cover and food supply, elevating water temperature and reducing future large woody debris recruitment. Knotweed stops juvenile tree development. In 50 to 100 years there will be few trees in riparian areas forested by successional hardwoods. Approximately 70 acres per year will be controlled. A total of 140 acres of knotweed on 42 river miles (does not count retreatment) will be controlled between Oso and Arlington. Knotweed control will be followed by conifer planting as needed. Knotweed control will open up understory areas allowing for 5 acres to be planted with 3000 conifers. Approximately 0.5 rivermiles will be replanted providing a seed source for natural recruitment along with providing shade and large wood. Knotweed control allows fishermen and other recreationists to reach the river. Increased salmon runs of all species since cool water and stream complexity benefits all of the salmonid species and fishing.

Project Overall Metrics (Outcomes, Benefits)

| Category / Work Type / Metric | Application Answer |
|--|--|
| Completion Date | |
| Projected date of completion | 12/31/2019 |
| Sponsor Match: Monetary Funding | |
| Amount of other monetary funding (A.12) | \$27,000.00 |
| Project identifier for the other monetary funding (A.12.b) | Washington State Department of Agriculture. No project number. Grant is pending. |
| Source of other monetary funding (A.12.a) | Surface Water Management dedicated funding for County wide knotweed control. |
| Sponsor Match: Donated Un-paid Labor (volunteers) | |
| Value of Donated Unpaid Labor (Volunteers) (A.13.a.2) | \$0.00 |
| Source of Donated Un-paid labor contributions (A.13.a.4) | N/A |
| Sponsor Match: Donated Paid Labor | |
| Value of Donated Paid Labor (A.13.b.1) | \$0.00 |
| Source of Donated Paid Contributions (A.13.b.2) | N/A |
| Sponsor Match: Other In-kind Contributions | |
| Value of Other In-Kind Contributions (A.13.c.1) | \$18,000.00 |
| Source of Other In-Kind Contributions (A.13.c.3) | Snohomish County Native Plant Program |
| Description of other In-Kind contributions (A.13.c.2) | 3000 mixed variety native conifer trees |

Project Funding

| Funding Request | Funding % | Min Match Required | Sponsor Match Source | |
|-----------------------------|-----------|--------------------|----------------------|----------------|
| Salmon State Projects | \$201,950 | 81.78 % | Appropriation \ Cash | \$7,000 |
| Sponsor Match | \$45,000 | 18.22 % | Donated Materials | \$18,000 |
| Total Project Funding | \$246,950 | 100.00 % | Grant - State | \$20,000 |
| Project Cost Summary | | | | |
| RESTORATION COSTS | | | | |
| Restoration | \$222,250 | | | |
| A&E | \$24,700 | 11.11 % | | \$66,675 (30%) |
| Subtotal | \$246,950 | 100.00 % | | |
| Total Cost Estimate | \$246,950 | 100.00 % | | |

Worksites and Properties

County: Snohomish

Legislative Districts 2012: 39

Congressional Districts 2012: 01

Salmon Recovery Regions: Puget Sound

DNR Watershed Units (WAU): Hazel

DNR Watershed Units (WAU): Verlot

4th Field Catalog Units (HUC): Stillaguamish

WRIA: Stillaguamish

Sections: 12

Township: T30NR07E

Township: T32NR07E

Coordinates: 48.28140250
-121.84748148

Worksite #1: North Fork Stillaguamish River

Coordinates from Mapped Point: Latitude: 48.28140250 Longitude: -121.84748148

Coordinates from Worksite Latitude: 48.275377 Longitude: -121.846273

Directions:

