



*Conservation in Washington:  
Powered by People*

*2015-2017 Capital Budget Submittal*

Washington State  
Conservation  
Districts



Washington State  
Conservation  
Commission

**471 - State Conservation Commission  
Ten Year Capital Plan by Project Priority  
2015-17 Biennium**

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Version: D1 2015-17 Capital Budget Request

Report Number: CBS001  
Date Run: 9/10/2014 1:14PM

**Project by Agency Priority**

Priority	Project by Account-EA Type	Estimated Total	Prior Expenditures	Current Expenditures	Reapprop 2015-17	New Approp 2015-17	Estimated 2017-19	Estimated 2019-21	Estimated 2021-23	Estimated 2023-25
<b>1</b>	<b>30000010 Natural Resources Investment for the Economy and Environment</b>									
	001-2 General Fund-Federal	6,000,000			1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
	057-1 State Bldg Constr-State	49,000,000		7,750,000	1,250,000	8,000,000	8,000,000	8,000,000	8,000,000	8,000,000
	<b>Project Total:</b>	<b>55,000,000</b>		<b>7,750,000</b>	<b>2,250,000</b>	<b>9,000,000</b>	<b>9,000,000</b>	<b>9,000,000</b>	<b>9,000,000</b>	<b>9,000,000</b>
<b>2</b>	<b>30000018 Improving shellfish growing areas &amp; related water quality w/att</b>									
	057-1 State Bldg Constr-State	40,000,000				8,000,000	8,000,000	8,000,000	8,000,000	8,000,000
<b>3</b>	<b>30000009 CREP Riparian Cost Share - State Match</b>									
	057-1 State Bldg Constr-State	16,590,000		1,790,000	800,000	2,600,000	2,600,000	2,800,000	3,000,000	3,000,000
<b>4</b>	<b>30000012 CREP Riparian Contract Funding</b>									
	057-1 State Bldg Constr-State	13,386,000		1,731,000	500,000	2,231,000	2,231,000	2,231,000	2,231,000	2,231,000
<b>5</b>	<b>30000011 CREP PIP Loan Program</b>									
	552-1 Cons Assistance Acct-State	680,000		30,000	150,000	100,000	100,000	100,000	100,000	100,000
<b>6</b>	<b>30000013 Voluntary Stewardship Program for protection of critical areas</b>									
	057-1 State Bldg Constr-State	7,660,000				7,660,000				
<b>7</b>	<b>30000016 Disaster Recovery, Response, &amp; Training</b>									
	057-1 State Bldg Constr-State	12,875,000				2,575,000	2,575,000	2,575,000	2,575,000	2,575,000
<b>8</b>	<b>30000015 Forest, Rangeland Health and Fire Resiliency Program w/attach</b>									
	057-1 State Bldg Constr-State	17,080,000				3,080,000	3,500,000	3,500,000	3,500,000	3,500,000
<b>9</b>	<b>30000014 Stormwater - Green Stormwater Infrastructure (GSI)</b>									
	057-1 State Bldg Constr-State	6,204,000				1,082,000	1,022,000	1,100,000	1,500,000	1,500,000
<b>10</b>	<b>30000017 Match for Federal RCPP Program</b>									
	001-2 General Fund-Federal	40,000,000				20,000,000	20,000,000			

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**Project by Agency Priority**

<u>Priority</u>	<u>Project by Account-EA Type</u>	<u>Estimated Total</u>	<u>Prior Expenditures</u>	<u>Current Expenditures</u>	<u>Reapprop 2015-17</u>	<u>New Approp 2015-17</u>	<u>Estimated 2017-19</u>	<u>Estimated 2019-21</u>	<u>Estimated 2021-23</u>	<u>Estimated 2023-25</u>
10	30000017 Match for Federal RCPP Program									
	057-1 State Bldg Constr-State	8,000,000				4,000,000	4,000,000			
	<b>Project Total:</b>	<b>48,000,000</b>				<b>24,000,000</b>	<b>24,000,000</b>			
	<b>Total</b>	<b>217,475,000</b>		<b>11,301,000</b>	<b>3,700,000</b>	<b>60,328,000</b>	<b>53,028,000</b>	<b>29,306,000</b>	<b>29,906,000</b>	<b>29,906,000</b>

**Total Account Summary**

<u>Account-Expenditure Authority Type</u>	<u>Estimated Total</u>	<u>Prior Expenditures</u>	<u>Current Expenditures</u>	<u>Reapprop 2015-17</u>	<u>New Approp 2015-17</u>	<u>Estimated 2017-19</u>	<u>Estimated 2019-21</u>	<u>Estimated 2021-23</u>	<u>Estimated 2023-25</u>
001-2 General Fund-Federal	46,000,000			1,000,000	21,000,000	21,000,000	1,000,000	1,000,000	1,000,000
057-1 State Bldg Constr-State	170,795,000		11,271,000	2,550,000	39,228,000	31,928,000	28,206,000	28,806,000	28,806,000
552-1 Cons Assistance Acct-State	680,000		30,000	150,000	100,000	100,000	100,000	100,000	100,000
<b>Total</b>	<b>217,475,000</b>		<b>11,301,000</b>	<b>3,700,000</b>	<b>60,328,000</b>	<b>53,028,000</b>	<b>29,306,000</b>	<b>29,906,000</b>	<b>29,906,000</b>

## **DAHP Concurrence**

Prior to the start of the 15-17 biennium, the State Conservation Commission will have adopted a new comprehensive policy which will require even more consultation with Department of Archeology and Historic Preservation and the Governor's Office of Indian Affairs, than it had been working under since the 05-05 Executive Order was signed.

## **Greenhouse gas emissions reduction and vehicle miles reduction**

In addition to the attached agency policy on Commute Trip Reduction, the State Conservation Commission employs the following additional mechanisms to reduce greenhouse gas and the number of miles driven.

1. Use of gotowebinar technology for special or emergency Conservation Commission meetings.
2. Use of gotowebinar technology for weekly agency staff meetings.
3. Use of gotowebinar technology for conservation district trainings and informational sessions.
4. The agency houses 6 FTEs in regions of the state where they predominately cover issues and represent the Conservation Commission. This reduces the number of miles necessary to travel to a conservation district board meeting or other event in the region.
5. The agency leases office space from Ecology, where there are plenty of opportunities for meeting space, and is on the public transit system.



<b>Policy #</b>	08-19 Admin
<b>Title:</b>	SCC Commute Trip Reduction Policy
<b>Applies to the following employees:</b>	<ul style="list-style-type: none"> <li>• Exempt</li> <li>• Washington Management Service (WMS)</li> <li>• Non WMS employees not represented by a bargaining unit</li> </ul>
<b>New Effective Date:</b>	September 1, 2008
<b>Executive Director Signature:</b>	 <i>Note: When in the best interest of the agency, the Executive Director has the prerogative to make exceptions at any time.</i>

**PURPOSE**

Washington State’s Commute Trip Reduction Law was adopted by the 1991 Legislature and incorporated into the Washington Clean Air Act as RCW 70.94.521-551. Its intent is to improve air quality, reduce traffic congestion, and reduce the consumption of petroleum fuels through employer-based programs that encourage the use of alternatives to the single –occupant vehicle.

The purpose of this policy is to identify, promote, and encourage the use of existing commute alternatives that can reduce employee single-occupant vehicle use and vehicle miles traveled to and from work.

**POLICY**

**DEFINITIONS:**

“**CTR ADMINISTRATOR**” is the staff person appointed by the Director to administer the Department’s Commute Trip Reduction (CTR) program. The Administrator’s duties include, but are not limited to, registering employees participating in the CTR program; tracking employees’ participation in the program, and forwarding requests for payment to Payroll.

1. **SCC is committed to promoting and providing a positive climate for commute trip reduction.**

Examples of commute trip reduction options:

- **Carpool:** A motor vehicle occupied by two or more people traveling together for a commute trip that results in the reduction of a minimum of one motor vehicle commute trip. Persons under 16 years of age do not count as a carpool member because they do not eliminate a vehicle trip.
- **Vanpool:** A vehicle occupied by 7 to 15 people traveling together for their commute trip that results in the reduction of a minimum of one motor vehicle trip. Vanpools may have a destination other than an employee's work site and may have employees from other agencies.
- **Public Transit:** A multiple-occupant vehicle operated on a for-hire, shared ride basis, including bus, ferry, shared ride taxi, or shuttle bus. It is a broad array of services and facilities, from fixed route to demand response to rail and ferry service.
- **Walking and Biking:** Walking and biking produce no pollution, consume no fossil fuel, and are important travel options for employees. Walking and biking provide access to bus transit, and may be an essential link if buses do not stop close to the work site.

Examples of Support provided to encourage CTR:

- **Commuter Ride-Matching Programs:** An effective way to assist employees in developing carpools and vanpools. The ride-matching program identifies employees with similar residence and work locations, and provides information about carpools and vanpools.

**There are two ways to provide ride-matching services:**

1. **Regional System:** There is a statewide rideshare program which can be found at [www.rideshareonline.com](http://www.rideshareonline.com) where employees can register to find rideshare matches.
2. **In-House System:** Through a co-location CTR agreement with the Department of Ecology, SCC employees can receive assistance from Ecology's CTR Coordinator to establish ride matches.

**Emergency Ride Home Program:** Provided by the Department of General Administration for persons participating in a commute trip reduction program. The program provides an express taxi service home from the work site when an emergency occurs.

For the purpose of the Emergency Ride Home Program, an emergency is when an employee or a family member suffers an illness or when an employee unexpectedly needs to work past his or her normal quitting time at the request of the supervisor. Employees are allowed up to 8 trips per year, with no more than 4 of those trips because of having to work late unexpectedly. There is a 65 mile one way limit. For additional information: [www.ga.wa.gov/CTR/saferide.htm](http://www.ga.wa.gov/CTR/saferide.htm).

- **STAR Pass:** SCC employees may request a STAR Pass validating sticker to be placed on their ID badges. The STAR Pass allows employees to ride Intercity Transit buses fare-free on any route, any time of day and any day of the week and for any purpose. For additional information go to [www.ga.wa.gov/CTR/starpass.htm](http://www.ga.wa.gov/CTR/starpass.htm).

2. **The SCC Commute Trip Reduction Program offers two types of financial subsidy to employees. Employees can only choose one type of subsidy, changing only quarterly.**

- a) Cash Subsidies – SCC offers all of its employees a taxable cash subsidy of \$1.00 per commute trip (\$2.00 per day for a round trip commute) for using one of the following alternative modes of transportation, up to \$46.00 per month, subject to availability.
  - Public Transit
  - Carpool
  - Bicycling
  - Walking
  - Vanpooling
- b) Non-Taxable Subsidies – SCC offers all employees a nontaxable subsidy for using any of the following alternative modes of transportation, up to the cost of the vanpool or transit fare or not to exceed \$50 per month, subject to availability.
  - Transit-based vanpools
  - Any Transit buses
  - Sound Transit
  - Washington State Ferry System.

Under this program, SCC will purchase Commuter Bonus vouchers. Employees would then purchase their bus, train, van pool, or ferry passes and use the vouchers as payment toward the purchase. The amount of subsidy cannot exceed the employee's actual cost of using the alternative mode of transportation.

In June of each year, the Director, or designee, will set the maximum monthly amount of the reimbursement subsidy for the following fiscal year. The SCC Commute Trip Reduction Administrator will inform all program participants of this amount.

3. **Eligibility Criteria and Requirements for Receiving Subsidies**

- a) Employees wishing to participate in the CTR program must fill out a registration form and go over the policy and rules with the CTR administrator.
- b) Participants must keep a CTR calendar, tracking their CTR trips and mode(s) of commuting. A signed calendar must be submitted the last working day of the month to the CTR administrator. There are two calendars: one for the cash taxable subsidy and one for the non-taxable voucher subsidy.
- c) Employees requesting the taxable cash subsidy for walking, biking, busing, vanpooling or carpooling must use a minimum of 10 non drive alone trips (5 round trips) per month to be eligible for CTR subsidies.
- d) Employees commuting in vanpools or buses other than Intercity Transit must do so a minimum of 50% of their work days to be eligible for the non-taxable subsidies.
- e) If request for reimbursement is not made by the end of the following month, payment may be denied.

4. **Employees Who Violate This Policy Or Falsely Claim Expenses May Be Subject To Disciplinary Action**

Employees who are reimbursed for falsely claimed expenses must repay the department. In addition, the department may take disciplinary or other appropriate action.

**471 - State Conservation Commission  
Capital FTE Summary**

2015-17 Biennium

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Version: D1 2015-17 Capital Budget Request

Report Number: CBS004

Date Run: 9/10/2014 1:17PM

**FTEs by Job Classification**

<u>Job Class</u>	<u>Authorized Budget</u>		<u>2015-17 Biennium</u>	
	<u>2013-15 Biennium</u>		<u>FY 2016</u>	<u>FY 2017</u>
	<u>FY 2014</u>	<u>FY 2015</u>		
Contract Specialist 2			1.0	1.0
GG - Program Specialist 3 - Coordination and Contract Management			0.5	0.5
WMS 1 - RCPP Program Management & Coordination			0.5	0.5
WMS 2 - CREP Coordinator			1.0	1.0
WMS 2 - Disaster Action Training - conservation districts & Relief Coordination			0.5	0.5
WMS 2 - Livestock Project			1.0	1.0
WMS 2 - Shellfish Program Management & Coordination			0.7	0.7
WMS 2 - VSP County Government Assistance (28 counties)			1.0	1.0
<b>Total FTEs</b>			<b>6.2</b>	<b>6.2</b>

**Account**

<u>Account - Expenditure Authority Type</u>	<u>Authorized Budget</u>		<u>2015-17 Biennium</u>	
	<u>2013-15 Biennium</u>		<u>FY 2016</u>	<u>FY 2017</u>
	<u>FY 2014</u>	<u>FY 2015</u>		
057-1 State Bldg Constr-State	264,000	264,000	588,420	588,420

**Narrative**

These FTEs have been authorized for the previous 3 biennium, even though the system does not reflect this. These FTEs are an essential element of the implementation and oversight. One WMS 2 FTE supports the CREP, data, monitoring projects. Another WMS 2 FTE supports the Livestock and assists in developing projects for the other agency programs. The Contract Specialist 2 is essential in providing the technical aspects of recording and reporting on all capital grant projects.

Conservation Commission staff identified are also responsible for auditing the implementation of the projects across the state. These staff charges are applied at year end when close-outs of grants and contracts occur.

This budget request adds 3.2 FTEs for the VSP program, Disaster, Shellfish, and RCPP programs. The agency is unable to achieve this work without these additional FTES. Current FTEs are conducting multiple duties due to GF-S reductions. SCC no longer has the ability to absorb these duties with existing FTEs.

The 588,420 is based upon the 3% allowable indirect. This will cover the necessary costs for the FTEs and will not exceed this amount.



# WASHINGTON ASSOCIATION OF CONSERVATION DISTRICTS

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September 5, 2014

The Honorable Jay Inslee  
Governor, State of Washington  
PO Box 40002  
Olympia, WA 98504-0002

Dear Governor Inslee:

On behalf of our state's 45 conservation districts and their 235 conservation district board supervisors, and as President of the Washington Association of Conservation Districts (WACD), I am writing to request your support in sustaining state funding in the 2015-17 biennial budgets for conservation districts and our partner, the Washington State Conservation Commission (Commission).

Conservation districts and the Commission play a key and unique role in helping landowners achieve a high level of stewardship in managing the lands and resources under their control. Their voluntary conservation efforts will be critical if our State is to achieve the goals contained in your **Results Washington** initiative relating to water quality, habitat, and other natural resources priorities.

It is essential that we maintain funding for the technical and operating staff working in conservation districts if we are to continue to make progress working with landowners and land managers in protecting and improving water quality throughout the state. These dedicated men and women work hard every day to:

- Reduce pollutants entering Puget Sound that impact water quality, including water that flows over shellfish beds;
- Meet local demands for technical and financial assistance to help livestock producers and crop managers to implement efforts to improve water quality;
- Create and enact solutions to complex problems dealing with water quality and agriculture sought by the Agriculture/Water Quality Advisory Committee established by Department of Ecology Director Maia Bellon; and,
- Implement innovative conservation approaches developed via funding under the new federal Farm Bill.

Much of the Commission's Operating and Capital Budget requests were developed by the conservation districts themselves, based on what they need in the way of internal infrastructure to respond to citizen demands for services. WACD is concerned that the possible 15% reduction in operating funding will have a crippling impact on conservation districts' ability to work with landowners, and will reduce on-the-ground results sought under these water quality and natural resources initiatives. We strongly encourage you to avoid making such a reduction to the Commission's 2015-17 Operating Budget.

The Honorable Jay Inslee  
September 5, 2014  
Page 2

The Capital Budget request submitted by the Commission includes projects identified – and prioritized by -- conservation districts as immediate opportunities to protect and improve water quality, improve wildlife habitat, conserve water resources, improve air quality, and meet other important natural resources protection goals. Conservation districts have a proven track record in getting such conservation project work completed on-time and on-budget. WACD also wants to highlight the fact that the Commission has been a lean and effective partner with conservation districts in putting these conservation projects on-the-ground as efficiently and effectively as possible. We encourage you to support funding for these important Capital Budget projects.

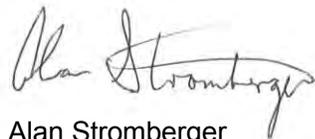
Several extremely important natural resource issues will be placed before you and the Legislature for funding this year. These include funding to implement: (1) the Voluntary Stewardship Program, (2) wildfire recovery and fire prevention activities, and, (3) storm water management improvements. WACD and the Commission strongly support these issues, and the role conservation districts play in implementing them. We are working collaboratively with the Commission's member agencies, (the Departments of Natural Resources, Ecology, and Agriculture), and cooperating organizations, to support funding options for these critical activities.

However, we urge you to fund these new initiatives separately from the Commission's core Operating and Capital Budget packages, so as not to displace and destroy vital conservation district and Commission work contained in those foundational budget requests.

Our member conservation districts greatly appreciate the support you have shown for locally-led, incentive-based conservation approaches. We encourage you to protect against the crippling impacts of a substantial budget reduction, and instead increase funding for the important landowner and community services provided statewide by conservation districts and the Commission.

We all know that this critical work takes resources. Voluntary, incentive-based natural resources management work is not easy, but it will be absolutely essential if we are going to protect Washington's precious natural resources for future generations.

Sincerely,



Alan Stromberger  
President

AS:dg

cc: David Schumacher, OFM Director  
Jim Cahill, OFM Budget  
J.T. Austin, Governor's Policy Office

# Don Stuart



September 1, 2014

The Honorable Jay Inslee, Governor  
State of Washington  
PO Box 40002  
Olympia, WA 98504-0002

(Delivered by Conservation  
Commission staff.)

Re: Budget for the Washington State Conservation Commission

Dear ~~Governor Inslee~~: *Jay*

Eighteen years have passed since I ran for U.S. Congress in the First District in 1996! At the public events I attended, I also recall watching your primary campaign for Governor. Even then I knew you'd make a terrific Governor. And while I was delighted when you won that First District House seat two years later (and helped in your campaign), it is even more gratifying to see you today, where you belong, in the Governor's Office.

After the 1996 campaign, I spent three years as Executive Director for the Washington Association of Conservation Districts, and then eleven years with American Farmland Trust – a job that called for frequent dealings with districts and with the Washington State Conservation Commission. That experience has led me to write you in support of the Conservation Commission's budget. I know of no more deserving or cost-effective agency anywhere in government.

I'm sure you know the basics: Conservation districts help landowners provide sound, on-the-ground environmental management for the two-thirds of the lands in our state which are in private ownership. But, as is usually the case, there is more to it than that.

First of all, much of this conservation district work could get done in no other way. Surely, there is a critical role for regulation. But voluntary action, supported by district expertise and sometimes encouraged by incentives, is often the ONLY way to get damaged lands restored, new wildlife habitat established, and management practices adopted that actually upgrade current environmental performance. Providing environmental lift is something at which our conservation districts excel.

Secondly, our State's conservation districts, and our Conservation Commission, have won broad support among landowners through many years of even-handed professionalism and quality service. Their approach simply cannot be and (despite frequent efforts) has not ever been duplicated by any other agency. We need to preserve and grow this incredible resource of good will among our citizens. For this, adequately-funded conservation districts are essential.

Finally, the poorly understood truth about conservation districts is that they are incredibly, almost unbelievably cost effective. Consider these advantages to conservation district projects:

- Landowner contributions to cost: Landowners almost always contribute the vast majority of the cost for most projects – greatly leveraging the environmental improvements gained for every public dollar.

- The interest in success: Because the landowners are contributing to the cost and are 100% involved and on board, their knowledge of what will and will not work on their property assures that these projects will make sense. This is a built in safeguard for cost-effectiveness.
- Conservation economics: Good conservation is very often also good business. Conservation district professionals can identify and enhance these benefits. This phenomenon can very often greatly reduce the cost of incentives and save us all money.
- Known cost: Unlike the often-invisible economic impacts of regulation, the funding spent on voluntary programs is known – every dime of that social cost is spelled right out in the agency budget. Costs we can see we can (and do) control.
- Outcome monitoring and financial oversight: Because the entire cost of voluntary programs is known – agencies like the Conservation Commission can actually measure their success and can meaningfully report their cost effectiveness. They are motivated to do so. And they are motivated to improve. The work of other State agencies often has hidden cost impacts. So it can be difficult to impossible for them to measure their true and actual cost-effectiveness.
- Site and need-specific adaptation: Because voluntary conservation district projects are closely adapted to each specific worksite, their work only address issues that need attention. The impacts of their work do not encroach upon activities that are not creating problems.
- Community engagement: Because they work so closely with their local communities, conservation districts can enlist enthusiastic community participation that creates positive social pressure and local leadership which often greatly reduces public cost.
- Fairness: Sometimes, of course, our farmers and other private landowners may themselves be the cause of environmental degradation. But just as often, they may be asked to solve problems for which they were not responsible. It is essential that we have an effective way to enlist their help in solving environmental problems in a way that is fair to them as well as to the rest of us. Our Conservation Commission provides the only tools we have to make that possible.

For all these reasons I'm convinced that cuts in the budget of our Conservation Commission would be counter-productive for our State and tragic for our environment. Our conservation districts are essential government infrastructure. They are one of our best hopes for future environmental gains. And because they are so incredibly cost-effective in their work, every dollar we cut today will be multiplied many times over in environmental losses for all of us.

Jay, I have discussed the above and other related issues in a recently-published book entitled: Barnyards and Birkenstocks: Why Farmers and Environmentalists Need Each Other. I've asked my publisher, Washington State University Press, to send along to you a publisher's copy of this book. Among the issues it considers is the critical role of conservation districts in our nation's struggle to deal with environmental challenges on private lands. I hope you'll find the book useful.

Yours sincerely,



Don Stuart  
[www.donstuart.net](http://www.donstuart.net)



# Individual Capital Budget Packages

**471 - State Conservation Commission**  
**Capital Project Request**  
 2015-17 Biennium

\*

**Version:** D1 2015-17 Capital Budget Request

**Report Number:** CBS002

**Date Run:** 9/9/2014 5:05PM

**Project Number:** 30000010

**Project Title:** Natural Resources Investment for the Economy and Environment

## Description

**Starting Fiscal Year:** 2014

**Project Class:** Grant

**Agency Priority:** 1

### Project Summary

Some projects will be related to Puget Sound recovery. This package will protect and restore natural resources while maintaining a viable agricultural industry by limiting the transportation of sediment, nutrients (nitrogen and phosphorous), and pathogens to our ground, surface water, and air. Activities funded will also improve soil health by enhancing the capacity of soil to function as a vital living ecosystem that sustains plants, animals, and humans. The package also will generate agricultural water savings through carefully planned and implemented practices across the state that improve in-stream flows and water quality, and conserve energy.

