

King County  
Small Habitat  
Restoration Program  
Annual Report 2012



Enhancing streams and wetlands  
for community, fish, and wildlife



**King County**

Department of Natural Resources and Parks  
**Water and Land Resources Division**



<http://www.kingcounty.gov/shrp>

## Sign Me Up Partner!

See page 4



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**Back Cover** | **Our Mission**

In 2012 the Small Habitat Restoration Program (SHRP) constructed and maintained 41 projects to enhance streams, wetlands, riparian buffers and nearshore marine habitat throughout King County. Twenty private property owners contributed over 11 acres of land for SHRP habitat restoration projects.

### PROGRAM HIGHLIGHTS:

- 23** new construction or phased planting projects
- 18** maintained and monitored projects
- 12,035** lineal feet of streambank restored
- 18** Acres (778,750 square feet) of riparian buffer enhanced
- 1,618** lineal feet of marine shoreline restoration
- 37,717** native trees and shrubs planted

SHRP launched a Habitat Partner recognition program with a new roadside sign to recognize and highlight private property owners that contributed land to SHRP projects.

SHRP leveraged its funds as the required match for grants. In 2012 grant funding for SHRP totaled over \$300,000. Forging new partnerships with private landowners and grant

agencies allows the program to maximize limited public funding and conserve water quality and enhance habitat for fish, wildlife and future generations.

Spotlight projects within King County's Watershed Resource Inventory Areas (WRIs) are examples of successful collaborations with private property owners and homeowner groups, or associations. These multi-year projects typically involve site preparation and invasive weed control followed by phased native plantings. They showcase what a restoration project might look like on private property.

### Spotlight projects include:

#### WRIA 7: Snoqualmie-Skykomish Watershed

Montaine Patterson Creek Buffer Restoration

On Patterson Creek SHRP project manager Cindy Young worked with the Montaine Homeowners Association to restore 1,500 feet of riparian buffer.

#### WRIA 8: Lake Washington-Cedar River Watershed

Cottage Lake Creek Buffer Restoration

On Cottage Lake Creek SHRP project manager Laura Hartema worked with 8 homeowners to restore 2 acres and 1/3 mile of riparian buffer.

Bear Creek Buffer Restoration

SHRP project manager Paul Adler worked with Wood-N-

Brook farm owned by the Lien family to restore 650 feet of Bear Creek. Both Cottage Lake and Bear Creeks supports ESA-listed wild Chinook salmon.

#### WRIA 9: Green/Duwamish Watershed

Walker Newaukum Buffer Restoration

On Newaukum Creek SHRP project manager Cody Toal has worked with the property owners to restore 600 feet of stream and plant 3/4 acre of riparian buffer. Newaukum provides critical spawning area for ESA-listed wild Chinook salmon and steelhead, and coho salmon in the Green River watershed.

#### Vashon/Maury Island

Manzanita Natural Area Ivy Removal

WCC Corps-member Adrienne McColl describes the challenges of removing invasive English ivy from the Manzanita Natural Area on Maury Island. Wild Chinook salmon utilize this park for foraging.

#### WRIA 10: Puyallup/White Watershed

Van Wieringen Boise Creek Buffer Restoration

On Boise Creek SHRP project manager Laura Hartema has worked with the Van Wieringen dairy farm to enhance the buffer. Boise Creek is the only stream in King County with ESA-listed Spring Chinook salmon.



## Sign Me Up Partner!

In 2012 the Small Habitat Restoration Program initiated a program to recognize private property owner participants. The Habitat Partner signs allow property owners to show their pride in partnering with King County to restore salmon habitat on their property. Property owners also use the signs to educate neighbors about the value of their local natural resources. Eight signs were installed along Bear, Boise and Newaukum creeks in 2012.



