

**Salmon Program  
State Recovery Projects  
Application Project Summary**

<b>TITLE:</b> White River Knotweed Eradication I	<b>NUMBER:</b> 11-1500 <b>TYPE:</b> (Restoration) <b>STATUS:</b> Preapplication													
<b>APPLICANT:</b> Pierce Co Conservation Dist	<b>CONTACT:</b> Mike Bates (253) 845-9770 Ext 104													
<b>COSTS:</b> <table style="width: 100%; margin-left: 20px;"> <tr> <td>RCO</td> <td style="text-align: right;">\$382,670</td> <td style="text-align: right;">85 %</td> </tr> <tr> <td>Local</td> <td style="text-align: right;">\$67,530</td> <td style="text-align: right;">15 %</td> </tr> <tr> <td>Total</td> <td style="text-align: right; border-top: 1px solid black;">\$450,200</td> <td style="text-align: right; border-top: 1px solid black;">100 %</td> </tr> </table>	RCO	\$382,670	85 %	Local	\$67,530	15 %	Total	\$450,200	100 %	<b>SPONSOR MATCH:</b> <table style="width: 100%; margin-left: 20px;"> <tr> <td>Appropriation \ Cash</td> <td style="text-align: right;">\$58,530</td> </tr> <tr> <td>Donated Labor</td> <td style="text-align: right;">\$9,000</td> </tr> </table>	Appropriation \ Cash	\$58,530	Donated Labor	\$9,000
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**DESCRIPTION:**

The purpose of this project is to field identify and inventory infestations of Japanese Knotweed in the White River Basin, and begin eradication efforts. The project is noted as "Phase I" since it is likely to take several years to bring Knotweed under control. This project will be extensive but is low in complexity and has a very high likelihood of successful restoration of riparian habitat.

This project fits well within regional recovery plans and the Lead Entity's strategy, by restoring and protecting riparian habitat in a significant salmon production area of the Puyallup River system. The lower White River and major tributaries are listed as "High Priority" for restoration of habitat function to benefit salmon. The Salmon Habitat Protection and Restoration Strategy for WRIAs 10 and 12 lists the salmon benefited by such restoration efforts as "all freshwater life-stages of all major salmonid species, including federally listed species of bull trout and steelhead.

**LOCATION INFORMATION:**

**LEAD ENTITY ORG:** Pierce County LE

**COUNTY:**

**SCOPE (WORK TYPES):**

Plant removal / control

**PERMITS ANTICIPATED:**

None - No permits Required

**SALMON INFORMATION: (\* indicates primary)**

**Species Targeted**

Chinook Salmon-identified ESU None

<b>LAST UPDATED:</b> June 24, 2011	<b>DATE PRINTED:</b> June 27, 2011
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# Restoration Cost Estimate Summary

Pierce Co Conservation Dist  
White River Knotweed Eradication I

11-1500  
Restoration  
Salmon State Projects

Category / Work Type	Total Cost	Description
<b>Worksite #1, King County</b>		
<b>Riparian Habitat Project</b>		
Plant removal / control	\$180,080.00	Remove Invasive Vegetation
<b>Worksite Tax Amount</b>	\$0.00	
<b>Worksite A&amp;E Amount</b>	\$0.00	
<b>Worksite Total Costs</b>	<u>\$180,080.00</u>	
<b>Worksite #2, Pierce County</b>		
<b>Riparian Habitat Project</b>		
Plant removal / control	\$270,120.00	Remove Invasive Vegetation
<b>Worksite Tax Amount</b>	\$0.00	
<b>Worksite A&amp;E Amount</b>	\$0.00	
<b>Worksite Total Costs</b>	<u>\$270,120.00</u>	
<b>Project Total Costs</b>	<u><u>\$450,200.00</u></u>	

# 2011 SRFB Project Proposal #11-1500

## White River Knotweed Eradication I

### Restoration, Acquisition, or Combination Restoration and Acquisition Projects

#### 1. Project Overview

- A. This project will begin inventory and eradication efforts to remove Japanese Knotweed from the White River Basin. The project's plan is to complete surveys of the White River and its tributaries, begin to eradicate all knotweed found in the basin beginning at the furthest upstream occurrence, to reestablish native riparian vegetation where necessary, and to educate residents in target communities about knotweed and other invasive vegetation.
- i. Primarily this project will focus upon the White River and its tributaries, downstream of Mud Mountain Dam.
  - ii. The project site ranges from fully urbanized to fully rural, with some areas having healthy riparian forest. Other areas are already impacted by the presence of large established or emergent knotweed stands and need treatment immediately.
  - iii. This project will assist salmonids in all freshwater life stages in the basin by contributing to the recovery of healthy riparian forest cover. This is beneficial in helping provide water quality, both in removing pollutants and reducing water temperatures.
- B. This project has not been previously reviewed or funded by the SRFB.