Worksite Description: The project aims at knotweed control on 25 river miles per year. Two years of control reduces stands by 95% or more. Approximately 70 acres per year will be controlled. Assuming retreatments are necessary on 1/3 of the sites a total of 140 acres of knotweed will be controlled between the Oso Slide and Arlington. 42 rivermiles will be controlled for knotweed over the period of the grant. Knotweed control will be followed by conifer planting at site-appropriate riparian areas. Conifer planting is part of a long term strategy for knotweed control. Knotweed is suppressed by shade and crowding by conifers. Fall spray treatment of knotweed does not damage conifer trees after they harden during the summer. This is a great advantage when it comes to spot spraying after areas are replanted. The knotweed control efforts will open up understory areas allowing for 5 or more acres to be planted with at least 2000 conifers. A mix of Grand fir, Western red cedar, Sitka spruce and Western hemlock species will be planted. Rivermiles replanted is a difficult figure since knotweed patches extend back into the understory. Some sites may only be a few feet on the river's edge others have gone back as deep as 1000 feet from the river. These larger deeper areas will be the replanting focus since replanting with conifers is also long term knotweed control. Approximately 0.5 rivermiles will be replanted. The long term goal of replanting with conifers is to jump start succession.

Site Access Directions: Oso landslide downstream to the confluence of the North and South Forks of the Stillaguamish River at Arlington

Worksite Address:

Restoration Metrics (Outcomes, Benefits)

| Category / Work Type / Metric | Application Answer | Work Type Costs |
|---|---|-----------------|
| Targeted salmonid ESU/DPS (A.23) | Chinook Salmon-Puget Sound ESU, Steelhead-Puget Sound DPS | |
| Targeted species (non-ESU species) | Unknown | |
| Miles Of Stream Treated/Protected (C.0.b) | 43.50 | |
| Project Identified In a Plan or Watershed Assessment (C.0.c) | Stillaguamish Implementation Review Committee (SIRC). 2005. Stillaguamish Watershed Chinook Salmon Recovery Plan. Published by Snohomish County Department of Public Works, Surface Water Management Division. Everett, WA. | |
| Type Of Monitoring (C.0.d.1) | Implementation Monitoring | |
| Monitoring Location (C.0.d.2) | Onsite | |
| Riparian Habitat Project | | |
| Total Riparian Miles Streambank Treated (C.5.b.1) | 43.50 | |
| Total Riparian Acres Treated (C.5.b.2) | 210.0 | |
| Planting (C.5.c.1) | | |
| Total cost for Planting | | \$36,300.00 |
| Species Of Plants planted in riparian (C.5.c.2) | Thuja plicata, Picea sitchensis, Tsuga heterophylla, Abies grandis | |
| Acres Planted in riparian (C.5.c.3) | 5.0 | |
| Miles of streambank planted (C.5.c.4) | 0.50 | |
| Average Riparian Width | 100 | |
| Riparian Plant removal / control (C.5.h.1) | | |
| Total cost for Plant removal / control | | \$92,975.00 |
| Species of Plants Treated/Removed in riparian (C.5.h.2) | Primarily knotweed. Other listed noxious weeds will be surveyed and controlled as practice. | |
| Acres of riparian treated for plant removal/control (C.5.h.3) | 280.0 | |
| Miles of streambank treated for plant removal/control (C.5.h.4) | 73.00 | |
| Cultural Resources | | |
| Cultural resources | | |
| Total cost for Cultural resources | | \$200.00 |
| Acres surveyed for cultural resources | 5.00 | |
| Permits | | |
| Obtain permits | | |
| Total cost for Obtain permits | | \$200.00 |
| Number of permits required for implementation of project | 1 | |
| Architectural & Engineering | | |