View of Bear Creek from the Lien's home, before



Rolling out fabric to suppress the knotweed



View corridor planted and mulched

### Landowner Spotlight: Lien Bear Creek

Property Owners:  
Bill and Susan Lien  
Wood-N-Brook Farm,  
Redmond WA

Bill and Susan Lien own Wood-N-Brook Farm, a 24 acre thoroughbred horse farm. Concerned about the impacts of the farm, Bill and Susan developed a farm plan with the King Conservation District. KCD referred them to SHRP because of the degraded condition of the of Bear Creek buffer, which was dominated by knotweed, blackberry and reed canary grass. It was apparent the Liens really cared for the creek and enjoyed the view from their home. SHRP developed a plan to treat the weeds, while maintaining a view corridor of the creek.

SHRP took a multi-year approach to control the weeds and establish native plants. SHRP used fabric and mulch to suppress the knotweed and planted low growing plants in the view corridor.

Based on the results of this work and on the recommendation from the Liens, the neighboring upstream property owners are now working with SHRP on restoring the buffer on their property.



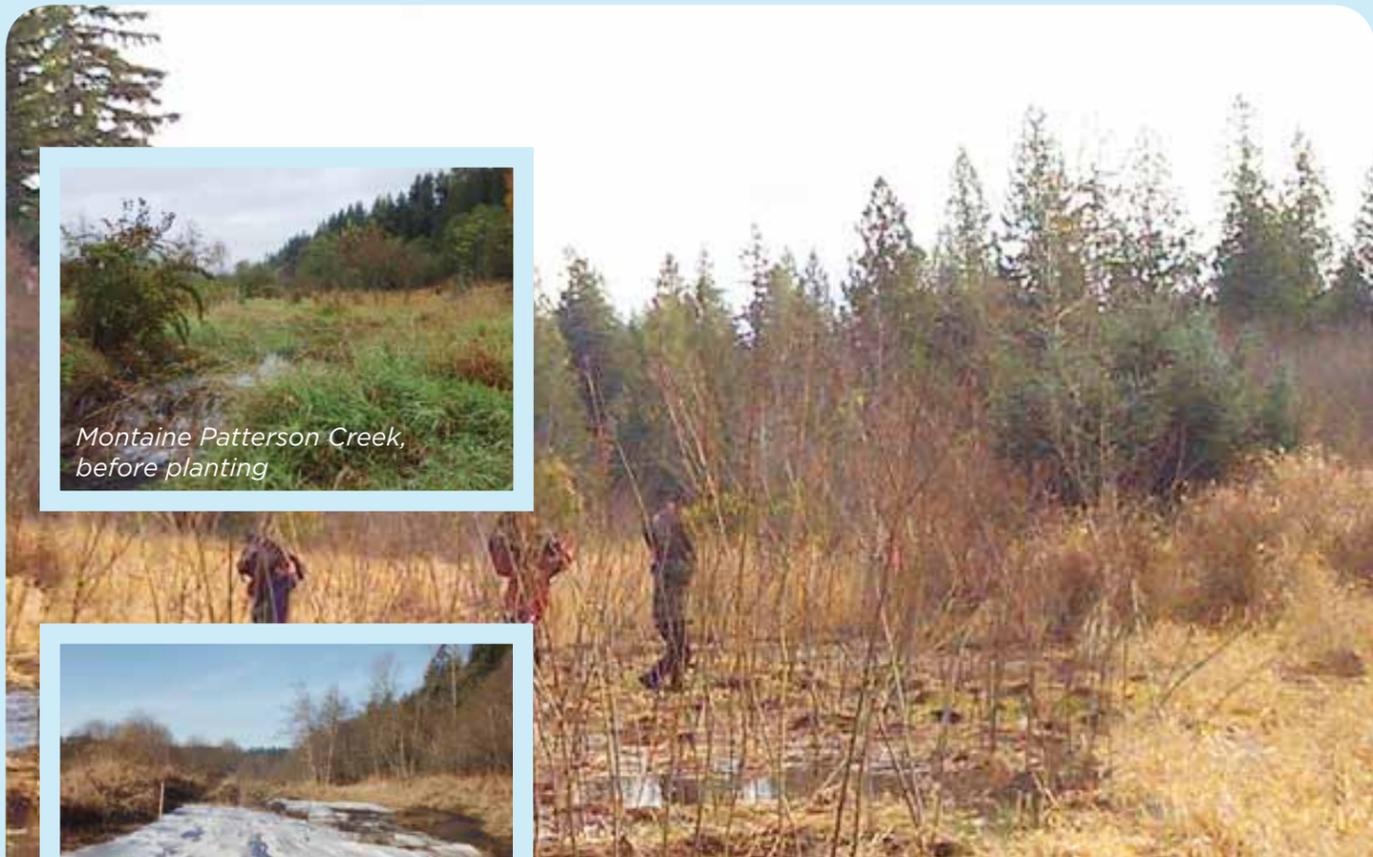
## Public/Private Partnerships to Restore Habitat