#### 2. Salmon Recovery Context

- A. Describe the fish resources present at the site and targeted by this project.

Species	Life History Present (egg, juvenile, adult)	Current Population Trend (decline, stable, rising)	ESA Coverage (Y/N)	Life History Target (egg, juvenile, adult)
White River Fall Chinook	All Freshwater Stages	Unknown	Y	All Freshwater Stages

White River Spring Chinook	All Freshwater Stages	Critical	Y	All Freshwater Stages
White River Coho Salmon	All Freshwater Stages	Healthy	N	All Freshwater Stages
Pink Salmon	All Freshwater Stages	Depressed	N	All Freshwater Stages
Chum Salmon	All Freshwater Stages	Healthy	N	All Freshwater Stages
White River Steelhead	All Stages	Depressed	N	All Freshwater Stages

B. White River and its tributaries are important spawning and rearing reaches for Puyallup River Chinook, Coho, Pink, Chum, and Steelhead. The basin however is infested with non-native knotweed species, predominantly Japanese knotweed (*Polygonum cuspidatum*). Japanese Knotweed significantly degrades habitat for fish along the river. Native to Asia, knotweed was introduced in the 1800s as an ornamental. Similar to bamboo, it has segmented stems and vigorous and tenacious creeping rhizomes which enable the plant to form dense colonies. The plant can re-sprout from the smallest fragment of stem or root floating downstream, making knotweed spread down riparian corridors inevitable. Once established it is incredibly difficult to remove. Here in the basin knotweed thrives because it is not held in check by its natural enemies and it particularly favors riparian corridors and channel migration zones. Although this plant is on the noxious weed list for Washington State, control is not mandatory in King or Pierce Counties, so existing populations continue to grow and spread.

Invasive knotweeds degrade riparian habitat in the following ways:

- **Knotweed replaces natives:** Knotweed infestations change the composition of riparian plant communities as they crowd out native trees and shrubs. Studies consistently demonstrate knotweed’s ability to displace resident species in riparian habitats. (Urgenson 2009)
- **Knotweed depletes available LWD:** Replacement of native woody species by knotweed significantly reduces the amount of large woody debris available for recruitment into the system (Urgenson et al, 2009 p. 4) as well as reducing shade and instream cover.

- **Knotweed contributes to slump erosion of riverbanks:** Woody riparian plants such as willows and alder have a deep, strong root mat to bind the soil, whereas the rhizomes of the knotweed are prone to slump erosion on the river banks. (Tallmadge 2004)
  - **Knotweeds interrupt nutrient cycling:** They are exceedingly efficient at stripping out available nitrogen in their leaves. They suck up 75% of the available nitrogen and store it in their woody rhizomes. Contrast this to the 5% stored by alder, 33% by the willow species that grow in riparian zones and make surplus nitrogen in their leaf litter available to the soil nutrient system (Urgenson 2009).
  - **Knotweed impacts soil health:** It has also been discovered that various mycorrhizal fungus which normally partners with our natives, is severely depleted or even absent in dense monocultures of knotweed. This phenomenon is currently under study, but implications are that the presence of knotweed alters the condition and chemistry of the soil, rendering it difficult to reestablish native plants. This phenomenon is already well documented with Scotch broom (Reichard 2009).
- C. This project fits well within regional recovery plans and the Lead Entity's strategy, by restoring and protecting riparian habitat in the most important salmon production area of the Puyallup River system. The WRIA 10/12 Salmon Habitat Protection and Restoration Study states that near term high priority actions include "protection and/or restoration on presently functional salmon streams, including White River and its tributaries."

The Pierce County EDT study has identified White River as a top priority for salmon habitat protection in the Puyallup River Watershed. EDT analysis stated that "the highest priority (by ranking) is given to lower White River, which scored high in all three population performance measures. Although White River has undergone some alterations, it still contains relatively high quality habitat features. Consideration should be given to placing high priority on maintaining (or improving as opportunity exists) flow, substrate, stream bank, and riparian characteristics in the White River system." This project will address the latter two of these factors throughout the basin.