### Project Description

**What is the proposed project and what opportunity is drive this request?**

**"I think all of us should be very interested in the success of these two goals [onsite and BMP implementation] because regulatory approaches are more difficult for a lot of different reasons, and if we can be successful here these would be a very good use of resources,"** Governor Inslee's comments during a Results Washington Sustainable Energy and a Clean Environment session on 4/17/14.

The work of the State Conservation Commission (SCC) and conservation districts is critical to our success in improving our state's natural resources and meeting the Governor's Results Washington goals. As Governor Inslee stated, regulatory approaches alone won't get us to our goal. We need incentive-based approaches where landowners are engaged in the solution. This approach is best achieved through the SCC and conservation districts.

This package is necessary to fund the practices which will address natural resource issues using a prioritized methodology to address the most critical resource needs within the area.

This package has previously been funded at \$4.5m to address water quality issues. However conservation districts have identified more than 2,000 practices at an approximate total value of \$100 million for needed on-the-ground projects. This package requests \$8 million to continue to implement the next phase of practices on the list. Projects will be implemented by assisting farmers and small acreage land owners with technical services to develop and implement conservation plans where nutrient management, water irrigation management, and/or soil health is the overarching concerns. These requested funds will also leverage millions of dollars of USDA Farm Bill Program financial assistance to install vital fixes and provide assistance to land managers who are willing to adopt conservation systems.

During the 11-13 biennium and FY14, conservation districts have successfully **assisted more than 500 landowners** and **installed more than 900 best management practices**. In doing this work, conservation districts are experts at matching state funding with a variety of sources – local, state, federal, and grants from non-governmental organizations. Districts will match every \$1 of state funding with up to \$5 of other source funding.

Conservation districts have become increasingly more important to partners interested in accelerating practice implementation. Conservation districts have the personnel, the expertise, and most importantly the relationship and trust with the private landowners

to secure the agreements to move forward with implementation. In addition, the conservation districts are well-placed at the local level, oftentimes providing the local leadership to get projects done.

Since July 1, 2009, projects valued at \$18.5 million have been implemented by conservation districts statewide. This includes implementing projects for other entities and matching dollars for large and small projects. Some of the examples include:

- stormwater and soil erosion projects for Ecology and EPA;
- culvert and fish passage projects for RCO and DNR;
- wildfire and flood recovery for DNR and USDA;
- noxious weed control, Weed Boards and AGR;
- energy audits, BPA;
- fish screening for Yakama Nation, RCO, WDFW;
- no-till project education for WSU;
- riparian habitat for Snohomish County;
- large woody debris placement for RFEs, NOAA, USDA Forest Service

Using the NAICS formula from OFM's website, this \$18.5 million has resulted in the following economic contributions:

Simple Analysis

Other Construction	18.513 million	92.5 jobs
Engineering	250,000	3 jobs

Results

Total Output in millions:	43.166 million	
Total Employment:		219 jobs
Total Labor Income:	11.996 million	

**Why is this investment important?**

The population has increased 7.7 percent since 2007 and the parcel count experienced a 2.4 percent during the same period.[1] The population in the state is expected to reach a cumulative increase of 10 percent by 2017. [2]

Increased parcel counts and the stresses placed on the resources from ongoing population increases are real. Without the resources and community of conservation district personnel to reach out and engage these citizens of our state, the resources will continue to degrade. By coordinating efforts through partners, other agencies, and community groups, the conservation district model has proven abilities to reverse this trend. But, this is only possible if funding is provided to stem the tide of the reductions, allowing this work to increase in its intensity across the state.

**How will clients and the state natural resources benefit from this investment?**

"Among the drivers for investing in ecosystem services are potential cost savings for basic community services, lower costs for regulatory compliance, and mitigation of economic losses associated with natural hazards. Investment in ecosystem services can substitute for traditional built infrastructure, such as levees or water filtration systems, often providing the same services at lower cost. Similarly, investments in tree planting, wetland and floodplain restoration, or other natural systems and components can help regulated entities cost-effectively comply with environmental performance requirements." [3]

A report published by Earth Economics in 2006 regarding the King Conservation District states in part:

"King Conservation District (KCD) programs and activities are vital to empowering landowners with knowledge, tools and methods for personal gain from ecosystem conservation. KCD programs and activities are also vital for securing and enhancing the common wealth that healthy lands, waters and ecosystems provide special and irreplaceable benefits for the greater community. The District is particularly integral to the improvement of several key ecosystem services in the area: soil formation and retention, water regulation and supply, nutrient regulation, waste treatment, habitat functions, aesthetic value and other services providing special benefit to landowners and other stakeholders in the community.

Although rendered for free in terms of market price, these services have a high economic value. The majority of economic value, or special benefits, provided by ecosystem services are produced as economically non-excludable services for landowners as well as members of the general public. This report estimates the economic value of conservation programs and activities that provide extensive special benefits to landowners and the general community. This case is made using ecosystem service valuation, the best available scientific method for quantitative analysis of the relationships between ecosystem health and economic benefit." [4] Conservation districts and the Conservation Commission are critical for the successful implementation of incentive-based programs

that protect natural resources and maintain agricultural production.

A recent publication, *Restoration Narratives, No.2, Washington State Community Salmon Fund Grant Program*, by National Fish & Wildlife Foundation is another great example of the partnership between the Conservation Commission and the conservation districts on implementing projects statewide. Included in the summary, are 35 individual conservation district projects. In addition, several salmon enhancement and lead entity groups are listed, and conservation districts are directly involved in these projects, in some cases as the lead entity coordinator.

The following goals and strategic actions will be achieved by this investment

- Conservation districts will increase the number of landowners in watershed-scale projects to improve watershed health.
- Projects will include in-stream enhancements, riparian buffers, sediment exclusion, removal of fish barriers, and water-protecting forest management plans.
- Additional stream miles and acres of wildlife habitat enhanced, restored, and protected, benefiting water quality and in-stream and riparian habitat will be restored.
- Irrigation efficiencies resulting in energy savings, in-stream flows increased, and water quality improved.
- Annual increases in the number of farmers and other landowners committed to managing according to an approved conservation plan.
- Continued increase in the number voluntary participation of landowners contacting conservation districts for resource management assistance and conservation plan implementation.
- Increased amount of financial assistance to implement required practices.
- Increase in the number of installed practices that reduce the impact of livestock, domestic animals, and agriculture on water quality.
- Work with districts and partnering agencies to create natural resource inventories of watersheds, plans for implementation of practices and documentation of results.
- Working with conservation districts and partnering agencies identify practices that need to be implemented to enhance land use productivity while protecting, or enhancing, a natural resource.
- SCC will more effectively inventory the total projects completed and where the funding was secured.

**Why is this the best option or alternative?**

Conservation districts are best described as the marriage of education, science, and technology in agriculture and natural resources at the local level. [http://www.nrcs.usda.gov/Internet/FSE\\_DOCUMENTS/nrcs143\\_021924.pdf](http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs143_021924.pdf) And, while most people want clean and healthy water, they may not understand how conservation districts contribute to improved water quality—for public benefit—by working on private lands. With a patchwork of land ownership in the state, if private landowners don't do their part to sustain the public benefits of a healthy environment, all the work and money in the world could be thrown at public lands without moving the dial. Conservation districts fill an absolutely essential niche in natural resource stewardship by educating and assisting private landowners about best management practices and helping them to implement those practices when financial assistance is needed.

For this agency, 70% of the general fund dollars and 97% of the capital budget dollars are distributed to conservation districts. These funds are used to develop and implementing projects. In addition, many other state and federal agencies rely on conservation districts as the “boots on the ground” to implement projects. Without the relationship conservation districts have established in the local community with private landowners to implement projects, the remaining, less popular and more costly option is regulatory action.

The role of a non-regulatory, incentive-based approach is proven successful and a goal of this Governor and prior Governors. Furthermore, as pointed out by the Tribes in their Treaty Rights at Risk white paper, our state needs to redouble our efforts in the recovery of salmon and salmon habitat. Incentive-based programs are key to accomplishing this. As Governor Inslee noted, we cannot achieve our goals through regulatory approaches alone, they need to be in conjunction with incentive-based approaches. By not adopting this package, our state's ability to be responsive to the Tribes and to continue improvement will be diminished and less progress will be made over the next two years.

The testimonials of landowners across the state illustrate the environmental improvements that have been addressed today but may not be addressed in the near future if additional cuts are required. Further cuts to the incentive-based system will ultimately require expensive regulatory action. Regulatory responses may also create political push-back setting us back on our goals.

## **Funding strategy?**

This package requests \$8 million to continue to address the backlog of practices to install. This is an ever-changing number as illustrated by the population and parcel increases experienced over the last 7 years.

Each conservation district will prioritize their list of projects and practices to be installed. The goal is to focus efforts into those areas with the highest priority need to eliminate or prevent any harm to the natural resources. This work is to be completed over the winter and projects ready to go when funding is approved.

## **Linkage with Results Washington**

The funding requested in this package will be directly responsible for achieving the goals outlined in three of the Governor's Results Washington priorities. Simply stated, without this funding, the targets will not be met.

### **Healthy Fish and Wildlife Protect and restore Washington's wildlife**

- 2.1.b. Increase number of implemented agricultural BMPs to improve water quality in shellfish growing areas in Puget Sound, Grays Harbor, and Pacific counties from 345 in 2008 to 750 by 2016

### **Clean and Restored Environment Keep our land, water and air clean**

- 3.2.c. Increase number of CREP sites to improve water temperature and habitat from 1,021 to 1,171 by 2015

### **Working and Natural Lands Use our lands responsibly**

- 4.1.a. Maintain current level of statewide acreage dedicated to working farms with no net loss through 2015

In addition, the conservation districts and SCC undertake actions to implement and support the following Governor's Results Washington priorities:

### **Healthy Fish and Wildlife Protect and restore Washington's wildlife**

- 2.1 Increase improved shellfish classification acreage in Puget Sound from net increase of 3,038 acres from 2007-13 to net increase of 8,614 acres by 2016
- 2.2 Increase the percentage of ESA listed salmon and steel-head populations at healthy, sustainable levels from 16% to 25% by 2022
  - 2.2.a. Demonstrate increasing trend in Puget Sound Chinook populations from one in 2010 to five by 2016
  - 2.2.b. Increase miles of stream habitat opened from 350 to 450 by 2016
  - 2.2.c. Increase number of fish passage barriers corrected per year from 375 to 500 by 2016
- 2.3 Increase the percentage of current state listed species recovering from 28% to 35% by 2020
  - 2.3.b. Increase the 5-year running average of statewide sage-grouse population from 1,000 to 1,100 by 2017

### **Clean and Restored Environment Keep our land, water and air clean**

- 3.2 Increase the percentage of rivers meeting good water quality from 43% to 55% by 2020
  - 3.2.a. Increase the number of projects that provide storm water treatment or infiltration from 10 to 34 by 2016
  - 3.2.b. Increase percentage of core saltwater swimming beaches meeting water quality standards from 89% to 95% by 2016

### **Working and Natural Lands Use our lands responsibly**

- 4.1 Increase the net statewide acreage dedicated to working farms from 7.237 million to 7.347 million by 2020, reduce loss of designated forests of long-term commercial significance from X to zero by 2020
  - 4.1.b. Increase treatment of forested lands for forest health and fire reduction from X to X by 2016
  - 4.1.c. Reduce rate of loss of designated forests of long-term commercial significance from X to X by 2015
- 4.3 Reduce the rate of loss of priority habitats from 1.5% to 1.0% by 2016
  - 4.3.c. Reduce rate of conversion of marine and freshwater riparian habitat in Puget Sound from 0.13% to 0.10% by 2016 and provide mitigation to ensure maintenance of today's habitat functions
  - 4.3.d. Reduce annual rate of shrub steppe loss from 1.4% to 1% by 2016

### **Long-term implications, research, landowner testimonials:**

Natural capital is comprised of geology, nutrient and water flows, native plants and animals, and the network of natural processes that yield a continual return of valuable benefits (Daly and Farley 2004). Natural capital contributes to our economy and quality of life in many ways that are not currently included in policy considerations. This includes provision of water, natural water filtration,

energy production, flood control, recreation, natural storm water management, biodiversity, and education.”[5]

“The concept of ecosystem services is a valuable tool for economic analysis, and should not be discarded because of disagreements with particular economists’ assumptions regarding sustainability, justice and efficiency.”[6]

“Those who fund and manage conservation can contribute to improved practice on the ground by working to create an supportive environment for conservation. Those who implement conservation on the ground are best placed to improve its practice. It has become clear that if conservation is to be successful it has to be a sustained and continuing process, like providing health care, for example. This means modifying the time-scale over which interventions take place, accepting the possibility of long-term support, for example through trust funds and other means, and eschewing expectations of rapid results, both in terms of changes in human behaviour and in impacts on biodiversity.”[7]

Even though the preceding statement (7) is from an international conference sponsored by the Food and Agricultural Organization of the United Nations in Rome during October 2002, they are as relevant today in Washington State as they were in Rome.

### **How is the work of the State Conservation Commission (SCC) and conservation districts related to this and how is this budget package relevant?**

This collection of quotes illustrates the role conservation districts play in the lives of Washington landowners:

“As the landowners, we are impressed by the professionalism and commitment shown by the UCD staff and volunteers that worked on the site and your concern for our satisfaction with the end result.”[8]

“This is a great project. The landowner now has the opportunity to collect, store, and apply the manure, and clean water drains into the creek from the roof. The cooperation between NRCS and the District shows how teamwork can get great projects on the ground.”[9]

“The landowner initially was not convinced that the District’s plan would work. As they began construction, he eventually could see the design had merit and allowed them to continue. Eastern Klickitat Conservation District now has an advocate in this landowner, who wants to the District to do more work on his ranch.”[10]

“Projects like this are exciting because they are easy to implement and produce dramatic and obvious results. When they work as well as this one did, we also get a friend who trusts the District and is willing to work with us in other endeavors.”[11]

“Oftentimes we get called into projects because other partners need somebody the landowner can trust. We’re governed by local volunteer supervisors, most of whom are farmers and ranchers themselves. I think other partners want us involved because, frankly, they know we’ll get through the landowner’s door before they will.”[12]

“The major challenge was finding willing landowners to participate, considering the long history of mistrust among stakeholders within the watershed. It was the landowners’ trust in the local Conservation District that led them to participate in this project and implement practices to make demonstrable water quality improvements. As one SCCD Board Supervisor said, “You have to start somewhere—one successful project will spur interest in more projects.”[13]

The quotes above echo a sentiment shared by landowners across state, countless times a day. All of Washington’s 45 conservation districts depend on the trusting relationships they build with local landowners. That trust starts in the very business structure of each district — conservation districts are locally led by a five-member board of supervisors. Three members are elected locally, and at least two must be landowners or farmers. Conservation districts also work with multiple agency, tribal, and non-governmental partners to develop natural resource management strategies that integrate local knowledge and best available science to solve conservation priorities. Successful funding provided by the State Conservation Commission and authorities in RCW 89.08 are the foundation for each conservation district and each project creating a resource improvement and increasing the ecosystem value to the landowner, community, and state.

[1] [Dept. of Revenue 2013Property Tax Statistics](#)

[2] [Office of Financial Management, http://ofm.wa.gov/pop/stfc/stfc2013/stfc\\_2013.pdf](http://ofm.wa.gov/pop/stfc/stfc2013/stfc_2013.pdf)

[3] [Ecosystem Services: Quantification, Policy Applications, and Current Federal Capabilities, http://www.rff.org/RFF/Documents/RFF-DP-11-13.pdf](http://www.rff.org/RFF/Documents/RFF-DP-11-13.pdf)

[4] [Special Benefit From Ecosystem Services, Economic Assessment of the King Conservation District, Earth Economics, 2006](#)

[5] [Analysis of Special Benefits from Ecosystem Services for King Conservation District, Earth Economics, 2006.](#)

[6] [Ecosystem Services: The Economic Debate, Farley, J. 2012](#)

- [7] Biodiversity and the Ecosystem Approach in Agriculture, Forestry and Fisheries, Case Study No. 5 Effectiveness of Biodiversity Conservation, <http://www.fao.org/docrep/005/y4586e/y4586e06.htm>
- [8] Dan Gundersen, participating landowner, quoted in *Conservation in Washington: Powered by People*, Washington State Conservation Commission, February 2014, pg 8, [Conservation in Washington: Powered by People](#).
- [9] Sergio Paredes, NRCS Resource Conservationist, quoted in *Conservation in Washington: Powered by People*, Washington State Conservation Commission, February 2014, pg 10, [Conservation in Washington: Powered by People](#).
- [10] *Conservation in Washington: Powered by People*, Washington State Conservation Commission, February 2014, pg 11, [Conservation in Washington: Powered by People](#).
- [11] Jim Hill, Central and Eastern Klickitat Conservation District manager, quoted in *Conservation in Washington: Powered by People*, Washington State Conservation Commission, February 2014, pg 11, [Conservation in Washington: Powered by People](#).
- [12] Craig Nelson, Okanogan Conservation District manager, quoted in *Conservation in Washington: Powered by People*, Washington State Conservation Commission, February 2014, pg 12, [Conservation in Washington: Powered by People](#)
- [13] *Conservation in Washington: Powered by People*, Washington State Conservation Commission, February 2014, pg 16, [http://scc.wa.gov/wp-content/uploads/2014/03/Folio\\_FINAL\\_031714.pdf](http://scc.wa.gov/wp-content/uploads/2014/03/Folio_FINAL_031714.pdf)

## Location

<b>City:</b> Aberdeen	<b>County:</b> Grays Harbor	<b>Legislative District:</b> 024
<b>City:</b> Algona	<b>County:</b> King	<b>Legislative District:</b> 030
<b>City:</b> Auburn	<b>County:</b> King	<b>Legislative District:</b> 047
<b>City:</b> Auburn	<b>County:</b> Pierce	<b>Legislative District:</b> 030
<b>City:</b> Auburn	<b>County:</b> Pierce	<b>Legislative District:</b> 031
<b>City:</b> Battle Ground	<b>County:</b> Clark	<b>Legislative District:</b> 017
<b>City:</b> Battle Ground	<b>County:</b> Clark	<b>Legislative District:</b> 018
<b>City:</b> Bellevue	<b>County:</b> King	<b>Legislative District:</b> 048
<b>City:</b> Bellingham	<b>County:</b> Whatcom	<b>Legislative District:</b> 040
<b>City:</b> Bothell	<b>County:</b> King	<b>Legislative District:</b> 001
<b>City:</b> Bothell	<b>County:</b> Snohomish	<b>Legislative District:</b> 001
<b>City:</b> Bremerton	<b>County:</b> Kitsap	<b>Legislative District:</b> 035
<b>City:</b> Chehalis	<b>County:</b> Lewis	<b>Legislative District:</b> 020
<b>City:</b> Clarkston	<b>County:</b> Asotin	<b>Legislative District:</b> 009
<b>City:</b> Colfax	<b>County:</b> Whitman	<b>Legislative District:</b> 009
<b>City:</b> Colville	<b>County:</b> Stevens	<b>Legislative District:</b> 007
<b>City:</b> Concrete	<b>County:</b> Skagit	<b>Legislative District:</b> 039
<b>City:</b> Coulee City	<b>County:</b> Grant	<b>Legislative District:</b> 012
<b>City:</b> Coupeville	<b>County:</b> Island	<b>Legislative District:</b> 010
<b>City:</b> Davenport	<b>County:</b> Lincoln	<b>Legislative District:</b> 013
<b>City:</b> Dayton	<b>County:</b> Columbia	<b>Legislative District:</b> 016
<b>City:</b> Deer Park	<b>County:</b> Spokane	<b>Legislative District:</b> 007
<b>City:</b> DuPont	<b>County:</b> Pierce	<b>Legislative District:</b> 028
<b>City:</b> Duvall	<b>County:</b> King	<b>Legislative District:</b> 045
<b>City:</b> Eatonville	<b>County:</b> Pierce	<b>Legislative District:</b> 002
<b>City:</b> Eatonville	<b>County:</b> Pierce	<b>Legislative District:</b> 002
<b>City:</b> Edmonds	<b>County:</b> Snohomish	<b>Legislative District:</b> 021
<b>City:</b> Edmonds	<b>County:</b> Snohomish	<b>Legislative District:</b> 032
<b>City:</b> Ellensburg	<b>County:</b> Kittitas	<b>Legislative District:</b> 013
<b>City:</b> Enumclaw	<b>County:</b> King	<b>Legislative District:</b> 031
<b>City:</b> Everett	<b>County:</b> Snohomish	<b>Legislative District:</b> 038
<b>City:</b> Fairfield	<b>County:</b> Spokane	<b>Legislative District:</b> 009
<b>City:</b> Friday Harbor	<b>County:</b> San Juan	<b>Legislative District:</b> 040
<b>City:</b> Gig Harbor	<b>County:</b> Pierce	<b>Legislative District:</b> 026
<b>City:</b> Goldendale	<b>County:</b> Klickitat	<b>Legislative District:</b> 014
<b>City:</b> Kenmore	<b>County:</b> King	<b>Legislative District:</b> 046
<b>City:</b> Kennewick	<b>County:</b> Benton	<b>Legislative District:</b> 008
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<b>City:</b> Lake Stevens	<b>County:</b> Snohomish	<b>Legislative District:</b> 044
<b>City:</b> Lakewood	<b>County:</b> Pierce	<b>Legislative District:</b> 029
<b>City:</b> Longview	<b>County:</b> Cowlitz	<b>Legislative District:</b> 019
<b>City:</b> Lynden	<b>County:</b> Whatcom	<b>Legislative District:</b> 042
<b>City:</b> Marysville	<b>County:</b> Snohomish	<b>Legislative District:</b> 010

<b>City:</b> Montesano	<b>County:</b> Grays Harbor	<b>Legislative District:</b> 019
<b>City:</b> Moses Lake	<b>County:</b> Grant	<b>Legislative District:</b> 013
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 010
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 040
<b>City:</b> Newport	<b>County:</b> Pend Oreille	<b>Legislative District:</b> 007
<b>City:</b> Oakesdale	<b>County:</b> Whitman	<b>Legislative District:</b> 009
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 007
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 012
<b>City:</b> Olympia	<b>County:</b> Thurston	<b>Legislative District:</b> 022
<b>City:</b> Pasco	<b>County:</b> Franklin	<b>Legislative District:</b> 009
<b>City:</b> Pasco	<b>County:</b> Franklin	<b>Legislative District:</b> 016
<b>City:</b> Pomeroy	<b>County:</b> Garfield	<b>Legislative District:</b> 009
<b>City:</b> Port Angeles	<b>County:</b> Clallam	<b>Legislative District:</b> 024
<b>City:</b> Poulsbo	<b>County:</b> Kitsap	<b>Legislative District:</b> 023
<b>City:</b> Pullman	<b>County:</b> Whitman	<b>Legislative District:</b> 009
<b>City:</b> Puyallup	<b>County:</b> Pierce	<b>Legislative District:</b> 025
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 011
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 033
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 037
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 041
<b>City:</b> Republic	<b>County:</b> Ferry	<b>Legislative District:</b> 007
<b>City:</b> Ritzville	<b>County:</b> Adams	<b>Legislative District:</b> 009
<b>City:</b> Ruston	<b>County:</b> Pierce	<b>Legislative District:</b> 027
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 032
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 036
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 043
<b>City:</b> Shelton	<b>County:</b> Mason	<b>Legislative District:</b> 035
<b>City:</b> Skykomish	<b>County:</b> King	<b>Legislative District:</b> 039
<b>City:</b> South Bend	<b>County:</b> Pacific	<b>Legislative District:</b> 019
<b>City:</b> Spokane	<b>County:</b> Spokane	<b>Legislative District:</b> 003
<b>City:</b> Spokane	<b>County:</b> Spokane	<b>Legislative District:</b> 004
<b>City:</b> Spokane	<b>County:</b> Spokane	<b>Legislative District:</b> 006
<b>City:</b> St. John	<b>County:</b> Whitman	<b>Legislative District:</b> 009
<b>City:</b> Tumwater	<b>County:</b> Thurston	<b>Legislative District:</b> 022
<b>City:</b> Unincorporated	<b>County:</b> Douglas	<b>Legislative District:</b> 012
<b>City:</b> Unincorporated	<b>County:</b> Jefferson	<b>Legislative District:</b> 024
<b>City:</b> Unincorporated	<b>County:</b> Wahkiakum	<b>Legislative District:</b> 019
<b>City:</b> Unincorporated	<b>County:</b> Yakima	<b>Legislative District:</b> 013
<b>City:</b> Vancouver	<b>County:</b> Clark	<b>Legislative District:</b> 049
<b>City:</b> Walla Walla	<b>County:</b> Walla Walla	<b>Legislative District:</b> 016
<b>City:</b> Waterville	<b>County:</b> Douglas	<b>Legislative District:</b> 012
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<b>City:</b> White Salmon	<b>County:</b> Klickitat	<b>Legislative District:</b> 014
<b>City:</b> Yakima	<b>County:</b> Yakima	<b>Legislative District:</b> 014
<b>City:</b> Yakima	<b>County:</b> Yakima	<b>Legislative District:</b> 015

## Project Type

Grants

**Grant Recipient Organization:** conservation districts

**RCW that establishes grant:** 89.08

### Application process used

Conservation districts are to enter all practices into the agency's Conservation Practice Data System, prioritize, and indicate the natural resource issue to be addressed, i.e. water quality, water quantity, shellfish, soil, riparian. Each conservation district's projects and practices must meet the definition of a capital project and meet the required implementation schedule of within the biennium. Additional criteria exists regarding agency reimbursement policies and landowner eligibility.