Restoration Questions

- 1 of 6** **Has the worksite been investigated for historical, archeological, or cultural resources? If yes, when did this occur and what agencies and tribes were consulted? Attach related documents (letters, surveys, agreements, etc.) to your project in PRISM.**
Yes, In 2014, 3 sites (Cicero Bridge, Scakett-private owner and Twin Rivers) has been planted after knotweed control. The Stillaguamish Tribe were notified of the planting activities and personnels from the Stilly Tribe visited the area during planting activities. No cultural or historical artifacts were discovered.
- 2 of 6** **What is the current land use of the site? Has there been ground disturbances historically, if so, what are/were those disturbances? Is there any fill where ground disturbance is proposed? If known, how deep is the fill?**
The project starts at the Oso slide, a rather large disturbance. Fill isn't a concern. The mixing of knotweed into all of the slide material and then moving it is a concern.
- 3 of 6** **Is the worksite(s) located within an existing park, wildlife refuge, natural area preserve, or other recreation or habitat site? If yes, name the area and specify if the land is owned by local, state or federal government.**
Yes, The Whitehorse Trail borders much of the river and the knotweed sites. Twin Rivers Park is located in Arlington.
- 4 of 6** **Describe any proposed ground disturbing activities. That is, will a tool(s) be used to move earth (soil, rock, gravel, etc.) as part of this project? This includes hand or mechanized tools, for example: shovel, auger, pick axe, backhoe, etc. Also include specific information including length, width, and depth of the ground disturbance that will be required for all proposed work, if known. Please avoid subjective phrases such as "ground disturbing activities will be minor".**
Knotweed control requires no ground disturbance. Conifers will be planted and holes will be dug with shovels. Holes are wide and shallow, no deeper than 10 or 12 inches.
- 5 of 6** **Give street address for this worksite if available.**
All knotweed infestations between the Oso landslide and Arlington.
- 6 of 6** **Are there any structures existing on the property (including tidedgates, dikes, etc.)? If so, please list all existing structures. Indicate if any of these structures will be altered or demolished as a result of the project, and provide the following information for each structure that could be altered or demolished: identifying name, year constructed, year(s) remodeled/renovated. Attach at least one photo of each of the proposed altered structures.**
No, The project has nothing to do with structures.

Property for North Fork Stillaguamish River Worksite #1: NF multiple public and private propertie

Activity: Restoration

Landowner
Multiple Owners
Many
Arlington, WA 98223

Landowner Type: Private

Control and Tenure
Instrument Type: Landowner Agreement
Purchase Type:
Term Length: Fixed # of years (3 years)
Expiration Date: 12/31/2018
Note: There are currently 259 cooperators with active agreements between the North and the South Fork.

Property for North Fork Stillaguamish River Worksite #1: Planting Property 1

Activity: Restoration

Landowner
N/A
,

Landowner Type: Private

Control and Tenure
Instrument Type: Landowner Agreement
Purchase Type:
Term Length: Fixed # of years (3 years)
Expiration Date: 12/31/2018
Note:

Property for North Fork Stillaguamish River Worksite #1: Planting Property 2

Activity: Restoration

Landowner
N/A
,

Landowner Type: Private

Control and Tenure
Instrument Type: Landowner Agreement
Purchase Type:
Term Length: Fixed # of years (3 years)
Expiration Date: 01/01/2019
Note:

Worksite #2: South Fork Stillaguamish River

| | | |
|---------------------------------------|------------------------------|---------------------------------|
| Coordinates from Mapped Point: | Latitude: 48.10705150 | Longitude: -121.85405943 |
| Coordinates from Worksite | Latitude: 48.102497 | Longitude: -121.824905 |
| Directions: | | |

Worksite Description: Crews will walk downstream from the Blue to Granite Falls. There will be a 4 rivemile section close to Robe Canyon trail that will be challenging to walk because of the deep ravines. If water levels are high, a pontoon boat will be used to float the river from Granite Falls to Arlington. Canyon Creek which is a tributary of the South Fork will also be walked.

Site Access Directions: The Mountain Loop Highway runs along the South Fork Stillaguamish from Granite Falls to Arlington. Burn Road and Jordan Road runs along the South Fork Stilly from Granite Falls to Arlington.

Worksite Address:

Restoration Metrics (Outcomes, Benefits)