- D. Japanese knotweed is a very aggressive colonizer, and displaces native riparian vegetation. Not addressing the problem at the current time will allow the infestation to grow, which will make future eradication efforts more difficult.

### 3. Project Design

- A. This project will take place in the lower 22.5 miles of the White River basin, downstream of Mud Mountain Dam, including all tributaries which feed into this portion of the river system. The project will follow the proven approach of

outreach to property owners and ground inventory, followed by treatment and eradication of knotweed beginning at the furthest upstream occurrences and working downstream. Describe specific restoration methods and design elements you plan to employ. (Acquisition-only projects need not respond to this question.)

- B. Although there will be some overlap of project tasks, in general the project sequence will proceed as follows;
- Landowners contacted to inform them of the dangers and presence of knotweed, identification information, and to request permission to enter their property to conduct inventory and if necessary, control measures.
  - Project technicians and interns visit properties to find/log the presence of knotweed.
  - Project teams conduct vegetation eradication to remove knotweed, and if necessary return to reestablish native vegetation.
- C. It will be necessary for landowners to remain vigilant to prevent re-colonization of cleared areas by knotweed. Local agencies such as conservation districts, county weed boards, environmental improvement and surface water management agencies will need to stay engaged with the community to keep knotweed identification efforts active, and landowners will need to be prepared to either deal with infestations correctly, or request assistance from local agencies.

#### **4. Project Development**

- A. The Pierce Conservation District has been involved in knotweed removal efforts for several years and is able to estimate costs for removal projects based upon past experience. Equipment and supplies cost reflects ongoing efforts to identify lowest cost providers, and labor costs are based upon standard District rates.
- B. Water temperatures in this high priority basin are already high enough to threaten salmon spawning and rearing in the basin. Allowing the Knotweed to continue to spread without treatment will ensure the long-term degradation of riparian habitat, establishment of vegetative monoculture, and an increase in water temperatures. The District has tested other methods of control and the "bend and spray" method is the only feasible approach to Knotweed eradication in this or any other basin.
- C. The District has received complaints from landowners in the White River basin for several years asking that we be active in assisting them with knotweed control.

- D. This project does not depend upon partner matching funds or labor, although a collaborative partnership is currently being addressed to ensure teamwork to successfully implement the project.
- E. All landowners in the project area within 200' of shorelines will be interacted with as a portion of the project. We have a standard permission letter and waiver form which will be sent to each landowner, signed and returned.
- F. The District is currently implementing identical projects in the South Prairie Creek basin and the Nisqually River.

## 5. Tasks and Schedule

- A. **GIS Mapping and Work Prioritization to Achieve Containment of Knotweed, Spring 2012 – Winter 2013:** Due to the large scale of the infestations within the basin the project team will plan treatment and work strategically. The project will use GIS mapping, and location maps will be used to analyze and prioritize treatment based on efficiency. Since 2005 Pierce Conservation District staff has been reaching out to the White River community concerning knotweed. Interns will be trained and will conduct annual surveys from April to November by the most efficient means available: stream walking, rafting, and canoeing. Where feasible, surveys will be accomplished by working downstream from the mouth on foot and/or at road crossings. GPS and GIS technology will be combined with extensive field notes to document site locations and characteristics. We will survey the system annually for new infestations and re-growth. Surveys of tributaries will be prioritized using a top down approach within the lower watershed.
- B. **Adaptive Treatment Technology, Spring 2013-2015:** Our field technicians use an adaptive approach that utilizes a combination of stem injection of glyphosate, foliar spray or stem wipes of imazapyr or glyphosate, and stem bending. The exact method used is dependent on the site, the characteristics of the infestation, and according to Integrated Pest Management (IPM) principles. Treatment occurs annually from July into October. Foliar application of 3% glyphosate and/or 1% imazapyr is applied using backpack sprayers and, where feasible, a truck-mounted 60 gallon sprayer. In areas where spray is not feasible due to proximity of surface waters, stem injection of 3 ml glyphosate will be accomplished by utilizing approved injection guns.
- C. **Cooperative Weed Management Area Structure, throughout all project stages:** Effective management requires a commitment to best practices. A study of the literature reveals core competencies embraced by the project partners. The District is passionate about weed management and fully committed to the project. Our weed board coordinator and knotweed specialist have years of experience in invasive weed control

Collaboration: Partner organizations will be in close contact throughout the project.