### Growth Management impacts

Projects will support local GMA requirements to protect critical areas.

## Funding

Acct Code	Account Title	Estimated Total	Expenditures		2015-17 Fiscal Period	
			Prior Biennium	Current Biennium	Reappropriations	New Appropriations
001-2	General Fund-Federal	6,000,000			1,000,000	1,000,000
057-1	State Bldg Constr-State	49,000,000		7,750,000	1,250,000	8,000,000
<b>Total</b>	<b>55,000,000</b>	<b>0</b>	<b>7,750,000</b>	<b>2,250,000</b>	<b>9,000,000</b>	

### Future Fiscal Periods

		2017-19	2019-21	2021-23	2023-25
001-2	General Fund-Federal	1,000,000	1,000,000	1,000,000	1,000,000
057-1	State Bldg Constr-State	8,000,000	8,000,000	8,000,000	8,000,000
	<b>Total</b>	<b>9,000,000</b>	<b>9,000,000</b>	<b>9,000,000</b>	<b>9,000,000</b>

## Operating Impacts

No Operating Impact

[REDACTED]  
[REDACTED]  
[REDACTED]  
August 23, 2014

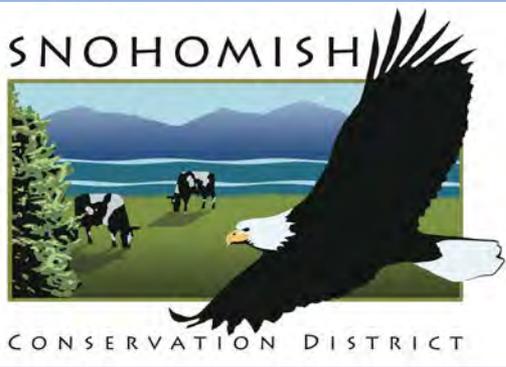
To Whom It May Concern:

Eleven years ago, my husband and I shopped for rural property. We wanted 2-5 acres and when we found our property on Skamokawa Creek, we ended up with 15 acres! We were city folk moving to the country. Fifteen acres was pretty overwhelming and we called on the Conservation District for help. We wanted to be good stewards of the land and had no idea how to begin.

Our creek bank was very undercut and we had constant erosion. We had some low land flooding in the winter and we were concerned about how to take care of the land. The Wahkiakum Conservation District, with Darin Houpt in the lead, was a godsend. They came out and looked at our land. Then went after money to do a major project on our creek. We became a demonstration site for others in the valley, plus people from all over the state, to see what could be done. We had the creek bank peeled back and sloped. We had woody structures put in to control and gently send the creek towards the flood plain. We planted willows along the creek bank and fenced the animals out of the creek through the CREP program. None of this would have happened without the wonderful help from the Conservation District. Both the Cowlitz and Wahkiakum County districts have been so helpful in educating us in how to care for our land. They have been a pleasure to work with and have helped us get other land owners on board for making good changes where the creek is concerned.

We are so very grateful for all the help we have received. We are happy to share with all who visit our property what a great help the Conservation District has been. The people who work for these two districts, and the boards who govern them, are a real gift for our county and the earth.

[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]  
[REDACTED]



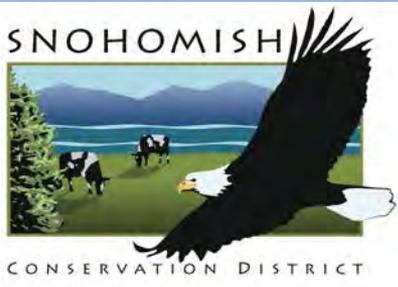
Snohomish Conservation District's mission is to work cooperatively with others to promote and encourage conservation and responsible use of natural resources.

# The Conservation District Farm Planning Process

Bobbi Lindemulder  
Lead Farm Planner

[www.snohomishcd.org](http://www.snohomishcd.org)

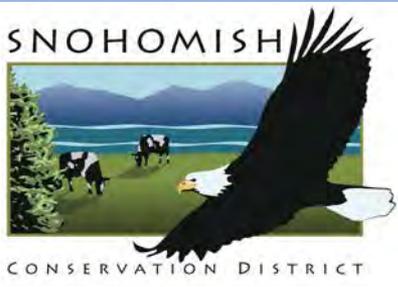
425-335-5634 x 109  
Lake Stevens, WA



# The Plan

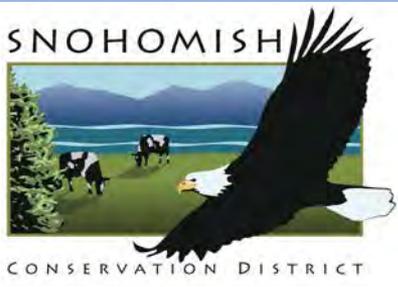
The plan is based on an entire system of work:

- Education/Outreach
- Technical assistance
- Plan development
- Implementation
- Adaptive management
- Relationship building



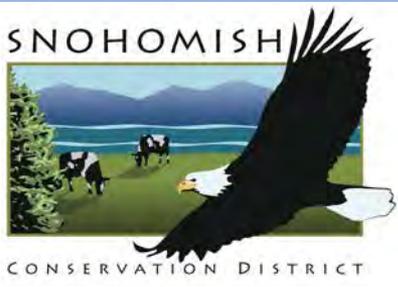
# Why are plans written?

- A voluntary request
- A requirement to participate in cost-share or incentive programs
- Required to meet regulations (Dairy)
- A regulatory requirement following a referral



# “FOTG”

- The Natural Resources Conservation Service (NRCS) Field Office Technical Guide (FOTG)
  - The foundation of the planning process
  - Procedures, criteria, standards & specifications
  - Certified planning process
  - Soil, water, animal, plant, cultural resources, air, and human (SWAPA)
  - Alternatives/recommendations
  - Record of Decisions



# Implementation

- Voluntary, non-regulatory
- Importance of a regulatory backstop
- Cost-share and incentives
- Timelines
- A “living document”
- Adaptive management and follow-up
- Public benefits



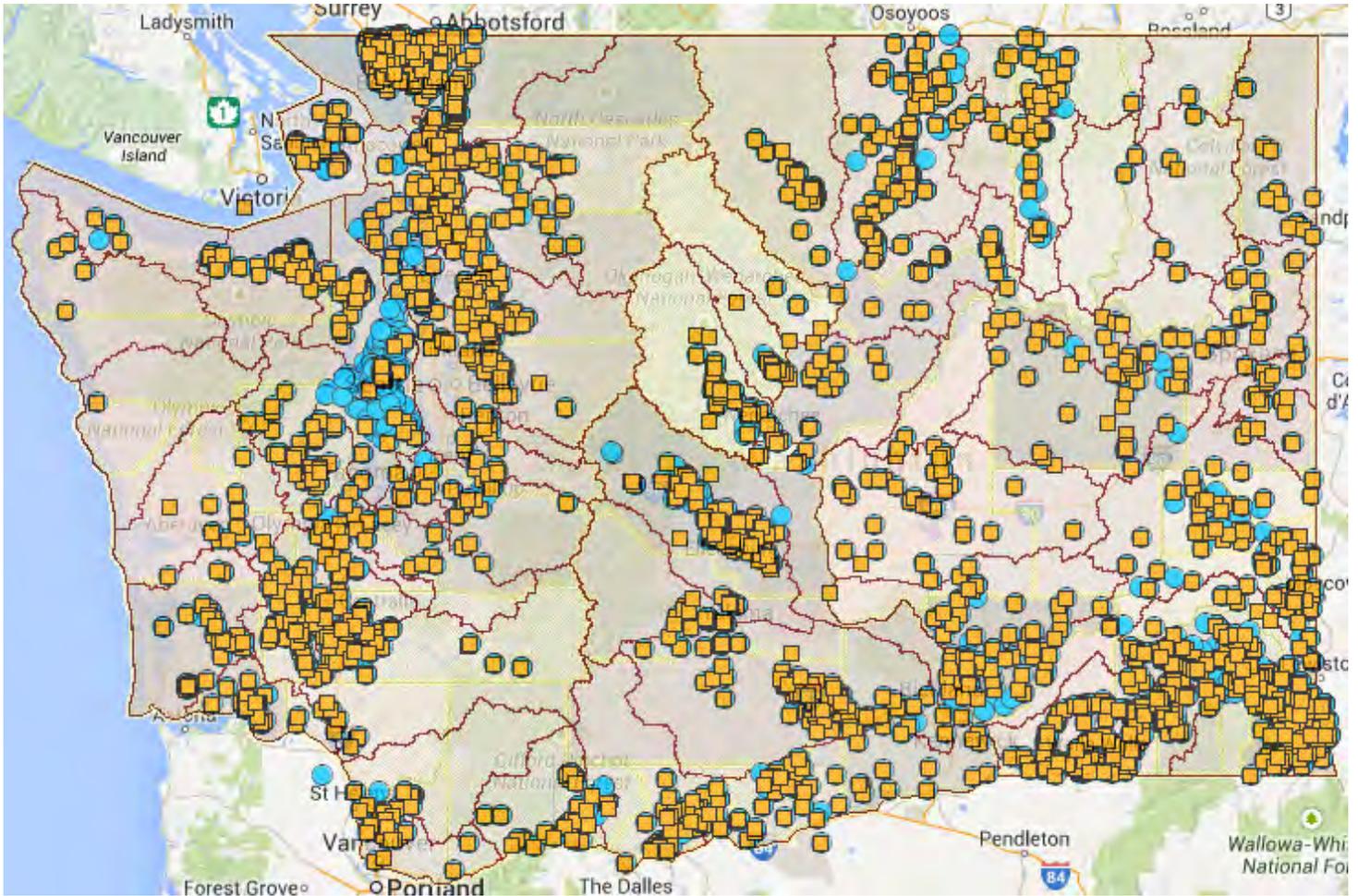






## Washington State Conservation Commission Conservation district installed projects and practices.

**Blue dot** – represents a practice  
**Orange square** – represents a project.  
*A project will have multiple practices.*



# *Conservation in Washington: Powered by People*

Stories from Washington State's conservation districts of successful natural resource restoration and recovery due to private landowner participation.

Washington State  
**Conservation  
Districts**



Washington State  
**Conservation  
Commission**



# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- *Cattle no longer have access to seasonal tributary of the Little Klickitat River.*
- *Landowner's property no longer source of mud and manure runoff.*
- *Landowner now can remove manure and apply it to his fields instead of potentially contributing to nonpoint pollution.*

## CENTRAL KLICKITAT CONSERVATION DISTRICT - LIVESTOCK OWNERS MANAGE POLLUTION IN LITTLE KLICKITAT RIVER

After learning about possible pollution issues on their properties, many livestock owners in the Little Klickitat River watershed have implemented practices that alleviate pollution. One such landowner approached the Central Klickitat Conservation District (CKCD) to find a solution to a runoff problem from his winter feedlot. Runoff typically occurs following rain or snow melts when excess surface water carries pollutants, such as animal waste and fertilizer, into streams. This landowner's project was one of many similar projects CKCD undertook in the Little Klickitat River watershed.

**FINDING A COMMON PATH** Working with the Natural Resources Conservation Service (NRCS) through the Environmental Quality Incentive Program (EQIP), CKCD and the landowner worked together to implement pollution management practices. Nearly 45,000 square feet of the feedlot were sloped, hardened with shale, and underlaid with fabric. They also installed livestock exclusion fencing, re-routed water management from barns and the creek,

set up water troughs, and implemented manure management.

**RESULTS ON THE GROUND** As a result of this project, cattle no longer have access to a seasonal tributary to the Little Klickitat River, which is used by steelhead as a migration corridor and spawning habitat. Mud and manure were eliminated from this source. The exact tons of manure and mud removed has not been calculated, but the impact on this stream is dramatic. The landowner now can effectively remove manure and apply it to his fields.

The biggest challenge to this project was coordinating between CKCD, the Washington State Conservation Commission Livestock Cost Share program, and NRCS, with the landowner having final say in the end product. Results from projects like this are hard to quantify, but the end result is clean water flowing into the Little Klickitat River from this tributary.

Sergio Paredes, NRCS Resource Conservationist said, "This is a great project. The landowner now has the opportunity to collect, store, and apply the manure, and clean water drains into the creek from the roof. The cooperation between NRCS and the District shows how teamwork can get great projects on the ground."

Landowner's winter feedlot before (left) and after project implementation (right)





# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- *Nearly 50 miles of irrigation ditch have been piped in Dungeness Valley resulting in water savings in excess of 14 cubic feet per second.*
- *In 2013, salmon returned to the Dungeness River to spawn in numbers not seen in 50 years.*
- *500 acres of Dungeness Bay were upgraded from “Closed” to “Conditionally Approved” for shellfish harvest.*

## CLALLAM CONSERVATION DISTRICT - LEADING SUCCESSFUL WATER CONSERVATION EFFORTS IN DUNGENESS VALLEY

In 1999, Puget Sound Chinook salmon and Hood Canal summer chum—two salmonids found in the Dungeness River—were listed as a threatened species. In 2000, Dungeness Bay was closed to shellfish harvesting due to high fecal coliform bacteria counts. The network of irrigation ditches in the valley contributed to habitat problems in the river and pollution problems in the bay.

**FINDING A COMMON PATH** As a first step towards addressing pollution problems, Clallam Conservation District worked with irrigation districts and companies to upgrade their open ditch irrigation systems to pipeline systems. This led to larger, more comprehensive ditch piping projects that not only eliminated pollution, but also conserved substantial amounts of water that was leaking from the inefficient ditches.

**RESULTS ON THE GROUND** In 2001 and 2002, Clallam Conservation District helped pipe three irrigation ditches that had been identified as contributing to pollution in Dungeness Bay. With the implementation of additional projects, water quality steadily improved, and in

2011, 500 acres of Dungeness Bay were upgraded from “Closed” to “Conditionally Approved” for shellfish harvest. Since 2000, nearly 50 miles of irrigation ditch have been piped in the Dungeness Valley, resulting in water savings in excess of 14 cubic feet per second—that’s over 9 million gallons of water per day. This is a 25 percent reduction in irrigation water withdrawals over the past 13 years. In 2013, salmon returned to the Dungeness River to spawn in numbers not seen in half a century.

The piping of 50 miles of irrigation ditch has required patience and perseverance. Some people didn’t believe it needed to or could be done. It has taken over 40 grants from 15 sources, investments in quality design work, and good project oversight to achieve this success.

“The Clallam Conservation District has taken the major part in the leadership and funding of water conservation and water quality in the Dungeness Valley over the past 15 years,” said Gary Smith, Sequim Prairie Tri Irrigation Association member. “Without the District’s leadership and commitment to water issues, the reduction of irrigation water outtake from the Dungeness would be a small fraction of what has been accomplished to-date.”



Irrigation ditch before (left) and after piping (right).



# Conservation in Washington: Powered by People

## MAKING AN IMPACT:

- **Water temperature reduced more than 10 degrees F within primary spring Chinook spawning/rearing reaches.**
- **Issued 35 CREP contracts with landowners, covering 1,063 acres.**
- **Implemented 50-mile geomorphic assessment of the Tucannon River.**

## COLUMBIA CONSERVATION DISTRICT: RESTORING SALMON HABITAT

The Tucannon River supports four ESA-listed species: steelhead, bull trout, and spring and fall Chinook salmon. In 1992, Columbia Conservation District (CCD), Bonneville Power Administration (BPA), and the USDA-Natural Resources Conservation Service developed a watershed habitat restoration plan for the Tucannon. The plan and associated assessment revealed threats to salmon habitats and recovery potential, including high water temperatures, stream bank instability, lack of instream habitat diversity and complexity, and sedimentation.

**FINDING A COMMON PATH** In 1996, the CCD began partnering with private and public landowners, BPA, tribes, and state and federal agencies to implement Tucannon restoration projects. The Conservation Reserve Enhancement Program (CREP) became the District's primary tool to restore and protect the Tucannon's riparian (streamside) conditions. Administered by the Farm Service Agency and the Washington State Conservation Commission (WSCC), CREP offers landowners financial incentives for restoring and protecting

riparian habitat on their property. The District's CREP projects complemented their other efforts in the watershed to improve instream and floodplain habitat, increase instream flows using the WSCC's Irrigation Efficiencies program, and implement conservation tillage practices to reduce nonpoint sediment loading.

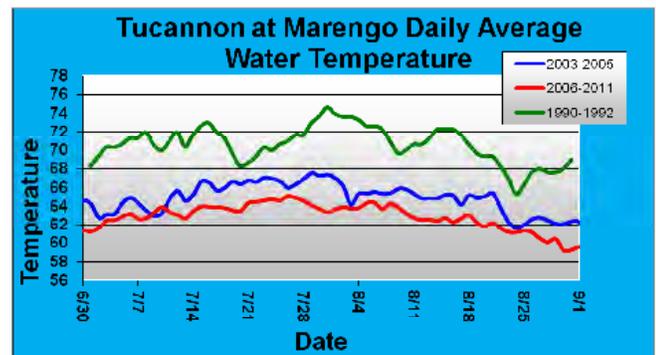
**RESULTS ON THE GROUND** The CCD issued 35 CREP contracts with landowners covering 1,063 acres, and they secured eight Irrigation Efficiencies contracts that put 11.77 *cubic feet per second* (cfs) and 975 *acre feet* (af) of water into trust (1 cfs = 7.48 gallons, 1 af = 43,560 cubic feet). They also installed 52 irrigation diversion screens, reduced tillage practices with reduction in cobble embeddedness/TSS (total suspended solids) to <20%, and completed multiple instream habitat enhancement projects. Restoration actions contributed to a temperature reduction of more than 10 degrees F within the primary spring Chinook spawning/rearing reaches (RM 26.9). These resource improvements led CCD, with support from BPA and the Salmon Recovery Funding Board, to implement a 50-mile geomorphic assessment of the Tucannon River, including LiDar flights. The assessment identified resource conditions, salmonid habitat limiting factors, and helped plan future restoration actions for continued habitat improvement. Current focus is on the 45 prioritized projects identified in the assessment effort.

Resource restoration and recovery success is dependent on; 1) landowner involvement, support, and trust in a voluntary and incentive-based approach, and 2) committed multi-year funding source(s). Conservation Districts' non-regulatory status and locally led processes involving landowners in the early development stages is a critical link in successful salmon restoration and recovery implementation and partnership development.

Left: Reconnected floodplain following dike/levee removal and modification.



Right: Temperature monitoring trend, Snake River Salmon Recovery Board.





# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- *Livestock trough spillage eliminated and mud reduced.*
- *Water from uphill runoff piped under access road instead of flowing through feedlot.*
- *Success of the project motivated landowner to seek Conservation District assistance with more work on his ranch.*

## EASTERN KLICKITAT CONSERVATION DISTRICT - LIVESTOCK OWNERS PROTECT WATER QUALITY IN ROCK CREEK

Rock Creek in Eastern Klickitat Conservation District is on the 303(d) list as a Category 5 stream and is critical habitat for Mid-Columbia Steelhead and Coho and Chinook salmon. Streams placed on the 303(d) list have pollution levels high enough to impair their use as drinking water, habitat, recreation, and industrial use.

**FINDING A COMMON PATH** Livestock owners along Rock Creek asked the Eastern Klickitat Conservation District to help them implement best management practices that would improve water quality in the creek while still allowing them to continue livestock operations. One landowner requested that the District help alleviate the mud and manure flow from his water trough in the winter feed area, adjacent to Rock Creek. This mud flow had the potential to reach the creek, and the landowner wanted it fixed. District engineers designed a new system for a trough and overflow. The trough is spring fed and has a constant flow.

**RESULTS ON THE GROUND** As a result of the practices installed, the mud and manure accumulation and transport around the trough has been eliminated. By re-designing the trough overflow mechanism and installing adequately sized pipe, the spillage from the tank has been eliminated. In addition, the hardened area around the trough has stopped the mud created by the livestock when they visit the trough for water. The inflow is a constantly flowing spring which runs through the trough. That water is piped away from the tank and flows through a filter strip before entering the creek. Water from uphill runoff also was piped under the access road instead of being allowed to flow through the feedlot. The District continues to implement projects in the Rock Creek watershed knowing that the cumulative effect of such sediment reduction projects can impact water temperature and flow.

The landowner initially was not convinced that the District’s plan would work. As they began construction, he eventually could see the design had merit and allowed them to continue. Eastern Klickitat Conservation District now has an advocate in this landowner, who wants the District to do more work on his ranch.

District Manager Jim Hill said, “Projects like this are exciting because they are easy to implement and produce dramatic and obvious results. When they work as well as this one did, we also get a friend who trusts the District and is willing to work with us in other endeavors.”