Since 1995 SHRP has completed over 500 projects in King County.

The SHRP website (<http://www.kingcounty.gov/shrp>) includes an on-line project application, project database and maps, archived annual reports, and guidelines for designing, planting, and maintaining habitat restoration projects.





Montaine Patterson Creek, before planting



Montaine Patterson Creek, untreated cotton canvas during planting

Montaine Patterson Creek, after planting

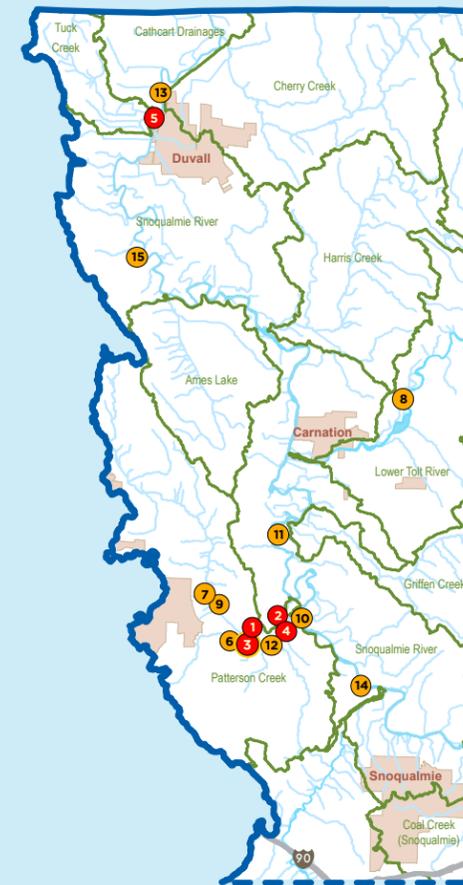
### Project Spotlight: WRIA 7 Snoqualmie-Skykomish Watershed Montaine Patterson Creek Buffer Planting

The Small Habitat Restoration Program utilized a large EPA grant and SHRP funds to plant a 35 to 50 foot riparian buffer on the right bank of Patterson Creek. The Montaine Homeowners Association, the owners of the property, partnered with SHRP in this effort. The purpose of the project was to provide shade to Patterson Creek to reduce high water temperatures that ate lethal to juvenile salmonids. The project extends from the mouth of Canyon



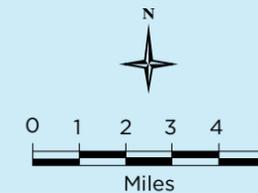
Creek upstream on the right bank approximately 1,500 feet. Untreated cotton canvas was installed over reed canary grass to reduce competition with newly installed native plants. The canvas should last approximately three years and then biodegrade. SHRP is also testing the use of wolf urine to deter beaver from damaging the planted willow. Urine is installed in hanging containers on willow plants. The majority of the installed native plants are protected from beaver

and deer by exclusion fencing. Large plants were used to speed the process of providing much needed shade to Patterson Creek.