Achievable focus: Geographical area is clearly defined so that resources and effort are not dissipated.

Education: Our staff educator provides many high quality workshops and presentations on invasive species each year.

Continuous Learning: Our knotweed project manager participates in testing, researching, workshops and symposia to keep current on control and treatment methods.

- 6. Constraints and Uncertainties:** The major constraint/uncertainty faced by the project is that of Landowner permission. We must obtain permission from landowners to treat knotweed on their site. We have currently had success with some recalcitrant landowners through the collaboration with respected neighbors. Citizens, who are already on board, are trusted by their neighbors and can have more pull. Education and outreach is also addressing landowner buy-in. The knotweed specialist and educator attend community meetings, local festivals and plan to hold classes and workshops.

## Applicant Information

**Pierce Co Conservation Dist**  
**White River Knotweed Eradication I**

**11-1500 R**  
**Salmon State Projects**

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### Organization Information

**Name:** Pierce Co Conservation Dist  
**Type:** District-Conservation

**Organization Address:**  
Pierce Co Conservation Dist  
PO Box 1057  
Puyallup, WA 98371

**Billing Address:**  
Pierce Co Conservation Dist  
PO Box 1057  
Puyallup, WA 98371

**Phone Numbers:**  
General Info (253) 845-9770  
Fax - work (253) 845-4569

**Internet Address:**  
montym@piercecountycd.org

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### Applicant Contact Information

**Name:**  
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Environmental Biologist

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**Name:**  
Mr. David Caudill  
FFFPP Grant Manager

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## Applicant Information

**Pierce Co Conservation Dist**  
**White River Knotweed Eradication I**

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montym@piercecountycd.org

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### Applicant Contact Information

**Name:**

Mr. Mike Bates  
Resource Technician

**Contact Type:**

Project Contact

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**Name:**

Ms. Brynn Brady  
Associate Planner

**Contact Type:**

Alt Project Contact

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bbrady@co.pierce.wa.us

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## Application Metrics

**Project Sponsor:** Pierce County Conservation District  
**Project Title:** White River Knotweed Eradication I  
**Program:** Salmon State Projects

**Project Number:** 11-1500  
**Project Type:** Restoration  
**Approval:**

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### Project Metrics

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#### Completion Date

Projected date of completion: 12/31/2015

#### Jobs Created

Number of jobs created by this project: 4.0

#### Sponsor Match: Other Monetary Funding

Amount of other monetary funding: \$58,530.00

#### Sponsor Match: In-Kind (non-monetary) Contributions

Value of Donated Unpaid Labor (Volunteers): \$9,000.00

Value of Donated Paid Labor: \$0.00

Value of Other In-Kind Contributions: \$0.00

#### Funding Details

Project identifier for the other monetary funding: N/A

Source of In-Kind contributions: General Public

Source of other monetary funding: N/A

Description of other In-Kind contributions: N/A

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### Restoration Metrics

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#### Worksite #1, King County

Targeted salmonid ESU/DPS: Chinook Salmon-unidentified ESU

Targeted species (non-ESU species): None

Miles Of Stream Treated/Protected: 4.80

Project Identified In a Plan or Watershed Assessment: None

Type Of Monitoring: Implementation Monitoring

Monitoring Location: Onsite

#### Riparian Habitat Project

Total Riparian Miles Streambank Treated: 4.80

Total Riparian Acres Treated: 180.0

#### Plant removal / control

Species of Plants Treated/Removed in riparian: Japanese Knotweed

Acres of riparian treated for plant removal/control.: 180.0

#### Worksite #2, Pierce County

## Application Metrics

Targeted salmonid ESU/DPS:	Chinook Salmon-unidentified ESU
Targeted species (non-ESU species):	None
Miles Of Stream Treated/Protected:	7.20
Project Identified In a Plan or Watershed Assessment:	None.
Type Of Monitoring:	Implementation Monitoring
Monitoring Location:	Onsite

### Riparian Habitat Project

Total Riparian Miles Streambank Treated:	7.20
Total Riparian Acres Treated:	270.0

### Plant removal / control

Species of Plants Treated/Removed in riparian:	Japanese Knotweed
Acres of riparian treated for plant removal/control.:	270.0

## Full Questionnaire

11-1500

Pierce Co Conservation Dist  
White River Knotweed Eradication I

Restoration  
Salmon State Projects

### Project Questionnaire

- 1 of 2 *For grants listed in the Summary of Funding Request and Match Contribution Section, list the grant source(s), when the funds were secured, and how long will grant funds be available to this project? Do you need state or federal SFRB funds and why?*  
No grants will be used as match for this project.
- 2 of 2 *Describe the type of donated labor (skilled and unskilled), donated equipment, and donated materials that will be used for this project, identified in the Summary of Funding Request and Match Contribution Section.*  
Volunteers hours involved in cane-bending activities will be used as in-kind match for this project.