Water trough project before (left) and after landowner received assistance from Eastern Klickitat Conservation District (right)



## Conservation in Washington: Powered by People

### GRANT COUNTY CONSERVATION DISTRICT - ENGAGING CITIZENS WITH WILDLIFE THROUGH OTHELLO SANDHILL CRANE FESTIVAL

The Othello Sandhill Crane Festival began in 1998 to highlight the spring return of Sandhill cranes (*Grus canadensis*) to the Columbia Basin in Washington State. In 2003, Grant County Conservation District stepped up to keep the festival alive and vibrant by taking on the role of festival coordinator. Today, the festival continues to be a huge success.

**BUILDING PARTNERSHIPS** Coordination of the Sandhill Crane Festival requires volunteer help throughout the year. Grant County Conservation District (GCCD) has reached out to locals and partners to help fill the many roles required to run the event. GCCD gained support from the City of Othello, Othello School District, US Fish and Wildlife Service, US Bureau of Reclamation, and many others. On the day of the festival, GCCD provides over 400 volunteers. GCCD also coordinates the meetings, vendors, logistics, speaker talks and needs, agricultural guides, and outreach and marketing, among many other duties.



**CELEBRATING SUCCESS** The Othello Sandhill Crane Festival provides an opportunity for GCCD to showcase good stewards of agriculture and how they contribute to wildlife. Agriculture is an important part of avian life in the Columbia Basin. Sandhill cranes feast on leftover corn from fall harvest, and other crops provide forage for many other species. The diversity of wildlife in the region is matched only by the diversity of the crops.



Festival attendees make a stop to observe wildlife on their tour.

The three-day event offers a variety of entertaining, educational, and memorable activities for the whole family. The festival includes guided tours, live birds, lectures, vendors, food courts, and children activities. On Saturday, the main day of the festival, six lectures are offered every hour by experts in their fields. Talks have included Crop Biotechnology, Pollinators of the Shrub-Steppe, Greater Sage Grouse, Ice Age Floods and the Channeled Scablands, Drones in Agriculture, Wolves in Washington, and many more. In 2014, festival attendance grew to its highest level yet—1,600 people attended, over half of whom purchased seats on guided tours.

“All that I attended was fun, educational and professionally presented,” said Elaine Thorne, a festival attendee from Spokane. “From the tour guides to the lectures, we had a wonderful experience. I am spreading the word about your Festival to others and will attend next year.”



# Conservation in Washington: Powered by People



## **MAKING AN IMPACT:**

- *Worked with coalition of partners to assess and inventory fish barriers in the Chehalis Basin—over 2,000 fish barriers were identified.*
- *Replaced 31 blockages opening up 87.21 miles of habitat.*
- *Replaced culverts allowing streams to sustain larger numbers of salmon.*

## **LEWIS COUNTY CONSERVATION DISTRICT - REMOVING FISH BARRIERS IN THE CHEHALIS BASIN**

Fish passage barriers became a large-scale concern in the late 1990's due to the miles of habitat that was no longer accessible to salmon. The Lewis County Conservation District (LCCD) began assessing culverts in the Chehalis Basin to inventory the barriers and prioritize efforts to replace blockages.

**FINDING A COMMON PATH** LCCD worked in conjunction with several state and local agencies and timber companies to address fish barrier concerns. The solution was to get the fish passage barriers assessed so separate entities throughout the basin could begin installing larger culverts and/or bridges to allow fish of all ages to migrate up and down stream. Over 2,000 barriers were identified in the Chehalis Basin. The assessment was and is still used to apply for grants and rank applications to get the barriers replaced.

**RESULTS ON THE GROUND** LCCD and their partners began replacing fish barriers in 2000. To date, the district has replaced 31 blockages, which opened up 87.21 miles of habitat. The pictures below show one barrier that was replaced in 2007. The outfall drop on the culvert made the pipe a complete barrier to all fish from migrating upstream. In the fall of 2007, adult Coho salmon were observed spawning above this project. While adult Coho salmon could access some of the sites, juvenile Coho were blocked from migrating up and down stream during rearing time in the streams. Replacing culverts allowed the stream to sustain larger numbers of salmon. Several other blockages have been removed and/or replaced in the basin by other partner agencies.

The LCCD worked closely with partners to implement consistent surveys of the barriers. The Washington Department of Fish and Wildlife provided training to ensure all assessments accurately determined the culverts as blockages and the sites as having fish usage, including the species of fish present.

“This has been a very rewarding endeavor for the LCCD and our cooperators,” said Bob Amrine, LCCD Manager. “The ability to apply for grants and to replace the barriers with larger culverts or bridges has been very successful.”

Culvert replaced by the Lewis County Conservation District in the Chehalis Basin before (left) and after project implementation (right)





# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- *Four landowners with contiguous property along Lincoln Creek installed riparian buffers.*
- *59.6 acres of riparian buffer planted along Lincoln Creek and two tributaries.*
- *Buffer lengths totaled about 2.4 miles along Lincoln Creek and 1.9 miles along the 2 tributaries.*

## LEWIS COUNTY CONSERVATION DISTRICT - LANDOWNERS REESTABLISH VEGETATION ALONG LINCOLN CREEK

Over the years, land managers have cut most of the trees and shrubs out of segments of Lincoln Creek. This is a large-scale concern for water quality in the basin. Lewis County Conservation District began working with landowners in early 2000 to restore vegetation on the banks of the creek as part of an on-going restoration effort.

**FINDING A COMMON PATH** The solution was to get landowners to sign up for Washington State’s Conservation Reserve Enhancement Program (CREP). Administered by the Farm Service Agency (FSA) and the Washington State Conservation Commission (WSCC), CREP offers landowners financial incentives for restoring and protecting riparian habitat (areas in and around rivers and streams) on their property. From 2002 to 2013, Lewis County Conservation District had four landowners with contiguous property sign up for CREP, which allowed the District to replant riparian buffers (vegetated borders along streams) from 35 feet to 180 feet wide.

**RESULTS ON THE GROUND** A total of 59.6 acres of riparian buffer were planted along Lincoln Creek and two tributaries. The lengths totaled approximately 2.4 miles along Lincoln Creek and 1.9 miles along the 2 tributaries. The trees and shrubs have not all been established at this time, and the District will require funding to monitor the site for water quality improvements. However, the accomplishments of the District and landowners will keep domestic livestock out of the streams. And, the buffers are essential for utilizing any nutrients and trapping sediment that may runoff during normal agriculture activities. The ability to be flexible with the widths of these buffers made this a success. The landowners had areas where they were not willing to plant 180 foot buffers. Reasons included proximity of the stream to the county road and buildings. In addition, flexible buffers allow for straight fields along the meandering streams. Being able to implement down to 35 feet kept these buffers contiguous with the four separate landowners.

“Without the ability to plant riparian zones from 35 to 180 feet in CREP, these restoration projects would not have been as successful,” said Bob Amrine, Lewis County Conservation District Manager. “We would have had to stop and restart in segments and contiguous buffers would not have been planted.”

Property before (left) and after CREP buffer was planted (right)





# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- Working with irrigators to replace 136 non-compliant fish screens in Okanogan River.
- Developed water quality plan for Okanogan Watershed.
- Restored stretch of Bonaparte Creek to its historic channel.

## OKANOGAN CONSERVATION DISTRICT - IMPROVING WATER QUALITY IN THE OKANOGAN WATERSHED

When the Okanogan Conservation District began developing a water quality plan for the Okanogan Watershed (WRIA 49) in 1995, they found many challenges. Some streams exhibited excess sediment or had been rechanneled. Water quality monitoring revealed high levels of dissolved oxygen and fecal coliform. In response, the Okanogan Conservation District launched a series of projects to protect and restore the watershed.

**FINDING A COMMON PATH** A diversity of stakeholders are invested in the watershed. Recognizing the success of water quality projects depends on collaboration, the Okanogan Conservation District worked hard to bridge the interests of private landowners with the goals of the Colville Tribes and several federal, state, and local government entities. The resulting watershed projects balance water quality and land use goals.

**ACTION ON THE GROUND** In 2000-2003 the District surveyed Bonaparte Creek and found septic pipes draining directly into the creek. The associated homes were outside Tonasket city limits, but the District proposed a deal between homeowners and the City to grandfather-in the failing wells and sewer the area. Years later, the District worked with a landowner to move a stretch of Bonaparte Creek away from Highway 20 and back to its historic stream channel. The stretch of stream increased by over 1,000 feet and has been planted with native vegetation. The District also currently offers an incentive-based program with a goal of replacing 136 non-compliant fish screens along the Okanogan River. Fish screens protect juvenile fish from water diversions, such as irrigation pump intakes. As a result of the program—which covers 100 percent of the costs to replace and install new fish screens—irrigators voluntarily have replaced 55 non-compliant screens. The District has contracted with the Colville Tribes to replace 50 more screens next year.

Okanogan Conservation District has faced some logistical hurdles. State and federal agencies rarely award grants for monitoring, so the District lacks capacity to measure impacts of installed practices. And, while landowner participation has increased over time, more outreach is needed to increase stewardship on private lands. According to District Manager Craig Nelson, the success of projects in the watershed depends on positive relationships with landowners.

“Oftentimes we get called into projects because other partners need somebody the landowner can trust,” said Nelson. “We’re governed by local volunteer supervisors, most of whom are farmers and ranchers themselves. I think other partners want us involved because, frankly, they know we’ll get through the landowner’s door before they will.”

Restoring Bonaparte Creek to its natural channel, from project beginning (left) to end (right)





# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- *Removed several fish barriers, including 95-foot wide cement dam.*
- *Installed woody debris and boulders that created pools, riffles, and runs that fish now inhabit.*
- *Provided a model for successful, public-private sector conservation partnerships.*

## PEND OREILLE CONSERVATION DISTRICT - RESTORING BULL TROUT HABITAT IN NORTHEAST WASHINGTON

Cedar Creek in northeast Washington was historically accessed by bull trout—a threatened species under the Endangered Species Act—for spawning and rearing. The US Fish and Wildlife Service (FWS) designated Cedar Creek as “Critical Habitat” for bull trout and called for the removal of barriers from the creek’s confluence with the Pend Oreille River to its head waters. The barriers not only hindered bull trout passage, they also posed a public safety concern. The Pend Oreille Conservation District (POCD) was the Salmon Recovery Fund Board (SRFB) Lead Entity Coordinator and was the logical agency to facilitate Cedar Creek restoration efforts.

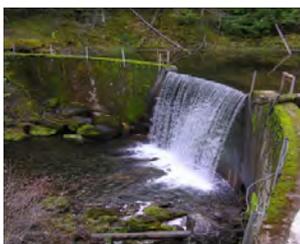
**FINDING A COMMON PATH** POCD worked with partners to secure federal, state, and local funding to remove fish barriers. Many private landowners participated with projects on their land, and others allowed staging of equipment and supplies to take place on their property.

Several fish barriers were removed, the largest being the demolition of an old, 95-foot wide cement dam in 2005. Other removals included a bridge, two water crossings, and small log crib dams. POCD and partners also installed a foot bridge and two auto bridge placements; restored log and rock structures in and along Cedar Creek; and planted several thousand trees and shrubs. POCD’s project partners included US FWS, WA Department of Fish and Wildlife (WDFW), WA Recreation and Conservation Office, WA Department of Ecology, WA State Conservation Commission, Kalispel Tribe, Pend Oreille County, and other regional and local entities.

**RESULTS ON THE GROUND** Results as far as temperature changes and bull trout returns are unknown at this time; however, observations of the project area indicate that fish and wildlife are benefiting from the Cedar Creek restoration. Woody debris and boulder placements have created pools, riffles, and runs—one can physically see fish inhabiting these newly structured environs.

These restoration projects on Cedar Creek underscored the importance of stakeholder collaboration. Without the many partnerships formed from the local-level all the way to the federal-level, this project would never have gained the momentum to get off the ground.

Left: Cedar Creek dam before (top) and during destruction (bottom).



Right: Site following Cedar Creek dam removal and instream and riparian restoration efforts.





# Conservation in Washington: Powered by People

## MAKING AN IMPACT:

- *Completed 16 water quality projects with participation from 11 landowners.*
- *WA Department of Health upgraded or reclassified 278 commercial and recreational acres for shellfish harvest following project implementation.*
- *Farmers who worked with the district increased production, improved animal health, and saw greater farm management flexibility.*

## PIERCE CONSERVATION DISTRICT - LIVESTOCK OWNERS IMPROVE SHELLFISH HARVEST AREA

In 2009, freshwater streams in Key Peninsula were showing downward water quality trends due to impacts from bacteria and sediment. Shellfish harvest areas downstream were downgraded due to bacteria pollution. Following a windshield survey, Pierce Conservation District (PCD) noted areas where potential impacts may have been due in part to poor farming management or livestock keeping practices.

**FINDING A COMMON PATH** Partners first identified channels for communication and feedback between District and regulatory partners. Together, the partners then focused outreach, education, and cost-share into areas with the highest likelihood of direct impact. Beginning in 2010, PCD leveraged funds to install best management practices (BMPs) in selected sub-watersheds identified by threatened harvest areas and upland freshwater quality links. Eleven landowners implemented 16 projects that installed 4,500 square feet of heavy use area; 700' of cross fence; 5,763' of exclusion fence; 1,600' of pipeline; 40 yards of manure removal; 3 off stream watering units; and 1 critical area buffer planting that was completed by 35 volunteers.

**RESULTS ON THE GROUND** This concerted effort included several partners including agencies, non profits, a university, and citizen partners. Multiple strategies were employed to address behavior changes and values, replace failing septic systems, implement farm BMPs, improve farm management, and reduce impacts and quantity of stormwater runoff. Following these projects, significant declines in bacteria levels have been realized. As a result, the WA Department of Health has upgraded or reclassified 278 commercial and recreational acres for shellfish harvest. Pierce County has also measured an upward trend in stream health around focus areas in the watershed. Farmers who installed practices or utilized district technical assistance are seeing increased production, improved animal health, and greater farm management flexibility.

PCD's ability to provide landowners with a suite of options, as well as the opportunity to address their farm priority first, was key for project ownership and buy-in.

"I can't believe there's help like this available," said Jerry Kersting of Wildberry Farm. "I wish I would have called sooner."

Upland water quality project site before (left) and after implementation (right)





# Conservation in Washington: Powered by People

## MAKING AN IMPACT:

- *Research plots demonstrated yield improvements of 25 percent over conventional nutrient management.*
- *Forty-three percent of participating farmers decided to incorporate compost as part of their regular land management practices.*
- *Participating producers are more precisely managing soil nutrients and reducing risk of nutrient runoff.*

## SNOHOMISH CONSERVATION DISTRICT - COMPOST PROJECT DEMONSTRATES SOIL AND YIELD IMPROVEMENTS

Commercial composters in Snohomish County were producing more compost than they were selling, resulting in large stock piles. Meanwhile, local farmers were unsure whether the benefits of using compost to improve soil would outweigh the cost. The Snohomish Conservation District partnered with local farmers, Washington State University (WSU), and commercial composters to develop field research plots and a network of demonstration plots around the county for farmers to witness the benefits of compost.

**FINDING A COMMON PATH** Several stakeholders worked together on this project to improve nutrient management on farms and increase waste utilization. Snohomish Conservation District recruited farmers to participate and helped implement the research plots on local farms. WSU set up the demonstration sights and crunched the data. And, commercial composters and Snohomish County provided the compost and delivery to farms. Landowners then spread the compost and witnessed first-hand the challenges and benefits of compost on their specific operation.

**RESULTS ON THE GROUND** This project involved 45 different farms. Over 2,500 yards of compost were spread from three different commercial composters. The research plots demonstrated yield improvements of 25 percent over conventional nutrient management, as well as improved soil quality and reduced disease levels. The producers involved are more precisely managing soil nutrients, allowing for maintained and/or improved yields while reducing risk of nutrient runoff and leaching to the environment. Forty-three percent of farmers have decided to incorporate compost as part of their regular land management practices as a result of their participation in the trials, thereby “fertilizing” a viable market for commercial composters.

WSU is publishing data and producing best management practice (BMP) guides for compost use based on research trial results. And, partners have secured funding to continue this research for the next two years.

Monte Marti, Snohomish Conservation District Manager, said of the project: “Closing the nutrient cycling loop locally by composting local organic waste from local residents, and then spreading that compost back on local farms so they can produce local food, is consistent with the comprehensive approach to resource conservation that Districts promote.”

Right: Pumpkins at Carleton Farm, one of the experimental on-farm research sites. In both 2011 and 2012, pumpkin yield increased when compost was incorporated (COM) compared to business-as-usual (BAU).





# Conservation in Washington: Powered by People

## MAKING AN IMPACT:

- *Snohomish County proposed to Department of Ecology that two segments of Woods Creek be removed from 303(d) list.*
- *District planting 20 acres in riparian zone in next three years.*
- *Established network of community members willing to participate in efforts to shade Woods Creek and reduce water temperatures.*

## SNOHOMISH CONSERVATION DISTRICT - WORKING WITH LANDOWNERS TO RESTORE WOODS CREEK

Woods Creek was listed as part of the Lower Snohomish River Tributaries TMDL (total maximum daily load) for fecal coliform in 2003. Agricultural practices were identified as one of the potential contributors to this pollution. The Snohomish Conservation District was enlisted by partners to work with agricultural landowners to responsibly manage manure and fence livestock from the stream.

**FINDING A COMMON PATH** The Snohomish Conservation District, Snohomish County, Department of Ecology, and several nonprofits put effort into addressing the sources of fecal contamination in the basin by working on a voluntary basis with private landowners. The watershed is zoned primarily rural residential with small farms being the focus of these efforts. Practices installed by the Conservation District included: over 25,000 feet of fencing; 90 acres of riparian planting; 66 waste storage/compost structures; and 57 heavy use areas for livestock.

**RESULTS ON THE GROUND** Due to this focused effort on manure management and control of fecal coliform contamination, the percent of time fecal counts exceed summer standards has reduced dramatically. As such, Snohomish County has proposed to the Department of Ecology that two segments of Woods Creek be removed from the 303(d) list (Britsch, personal communication, 2014). The Department of Ecology is now turning its focus from fecal contamination to high summer water temperatures and has encouraged the District to focus future efforts on planting the riparian zone. The District developed a Woods Creek Riparian Action Plan to identify priority areas for planting and received a \$250,000 grant from Ecology to plant 20 acres in the next three years.

Snohomish Conservation District learned the importance of building trust and positive relationships with private landowners within a watershed. Now a network of community members is willing to participate in the District's continuing efforts to shade the stream to reduce water temperatures.

"In 17 years having Woods Creek in our back yard, we have had stunningly supportive help...[to] reduce erosion, improve the riparian zone, and plant native trees and bushes," said Joel Selling, Woods Creek landowner. "The result is not only better land values for us, but a sense of being truly good stewards of this valley. Thanks to the Conservation District and Surface Water Management for sharing our vision for our watershed."

Woods Creek property before (left) and after Snohomish Conservation District helped landowner install fencing and plants (right)





# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- *Worked with the Spokane Tribe to establish the Chamokane Watershed Council.*
- *Installed several practices in the watershed, including riparian fencing and planting of native vegetation.*
- *Project spurred other landowners' interest in additional conservation work.*

## STEVENS CONSERVATION DISTRICT - BRINGING STAKEHOLDERS TOGETHER TO IMPROVE WATER QUALITY

Chamokane Creek, a tributary to the Spokane River, is on the 303(d) list due to its high levels of fecal coliform and dissolved oxygen. Streams are placed on the 303(d) list when poor water quality impairs their use as drinking water, habitat, recreation, and/or industrial use. The Spokane River is also on the 303(d) list for PCBs and dissolved oxygen. Over the years the issues surrounding these waters have generated distrust and a few legal battles over water rights. As a local and trusted entity, the Stevens County Conservation District has been able to bring together diverse stakeholder groups—including private landowners—to work towards a solution.

**FINDING A COMMON PATH** Chamokane Creek is bordered by private lands and the Spokane Indian Reservation on the lower portion. Stevens County Conservation District (SCCD) received a Department of Ecology (DOE) grant and worked with Spokane Tribe to establish the Chamokane Watershed Council, which is made up of private landowners and a large

commercial timber ownership. Through this council the first water quality improvement project was implemented with funding from the Tribe, DOE, EPA, and a participating landowner. Several best management practices (BMPs) were installed as part of the project, including riparian (streamside) fencing, a livestock bridge, spring development, and planting of native woody vegetation. An Engineering Grant from the Washington State Conservation Commission funded the livestock bridge design. The landowner—who was active in the implementation of the entire project—provided labor and materials as in-kind.

**RESULTS ON THE GROUND** 1,500 feet of Chamokane Creek has been improved, and the landowners and neighbors are better informed on the importance of a healthy riparian area. One clear success is that the landowners and the watershed council are extremely pleased and look forward to the riparian area and diverse vegetation improving in the future. Many of the neighbors continue to watch the project develop and are now showing interest in working on their own property. There were some pre-project water samples collected, but SCCD has yet to find funding for post-project monitoring to further document water quality improvements.

The major challenge was finding willing landowners to participate, considering the long history of mistrust among stakeholders within the watershed. It was the landowners' trust in the local Conservation District that led them to participate in this project and implement practices to make demonstrable water quality improvements. As one SCCD Board Supervisor said, "You have to start somewhere—one successful project will spur interest in more projects."

Chamokane Creek property before (left) and after water quality improvement project (right)





# Conservation in Washington: Powered by People

## MAKING AN IMPACT:

- *Yakima River water quality improved by about 80%.*
- *Discharge of suspended solids from Sulphur Creek Drain decreased by 93 tons per day.*
- *30 landowners participated.*
- *Implemented 10 rill-to-sprinkler conversion projects benefitting over 600 acres.*

## SOUTH YAKIMA CONSERVATION DISTRICT - FARMERS IMPLEMENT PRACTICES TO CLEAN UP YAKIMA RIVER

The Lower Yakima River Basin in south central Washington is known as one of the most intensively irrigated areas in the United States. In 1974, a study conducted for the Washington State Department of Ecology identified Sulphur Creek sub-basin as having the greatest irrigation water quality problems of any sub-basin in the Yakima River Basin. In the 1994 irrigation season, 110 tons per day of total suspended solids were discharged to the Yakima River (equivalent to 14 dump truck loads), and 31.9% of all sources of suspended solids were coming from the Sulphur Creek Drain.

**FINDING A COMMON PATH** In response to Sulphur Creek’s widely documented water quality problems, the South Yakima Conservation District (SYCD) led a Model Implementation Project from 1977-1982 to improve irrigation practices. Then, in 1996, SYCD received funding to begin the Sulphur Creek Best Management Practices (BMP) Implementation Project. The

District recruited 30 landowners to participate in the project, and they funded 10 rill-to-sprinkler conversion projects that benefitted over 600 acres.

**RESULTS ON THE GROUND** In 2000, SYCD began evaluating the success of the BMPs landowners implemented in sub-basins 5 and 10 in collaboration with the Roza-Sunnyside Board of Joint Control. Water quality samples were collected at three sites, three days per week during the irrigation season from mid-April to mid-October. Data were collected on several water quality parameters, including discharge, turbidity, suspended solids, Kjeldahl nitrogen, phosphorous, temperature, pH, conductivity, and dissolved oxygen. The evaluation revealed that landowners had significantly improved water quality by adopting BMPs. In sub-basin 5, Total Suspended Solids (TSS) decreased by 56%, Total Phosphorous (TP) decreased by 32%, and Total Kjeldahl Nitrogen (TKN) decreased by 117%. In sub-basin 10, TSS decreased by 86%, TP decreased by 69%, and TKN decreased by 45%. By 2003, discharge from Sulphur Creek Drain averaged 17 tons per day—a decrease of 93 tons per day in less than 10 years. Landowner participation was essential to this success.