#### SHRP 2012 Projects: WRIA 7 Snoqualmie-Skykomish Watershed

- 2012 Construction Project
- 2012 Maintenance & Monitoring Projects
- WRIA 7 Boundary
- Basin Boundary



Project	Project Status	Property Ownership	Trees Planted	Shrubs Planted	Streambank Restoration Linear Ft	Riparian Buffer Restoration Sq Ft
1 Condit Patterson Creek Restoration	New	Private	180	2,915	1,400	28,000
2 Mike Lein Patterson Creek Restoration	Phased	Private	430	1,000	1,400	28,000
3 <b>Montaine Patterson Creek Restoration</b>	<b>New</b>	<b>Private</b>	<b>540</b>	<b>5,850</b>	<b>1,500</b>	<b>52,500</b>
4 Patrick Lein Patterson Creek Restoration	New	Private	850	3,675	2,175	54,375
5 Andrews Tuck Creek Riparian Planting	Phased	Private	50	190	200	3,000
			<b>2,050</b>	<b>13,630</b>	<b>6,675</b>	<b>165, 875</b>

- 6 Aldarra Patterson Riparian Planting
- 7 Crittenden Patterson Riparian Planting
- 8 Heintz/Mernikas/Valenta Tolt River Restoration
- 9 Lee Patterson Riparian Planting
- 10 Mike Lein Snoqualmie River weed control and planting
- 11 Changing Seasons Snoqualmie Riparian Planting
- 12 Gordon Patterson Riparian Planting
- 13 HerbCo Snoqualmie Riparian Planting
- 14 Quigley Park Snoqualmie Riparian Planting
- 15 Riverbend Mauk Snoqualmie Riparian Planting



Branson property, after planting February 2012



Roberto property after planting, January 2013



Hamed property, nightshade removal summer 2012



Wheeler property after planting, January 2013

### Project Spotlight: WRIA 8 Lake Washington-Cedar River Watershed Cottage Lake Creek Enhancements

Two private properties (Branson and Parr) were prepped in 2011 and planted in 2012. In summer 2012, outreach letters were sent to additional private properties along Cottage Lake Creek. A community meeting resulted in six out of eight more property owners participating in the SHRP program as follows: Hamed, Roberto, Self, Wheeler, Vaillancourt, and Reece.

The projects will be maintained through 2015. These eight projects were partially funded by a King Conservation District grant.



Invasive weeds were controlled in 2012 in preparation for the January 2013 planting.



Project	Project Status	Property Ownership	Trees Planted	Shrubs Planted	Streambank Restoration Linear Ft	Riparian Buffer Restoration Sq Ft
1 Squak Mt Corridor Issaquah Creek Buffer Enhancement	New	Public	138	600	250	6,500
2 Cottage Lake Creek Enhancements 2012-2013	New	Private	207	1,231	800	39,375
3 Ahlstrom Issaquah Riparian and Wetland Restoration	Phased	Public	190	370	350	15,000
4 Craig Property Bear Buffer Enhancement	Phased	Private	30		310	
5 Ellis Middle Issaquah Bank Stabilization	Phased	Public	300	150	350	22,300
6 Lien Bear Creek Buffer Enhancement	Phased	Private	180			
7 Parr and Branson Cottage Lake Creek	New	Private	198	465	400	13,350
			<b>1,243</b>	<b>2,816</b>	<b>2,460</b>	<b>96,525</b>