### Worksite #1 King County Questionnaire

- 1 of 5 *What is the current land use of the site, and its history? Describe past human uses and salmon habitat functions.*  
The project site ranges from fully urbanized to fully rural, with some areas having healthy riparian forest. Other areas are already impacted by the presence of large established or emergent knotweed stands and need treatment immediately. Riparian areas in the project site are often disturbed by human habitation, allowing Knotweed to colonize rapidly and overtake native plant volunteer recruitment. This has led to less than optimal riparian forest health in the White River Basin.
- 2 of 5 *Is the work site(s) located within an existing park, wildlife refuge, natural area preserve, or other recreation or habitat site? If yes, name the area.*  
No.
- 3 of 5 *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 a hand or mechanized tool(s), for example: shovel, auger, pick axe, backhoe, etc.*  
Inventory may require hiking through forested areas without trails. This may result in some minor ground disturbance.
- 4 of 5 *Give street address for this worksite if applicable (such as for historic buildings).*  
N/A
- 5 of 5 *Will buildings be altered or demolished? If so please complete a DAHP Determination of Eligibility EZ2 form for each building affected by the proposed project and attach the form to your project in PRISM. <http://www.dahp.wa.gov/pages/Documents/Sites.htm>*  
None.

### Worksite #2 Pierce County Questionnaire

- 1 of 5 *What is the current land use of the site, and its history? Describe past human uses and salmon habitat functions.*  
The project site ranges from fully urbanized to fully rural, with some areas having healthy riparian forest. Other areas are already impacted by the presence of large established or emergent knotweed stands and need treatment immediately. Riparian areas in the project site are often disturbed by human habitation, allowing Knotweed to colonize rapidly and overtake native plant volunteer recruitment. This has led to less than optimal riparian forest health in the White River Basin.
- 2 of 5 *Is the work site(s) located within an existing park, wildlife refuge, natural area preserve, or other recreation or habitat site? If yes, name the area.*  
No

## Full Questionnaire

11-1500

Restoration

Pierce Co Conservation Dist  
White River Knotweed Eradication I

Salmon State Projects

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- 3 of 5 *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 a hand or mechanized tool(s), for example: shovel, auger, pick axe, backhoe, etc.*  
Inventory may require hiking through forested areas without paths. This may result in some very minor ground disturbance.
- 4 of 5 *Give street address for this worksite if applicable (such as for historic buildings).*  
N/A
- 5 of 5 *Will buildings be altered or demolished? If so please complete a DAHP Determination of Eligibility EZ2 form for each building affected by the proposed project and attach the form to your project in PRISM. <http://www.dahp.wa.gov/pages/Documents/Sites.htm>*  
No.

## Project Worksite Information

Pierce Co Conservation Dist  
White River Knotweed Eradication I

11-1500  
Restoration  
Salmon State Projects

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### Worksite #1, King County

**Description:**

Portions of WRIA 10 falling within King County

**Driving Directions**

Take I-5 North from Tacoma, turn east on SR18

**Coordinates for Worksite Directions**

**Latitude:**

**Longitude:**

**Geographic Areas:**

## Project Worksite Information

Pierce Co Conservation Dist  
White River Knotweed Eradication I

11-1500  
Restoration  
Salmon State Projects

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### Worksite #2, Pierce County

**Description:**

Portions of WRIA 10 falling within Pierce County

**Driving Directions**

Take i-5 North from Tacoma, turn onto eastbound SR18 towards White River.