“Thanks to their extraordinary efforts, the farmers of the Yakima Valley have helped improve the river’s water quality by about 80%,” said Linda Hoffman, Department of Ecology Director. “Initially, many were wary of the loft goals we had set for the Yakima River, but they accepted the challenge and demonstrated amazing leadership in cleaning up the river.”

Sulphur Creek draining into Yakima River before (left) and after South Yakima Conservation District worked with farmers to implement best management practices for water quality (right)





# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- *Landowners are able to plant crops in just one pass, which reduces soil disturbance, irrigation, and fuel.*
- *SYCD predicts that over the next three years it can double the amount of no-till acres in the district from an average of 330 acres a year to almost 700 acres a year.*

## SOUTH YAKIMA CONSERVATION DISTRICT - EQUIPMENT LEASE PROGRAM MAKES NO-TILL FARMING AFFORDABLE FOR LANDOWNERS

Soil erosion on agricultural land poses a threat to both crop production and water quality. Topsoil that washes away in the rain or blows off can increase sedimentation in water and spread pollutants. One solution to this is no-till farming. This alternative to conventional tillage reduces soil disturbance by creating seedbeds and planting seeds in one field pass. However, no-till equipment can be expensive. That’s why South Yakima Conservation District offers a no-till drill lease program to make this conservation practice affordable.

**FINDING A COMMON PATH** Since 2000, South Yakima Conservation District (SYCD) has offered an equipment lease program that allows farmers to rent a small no-till drill owned by the conservation district. Recently—due to the advancement of no-till technology and interest by local landowners—the SYCD Board of Supervisors agreed to add a second, larger no-till drill to the lease program. Using a no-till equipment loan program sponsored by their partner, Spokane Conservation District, SYCD financed 75 percent of the new no-till drill, which likely will pay for itself in no time. The drill is a Great Plains 1006NT with the ability to plant three different seed types at three different rates at the same time.

**RESULTS ON THE GROUND** The first time SYCD’s new no-till drill was rented, the landowner planted oats for cover crop, grass seed, and alfalfa in just one pass instead of three. No-till farming has helped SYCD landowners reduce erosion, fuel, irrigation, labor, and machinery costs. No-till may also increase yields because of higher water infiltration and storage capacity.

By adding a larger, no-till drill with more capabilities to their lease program, SYCD predicts that over the next three years it can double the amount of no-till acres in the district from an average of 330 acres a year to almost 700 acres a year. During that time, SYCD also plans to assess season-end results of fields planted with the no-till drill and compare them to conventionally farmed fields.

“I was able to plant three different seeds at three different rates saving me time and money,” said one landowner of the SYCD no-till lease program. “I would never have been able to purchase such an expensive implement. Thanks to SYCD I can rent it for a very reasonable rate.”



Local landowner uses the South Yakima Conservation District lease program to rent the new Great Plains no-till drill.



# Conservation in Washington: Powered by People

## MAKING AN IMPACT:

- *Fecal pollution in Henderson Shellfish Protection District decreased at several water quality monitoring stations from HIGH in 2001 to LOW in 2009.*
- *340 acres of degraded shellfish beds upgraded to Approved or Conditionally Approved.*
- *Cost-share provided to 12 landowners, resulting in 36 conservation practices.*

## THURSTON CONSERVATION DISTRICT - LANDOWNERS WORK TO REOPEN SHELLFISH BEDS

Declining water quality in heavily developed areas of Thurston County led to several shellfish classification downgrades. This triggered the formation of a Shellfish Protection District (SPD) in 2001. Soon after, Thurston Conservation District agreed to dedicate 28 percent of the District’s county assessment funding to improving water quality in the Henderson and Nisqually SPDs.

**FINDING A COMMON PATH** Thurston Conservation District developed 26 conservation plans (85 percent of which are fully implemented) in areas of high fecal counts. Cost-share was provided to 12 landowners, resulting in the implementation of 36 conservation practices. These practices included installation of five waste storage structures; 11,462 feet of gutters and downspouts; 942 acres of nutrient management; and construction of eight livestock confinement areas.

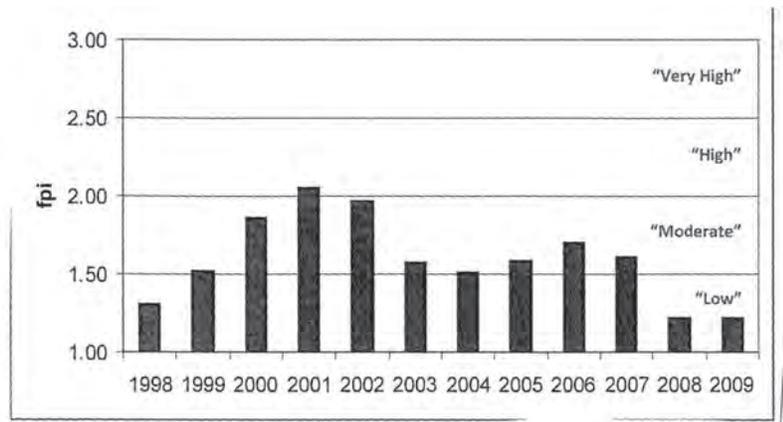
**RESULTS ON THE GROUND** In the areas where landowners implemented conservation practices, fecal pollution in Henderson SPD decreased from HIGH in 2001 to LOW in 2009 (Washington Department of Health). In all, Thurston Conservation District recorded 213 implemented agricultural practices throughout the SPD. Of the 650 acres of degraded shellfish beds in Henderson SPD, 340 acres were upgraded to Approved or Conditionally Approved. The District continues to focus on and dedicate funding to these areas.

Direct quantitative measurement of remediation is complex. It requires extensive, standardized record-keeping and regular reporting by local agencies, which is rudimentary in most jurisdictions. However, the reopening of shellfish beds in SPDs following the implementation of practices by the Thurston Conservation District is a clear sign of success.

“Without the dedicated funding provided through the Conservation District assessment and combined efforts with our partners, we would not have seen such success in the Henderson Inlet,” said Kathleen Whalen, Thurston Conservation District Administrator. “Our partners recognize our unique ability to get onto private land because of our non-regulatory nature.”



Livestock stable before (top) and after Thurston Conservation District worked with landowners to install confinement area (bottom)



Graph showing decreasing fecal pollution levels in Henderson SPD following the implementation of 36 conservation practices by the Thurston Conservation District and participating landowners.



# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- *Adult Coho returns jumped from a historic average of 4 to 33 after first construction season in 2012.*
- *Coho redd counts went from historic average of 4.6 to 17.*
- *Constructed five engineered log jams and installed innumerous additional large wood pieces.*

## UNDERWOOD CONSERVATION DISTRICT - LANDOWNERS IMPROVE HABITAT IN WIND RIVER WATERSHED

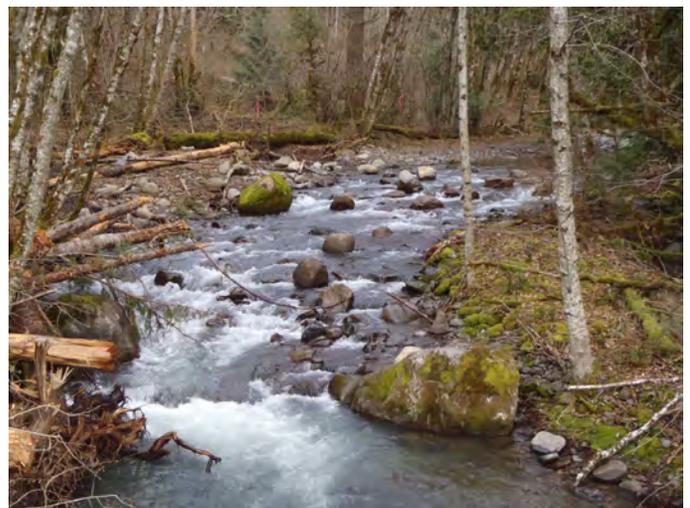
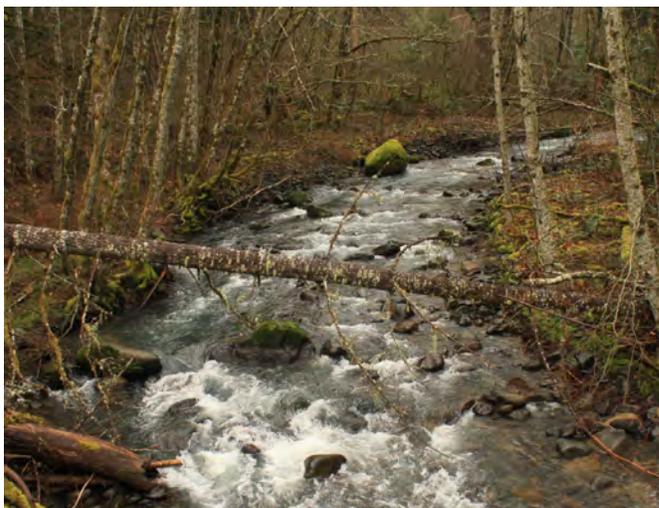
Lower Columbia River Steelhead are listed as threatened in the Wind River watershed of Skamania County. The Little Wind River is the first major tributary in the watershed, and habitat in this stream had been degraded through a history of intensive logging, road building, and landslides. Fish habitat consisted of a continuous riffle with very little refuge or spawning area.

**FINDING A COMMON PATH** Underwood Conservation District (UCD) works with several major partners on restoring steelhead habitat in the Wind River watershed. The District's role is to engage private landowners in this effort. UCD contracted two renowned restoration designers to plan and engineer habitat restoration work in the Little Wind River, and in 2012-2013 the project was constructed. A participating landowner contributed logs and rootwads that were used to construct engineered log jams. Pools, riffles, and spawning glides were also constructed in the stream.

**RESULTS ON THE GROUND** Five engineered log jams were constructed and innumerous additional large wood pieces were installed along the stream. In addition, nine pools were excavated for fish holding; ten riffles were constructed to help maintain stream grade and retain gravels; and three glides were constructed to provide materials and space for fish spawning. The Little Wind's confluence with the Wind River was modified slightly to allow easier fish passage from the mainstem. One off-channel alcove was constructed for fish refuge, and the entire site was restored and replanted.

While this project was aimed at improving steelhead habitat, benefits were observed for Coho salmon as well. After the first construction season in 2012, live adult Coho returns jumped from a historic average of 4 to 33! Additionally, Coho redd counts went from a historic average of 4.6 to 17! Fish population monitoring in this tributary is limited, but even more increases in fish use of this significant little stream are anticipated over the coming years.

Dan Gundersen, a participating landowner, said of the project: "As the landowners, we are impressed by the professionalism and commitment shown by the UCD staff and volunteers that worked on the site and your concern for our satisfaction with the end result."



Little Wind River, pre-construction (left) and post-construction (right)



# Conservation in Washington: Powered by People

## MAKING AN IMPACT:

- *Saved an estimated 2,404 acre feet of water (nearly 800 million gallons) as a result of irrigation efficiencies.*
- *Removed gravel diversion dams that previously impeded fish migration.*
- *Provided 20 farm owners/operators with more efficient and reliable irrigation delivery systems.*

## WALLA WALLA COUNTY CONSERVATION DISTRICT - PARTNERS FIND SOLUTIONS THAT BENEFIT FISH AND FARMERS

The Bergevin-Williams/Old Lowden ditch systems have been used to irrigate farms in the Walla Walla Valley for decades. Gravel diversion dams were built in the Walla Walla River that caused water to flow into these irrigation ditches. However, these dams impeded fish migration, which was a major concern of basin-wide restoration efforts. In an effort to maintain higher stream flows and improve fish passage, the Walla Walla County Conservation District worked with farmers and conservation partners to find a “win-win” solution.

**FINDING A COMMON PATH** The Walla Walla County Conservation District (WWCCD) secured grant funding from the Bonneville Power Administration, Confederated Tribes of the Umatilla Indian Reservation, and the Department of Ecology to remove two gravel dams and consolidate irrigation ditches into a single diversion. To further complement the aquatic improvements, WWCCD upgraded the Bergevin-Williams/Old Lowden irrigation ditches to a pipeline system. This increased irrigation efficiency and reduced water use on 1,816.5 acres. Work on this project began in 2009 and completed in 2013.

**RESULTS ON THE GROUND** Fish, farmers, and workers benefitted from the Bergevin-Williams/Old Lowden irrigation project. Improvements in irrigation efficiency allow farmers to save water each year that is placed into the Trust Water Rights. This results in additional water for fish. In fact, this project has saved an estimated 2,404 acre feet of water—that’s nearly 800 million gallons of water that has been placed into trust. And, the yearly fish passage obstructions have been removed allowing for migration. The 20 farm owners and operators involved in this project are benefitting from an improved irrigation delivery system that is both more reliable and efficient. This complex project also provided jobs for a number of workers in various occupations.

This project demonstrates that conservation and agricultural stakeholders can work in a cooperative and collaborative manner. Water is critically important for agricultural and ecological objectives, but resources can be managed to support both “fish and farmers.”

“The real story of the Bergevin-Williams/Old Lowden consolidation was the cooperation and collaborative workings of private sectors and agencies, both state and federal,” said Kay Mead, WWCCD Irrigation Efficiency Coordinator.

Left: Old Bergevin-Williams gravel diversion dam (“push-up”) prior to removal.



Right: Bergevin-Williams/Old Lowden single diversion that was constructed to replace gravel dams.





# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- *Improvements to water quality in Whatcom County resulted in the reopening of Portage Bay shellfish beds.*
- *Over one million trees planted in Whatcom County through CREP.*
- *Whatcom Conservation District worked with private landowners to plant 359 CREP projects, restoring 2,375 acres of riparian areas and 166.6 miles of stream.*

## WHATCOM CONSERVATION DISTRICT - OVER 1 MILLION TREES PLANTED IN EFFORT TO PROTECT SALMON AND SHELLFISH HABITAT

Degraded riparian (streamside) conditions and water quality are key limiting factors in the recovery of endangered salmon and steelhead in Washington State. Shellfish beds are also adversely affected. Through the Conservation Reserve Enhancement Program (CREP), Whatcom Conservation District offers incentives to landowners who voluntarily remove riparian areas from production and implement conservation practices.

**FINDING A COMMON PATH** CREP provides financial compensation to landowners who restore vegetated areas bordering streams, termed riparian buffers, that protect salmon and shellfish habitat. CREP buffers alleviate water temperatures, turbidity, fecal coliform, and nutrient inputs by providing shade and acting as filters. Whatcom Conservation District (WCD) has worked with private landowners to plant 359 CREP projects, which restored 2,375 acres of riparian areas and 166.6 miles of stream since 2000. Today, over one million trees have been planted in Whatcom County through CREP. WCD also used the program to install 196,861 feet of fencing, 11 livestock crossings, and 10 off-channel watering facilities in the county.

**RESULTS ON THE GROUND** Annual monitoring has shown that, since the program’s origin in 1999, CREP buffers are reducing water temperatures and addressing limiting factors for salmon and shellfish. In fact, improvements to water quality in Whatcom County have resulted in the reopening of the Portage Bay shellfish beds, and the Birch Bay beds may reopen this year (2014).

When a program such as CREP provides technical expertise, funding, and incentives, landowners are willing and sometimes eager to participate. With CREP there is little for the landowner to do other than watch the buffers grow and know that they have made a difference.

“I’m new with the CREP program, but my experiences with it have been very positive,” said Burton Jay, Whatcom County landowner. “... a plan was developed to solve the problem of 14 acres overgrown with reed canarygrass and blackberries and a salmon creek in need of shading. I was pleased that I could have input ...and look forward to returning the property to a more pristine condition.”

Left: Site visit before CREP planting



Right: Same site following CREP project implementation—the blue tree shelters (plastic tubing) mark new tree plantings





# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- 27 contiguous landowners planted riparian buffers.
- Summer water temperatures in Tenmile Creek dropped and are consistently below the threshold for salmon.
- Tenmile Creek is now the only lowland Nooksack River tributary that regularly meets goals for fecal bacteria set to protect the Portage Bay shellfish beds downstream.

## WHATCOM CONSERVATION DISTRICT - COMMUNITY OF LANDOWNERS RESTORE TENMILE CREEK

Tenmile Creek in Whatcom County was typical of many westside streams in agricultural areas: no buffers, high fecal bacteria levels, and water temperatures high enough to kill salmon. The Whatcom Conservation District (WCD) started working in the watershed ten years ago by establishing an advisory group of locals and a voluntary stewardship program to enlist landowners to improve the streams.

**FINDING A COMMON PATH** WCD secured funding, hired a watershed resident as project manager, and put together a diverse group of residents and other stakeholders to find solutions for long standing water quality problems. Landowners identified three goals for their watershed: improve drainage in agricultural areas, improve riparian (streamside) buffers by planting native trees or shrubs, and monitor water quality for improvements.

**RESULTS ON THE GROUND** Twenty-seven contiguous landowners agreed to plant riparian buffers following drainage maintenance. Eventually, 12.5 miles of stream bank was restored with native tree and shrub plantings, large wood was placed in the stream for fish habitat,

and culverts that blocked fish passage were repaired. Once the major stream was totally shaded, water quality improved rapidly. Summer water temperatures dropped markedly and are now consistently below the threshold required by salmon. Fecal bacteria levels also dropped dramatically due to buffer installation and better stewardship. Tenmile Creek is now the only lowland Nooksack River tributary that regularly meets goals for fecal bacteria set to protect the Portage Bay shellfish beds downstream. The “Tenmile model” is now frequently used as a template for positive change on a watershed scale. Landowners there know what watershed they live in and understand the importance of stewardship for their downstream neighbors.

A prerequisite of asking landowners for change is to listen to their needs. In this case landowners were interested and willing to improve their water but first needed to address drainage. Once their needs were addressed, a sense of community was created and real lasting changes were initiated.

“We understand the stream needs to be a maintained system,” said Dorie Belisle, Project Coordinator and landowner. “This is true for every stream running through productive agricultural land. Protecting fish and farming is an ongoing project using adaptive management to meet the needs of both farmers and the natural resource.”

Tenmile Creek before (left) and after landowners worked together to restore stream bank (right)





# Conservation in Washington: Powered by People

## MAKING AN IMPACT:

- *Following reconstruction of the dam, Coho salmon were spawning and swimming over the dam for the first time in more than 60 years.*
- *Dam modifications opened up 17,750 linear feet of upstream habitat.*
- *If current trends continue, the WA Department of Health will reopen shellfish beds in Birch Bay in 2014.*

## WHATCOM CONSERVATION DISTRICT - LAST FISH PASSAGE BARRIER REMOVED ON TERRELL CREEK

Whatcom County’s Terrell Creek flows directly to Puget Sound resulting in a “prohibited” status for commercial shellfish harvesting in the area around the mouth of the creek. Once a healthy run, salmon numbers in this stream have declined due to six fish passage barriers. The Whatcom Conservation District (WCD) now works with watershed landowners to reduce runoff, improve riparian (streamside) areas, and remedy the last fish passage barrier.

**FINDING A COMMON PATH** The final barrier along Terrell Creek was an eight-foot high dam impounding Lake Terrell waters. Other stakeholders did not initiate the removal of this fish barrier because of the perceived complexity of modifying or removing a dam. Further, the community was not interested in disturbing the popular Lake Terrell. Once WCD found a creative and inexpensive way to restore fish passage and water flows without adversely affecting the lake, funders and stakeholders were quick to support the project. The district secured funding and developed a way to elevate the stream channel over the dam eliminating the barrier. WCD also conducted a social marketing campaign and hired a watershed steward

to reach out to watershed residents with poor riparian buffers, uninspected septic systems, and livestock.

**RESULTS ON THE GROUND** Eight Conservation Reserve Enhancement Program (CREP) projects were planted along Terrell Creek, totaling 33 acres along 17,700 linear feet of stream using 10,285 native trees. The watershed steward has now worked with 400 residents to improve water quality. If the current trend towards better water quality continues this spring, the Washington State Department of Health is set to reopen shellfish beds in Birch Bay in 2014.

Following reconstruction of the Lake Terrell dam, Coho salmon were monitored in large numbers spawning in the improved channel and swimming over the dam for the first time in more than 60 years. Dam modifications opened up 17,750 linear feet of upstream habitat including 7,400 feet of stream with good riparian cover and spawning gravels. The new dam configuration also improved summer flows by metering lake water into the stream and increased the timing of fall flows to attract migrating fish.

“The Lake Terrell dam project was the final piece of the 15-year long puzzle to restore Terrell Creek to its full potential,” said Rachel Vasak, Executive Director of the Nooksack Salmon Enhancement Association.



Left: Terrell Creek Dam



Right: Reconstructed Terrell Creek stream channel

## Capital Project Request

2015-17 Biennium

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Version: D1 2015-17 Capital Budget Request

Report Number: CBS002

Date Run: 9/9/2014 5:05PM

Project Number: 30000018

Project Title: Improving shellfish growing areas &amp; related water quality

## Description

Starting Fiscal Year: 2016

Project Class: Grant

Agency Priority: 2

## Project Summary

Related to Puget Sound Action Agenda Implementation. Previously funded under Capital Project #30000010. Ongoing closures of shellfish growing areas in Puget Sound and along the Pacific coast indicate continuing problems in water quality. With concerns over the impacts of ocean acidification on shellfish, all natural resource issues impacting shellfish need to be addressed to support the resiliency of shellfish production. Funding in the 2013-15 biennium started the process of focused project implementation to improve water quality, address invasive species, and expand shellfish growing areas. This proposal will continue this targeted approach to drive measurable resource improvement.

## Project Description

Requested funding for the 2015-17 biennium will increase the stream miles buffered to protect water quality, increase acres of invasive species treatment in shellfish growing areas, and expand practices covered to include failing septic systems and manure management systems.

This project is directly related to the Puget Sound Action Agenda implementation and goal of increasing the number of acres of shellfish growing areas in Puget Sound.

Projects funded through this proposal will vary and include, but not be limited to, the following: fencing to exclude livestock from stream access; improved manure and water runoff management systems to prevent polluted water from entering rivers and streams flowing to shellfish growing areas; repair and replacement of on-site septic systems in shellfish growing areas; evaluation of the extent of invasive species impact on shellfish growing areas and implementation of invasive species eradication projects; survey and evaluation of potential new shellfish growing areas to expand production; projects to reduce nutrient applications upstream of shellfish growing areas to reduce the potential for algae blooms.

There are 31 shellfish growing areas with sample stations evaluated by the state Department of Health identified with threatened or concerned status in the 2014 growing area evaluation. Of these areas, 10 are threatened in Puget Sound and 4 are threatened along the Pacific coast. These determinations are made based on the presence of pollution sources that, if not managed, may cause a downgrade in classification. Pollution sources include runoff from agricultural lands contributing animal manure, failing septic systems, and runoff from urban sources.

A significant change in project implementation performance can be expected with funding for this proposal. Shellfish funding provided in the 2013-15 biennium was implemented in a targeted approach, concentrating funding for projects adjacent to each other or in the same sub-basin. This unique approach allows for more effective and efficient use of capital funding targeting focused geographic areas for measurable resource improvement. Rather than fund projects scattered across a watershed, this focused approach is intended to increase potential for "moving the dials" for measurable natural resource improvements.