8 Cemetery Ponds Wetland Enhancement



Walker Buffer, before planting

Walker Buffer, after planting, August 2012

Walker Buffer, planted March 2012

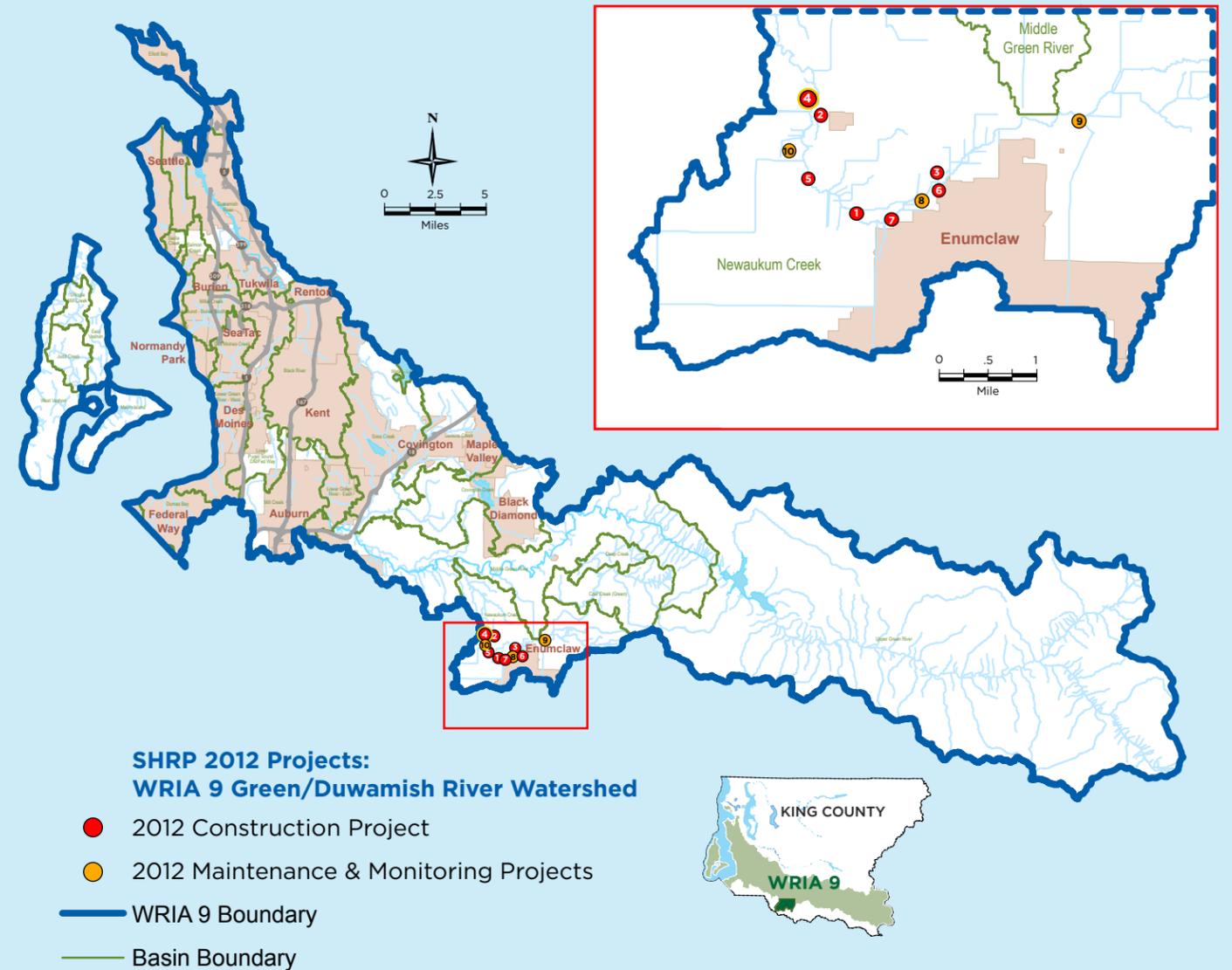
### Project Spotlight 1: WRIA 9 Green/Duwamish River Watershed Walker Newaukum Buffer Enhancement

**Project History:**  
This project was suggested by a local Enumclaw real estate agent. The agent is active with the Middle Green River Coalition and is interested in our restoration efforts along Newaukum Creek. The current buffer is highly degraded and dominated by blackberry and reed canary grass. SHRP staff worked with the agent and owner to develop a plan that protects 600 feet of stream with an average buffer width of 50 feet. In the riparian stream buffer, invasive plants were controlled, 4450 trees and shrubs were planted and livestock exclusion fence was

built. Approximately ¾ of an acre has been restored and protected. This project was funded by King County funds as well as a Department of Ecology Improving Water Quality and Habitat through Riparian Restoration Grant.