**Coordinates for Worksite Directions**

**Latitude:**

**Longitude:**

**Geographic Areas:**

**Pierce Conservation District  
White River Knotweed Eradication I  
Cost Estimate, #11-1500**

<u>Item #</u>	<u>Unit</u>	<u>Description</u>	<u>Unit Cost</u>	<u># Units</u>	<u>Total</u>
<b><i>Public Outreach</i></b>					
	LS	Printed Materials & Postage	\$7,500.00	1	\$7,500.00
	LS	Workshop Costs	\$3,000.00	1	\$3,000.00
	3yr	Labor, Knotweed Specialist	\$23,800.00	3	\$71,400.00
	-	Labor, Paid Interns			\$0.00
	Miles	Mileage	\$0.55	54,000	\$29,700.00
<b><i>Inventory</i></b>					
	3yr	Labor, Knotweed Specialist	\$32,100.00	3	\$96,300.00
	3yr	Labor, Paid Interns	\$30,000.00	3	\$90,000.00
	LS	Equipment - GPS Station/Software	\$12,000.00	1	\$12,000.00
<b><i>Eradication</i></b>					
	3yr	Labor, Knotweed Specialist	\$14,100.00	3	\$42,300.00
	3yr	Labor, Paid Interns	\$15,000.00	3	\$45,000.00
	hours	InKind Volunteer Match	\$15.00	600	\$9,000.00
	LS	Herbicides	\$12,000.00	1	\$12,000.00
<b><i>A&amp;E</i></b>					
		A&E Costs	\$32,000.00	1	\$32,000.00
<b><i>Total Estimated Project Costs</i></b>					<b>\$450,200.00</b>
<b><i>Estimated SRFB Request</i></b>					<b>\$382,670.00</b>
<b><i>Estimated Match</i></b>					<b>\$67,530.00</b>

# White River Watershed



**Legend**

**River Mile Marker Name**

- Clearwater River
- Greenwater River
- West Fork White River
- White River

**State Hwy.**

- State Hwy.

**Waterbody**

- Waterbody

**Hydro**

- Hydro

**White River Basin**

- White River Basin

**Lower White**

- Lower White

**Mt. Rainier Natl. Park**

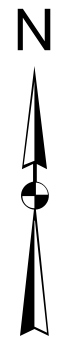
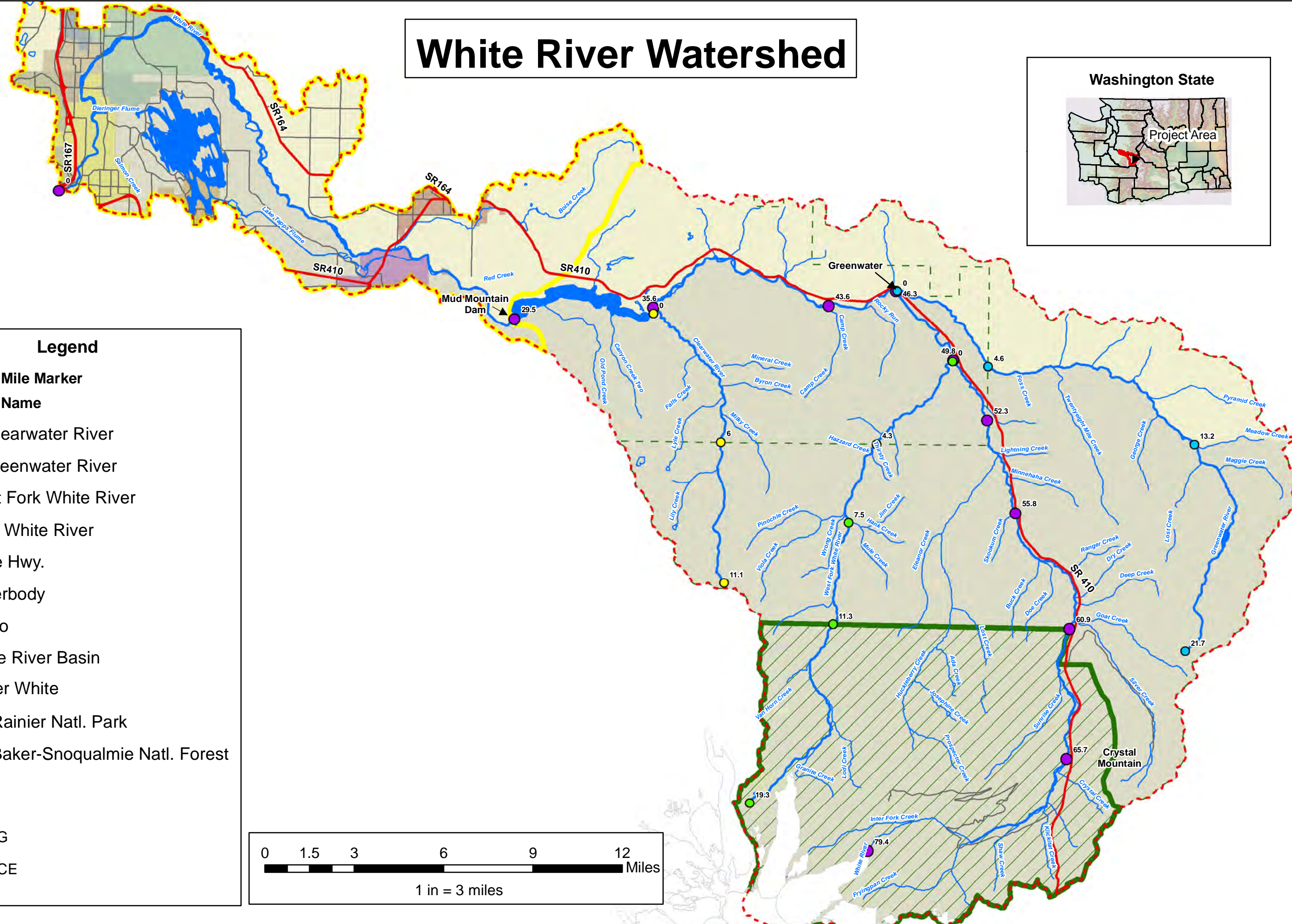
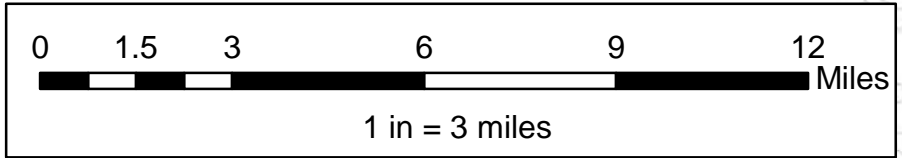
- Mt. Rainier Natl. Park