Requested funding will increase the number of on-the-ground practices over the previous biennium from approximately 67 to more than 100. Funding will also continue implementation in the geographic focus areas, further improving natural resource conditions. These areas include the Nooksack watershed, the Samish and Skagit watersheds, the Kitsap peninsula, the Naselle River, and the Willapa Bay area. Each of these focus areas have threatened or closed shellfish growing areas that could be re-opened through focused project implementation as proposed in this decision package.

Projects funded through grants from this proposal will be required to address natural resource impacts to shellfish growing areas, with particular focus on areas where shellfish harvest has been restricted. Target areas for grants also include currently open shellfish growing areas because the state Department of Health also has a priority to maintain these areas as open for harvest and not allow further degradation.

Failure to fund this shellfish proposal will make it more likely that the state will not be able to restore currently closed shellfish growing areas, or protect currently open areas from potential closure. Projects funded in this proposal are designed to address the resource impacts contributing to closures. There are insufficient funds from other sources to do this work. Lack of financial resources to do these projects is one of the reasons we have closures. Shellfish growers have indicated if conditions do not improve, they will move their operations out of Washington.

Failure to fund this proposal will also make it unlikely that the Governor will be able to accomplish his objectives for the restoration of shellfish growing areas. As the Governor stated during a Results Washington Goal Council meeting on the topic of implementing practices to achieve the shellfish goals, we are unlikely to achieve success on regulatory actions alone. Incentive-based approaches, such as those funded in this proposal, are the most cost effective and timely method to achieve success.

Treaty Tribes in Washington have already successfully challenged our state regarding their share of the shellfish for harvest. Similar to the salmon treaty decisions, tribes are entitled to fifty percent of the shellfish harvest. And similar to the salmon treaty decisions, Washington is exposed to the same treaty arguments that the harvest right comes with an obligation on the part of the state to not allow conditions that will deteriorate the ability to harvest the shellfish.

Finally, the Puget Sound Partnership is unlikely to achieve their goal of restoration of 10,000 acres of shellfish growing areas. The only way to accomplish this goal is a focused approach proposed in this proposal. Failure to commit appropriate financial resources to accomplish the shellfish goals calls into question our state's commitment for the overall recovery of Puget Sound.

**This project is essential to implementing the 2015 strategic priorities of the Conservation Commission as follows:**

- Coordination and leadership with other entities (groups, agencies, tribes, other)
- Impact on natural resource concerns
- Conservation district operations, technical capacity and funding
- Support Commission operations to make this happen
- Coordination with other agencies using the model area concept for getting together on an area-wide project(s) to address an area-wide resource concern

**This request is essential to support the Governor's priorities:**

**Economy – Agriculture** is identified in this priority as one of the key industries creating the backbone for a strong economy. A goal of the SCC implementation of this proposal is maintaining a viable agriculture economy while addressing the natural resource impacts to shellfish. Commercial and recreational shellfish harvest is also an important economic activity in Washington. According to the NOAA Fisheries Service, the shellfish industry injects an estimated \$270 million a year in the region's economy bringing in over 3,200 jobs primarily in coastal communities. Nearly 60% of Washington's shellfish production occurs in Pacific and Grays Harbor counties.

**Budget** – Governor Inslee supported funding shellfish activities supporting the Ocean Acidification Panel recommendations in his 2013 Climate, Energy and Natural Resources Budget Priorities for a Working Washington. These recommendations were the basis for the initial \$4.5 million shellfish project investment to the Conservation Commission in the 2013-15 biennium that this request continues.

**Governor's Shellfish Initiative** – Governor Inslee has adopted the Washington Shellfish Initiative, which includes the goal of restoring Puget Sound and Pacific coastal shellfish growing areas. This proposal will support accomplishing those goals by addressing the factors contributing to these closures.

**This request provides essential support to the Governor's Results Washington Goals:**

- **Goal 3 – Shellfish:** Will result in improved shellfish classification acreage in Puget Sound from net increase of 3,038 acres from 2007-13 to net increase of 8,614 acres by 2016. Goal 3 2.1
- **Goal 3 – Shellfish:** Will result in the increase of the number of BMPs implemented in four Puget Sound counties and in Grays Harbor and Pacific counties. Goal 3 2.1.b.

- Goal 3 – Clean, Cool Water: Support increasing the percentage of rivers meeting good water quality from 43% to 55% by 2020.  
Goal 3 3.2

This project will also provide economic benefits to the state by supporting jobs relating to the construction of the on-the-ground projects. By addressing the factors currently contributing to the harvest closures of shellfish areas there will be fewer incidents of harvest limitation. This means more shellfish operators will keep their employees working harvesting and processing shellfish, contributing to the local economy.

With the funds provided through this proposal an additional 100 new best management practices (BMPs) will be implemented in the Puget Sound basin and the Pacific coastal counties. These BMPs will continue to be implemented in a targeted approach. They will continue to focus on “clustering” projects near or adjacent to projects already funded in previous biennia to increase potential for “moving the dial” to improve water quality for both nutrient and pathogen pollution.

Through this proposal the manner in which capital projects are funded and implemented will be different. Currently projects are funded based on landowner need or interest in implementation. Other projects are currently funded through a scoring and ranking process. Although this approach is an appropriate way to allocate funding, it’s not linked to resource concerns in a focused way. As a result, despite millions of dollars being spent on projects we are still not making progress in natural resource improvements.

The approach used in this proposal (and with current 2013-15 funding) is the clustering of projects to achieve a resource result. This is a unique way of putting capital funded projects on-the-ground. The approach currently being implemented with SCC shellfish funding targets projects in the same geographic area to allow for maximum impact on the natural resource issues in that area. The result is more effective and efficient implementation of capital funds, as well as measurable results in resource improvement.

A minimum of .75 FTE will be required for this project. Staff will complete appropriate contracts for project implementation and monitor progress on the contract. Staff will also compile necessary information relating to projects including mapping project location, confirming BMP implementation, and tracking completion of projects and collecting data to link these projects to resource improvement.

This proposal will help accomplish the objectives of the state Department of Health for opening currently closed shellfish harvest areas. Projects implemented in this proposal will also maintain currently open shellfish areas by preventing pollution in water bodies.

Ecology’s goals for improvement of water quality will also be addressed. Projects will be implemented in areas with identified pollution inputs with particular focus on areas with 303(d) listings for nutrients. Funded projects will include those implementing an Ecology TMDL implementation plan.

Projects funded will support local county efforts to improve water quality. Focus will be placed on BMPs that will implement county Pollution Identification and Correction (PIC) plans. The projects will also be part of other locally coordinated multi-stakeholder processes to address closure of local shellfish growing areas such as Samish and Nooksack.

Funding will support tribal efforts to re-open or maintain existing shellfish growing areas. Shellfish are an important component of the commercial and cultural aspects of tribes. This proposal will implement actions to enhance these activities.

The PS Partnership has identified the number of open shellfish growing areas as a key indicator of the health of Puget Sound. Funding in this proposal will help accomplish this goal by improving water quality for the specific goal of re-opening or maintaining shellfish growing areas. Funding will also be used to assist in the identification of other potential shellfish growing areas.

This proposal is the only alternative for funding projects to address shellfish protection. There are few other fund sources at this scale that are focused only on improving water quality specifically for shellfish growing areas. Alternatives including existing fund sources have not been good alternatives for addressing shellfish growing areas because those programs are not implemented in a focused or targeted manner. Existing programs are statewide in orientation and are not implemented to cluster projects together in focus geographic areas. As a result, they are less likely to achieve the natural resource objective.

Compared to other similar project funding approaches, this proposal is a more effective and efficient use of capital funding. This proposal is more effective because projects are not only targeted to address a resource concern, they are funded in focused geographic areas to maximize the resource benefit of the projects. This approach is also more efficient because efficiencies can be gained by grouping practices together in a geographic areas utilizing the same monitoring, engineering and technical assistance resources rather than having these activities implemented scattered around the state.

Landowners will be required to provide funding match for the projects. This would provide anywhere from 25% to 50% of the cost of the project. Many of the projects may also be eligible for funding through NRCS federal programs. Furthermore, several counties have shellfish growing area assessments that will support operating needs for implementation of these projects.

**Proviso**

A proviso will be needed to define the scope of use for the funding. The proviso should limit funds to projects that will address water quality or other natural resource concerns impacting shellfish growing areas. The proviso should also allow the use of funding to support the development of targeted implementation plans and mapping necessary to identify the best location for projects.

**Location**

<b>City:</b> Aberdeen	<b>County:</b> Grays Harbor	<b>Legislative District:</b> 024
<b>City:</b> Algona	<b>County:</b> King	<b>Legislative District:</b> 030
<b>City:</b> Arlington	<b>County:</b> Snohomish	<b>Legislative District:</b> 039
<b>City:</b> Auburn	<b>County:</b> King	<b>Legislative District:</b> 031
<b>City:</b> Auburn	<b>County:</b> King	<b>Legislative District:</b> 047
<b>City:</b> Auburn	<b>County:</b> Pierce	<b>Legislative District:</b> 030
<b>City:</b> Auburn	<b>County:</b> Pierce	<b>Legislative District:</b> 031
<b>City:</b> Bellevue	<b>County:</b> King	<b>Legislative District:</b> 048
<b>City:</b> Bellingham	<b>County:</b> Whatcom	<b>Legislative District:</b> 040
<b>City:</b> Bothell	<b>County:</b> King	<b>Legislative District:</b> 001
<b>City:</b> Bothell	<b>County:</b> Snohomish	<b>Legislative District:</b> 001
<b>City:</b> Bremerton	<b>County:</b> Kitsap	<b>Legislative District:</b> 035
<b>City:</b> Coupeville	<b>County:</b> Island	<b>Legislative District:</b> 010
<b>City:</b> DuPont	<b>County:</b> Pierce	<b>Legislative District:</b> 028
<b>City:</b> Duvall	<b>County:</b> King	<b>Legislative District:</b> 045
<b>City:</b> Eatonville	<b>County:</b> Pierce	<b>Legislative District:</b> 002
<b>City:</b> Edmonds	<b>County:</b> Snohomish	<b>Legislative District:</b> 021
<b>City:</b> Edmonds	<b>County:</b> Snohomish	<b>Legislative District:</b> 032
<b>City:</b> Everett	<b>County:</b> Snohomish	<b>Legislative District:</b> 038
<b>City:</b> Friday Harbor	<b>County:</b> San Juan	<b>Legislative District:</b> 040
<b>City:</b> Gig Harbor	<b>County:</b> Pierce	<b>Legislative District:</b> 026
<b>City:</b> Kenmore	<b>County:</b> King	<b>Legislative District:</b> 046
<b>City:</b> La Conner	<b>County:</b> Skagit	<b>Legislative District:</b> 010
<b>City:</b> Lake Stevens	<b>County:</b> Snohomish	<b>Legislative District:</b> 044
<b>City:</b> Lynden	<b>County:</b> Whatcom	<b>Legislative District:</b> 042
<b>City:</b> Marysville	<b>County:</b> Snohomish	<b>Legislative District:</b> 010
<b>City:</b> Montesano	<b>County:</b> Grays Harbor	<b>Legislative District:</b> 019
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 010
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 040
<b>City:</b> Olympia	<b>County:</b> Thurston	<b>Legislative District:</b> 022
<b>City:</b> Port Townsend	<b>County:</b> Jefferson	<b>Legislative District:</b> 024
<b>City:</b> Poulsbo	<b>County:</b> Kitsap	<b>Legislative District:</b> 023
<b>City:</b> Puyallup	<b>County:</b> Pierce	<b>Legislative District:</b> 025
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 011
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 033
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 037
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 041
<b>City:</b> Ruston	<b>County:</b> Pierce	<b>Legislative District:</b> 027
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 032
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 036
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 043
<b>City:</b> Shelton	<b>County:</b> Mason	<b>Legislative District:</b> 035
<b>City:</b> South Bend	<b>County:</b> Pacific	<b>Legislative District:</b> 019
<b>City:</b> Tacoma	<b>County:</b> Pierce	<b>Legislative District:</b> 029
<b>City:</b> Tumwater	<b>County:</b> Thurston	<b>Legislative District:</b> 022
<b>City:</b> Unincorporated	<b>County:</b> Clallam	<b>Legislative District:</b> 024
<b>City:</b> Unincorporated	<b>County:</b> King	<b>Legislative District:</b> 039

**Project Type**

Grants

**Grant Recipient Organization:** conservation districts**RCW that establishes grant:** 89.08**Application process used**

Project proponents must enter required project information in the SCC database system. Information must: adequately describe the specific nature of the resource concern to be addressed; whether the project is part of or consistent with a local shellfish protection plan or effort; whether the project is adjacent to or near another project implemented for the same resource objective. Once projects are entered into the SCC database they will be reviewed by SCC staff for completeness and potential to accomplish planned objectives. If the project meets these objectives, it will be funded.

**Growth Management impacts**

Projects will support local GMA requirements to protect critical areas.

**Funding**

Acct Code	Estimated Account Title	Total	Expenditures		2015-17 Fiscal Period	
			Prior Biennium	Current Biennium	Reappropriations	New Appropriations
057-1	State Bldg Constr-State	40,000,000				8,000,000
	<b>Total</b>	<b>40,000,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8,000,000</b>
<b>Future Fiscal Periods</b>						
		<b>2017-19</b>	<b>2019-21</b>	<b>2021-23</b>	<b>2023-25</b>	
057-1	State Bldg Constr-State	8,000,000	8,000,000	8,000,000	8,000,000	
	<b>Total</b>	<b>8,000,000</b>	<b>8,000,000</b>	<b>8,000,000</b>	<b>8,000,000</b>	

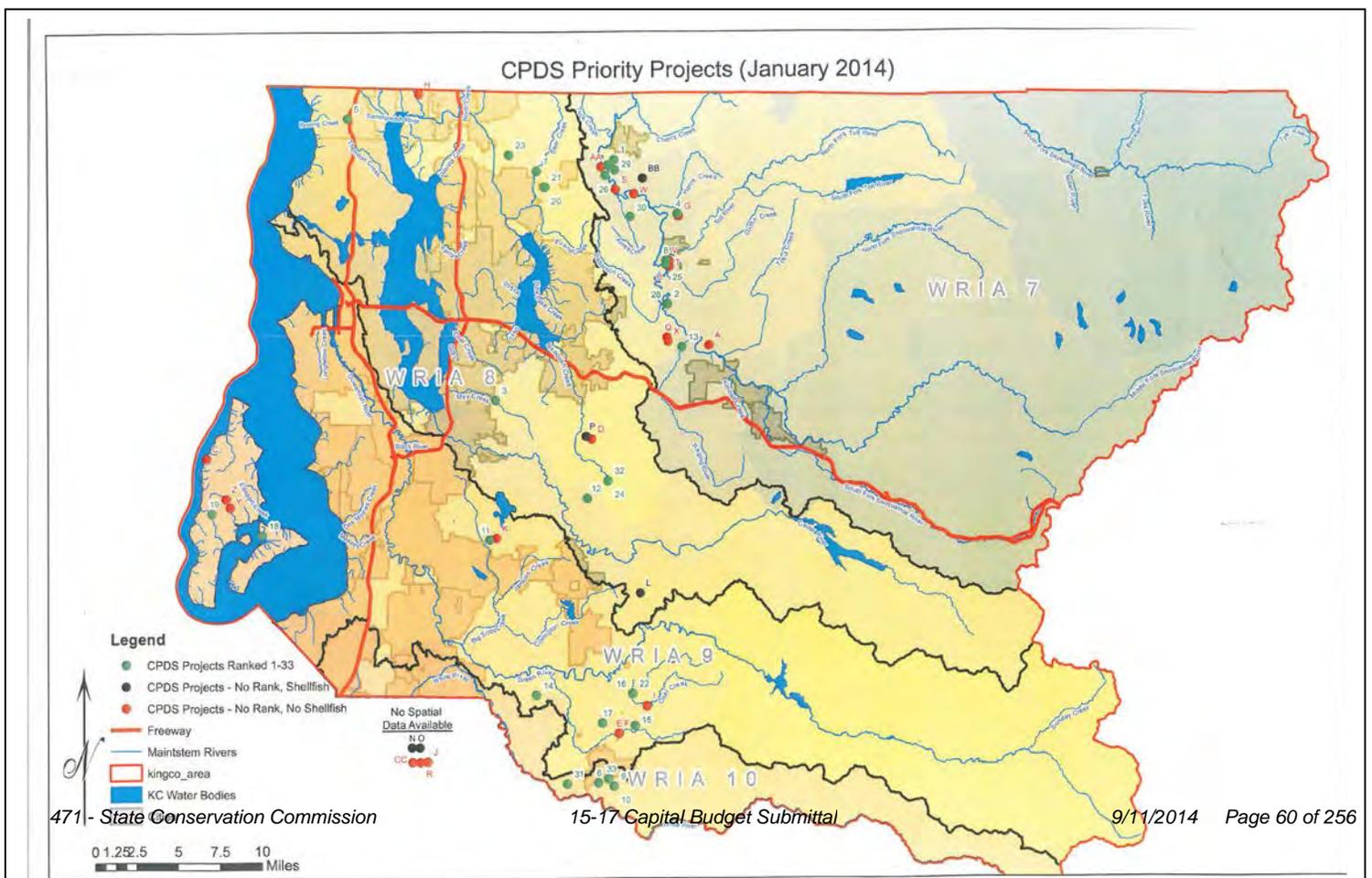
**Operating Impacts****No Operating Impact****Narrative**

Operating funded activities at the local conservation district level will support development and identification of projects.

## Targeted Implementation of Shellfish Funding – An Example

In the 2013-15 capital budget, the State Conservation Commission (WSCC) was appropriated \$4.5 million to implement projects that would protect and improve water quality in support of shellfish harvest areas. One of the goals of the WSCC in the implementation of this shellfish funding is to target the allocation of funding to on-the-ground projects that are near each other. By grouping projects there would be maximum potential for realizing a natural resource improvement. This is because there would be a cumulative benefit of the implemented projects.

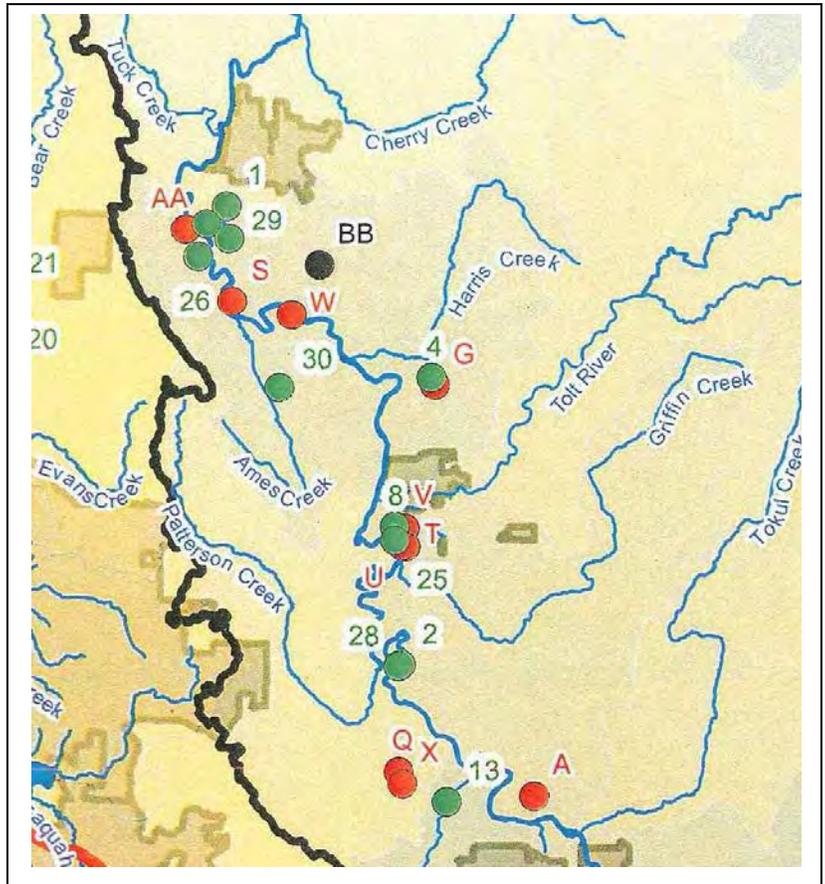
A challenge in implementing this approach has been the traditional manner in which capital funds are distributed. Traditionally, entities seeking capital funding would have their projects scored against a set of criteria and then ranked. These ranking typically result in projects scattered across a landscape with little focus. Here's one example: The map below shows proposed shellfish related projects in one county. Each dot represents a project and the number next to the dot represents the project priority. Projects are scattered across the county with the priority numbers jumping from place to place. Traditionally these projects would be funded down the priority list with no correlation to another project or even the project location.



But a closer look at the same map shows an area where there is a “cluster” of projects along the same river system and sub-basin:

Again, the numbers and letters next to each dot represents a priority rank, however clustering the projects and funding them as a group allows us to see if we can “move the dials” for the natural resource objective.

We anticipate over time as this approach is implemented with the shellfish funding that local entities will begin to identify projects as groups. Doing so will maximize the use of limited state funding in a more precise approach for resource results.





# WSCC Shellfish Funding Request for Additional Information

## District Information

District Name

Completed By

Email Address

Phone Number

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Project Name

Priority #

\*Note: If multiple practices are to be funded for the same project (landowner) please include the practices being requested for funding.

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The information provided below will be used to help determine projects that are appropriate for the receipt of shellfish funds, and to assist in sharing with the Governor, the Legislature and others.

Funding will be made available once this information has been reviewed and approved by Commission.

Allowed practices will be the existing practices used by conservation districts to address pathogen and nutrient inputs to surface waters.

For questions, please contact Ron Shultz, [rshultz@scc.wa.gov](mailto:rshultz@scc.wa.gov) or by phone at 360.407.7507

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Describe the shellfish benefit as it relates to the resource impact, whether a shellfish growing area or ocean acidification project. (For example: "Project will implement practices to reduce input of pathogens and nutrients into waters flowing to an identified shellfish growing area".)

Describe the extent to which the project is part of a Pollution Control Action Team (PCAT), a Pollution Identification and Correction (PIC) program, Voluntary Stewardship Program (VSP), or other collaborative program addressing local natural resource concerns.

Describe whether the project is identified in a local plan to address impacts to downgraded or threatened shellfish growing areas. Must identify the plan; identify the local process; and whether the district is involved in the process. For example:

- a. Is the project part of a local plan to address impacts to shellfish growing areas? - yes or no
- b. If your answer to "a" was yes, please identify the process.
- c. Is the district a part of the local process?
- d. Was the landowner referred to the district as part of the local process? - yes or no
- e. Is the shellfish growing area open for harvest (either recreational or commercial)?