**Conservation Significance:**  
Newaukum Creek is the one of the two largest tributaries in the Green/Duwamish River Watershed and the stream's riparian zone is consistently degraded. Very little riparian vegetation exists, and there is a significant lack of shade, overhanging cover, and instream wood. Stream

temperatures, fecal coliform levels, and dissolved oxygen levels routinely exceed State standards for salmon spawning, incubation, and for juvenile rearing. Newaukum Creek is used by several fish species including Chinook, steelhead, chum, pink, and coho salmon. The stream is designated "a critical spawning area for Chinook, steelhead, and coho," thereby elevating the stream's importance for maintaining salmon populations in the Green River watershed.



#### SHRP 2012 Projects: WRIA 9 Green/Duwamish River Watershed

- 2012 Construction Project
- 2012 Maintenance & Monitoring Projects
- WRIA 9 Boundary
- Basin Boundary

Project	Project Status	Property Ownership	Trees Planted	Shrubs Planted	Streambank Restoration Linear Ft	Riparian Buffer Restoration Sq Ft
1 Big Springs Natural Area Newaukum Creek Buffer Enhancement	New	Public	1,300	2,000	1,050	30,000
2 Lopez Newaukum Pond and Riparian Planting	Phased	Private	225	100		9,350
3 Newaukum Natural Area Newaukum Creek Buffer Enhancement	New	Public	1617	4,037	650	73,000
4 Walker Newaukum Buffer Enhancement	New	Private	1,800	2,650	600	30,000
5 Zech Newaukum Buffer Enhancement	New	Private	1,201	2,249	600	60,000
6 Magnusson Newaukum Creek Habitat Enhancement	Phased	Private	486			
7 Rosatto Newaukum Riparian Planting	Phased	Private	271	42		32,000
			<b>6,900</b>	<b>11,078</b>	<b>2,900</b>	<b>234,350</b>

- 6 Brewer Phase 2 Newaukum Buffer Enhancement
- 7 Fallen Phase 2 Newaukum Buffer Enhancement
- 10 Westby East Newaukum Buffer Enhancement



Manzanita Natural Area ivy removal

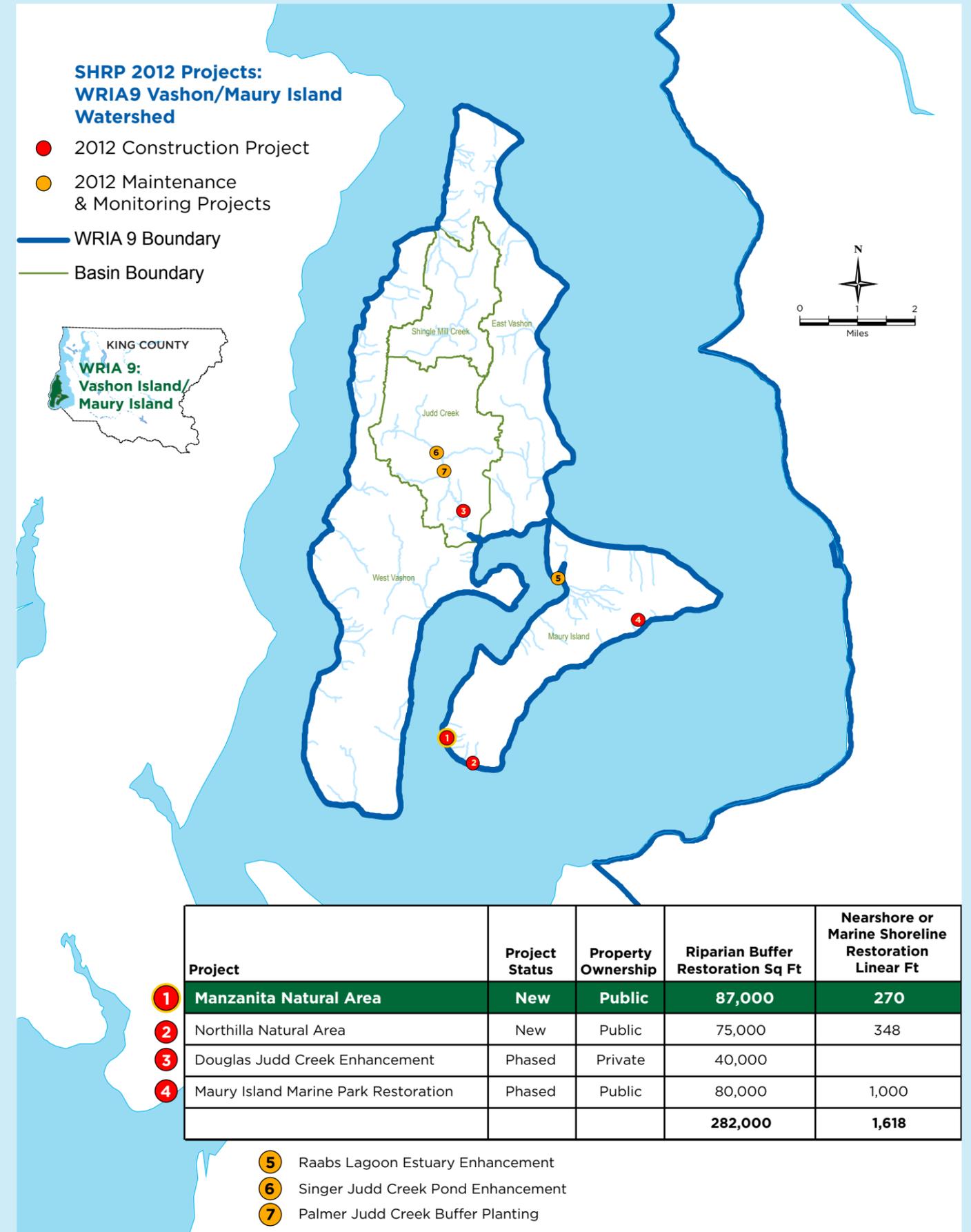
**Project Spotlight 2: WRIA9 Vashon/Maury Island Watershed**