**Mt. Baker-Snoqualmie Natl. Forest**

- Mt. Baker-Snoqualmie Natl. Forest

**County NAME**

- KING
- PIERCE



# Salmon Recovery Funding Board Individual Comment Form



**Lead Entity:** Pierce County

**Project Number:** 11-1500

**Project Name:** White River Knotweed Eradication 1

**Project Sponsor:** Pierce Co. Conservation District

**Grant Manager:** Dave Caudill

Lead Entity	Date	Application Complete	Status
Early App. Review-Site Visit	5/24/2011	No	NMI
July Review Panel Mtg.	7/6/2011		
Post Application	8/2011		
Final			
Status Options			
<b>NMI</b>	Need More Information		
<b>POC</b>	Project of Concern (Post Application and Final only)		
<b>FLAGGED</b>	Needs full panel discussion		
<b>CLEAR</b>	Project has been reviewed by SRFB Review Panel and is okay to continue in funding process.		

## EARLY APPLICATION REVIEW/SITE VISIT - REVIEW PANEL COMMENTS

**Date:** 6/7/2011

**Panel Member(s) Name:** Pat Powers and Kelley Jorgensen

**Early Project Status:** NMI

**Project Site Visit?** Yes (5/24/2011)

**1. Recommended improvements to make this a technically sound project according to the SRFB's criteria.**

**2. Missing Pre-application information.**

The final application needs to include the following:

- A map showing proposed areas of treatment in this phase;
  - **A map of the White River Basin is attached. No formal inventory has yet been done, so it is impossible to show areas which will be treated at this stage of the project.**
- A site map showing locations of already treated sites (by PCCD or other entities);
  - **No sites have been treated to date. The project schedule calls for inventory first, followed by a "top-down" approach for treatment beginning with the uppermost occurrences of knotweed treated first.**
- Clear description of FTE's comprising a crew – the cost estimate appears to add up to about 15 FTE's over a 3 year period.
  - **A Project Lead will work on the project full time year round. Two paid interns will work on the project quarter time throughout the project life-cycle. Paid interns will be trained to identify knotweed and plot occurrences in GPS equipment.**
- A description of how many acres can realistically be treated during each year based on your projected crew size;
  - **In other identical projects the Pierce Conservation District has shown the ability to treat up to 150 acres for knotweed removal in a treatment cycle (annually).**