If not addressing an impact to a shellfish growing area, does the project address a resource concern impacting ocean acidification issues? A resource concern impacting ocean acidification could include one or more of the following:

- a. Urban storm water
- b. Septic tanks
- c. Rural runoff from agricultural or other lands

**471 - State Conservation Commission**  
**Capital Project Request**  
 2015-17 Biennium

\*

**Version:** D1 2015-17 Capital Budget Request

**Report Number:** CBS002

**Date Run:** 9/9/2014 5:05PM

**Project Number:** 30000009

**Project Title:** CREP Riparian Cost Share - State Match

## Description

**Starting Fiscal Year:** 2014

**Project Class:** Grant

**Agency Priority:** 3

### Project Summary

Related to Puget Sound Action Agenda Implementation. In its 15+ years of implementation, the Conservation Reserve Enhancement Program (CREP) has demonstrated measureable natural resource improvement across the state. CREP is also a critical component in our state's strategy to address endangered salmon recovery. The riparian cost share funding sought in this request will provide the state match for federal funding. The state will provide 10% to match the federal 90% contribution. This proposal includes several attachments to provide additional background and implementation results information.

### Project Description

The Conservation Reserve Enhancement Program (CREP) is a voluntary program that offers financial incentives to farmers to restore riparian habitat (streamside trees and shrubs) and to preclude agricultural activities in those buffers during the contract duration (10-15 years). The program began in 1998 with the first signed contracts in 1999. It is cooperatively administered by the U.S.D.A. Farm Service Agency (FSA) and the Washington State Conservation Commission. The federal government pays approximately 90% of the total costs.

In Washington State, about 37% of salmon streams on private land pass through agricultural land use (USFWS and NMFS 2000). Because much of the agricultural land is located in or near historic floodplain-rich habitat, it is important that efforts continue to develop opportunities to not only improve riparian habitat for healthy watersheds, but also to maintain viable agriculture. Once land is converted to more intensive development (urban and industrial), environmental impacts increase and the prospects to preserve or restore habitat near streams greatly decrease. Between 1982 and 1997, about 20% of the farmland in the Puget Sound region was lost to other uses, especially in King and Snohomish Counties where urban growth has been high (Canty and Wiley 2004).

The primary focus of the Washington CREP is riparian buffer restoration and protection along salmon streams. This includes buffers along streamside wetlands. CREP areas become "no touch" buffers. Fencing and livestock watering facilities are installed on livestock farms to prevent their access to the buffers and stream. The newly planted native trees and shrubs are then actively maintained for five years to increase the likelihood of success. Maintenance primarily includes weed control and watering.

### Riparian Function Overview

Riparian areas include the land adjacent to streams, rivers, and marine nearshore environments, and serve as the interface between the aquatic and terrestrial environments. These zones are normally covered with grasses, shrubs and large trees depending upon the ecoregion type. Riparian habitat begins at the ordinary high water line and extends to that part of the terrestrial landscape that directly influences the aquatic ecosystem through shade, large woody debris (LWD), nutrients, organic and inorganic debris, or terrestrial insects. It includes the entire extent of the floodplain because that area interacts with the stream system during flood events. The riparian habitat area also encompasses the entire extent of vegetation adapted to wet conditions.

The type of vegetation within the riparian zone is crucial, as different types of vegetation have different functions. Tree and shrub roots hold stream banks together, stabilizing channels, decreasing erosion, and creating fish habitat (Bjornn and Reiser 1991, Montgomery and Buffington 1998). Overhanging trees shade water, maintaining cool water temperatures and contributing leaf litter,

which serves as food for the organisms that in turn provide food for fish (Bjornn and Reiser 1991, Bisson and Bilby 2001, Naiman et al. 2001). Mature trees in the riparian zone also provide important functions when they fall into streams to become large woody debris (LWD) because LWD stabilizes streambeds and banks, holds spawning gravels, creates pools that provide resting areas for salmonids (Bilby and Bisson 2001). Grasses in the riparian zone filter pollutants from soil and aid in bank stability and sediment trapping (Knutson and Naef 1997, Welch et al. 2001, Fischer and Fischenich 2000). Invasive species such as reed canary grass and Himalayan blackberry are not effective at most riparian functions, and their rapid growth often replaces the native, functional plants that comprise a healthy riparian zone.

## **Proposed Project and Funding**

This request is to provide funds for developing plans and conducting landowner outreach to continue the Conservation Reserve Enhancement Program (CREP) with private landowners. CREP is a program that was developed in Washington State to address important habitat for salmon listed under the Endangered Species Act. CREP projects include the planting of native trees and shrubs while removing livestock and agricultural activities from the riparian area of streams. These riparian areas are among the most sensitive and important ecological areas within a watershed, supporting a wide variety of fish and wildlife species. Healthy riparian buffers also improve water quality for human uses, such as improved drinking water, recreational use, and cleaner water draining into shellfish beds. The buffers are preserved under 10-15 year renewable contracts with the federal government (Farm Service Agency). Because the federal government pays rental payments for these buffers, this program restores sensitive riparian areas without negative financial impacts to farmers and other private landowners. In the past decade, CREP has become the largest riparian restoration program in the state with over 13,000 acres of buffer installed along 700 miles of stream.

The U.S. Department of Agriculture through the Farm Service Agency provides up to 80% of the funds for this program, which greatly leverages state dollars spent on salmon habitat restoration and water quality improvements, making this a very cost-effective way for Washington State to restore and preserve salmon habitat. The funds also support local private-sector employment, such as plant nurseries, land preparation, and employs private-sector labor to plant and maintain the buffers. We estimate that about 116 jobs will be maintained or created with federal and state funding for this program in a two-year period. In addition, the federal government pays rental payments to the farmers for these buffers, which provides local farmers with increased income.

CREP contributes to the Conservation Commission's strategic plan by supporting Conservation Districts in their effort to help landowners conserve and sustain resources. Specifically, CREP provides funding to restore riparian buffers to a forested condition, and through contracts, protect this buffer for 10-15 years. The buffers are developed according to scientific standards developed by the Natural Resources Conservation Service with the existing maintenance program of up to five years. This maintenance is important to assure successful growth and survival of the native plants and eradication of invasive species until the installed trees are established to the extent that they can survive well on their own. Without this maintenance, there would likely be a loss of investment due to plant death and spread of invasive plants. CREP sites are regularly inspected and monitored for compliance and accountability, and the Conservation Commission requires Conservation Districts to adhere to documented performance measures.

The Washington CREP contributes to many important agency and statewide goals and needs. The Washington Conservation Commission strategic plan has several goals that will be aided by CREP. These are:

1. *Sustain or improve fish habitat.* CREP restores and protects riparian areas around salmonid streams, directly improving fish habitat and water quality.
2. *Changing individual behavior and choices.* CREP provides on the ground examples to the private landowner that restoring and protecting natural resources can be a mutually beneficial choice.
3. *Improve, maintain, and restore water quality.* CREP results in the restoration and protection of trees and shrubs alongstreams, which is one of the most important actions towards improving water quality. The trees and shrubs cool water temperatures (shade), increase oxygen levels (from decreasing temperatures), decrease sediment inputs, and filters out pollutants. In addition, CREP provides funds for farmers to fence the riparian areas so that livestock cannot access the streams. This improves water quality by decreasing pollutants and sediment inputs.
4. *Improve watershed health.* Restoration and protection of riparian areas are vital to watershed health. Functional riparian zones improve many aspects of watershed health such as water temperatures, oxygen levels, pollutants, stream flow, sediment inputs, floodplain habitat, primary productivity, and instream habitat such as wood and pools for fish use.
5. *Increased productivity of land and natural resources.* CREP improves the productivity of the watershed by increasing the watershed health, increasing primary productivity, and addressing a key limiting factor to salmon production in our state.

CREP also contributes to statewide goals. In every recovery region of Washington State, degraded riparian habitat has been identified as a major factor limiting the recovery of salmon listed under the Endangered Species Act (Governor's Salmon Recovery Office 2006). CREP is an important solution for this problem. It is the largest riparian restoration program in the state,

and has highly trained, specialized staff to implement this high quality program. Federal standards must be met, and oversight and accountability is high with inspections from Conservation Districts, the Conservation Commission, the Natural Resources Conservation Service, and the Farm Service Agency. The Conservation Commission requires districts to meet performance standards and report accountability measures twice a year, and we randomly field visit sites to assure implementation and effectiveness success.

In addition, one of the main goals of the Department of Ecology is to “prevent water pollution including aquatic habitat loss, and ensure adequate water quality and quantity to meet beneficial uses”. CREP results in decreased pollutants, improved aquatic habitat, and improved water quality, thereby contributing to water quality goals for the state.

### **CREP Monitoring Reports**

Each year, a randomly-selected group of CREP sites is monitored by the Conservation Commission for effectiveness. Below are the links to each of the annual reports that include this monitoring:

2013 Implementation and Effectiveness Monitoring Results for the Washington CREP: Buffer Performance and Buffer Width Analysis – Describes the methodologies and results for both implementation and effectiveness monitoring assessments in the Washington State CREP from its origins in 1999 through the 2013 calendar year. The report also examines the current CREP buffer width status and discusses some likely outcomes if the CREP minimum buffer width is increased.

CREP Effectiveness Monitoring Report 2012 - This provides program measurables for 2012 and cumulative totals. It also analyzes plant growth by species and plant species composition in the buffers.

2011 CREP Annual Report - Includes measurables for 2011 and cumulative totals. Also analyzes targeted watersheds for changes in water temperature and salmon numbers.

### **Accomplishments**

In 2012, we reached a milestone by surpassing 1,000 contracts. We currently have 1,021 CREP projects across the state. CREP projects cover 13,662 acres along 735 miles of streams, likely making CREP the largest riparian restoration program in Washington.

More than 5.2 million native trees and shrubs have been planted, including nearly 1 million in Whatcom County alone.

CREP buffers are “no touch” buffers. Animals must be excluded. To that end, more than 1.5 million feet of fencing has been installed by this program.

### **Results**

CREP plants are growing and surviving well with growth ranging from 10.6 to 29.3% per year, and site survival averaging 75-90%.

Cooling summer water temperatures for salmon is an important goal for CREP. CREP sites that are 5-10 years old are already averaging 72% canopy cover along small streams. This is a remarkable result!

In areas where CREP has been targeted so that most of the stream has been restored, benefits to water temperature and salmon have been seen.

In the Tucannon River, 79% of the riparian has been restored and in response, summer water temperatures have dropped about 10 degrees and young salmon are using areas of the river that were previously too warm for them.

### **Changing the Face of the Landscape**

“CREP has changed the landscape in Whatcom County” (Wayne Chaudiere, Whatcom Conservation District). Riparian buffers, now span 132 miles of stream in Whatcom County, forming a panorama of native tree and shrub forests that were just recently open fields or invasive plant species such as blackberry.

### **Awards and Accolades for CREP**

Whatcom Conservation District received the Puget Sound Champion Award in December 2012 for their extensive CREP buffer work. They have restored more than 2300 acres of riparian habitat in their district. In the Walla Walla County Conservation District, Drs. Sato and Nakagawa recently visited from Japan. They've been studying various riparian programs around the world and found the Walla Walla CREP to be the most advanced and successful of those that they've visited. They are selecting the program as the template by which Japan will design their riparian restoration programs. [see attached letter from the Institute] As part of their 25th anniversary of the federal Conservation Reserve Program, the Farm Service Agency awarded their State Conservation Stewardship award to the Schulke family in Walla Walla County for their use of CREP to restore over 260 acres of family farmland for fish and wildlife habitat.

### **Business Problem Driving this Request**

Much of Washington State has ESA-listed salmonid species in its streams, and degraded riparian habitat is identified as a key limiting factor to salmon populations (Governor's Salmon Recovery Office 2006). In addition, 37% of salmon streams on private land pass through agricultural lands (NMFS and USFWS 2000). For these reasons, it is important to improve riparian habitat on agricultural lands to make progress towards salmon recovery.

CREP directly improves water quality in several ways. The buffers filter pollutants from farmland and help remove excess sediment, fecals, and chemicals before they reach the stream. The CREP trees shade the rivers to keep water temperatures cool and oxygen levels high. The leaf litter increases the productivity of streams, enhancing the food web, and the plants in the buffer provide food and shelter to many other wildlife species. Currently, nearly all of our basins have streams with 303(d) listings, which means they have failed to meet water quality standards (DOE 2004). CREP is an important tool to assist in water quality improvements in our state. This is also important for compliance with the Clean Water Act.

This voluntary program allows the state and conservation districts to focus on success and implementation rather than a regulatory approach to dealing with non-point sources of pollution. Regulatory activity would be far more expensive, create an environment of distrust, and potentially lead to expensive litigation for the regulatory agencies. The Growth Management Act and Shoreline Master Programs are just two examples of such regulatory frameworks. They have not resulted in the benefits seen to-date with the CREP program.

### **Specific Benefits of this Project**

- Greatly leverages state dollars spent on salmon habitat restoration and water quality improvements because the federal government provides up to 80% of the funds for this program.
- The money, including the 80% leveraged from the federal government, also supports local private-sector jobs, many of which are located in rural areas where such jobs are needed. About 116 jobs will be maintained or created mostly in rural areas due to this program. These are jobs directly created by these funds. Several additional million dollars are paid by the federal government to farmers who enroll in this program. Those create more jobs that are in addition to the estimate we provided for direct jobs.
- Improves water quality for both humans and wildlife. These improvements include water temperature, dissolved oxygen, decreased sediments, and decreased pollutants. Contributes towards compliance with the Clean Water Act.
- Contributes to salmon habitat. Addresses a key limiting factor for ESA-listed salmon, which will lead to increased salmon production and aid the fisheries industry (Governor's Salmon Recovery Office 2006).
- Increases private landowner awareness and cooperation regarding the restoration and protection of natural resources.
- Provides a way for farmers to continue to farm while also improving watershed health.
- CREP has proven success with plant survival rates of 87-95%, plant growth rates of 13-20" per year, and the proven ability to provide 70% shade to streams after only 4-7 years after planting.

### **Impact on clients and services**

- CREP has economic benefits including federal rental payments to local farmers and providing private-sector jobs (116 direct jobs) for people who grow plants and prepare and maintain the land that is planted with the buffers.
- CREP aids the state budget by infusing an 80% match of federal funds into our economy, while improving greatly needed salmon habitat and water quality.
- CREP aids the landowner by providing financial incentives to improve salmon habitat and watershed health. This experience often results in a positive change in outlook regarding environmental issues.
- CREP aids the state by improving water quality for both humans and wildlife. It also contributes towards compliance with the federal Clean Water Act.
- CREP aids the state by improving salmon habitat, contributing towards recovery goals for ESA-listed salmonids. Improvements in salmonid populations also have an economic value in their fisheries.

### **Impact / Relationship to Other State Programs or Units of Government**

- Washington Department of Fish and Wildlife. Improvement of fish habitat contributes towards increased fish production and contributes to the progress towards salmon recovery and other fish and wildlife habitat needs.
- Washington Department of Ecology. Improvement of water quality reduces their need for Total Maximum Daily Load (TMDL) analyses and addresses one of their key goals of maintaining good water quality in Washington State.
- Governor's Salmon Recovery Office. Degraded riparian habitat is listed as a major limiting factor in every one of their recovery plans for ESA-listed salmon. CREP provides on the ground restoration of this key habitat, and has proven success after 11 years of experience.
- Governor's Office and the Puget Sound Partnership. Improvements in water quality and riparian habitat are an identified need in the Puget Sound Action Agenda.
- Puget Sound Stormwater Workgroup. Restoration of riparian habitat results in improved water quality. This is one of the goals of the Puget Sound Stormwater Workgroup.
- Washington State Indian Tribes. Improving salmon habitat is a key interest to the tribes, who depend upon fisheries for much of their livelihood.
- Department of Health. Reducing livestock access to streams and decreasing nutrients from farms into streams improves water quality for human health. Many of our streams are used for human water supplies and recreational uses as well as drain into marine areas important for shellfish consumption.
- National Oceanic and Atmospheric Administration and U.S. Fish and Wildlife Service. CREP improves salmonid habitat for ESA listed species managed by these two agencies.
- Environmental Protection Agency. EPA is a co-steward along with DOE and the tribes to implement the Clean Water Act in our state. Improved water quality conditions aid their mission as well as ours.

### **Alternatives explored by agency & why is this the Best Option or Alternative**

One alternative is to not offer the program. This would result in much slower progress towards salmon recovery and less compliance with the federal Clean Water Act. In the last decade, CREP has restored over 13,000 acres of riparian habitat and improved over 700 miles of stream. It is unlikely that many private landowners and farmers would improve the habitat without the financial and technical assistance that CREP provides. It has also leveraged the use of several millions of federal dollars into our state each biennium because of the approximate 90% match provided by the Farm Service Agency. This creates private-sector jobs and provides an economic stimulus while tapping into federal funds that would go to other states if we were unable to provide the necessary 10% match with state funds. The 10% match is partially provided by this decision package. The remaining match is provided by the CREP cost share decision package.

Another alternative is to rely on other programs, such as the Salmon Recovery Funding Board. However, their funds are scattered among many different types of projects, and do not focus on riparian habitat. By specializing in riparian restoration, we tap into experts who conduct this work on a daily basis, thereby increasing the rate of success of our investments. In addition, rental payments and on-going maintenance are not often provided in other funding sources, reducing private landowner participation and success of the projects. Perhaps the most important point is that up to 80% of the cost of CREP is covered by the federal government, which greatly leverages our state dollars towards salmon habitat restoration.

### **Required changes to existing RCW, WAC, contract, or plan:**

None.

### **Agency's Proposed Funding Strategy for the Project**

State funding of 2.231 million dollars per biennium leverages up to another 8.9 million dollars in federal funds that directly restore salmon habitat and improve water quality in our state. The federal funding pays for most of the restoration costs and all of the land rental costs. The state dollars pay for the planning costs, program marketing, maintenance of plants, and 10% of the restoration costs.

**Expenditure calculations and assumptions:**

The expenditure calculations were based upon past spending levels and the operating budget of CREP TA which funds the project planning. This operating budget limits the growth of the program, and until it is increased significantly, the program needs will continue to be at the present level.

Capital Funding Package	30000009	30000012
CREP Coordinator	0.5 FTE	0.5 FTE
Salaries	65,000	65,000
Benefits	19,500	19,500
Goods & Services	5,000	5,000
Travel*	10,000	10,000
Grants for landowner projects	2,500,500	2,131,500
Total Budget	2,600,000	2,231,000

\*travel costs expected to be higher this biennium do to hiring a replacement coordinator. Previous coordinator hired by ECY.

**Effects of non-funding:**

Not funding this package would result in the end of this program. To-date, this program has restored over 13,000 acres of riparian buffer (700 miles of stream) predominantly located along our largest, most important rivers in the state. The majority of CREP projects focus on salmonids that are listed under the Endangered Species Act. Riparian habitat has been listed as a major limiting factor affecting listed salmon in every salmon recovery region. The cessation of CREP would end most of the recovery actions for riparian conditions on agricultural lands, and would slow progress towards salmon recovery. It would also end the infusion of several millions of federal dollars into our state each biennium for this program, which would have a negative economic impact and reduce private-sector employment, cutting at least 116 private-sector jobs per year.

Not funding CREP would also end restoration actions that are important for compliance with the Clean Water Act.

**Key Stakeholders / Organizations Involvement and Positions:**

CREP has support from a wide variety of groups. NOAA and USFWS have expressed support for the program due to its success in restoring salmon habitat. We've also met with several agricultural groups who have expressed support including the Western Washington Agricultural Association, the Washington State Dairy Federation, Washington Cattlemen's Association, the Washington Farm Bureau, and the Washington Department of Agriculture. CREP is also an important component in salmon habitat restoration and is used by many salmon recovery boards as part of their strategy to address ESA listings.

**Proviso**

Not a budget proviso, but a contract Memorandum of Agreement signed by the State of Washington and USDA, agreeing to the program and its associated costs.

**Location**

<b>City:</b> Chehalis	<b>County:</b> Lewis	<b>Legislative District:</b> 020
<b>City:</b> Clarkston	<b>County:</b> Asotin	<b>Legislative District:</b> 009
<b>City:</b> Dayton	<b>County:</b> Columbia	<b>Legislative District:</b> 016
<b>City:</b> Ellensburg	<b>County:</b> Kittitas	<b>Legislative District:</b> 013
<b>City:</b> Lake Stevens	<b>County:</b> Snohomish	<b>Legislative District:</b> 044
<b>City:</b> Lynden	<b>County:</b> Whatcom	<b>Legislative District:</b> 042
<b>City:</b> Montesano	<b>County:</b> Grays Harbor	<b>Legislative District:</b> 019
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 010
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 040
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 007
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 012
<b>City:</b> Pomeroy	<b>County:</b> Garfield	<b>Legislative District:</b> 009
<b>City:</b> Port Angeles	<b>County:</b> Clallam	<b>Legislative District:</b> 024
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 011
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 033
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 037
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 041
<b>City:</b> Shelton	<b>County:</b> Mason	<b>Legislative District:</b> 035
<b>City:</b> South Bend	<b>County:</b> Pacific	<b>Legislative District:</b> 019
<b>City:</b> Tumwater	<b>County:</b> Thurston	<b>Legislative District:</b> 022

City: Unincorporated  
 City: Unincorporated  
 City: Walla Walla

County: Jefferson  
 County: Wahkiakum  
 County: Walla Walla

Legislative District: 024  
 Legislative District: 019  
 Legislative District: 016

**Project Type**

Grants

**Grant Recipient Organization:** Conservation Districts

**RCW that establishes grant:** RCW 89.08

**Application process used**

Monitoring is an important component of habitat restoration. Without it, there can be no knowledge of what's been done, where it has been done, and no measurement of success in the investments and techniques. Implementation monitoring of CREP tracks how much has been done. These measures are: acres treated, stream miles restored, number of contracts, feet of fencing installed, and number of plants planted. The implementation monitoring data is used to show program performance to the Office of Financial Management, the legislature, and the Farm Service Agency. It is also used for management purposes within the Washington Conservation Commission to allocate funds and better manage the program.

**Growth Management impacts**

Under GMA, all jurisdictions are required to designate resource lands of long-term commercial significance. These lands include agricultural, forestry and mineral resource lands. Furthermore, jurisdictions planning under the GMA must designate and protect critical areas, which include wetlands, critical wildlife habitat, aquifer recharge areas, geologic hazards, and frequently flooded areas. This proposal supports these local requirements and objectives through the implementation of on-the-ground projects. All locally implemented projects are planned and implemented in a manner consistent with local comprehensive plans and ordinances.

**Funding**

Acct Code	Estimated Account Title	Total	Expenditures		2015-17 Fiscal Period	
			Prior Biennium	Current Biennium	Reappropriations	New Appropriations
057-1	State Bldg Constr-State	16,590,000		1,790,000	800,000	2,600,000
<b>Total</b>	<b>16,590,000</b>	<b>0</b>	<b>1,790,000</b>	<b>800,000</b>	<b>2,600,000</b>	
		<b>Future Fiscal Periods</b>				
		<b>2017-19</b>	<b>2019-21</b>	<b>2021-23</b>	<b>2023-25</b>	
057-1	State Bldg Constr-State	2,600,000	2,800,000	3,000,000	3,000,000	
	<b>Total</b>	<b>2,600,000</b>	<b>2,800,000</b>	<b>3,000,000</b>	<b>3,000,000</b>	

**Operating Impacts**

**No Operating Impact**

**Narrative**

The CREP program has been highly successful and cost effective. Due to its ability to bring 80% federal funding into the state, it is a wise method to not only improve watershed health, but also stimulate local economies and private-sector employment. Costs are similar to past years and are expected to remain at this level for the near future. This budget request also relates to the CREP Practice Incentive Payment Loan Program request.