**Manzanita Natural Area Ivy Removal** *By WCC Corpsmember Adrienne McColl*

WCC crew did an ivy removal project at Manzanita Natural Area on Maury Island. This area is of particular interest to King County as it serves as excellent habitat for Chinook salmon and the forage fish that they feed on. King County has initiated a large-scale effort to create and protect unarmored coastline on Vashon-Maury Island. In addition, the waters off the coastline are home to established eelgrass beds, natural nurseries for juvenile fish and superb feeding grounds. The primary focus

of the Manzanita project was to remove ivy from around all of the trees. After a long first day of cutting, prying, peeling, and pulling, the crew realized they had underestimated the difficulty of this project and were very humbled. The next day, with the help of a second crew and freshly sharpened tools, the crew tripled the number of trees completed the day before. The day after, they did even better, despite being down four hand saws and two Pulaskis. The last few days on site, the crew was

very determined to finish. They had an awesome few days perfecting ivy removal techniques. Thanks to hard work, positive attitudes, help from fellow crews, new tools, and ferry rides, they successfully saved 186 trees at Manzanita Natural Area.





Van Wieringen Boise Creek 2012, three years after planting

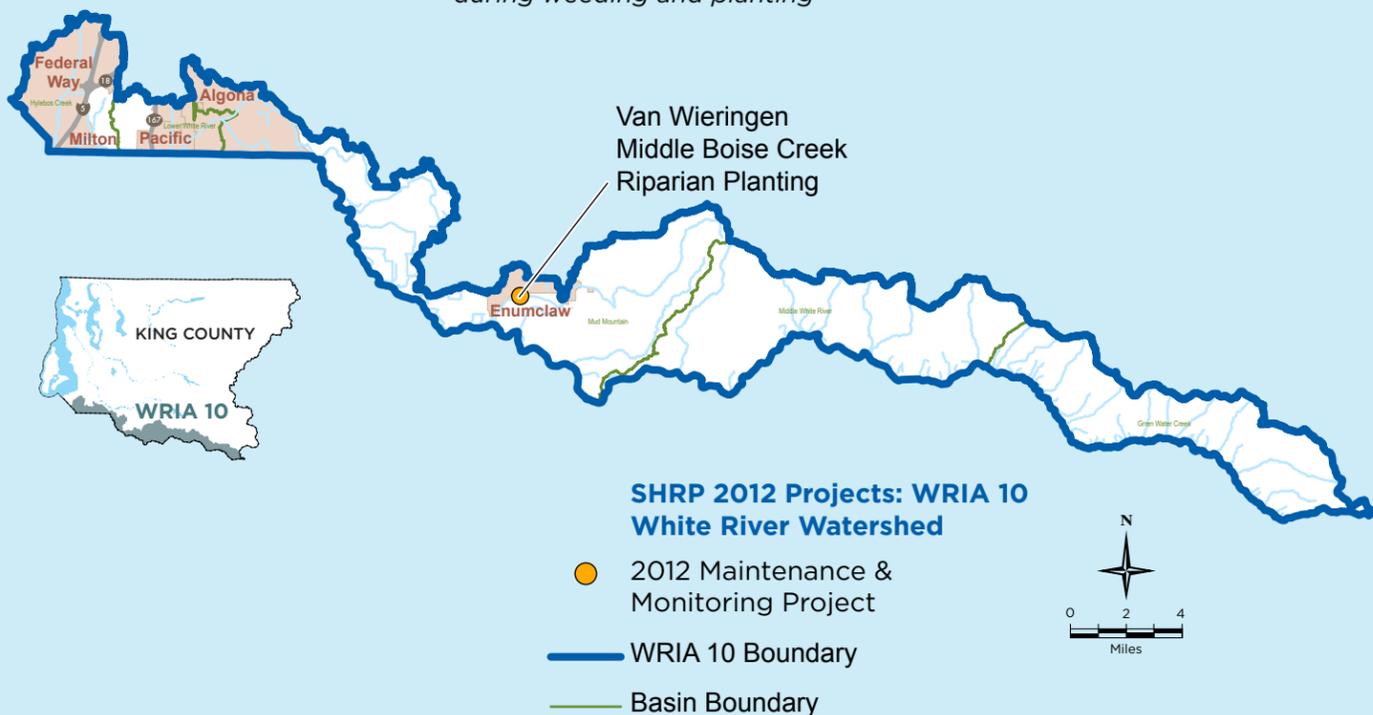


Van Wieringen Boise Creek 2009 during weeding and planting

**Project Spotlight:**  
**WRIA 10 White River Watershed**  
**Van Wieringen Boise Creek SHRP**

This site was weeded and planted in phases from 2008 to 2012, and partially fenced in 2010. Overall, SHRP enhanced 1,200 linear feet and 36,000 square feet (0.83 acres) of Boise Creek buffer. Plant maintenance will continue through 2013.