| Category / Work Type / Metric | Application Answer | Work Type Costs |
|---|---|-----------------|
| Targeted salmonid ESU/DPS (A.23) | Steelhead-Puget Sound DPS | |
| Targeted species (non-ESU species) | Unknown | |
| Miles Of Stream Treated/Protected (C.0.b) | 31.50 | |
| Project Identified In a Plan or Watershed Assessment (C.0.c) | Stillaguamish Implementation Review Committee (SIRC). 2005. Stillaguamish Watershed Chinook Salmon Recovery Plan. Published by Snohomish County Department of Public Works, Surface Water Management Division. Everett, WA. | |
| Type Of Monitoring (C.0.d.1) | Implementation Monitoring | |
| Monitoring Location (C.0.d.2) | Onsite | |
| Riparian Habitat Project | | |
| Total Riparian Miles Streambank Treated (C.5.b.1) | 31.50 | |
| Total Riparian Acres Treated (C.5.b.2) | 0.5 | |
| Riparian Plant removal / control (C.5.h.1) | | |
| Total cost for Plant removal / control | | \$92,575.00 |
| Species of Plants Treated/Removed in riparian (C.5.h.2) | Primarily knotweed. Other listed noxious weeds will be surveyed and controlled as practicle. | |
| Acres of riparian treated for plant removal/control (C.5.h.3) | 0.5 | |
| Miles of streambank treated for plant removal/control (C.5.h.4) | 31.50 | |
| Architectural & Engineering | | |
| Architectural & Engineering (A&E) | | |
| Total cost for Architectural & Engineering (A&E) | | \$9,500.00 |

Restoration Questions

- 1 of 6 **Has the worksite been investigated for historical, archeological, or cultural resources? If yes, when did this occur and what agencies and tribes were consulted? Attach related documents (letters, surveys, agreements, etc.) to your project in PRISM.**
No
- 2 of 6 **What is the current land use of the site? Has there been ground disturbances historically, if so, what are/were those disturbances? Is there any fill where ground disturbance is proposed? If known, how deep is the fill?**
Recreation sites, rural residential parcels. Unaware of any ground disturbance.
- 3 of 6 **Is the worksite(s) located within an existing park, wildlife refuge, natural area preserve, or other recreation or habitat site? If yes, name the area and specify if the land is owned by local, state or federal government.**
Yes, Work will be done along the waters of the state, which come under the Department of Natural Resources jurisdiction.
- 4 of 6 **Describe any proposed ground disturbing activities. That is, will a tool(s) be used to move earth (soil, rock, gravel, etc.) as part of this project? This includes hand or mechanized tools, for example: shovel, auger, pick axe, backhoe, etc. Also include specific information including length, width, and depth of the ground disturbance that will be required for all proposed work, if known. Please avoid subjective phrases such as "ground disturbing activities will be minor".**
No ground disturbing activities will occur.
- 5 of 6 **Give street address for this worksite if available.**
Along the Mountain Loop Highway, Burn Road and Jordan Road.
- 6 of 6 **Are there any structures existing on the property (including tidegates, dikes, etc.)? If so, please list all existing structures. Indicate if any of these structures will be altered or demolished as a result of the project, and provide the following information for each structure that could be altered or demolished: identifying name, year constructed, year(s) remodeled/renovated. Attach at least one photo of each of the proposed altered structures.**
No, The project has nothing to do with structures.

Property for South Fork Stillaguamish River Worksite #2: SF multiple public and private propertie

Activity: Restoration

Landowner

Multiple Landowners
Granite Falls, WA

Landowner Type: Private

Control and Tenure

Instrument Type: Landowner Agreement

Purchase Type:

Term Length: Fixed # of years (3 years)

Expiration Date: 12/31/2018

Note: There are currently 259 cooperators with active agreements between the North and the South Fork.

Overall Project Questions

- 1 of 5** Is any part of the scope of work included in this application required as mitigation for another project or action? E.g. FERC relicensing, Habitat Conservation Plan, legal settlement, etc. If yes, explain:
No
- 2 of 5** Do you need state SRFB dollars (not Federal) to match the requirements of any other federal funding you will be using to complete this project. If Yes, please state the amount of state dollars needed out of your total request.
No
- 3 of 5** Is the project on State Owned Aquatic Lands? Please contact the Washington State Department of Natural Resources to make a determination. (www.dnr.wa.gov/Publications/aqr_land_manager_map.pdf)
Yes, The project occurs in and along waters of the state. We are in contact with Peter Hurd who is the NW Region Silviculturist for gate access and access permission.
- 4 of 5** For grants listed in the Sponsor Match Category section on the Funding Request tab, list the grant source(s), when the funds were (or will be) secured, and how long the grant funds will be available to this project.
Washington State Department of Agriculture. Funds will be available beginning July 1, 2015 and continue to June 30, 2017. \$15000 per year. Grants from WSDA have been received annually for knotweed control since 2005.
- 5 of 5** Describe the type and timing of donated labor (skilled and unskilled), donated equipment, and donated materials that will be used for this project, identified in the Sponsor Match Category section on the Funding Request tab.
No donated labor