# Salmon Recovery Funding Board Individual Comment Form



- Estimate of how many acres are infested, based on your experience to date, and describe how you will prioritize treatment areas among multiple infested reaches.
  - ***We estimate approximately 700 acres of infestation in the White River basin. Treatment will follow a “top-down” approach, beginning with the uppermost occurrences of knotweed and working downstream, to prevent re-infestation of previously treated areas.***
- Justification for \$32,000 in A&E costs for a straightforward project that doesn’t require design or engineering.
  - ***The project will require planning and mapping support to ensure successful treatment and prevention of re-colonization by knotweed. Staff time spent uploading data, mapping data, analyzing maps and directing work crews according to project strategy will be charged as A&E.***
- How will the volunteers participate given the requirement for a licensed applicator?
  - ***Volunteer involvement will be limited to “cane-bending” events, where large stands of knotweed are bent to prepare for herbicide application of new shoots. This process has been shown to be highly successful in the South Prairie and Nisqually Basins in bringing large monoculture stands under control.***

## **SRFB Questions White River Knotweed Eradication I:**

- How many interns, etc? What eradication techniques will get used? Is there a process to train property owners to survey and conduct post project maintenance and eradication?

***A Project Lead will work on the project full time year round. Two paid interns will work under the supervision of the Project Lead on the project quarter time throughout the project life-cycle. Paid interns will be trained to identify knotweed and plot occurrences in GPS equipment, and to treat knotweed under the supervision of the Project Lead.***

***Our field technicians use an adaptive approach that utilizes a combination of stem injection of glyphosate, foliar spray or stem wipes of imazapyr or glyphosate, and stem bending. The exact method used is dependent on the site, the characteristics of the infestation, and according to Integrated Pest Management (IPM) principles. Treatment occurs annually from July into October. Foliar application of 3% glyphosate and/or 1% imazapyr is applied using backpack sprayers and, where feasible, a truck-mounted 60 gallon sprayer. In areas where spray is not feasible due to proximity of surface waters, stem injection of 3 ml glyphosate will be accomplished by utilizing approved injection guns.***

***Outreach to property owners will include information on identification of Japanese Knotweed, as well as proper techniques to remove Knotweed to prevent further spread downstream. Information will be included requesting that property owners contact the Pierce Conservation District or other project partners to report the presence of Knotweed if found in the basin.***

- What has come from the South Prairie Creek knotweed effort?

***A complete inventory of the South Prairie Basin was completed during the first project year in 2010. In addition approximately 20 acres were successfully treated for Knotweed removal. This year interns are beginning work to re-check inventories and conduct Knotweed removal using the “top-down” approach. We anticipate over 100 acres will be treated this year in the South Prairie basin.***

- What will it take (years, money) to get to eradication in WRIA 10/12?

***Without a complete inventory it is impossible to estimate an answer to this question. We know that complete eradication is unlikely at best, and perhaps impossible. An appropriate measure of success would be the absence of monocultures over 1/8 acre in size, and an informed population actively reporting the presence of Knotweed and assisting in efforts to remove it where it is found.***

- Is there other funding that can be used besides SRFB?

***The Conservation District has been very active in seeking funds to conduct this important work. Previous funders include;***

- 1. Washington State Department of Agriculture***

2. **Washington State Conservation Commission**
3. **U.S. Fish and Wildlife Service**
4. **National Fish and Wildlife Foundation**

***It is important to note that none of these sources will fund the wide range of activities necessary to control Knotweed, or in amounts sufficient to prevent further damage to Puyallup River riparian areas. These sources of revenue, though useful and valued, are considered “augmenting” our efforts, and not suitable for effective sole funding of this work.***

- Why three years? Can it be scaled to one year? What happens after the project ends (in year four)?

***The District can and will, if necessary, scale the project to a year by year approach and funding request. We estimate that this project will take approximately five years to successfully implement. The application requests three year funding since this is our understanding of the limits of grant funding through the Salmon Recovery Funding Board.***

***By following the “top-down” approach we will have made progress in substantially removing Knotweed and preventing recolonization in areas treated, and those areas should remain relatively free of major future damage. To completely finish the work in this basin we estimate that the project would need to take place over a five year period.***

**All Projects:**

- How do sponsors plan to utilize volunteers, and in what capacity?

***Volunteer involvement will be limited to “cane-bending” events, where large stands of knotweed are bent to prepare for herbicide application of new shoots. This process has been shown to be highly successful in the South Prairie and Nisqually Basins in bringing large monoculture stands under control.***

- Can sponsors do the project with less funding? Is it scalable?

***This question answered above.***