Planting of lower banks is suggested in the future to reduce erosion and provide cover and refuge for salmon.



WCC crew



WCC crewmembers operate GPS



Crewmember prepares site



WCC crewmembers install elk exclusion fence

**Washington Conservation Corps:**  
**Getting Things Done**

The mission of the Washington Conservation Corps (WCC) is to conserve and enhance the natural resources of Washington and to enrich young adults by providing a meaningful work and service experience.

The WCC specializes in environmentally sensitive construction techniques. Crewmembers receive training in bioengineering, large woody debris placement, and native plant revegetation.

The WCC/AmeriCorps program is based on the concept of

service learning—learning by doing. The focus of each project is not to simply perform the work, but to understand the larger goals and objectives of the project. This translates into an innovative staff that is committed to high quality work. Many of the restoration techniques used today are the result of the collaboration of Corpsmembers and project staff. The WCC is an essential part of the success of the Small Habitat Restoration Program.



**Stomping Sticks**

As part of site maintenance, WCC crews walk through reed canary grass to push down the stems and deter weed growth. Corpsmember Ben Harbaugh developed the stomping stick to increase efficiency.

## Our Mission:

*“Enhancing streams and wetlands for community, fish, and wildlife”*

The Small Habitat Restoration Program (SHRP) works with local property owners and public agencies to design, permit, and construct habitat enhancement projects at no cost to the property owner.



<http://www.kingcounty.gov/shrp>



### Alternative Formats Available

Voice: 206-296-7380 TTY Relay: 711