Project Permits

| Permit Type | Applied Date | Received Date | Expiration Date | Permit Number |
|--|--------------|---------------|-----------------|---------------|
| Archeological & Cultural Resoures (EO 05-05) | | | | |
| Other Required Permits | 04/20/2015 | 06/01/2015 | 12/31/2015 | NA |

Permit Questions

- 1 of 2** If this project requires a federal permit, will the scope of that permit cover ALL proposed ground disturbing activities included in this project? You may need to request a pre-application meeting with the permitting agency to answer this question.
No, No federal permit required
- 2 of 2** Are you planning on using the federal permit streamlining process (Limit 8, www.rco.wa.gov/documents/fact_sheets/Permit_Streamlining_fact_sheet.pdf)?
No

Project Attachments

Required Attachments 5 out of 5 done

| | |
|-------------------------------------|-------------------------------------|
| Cost Estimate | <input checked="" type="checkbox"/> |
| Map: Area of Potential Effect (APE) | <input checked="" type="checkbox"/> |
| Map: Restoration Worksite | <input checked="" type="checkbox"/> |
| Photo | <input checked="" type="checkbox"/> |
| Salmon Project Proposal | <input checked="" type="checkbox"/> |

Photos

| Attachment Type | Title | Attach Date |
|---------------------------|---|-------------|
| Application Document | Application Review Report for Project 15-1110.pdf | 04/14/2015 |
| Cost Estimate | STILLY 4YR COST ESTIMATE.xlsx | 04/14/2015 |
| Design document | Example of planting plan.jpg | 04/20/2015 |
| Map: Restoration Worksite | 2004-2014 Knotweed Control Map.pdf | 08/05/2015 |
| Map: Restoration Worksite | Section Map of Squire Creek treated by years.pdf | 08/04/2015 |
| Map: Restoration Worksite | 2014 Stilly Map -Oso.pdf | 04/15/2015 |
| Map: Restoration Worksite | Map 1 Stilly Project Map.pdf | 04/15/2015 |
| Monitoring activity | Twin Rivers Monitoring.xlsx | 08/04/2015 |
| Photo | Installing RCO sign.jpg | 08/03/2015 |
| Photo | Twin River Park - After.jpg | 08/03/2015 |
| Photo | Twin Rivers Park - Before.jpg | 08/03/2015 |
| Photo | knotweed patch-after.jpg | 08/03/2015 |
| Photo | Knotweed patch - before.jpg | 08/03/2015 |
| Photo | Knotweed control above C Post Bridge 2013.jpg | 03/18/2015 |
| Photo | Controlling knotweed on the Oso Dike 2012.jpg | 03/18/2015 |
| Photo | Knotweed at Twin Rivers 2011 before control.jpg | 03/18/2015 |
| Salmon Project Proposal | 2016 - 2019 SFRB Proposal.docx | 08/07/2015 |

Application Status

Application Due Date: 08/14/2015

| Status | Status Date | Name | Notes |
|-----------------------|--------------------|------------------|---|
| Application Submitted | 08/07/2015 | Geraldine Saw | |
| Application Returned | 04/01/2015 | Elizabeth Butler | I have not yet reviewed your application but it is not yet due to be submitted. Please do not submit until the August deadline. |
| Application Submitted | 03/26/2015 | Geraldine Saw | I'm sure there will be more conversation around knotweed control. I feel that we can answer any questions and are prepared to field those questions. We are looking forward to a site visit at Twin Rivers to show the progress that has been made and what success looks like. |
| Preapplication | 03/10/2015 | | |

I certify that to the best of my knowledge, the information in this application is true and correct. Further, all application requirements due on the application due date have been fully completed to the best of my ability. I understand that if this application is found to be incomplete, it will be rejected by RCO. I understand that I may be required to submit additional documents before evaluation or approval of this project and I agree to provide them. (Geraldine Saw, 08/07/2015)

Date of last change: 08/07/2015