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30 August 2014

Dear Sir,

I am taking this opportunity to contact you in regards to the great conservation work going on in southeastern Washington. I manage The ILEK Project at the Research Institute for Humanity and Nature, the national research institute dedicated to solution-oriented research on the global environmental problems in Japan. ILEK is Integrated Local Environmental Knowledge Project that looks at scientific knowledge bases of local approaches to environmental issues and how these bottom up approaches succeed due to partnerships, understanding of local culture and willingness to work together across a broad spectrum of organizations and individuals including scientists to change local current directions for long term solutions. Over the last five years my team and I have been visiting habitat restoration projects across this portion of Washington State in search of solutions to great environmental challenges that we all face now and into the future at a global level. We have taken looks at many types of successful habitat restoration projects, from fish habitat restoration, to in stream barrier removal projects, to riparian restoration projects such as CREP. We are amazed by the CREP program and its great success as a bottom up, voluntary, incentive based approach to consistent conservation on the ground. We strongly support all that this FSA/WSCC program has brought to the table and the ability to restore badly needed riparian habitat restoration across this region. Our visits have taken us to Walla Walla, Columbia and Garfield CDs along with tours of Snake River Salmon Recovery Board projects. Larry Hooker, Dr. Carol Smith and Mike Denny have lead these tours and introduced us to many project managers and their projects. CREP is of primary interest due to issue-driven and solution-oriented approach integrating diverse stakeholders to achieve measurable water quality changes, temperature reduction, wildlife habitat restoration and fish habitat enhancement. I and the ILEK Project team see CREP as a very important tool to establish sustainable social systems to allow coexistence of human activities and natural habitats across the heavily impacted

Columbia River basin over time. This riparian restoration program holds great promise for other areas on this planet.

In closing I wish to thank the Washington State Conservation Commission and its many partners for this outstanding program you call CREP. After visiting many CREP sites in the Walla Walla, Columbia and Garfield CD areas, I and the ILEK Project team are deeply impressed with changes brought about and excited about our research of these areas to come.

Sincerely,

A handwritten signature in black ink, appearing to read 'T. Sato', written in a cursive style.

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ILEK Project (Project Leader)  
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# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- *Improvements to water quality in Whatcom County resulted in the reopening of Portage Bay shellfish beds.*
- *Over one million trees planted in Whatcom County through CREP.*
- *Whatcom Conservation District worked with private landowners to plant 359 CREP projects, restoring 2,375 acres of riparian areas and 166.6 miles of stream.*

## WHATCOM CONSERVATION DISTRICT - OVER 1 MILLION TREES PLANTED IN EFFORT TO PROTECT SALMON AND SHELLFISH HABITAT

Degraded riparian (streamside) conditions and water quality are key limiting factors in the recovery of endangered salmon and steelhead in Washington State. Shellfish beds are also adversely affected. Through the Conservation Reserve Enhancement Program (CREP), Whatcom Conservation District offers incentives to landowners who voluntarily remove riparian areas from production and implement conservation practices.

**FINDING A COMMON PATH** CREP provides financial compensation to landowners who restore vegetated areas bordering streams, termed riparian buffers, that protect salmon and shellfish habitat. CREP buffers alleviate water temperatures, turbidity, fecal coliform, and nutrient inputs by providing shade and acting as filters. Whatcom Conservation District (WCD) has worked with private landowners to plant 359 CREP projects, which restored 2,375 acres of riparian areas and 166.6 miles of stream since 2000. Today, over one million trees have been planted in Whatcom County through CREP. WCD also used the program to install 196,861 feet of fencing, 11 livestock crossings, and 10 off-channel watering facilities in the county.

**RESULTS ON THE GROUND** Annual monitoring has shown that, since the program’s origin in 1999, CREP buffers are reducing water temperatures and addressing limiting factors for salmon and shellfish. In fact, improvements to water quality in Whatcom County have resulted in the reopening of the Portage Bay shellfish beds, and the Birch Bay beds may reopen this year (2014).

When a program such as CREP provides technical expertise, funding, and incentives, landowners are willing and sometimes eager to participate. With CREP there is little for the landowner to do other than watch the buffers grow and know that they have made a difference.

“I’m new with the CREP program, but my experiences with it have been very positive,” said Burton Jay, Whatcom County landowner. “... a plan was developed to solve the problem of 14 acres overgrown with reed canarygrass and blackberries and a salmon creek in need of shading. I was pleased that I could have input ...and look forward to returning the property to a more pristine condition.”

Left: Site visit before CREP planting



Right: Same site following CREP project implementation—the blue tree shelters (plastic tubing) mark new tree plantings





# Conservation in Washington: Powered by People



## MAKING AN IMPACT:

- 27 contiguous landowners planted riparian buffers.
- Summer water temperatures in Tenmile Creek dropped and are consistently below the threshold for salmon.
- Tenmile Creek is now the only lowland Nooksack River tributary that regularly meets goals for fecal bacteria set to protect the Portage Bay shellfish beds downstream.

## WHATCOM CONSERVATION DISTRICT - COMMUNITY OF LANDOWNERS RESTORE TENMILE CREEK

Tenmile Creek in Whatcom County was typical of many westside streams in agricultural areas: no buffers, high fecal bacteria levels, and water temperatures high enough to kill salmon. The Whatcom Conservation District (WCD) started working in the watershed ten years ago by establishing an advisory group of locals and a voluntary stewardship program to enlist landowners to improve the streams.

**FINDING A COMMON PATH** WCD secured funding, hired a watershed resident as project manager, and put together a diverse group of residents and other stakeholders to find solutions for long standing water quality problems. Landowners identified three goals for their watershed: improve drainage in agricultural areas, improve riparian (streamside) buffers by planting native trees or shrubs, and monitor water quality for improvements.

**RESULTS ON THE GROUND** Twenty-seven contiguous landowners agreed to plant riparian buffers following drainage maintenance. Eventually, 12.5 miles of stream bank was restored with native tree and shrub plantings, large wood was placed in the stream for fish habitat,

and culverts that blocked fish passage were repaired. Once the major stream was totally shaded, water quality improved rapidly. Summer water temperatures dropped markedly and are now consistently below the threshold required by salmon. Fecal bacteria levels also dropped dramatically due to buffer installation and better stewardship. Tenmile Creek is now the only lowland Nooksack River tributary that regularly meets goals for fecal bacteria set to protect the Portage Bay shellfish beds downstream. The “Tenmile model” is now frequently used as a template for positive change on a watershed scale. Landowners there know what watershed they live in and understand the importance of stewardship for their downstream neighbors.

A prerequisite of asking landowners for change is to listen to their needs. In this case landowners were interested and willing to improve their water but first needed to address drainage. Once their needs were addressed, a sense of community was created and real lasting changes were initiated.

“We understand the stream needs to be a maintained system,” said Dorie Belisle, Project Coordinator and landowner. “This is true for every stream running through productive agricultural land. Protecting fish and farming is an ongoing project using adaptive management to meet the needs of both farmers and the natural resource.”

Tenmile Creek before (left) and after landowners worked together to restore stream bank (right)





# Conservation in Washington: Powered by People

## MAKING AN IMPACT:

- *Water temperature reduced more than 10 degrees F within primary spring Chinook spawning/rearing reaches.*
- *Issued 35 CREP contracts with landowners, covering 1,063 acres.*
- *Implemented 50-mile geomorphic assessment of the Tucannon River.*

## COLUMBIA CONSERVATION DISTRICT: RESTORING SALMON HABITAT

The Tucannon River supports four ESA-listed species: steelhead, bull trout, and spring and fall Chinook salmon. In 1992, Columbia Conservation District (CCD), Bonneville Power Administration (BPA), and the USDA-Natural Resources Conservation Service developed a watershed habitat restoration plan for the Tucannon. The plan and associated assessment revealed threats to salmon habitats and recovery potential, including high water temperatures, stream bank instability, lack of instream habitat diversity and complexity, and sedimentation.

**FINDING A COMMON PATH** In 1996, the CCD began partnering with private and public landowners, BPA, tribes, and state and federal agencies to implement Tucannon restoration projects. The Conservation Reserve Enhancement Program (CREP) became the District's primary tool to restore and protect the Tucannon's riparian (streamside) conditions. Administered by the Farm Service Agency and the Washington State Conservation Commission (WSCC), CREP offers landowners financial incentives for restoring and protecting

riparian habitat on their property. The District's CREP projects complemented their other efforts in the watershed to improve instream and floodplain habitat, increase instream flows using the WSCC's Irrigation Efficiencies program, and implement conservation tillage practices to reduce nonpoint sediment loading.

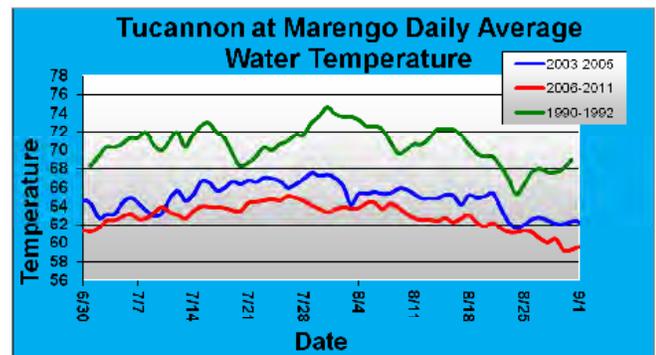
**RESULTS ON THE GROUND** The CCD issued 35 CREP contracts with landowners covering 1,063 acres, and they secured eight Irrigation Efficiencies contracts that put 11.77 *cubic feet per second (cfs)* and 975 *acre feet (af)* of water into trust (1 cfs = 7.48 gallons, 1 af = 43,560 cubic feet). They also installed 52 irrigation diversion screens, reduced tillage practices with reduction in cobble embeddedness/TSS (total suspended solids) to <20%, and completed multiple instream habitat enhancement projects. Restoration actions contributed to a temperature reduction of more than 10 degrees F within the primary spring Chinook spawning/rearing reaches (RM 26.9). These resource improvements led CCD, with support from BPA and the Salmon Recovery Funding Board, to implement a 50-mile geomorphic assessment of the Tucannon River, including LiDar flights. The assessment identified resource conditions, salmonid habitat limiting factors, and helped plan future restoration actions for continued habitat improvement. Current focus is on the 45 prioritized projects identified in the assessment effort.

Resource restoration and recovery success is dependent on; 1) landowner involvement, support, and trust in a voluntary and incentive-based approach, and 2) committed multi-year funding source(s). Conservation Districts' non-regulatory status and locally led processes involving landowners in the early development stages is a critical link in successful salmon restoration and recovery implementation and partnership development.

Left: Reconnected floodplain following dike/levee removal and modification.



Right: Temperature monitoring trend, Snake River Salmon Recovery Board.



# Conservation Reserve Enhancement Program (CREP)



Washington's CREP restores and protects streamside habitat for salmon. It provides financial incentives to private landowners who voluntarily enroll. Most (80 percent) of the cost is paid by the federal government.

**Background** Salmon and shellfish are vital resources for economic, recreational, and ecological reasons. Unfortunately, in Washington State these species are threatened by water pollution and loss of riparian (streamside) habitat.

One successful approach for protecting salmon and shellfish has been to restore native trees and shrubs in vegetated areas bordering streams, termed riparian buffers. This improves water quality and habitat in several ways:

1. Shade provided by tree and shrub canopy cools water temperatures, which is important for salmon.
2. Leaf litter and plants provide nutrients and promote insect production, which provides food for fish and wildlife.
3. Plants filter pollutants from nearby managed agricultural lands. This cleans water before it reaches streams and shellfish beds.
4. Trees that fall into streams provide habitat for fish and help shape streams to a more natural condition.

Bottom left: CREP project at year 1. The blue tree shelters (plastic tubing) mark new CREP tree plantings.

Top right: Tree growth at same CREP project three years later.

Bottom right: Same CREP project at year 7.



**The Solution** The Conservation Reserve Enhancement Program (CREP) offers incentives to landowners who are willing to remove riparian areas from production and implement conservation practices.

There are more than 1,100 CREP projects in Washington. These projects cover nearly 14,000 acres along 800 miles of stream, making it the largest riparian restoration program in the state. Buffer widths can range from a minimum of 35' to 180' from the stream edge. However, the program's average buffer width is 142'.

Animals must be excluded from CREP buffers, so the program also has installed more than 1.5 million feet of fencing.



CREP is voluntary. It is the strongest tool Washington has to advance riparian projects on private lands that benefit salmon and shellfish.

Right: CREP buffer along Kamm Creek in Whatcom County. The creek is nestled in the newly established forest and is shaded completely. In the foreground is the Nooksack River, which is not buffered with CREP. In the background is the City of Lynden.



**How it Works** CREP is a federal program administered by the Farm Service Agency with state-level management at the Washington State Conservation Commission (WSCC). CREP is funded under the Farm Bill—the Farm Service Agency pays 80 percent of program costs, and state dollars cover the remaining 20 percent.

The WSCC provides program oversight and funding for conservation districts to secure CREP contracts with willing landowners. All of the costs for installation of conservation practices are paid for by the program. In addition, CREP provides maintenance for about five years after planting to assure success, with continued oversight throughout the duration of the contracts. Landowners are paid rent for allowing their land to be used for fish and wildlife improvements and receive a monetary bonus for signing up. Interested landowners should contact their local conservation district.

**Success on the Ground** Many Washington conservation districts and landowners use CREP as a tool to protect and restore salmon and shellfish habitat.

The following is just a sample of results accomplished by Washington landowners who have enrolled in CREP:

- Columbia Conservation District — restored 79 percent of the Tucannon River riparian area. In response, summer water temperatures have dropped about 10 degrees and young salmon are using areas of the river that were previously too warm for them.
- Whatcom Conservation District — water temperatures have significantly improved in the Nooksack's Ten-Mile Creek after installation of many CREP and other riparian projects.



**Washington State  
Conservation  
Commission**

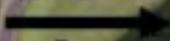
### Contact Information

Carol Smith, Ph.D.  
CREP Manager  
Washington State Conservation Commission  
Email: [csmith@scc.wa.gov](mailto:csmith@scc.wa.gov)  
Phone: (360) 407-7103



**Lynden**

**Kamm  
Creek**

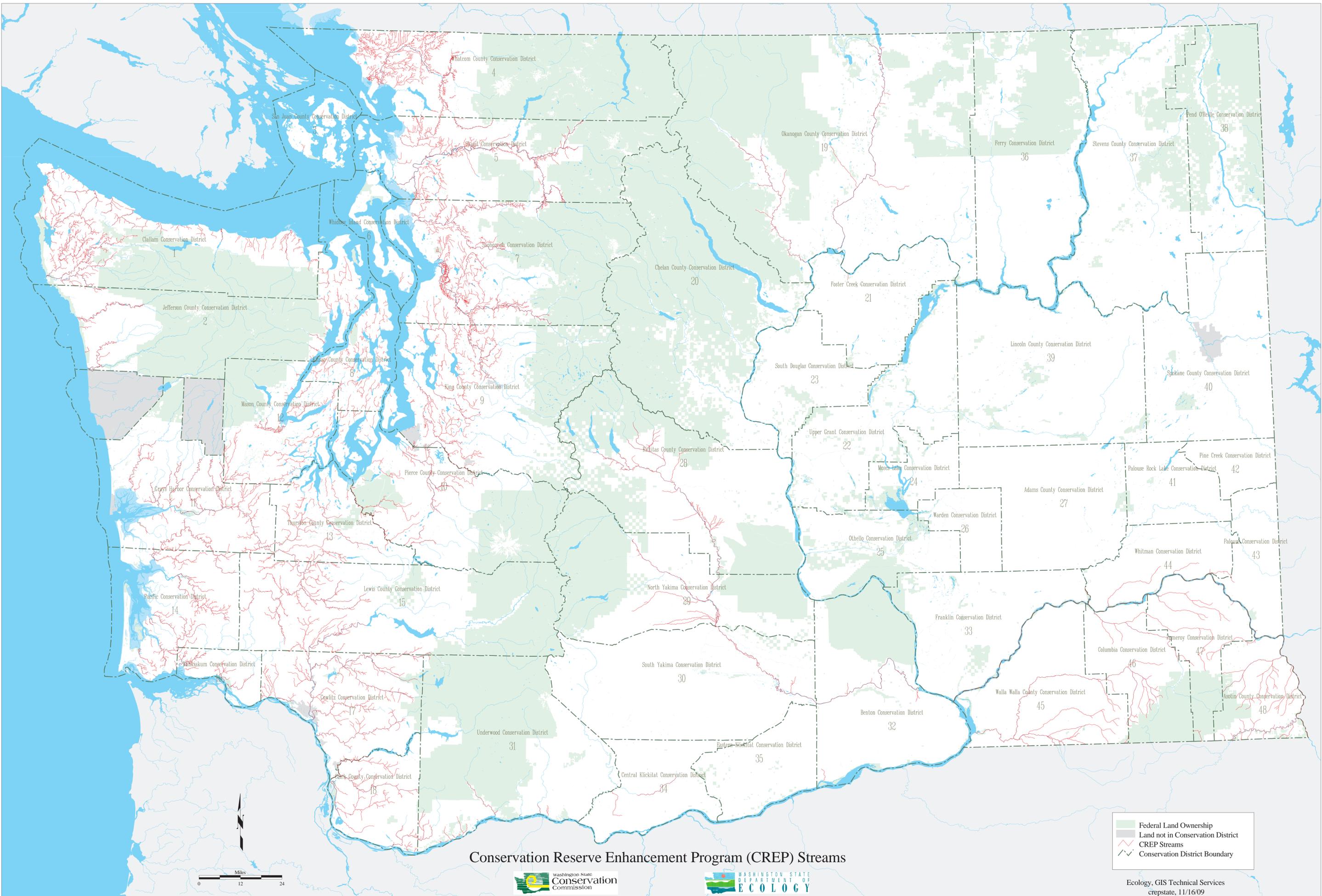


**CREP  
Buffer**



47115 State Route 256, Lynden, WA 98281

**Nooksack River**



Conservation Reserve Enhancement Program (CREP) Streams

- Federal Land Ownership
- Land not in Conservation District
- CREP Streams
- Conservation District Boundary





A photograph showing a landscape with a pond in the middle ground, a white fence, and a dirt path in the foreground. The background is a dense line of trees under a blue sky. The text '471 - State Conservation Program Budget FY 2014' is overlaid on the bottom left, and 'Page 81 of 256' is overlaid on the bottom right.

471 - State Conservation Program Budget FY 2014 Page 81 of 256



471 - State Conservation Capital Budget FY2014 Page 82 of 256

# **The Washington State Conservation Reserve Enhancement Program: 2011 Accomplishments and Cumulative Program Benefits for Salmon Recovery**

**February 2012**

**Carol J. Smith, Ph.D.**

**Washington State Conservation Commission**



**Photograph courtesy of  
Whatcom Conservation District**

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## Executive Summary

The Washington State Conservation Reserve Enhancement Program (CREP) has been restoring and protecting riparian habitat along salmonids streams since 1999 with new contracts added each year. In 2011, 48 new contracts were signed, resulting in a cumulative total of 964 projects spanning 708 stream miles and 13,223 acres of riparian buffer.

Monitoring by the Washington State Conservation Commission shows that CREP buffers grow quickly to provide an average of 66% shade coverage to streams when plantings are four years old or more compared to only 15% shade in younger contracts. This shows the success of the trees to supply shade, but has CREP benefited water quality and salmon populations? The Washington CREP is now in its 13<sup>th</sup> year, old enough to begin assessment of broader scale benefits. To that end, watershed-based data were examined to assess effect of increased riparian health, including shade, on water temperatures and salmon populations.

Two criteria were required for this assessment. A stream must have a substantial amount of buffer enrolled in CREP and have water temperature data that spans throughout the program existence. In addition, salmonid population data is desired. It was rare to find all of the criteria in a single watershed, but all data types existed in the Tucannon, a tributary to the Snake River, and some of the criteria were found in Tenmile Creek, a tributary to the Nooksack River.

The Snake River region embraced CREP from its inception. The Tucannon River had a highly degraded riparian condition prior to CREP enrollment. Since 1999, 1,100 acres have been restored through CREP. This meets about 79% of the stated recovery goal for riparian restoration in that stream (Steve Martin, Director, Snake River Salmon Recovery Board, personal communication).

This extremely targeted approach has resulted in impressive results. Prior to riparian buffer restoration, water temperatures often exceeded 80°F. Since 2005, the temperatures haven't reached 72°F, and last summer, did not reach 69°F. Water temperature scores developed by the Department of Ecology significantly improved during this same time period. More importantly, salmon have responded to this change. Prior to 2000, juvenile salmon were not seen in the lower 20 miles due to the warm water temperatures. Recent surveys documented high densities of juveniles in much of this same reach (Gallinat and Ross 2011). The returns of adult salmon have increased from about 50 in 1995 to around 2,500 in the year 2010.

In Tenmile Creek of the Nooksack Basin, similar water temperature improvements have been seen. About 28% of the stream is enrolled in CREP, and summertime maximum

daily water temperatures have decreased by about 6°F since the implementation of CREP. No salmon population information was available for this watershed.

The Washington State CREP has proven success enhancing riparian conditions. It is now maturing to the point where in targeted areas that have a significant percentage of restored riparian, coincident improvements in water temperature and salmon population can be demonstrated. Many other areas of Washington State remain in need of riparian restoration. Even though much riparian restoration has occurred, the existing need greatly outstrips the amount restored.

Currently, the greatest factor limiting the growth of CREP in Washington is state funding. The amount of funds available to provide technical assistance dropped 11% in the last two years, reducing the time available for staff to develop plans. In the last year, the state funding available to fund cost share and buffer maintenance was cut in nearly half. Once these funds are restored, program growth is expected to return to normal levels.

## **Program Background**

The Conservation Reserve Enhancement Program (CREP) is a voluntary program that offers financial incentives to farmers to restore riparian habitat and to preclude agricultural activities in those buffers during the contract duration (10-15 years). The program began in 1998 with the first signed contracts in 1999, and is cooperatively administered by the Washington State Conservation Commission and the U.S.D.A. Farm Service Agency (FSA). The federal government pays for approximately 80% of the total costs.

Degraded riparian habitat is one of the major factors limiting recovery of salmon and steelhead species that are listed as threatened or endangered under the Endangered Species Act in Washington State (Washington State Recreation and Conservation Office 2010). In Washington State, about 37% of salmon streams on private land pass through agricultural land use (USFWS and NMFS 2000), and because much of the agricultural land is located in or near historic floodplain-rich habitat, it is important that efforts continue to develop opportunities to not only improve riparian habitat for healthy watersheds, but also to maintain viable agriculture. Once land is converted to more intensive development (urban and industrial), environmental impacts increase and the prospects to preserve or restore habitat near streams greatly decrease.

Between 1982 and 1997, about 20% of the farmland in the Puget Sound region was lost to other uses, especially in King and Snohomish Counties where urban growth has been high (Canty and Wiley 2004). Statewide, there has been an estimated farmland loss of 4.3% in the years 1997 to 2007 (American Farmland Trust 2008). CREP provides funds to not only restore the riparian buffer for salmon and steelhead habitat, but also provides financial bonuses and rental payments to landowners to help maintain the viability of farms that participate in this environmental program.

This report describes the accomplishments of CREP and assesses the ability of CREP to affect water temperatures and salmon populations at the watershed level.

## **Washington CREP Accomplishments**

### **Accomplishments in 2011**

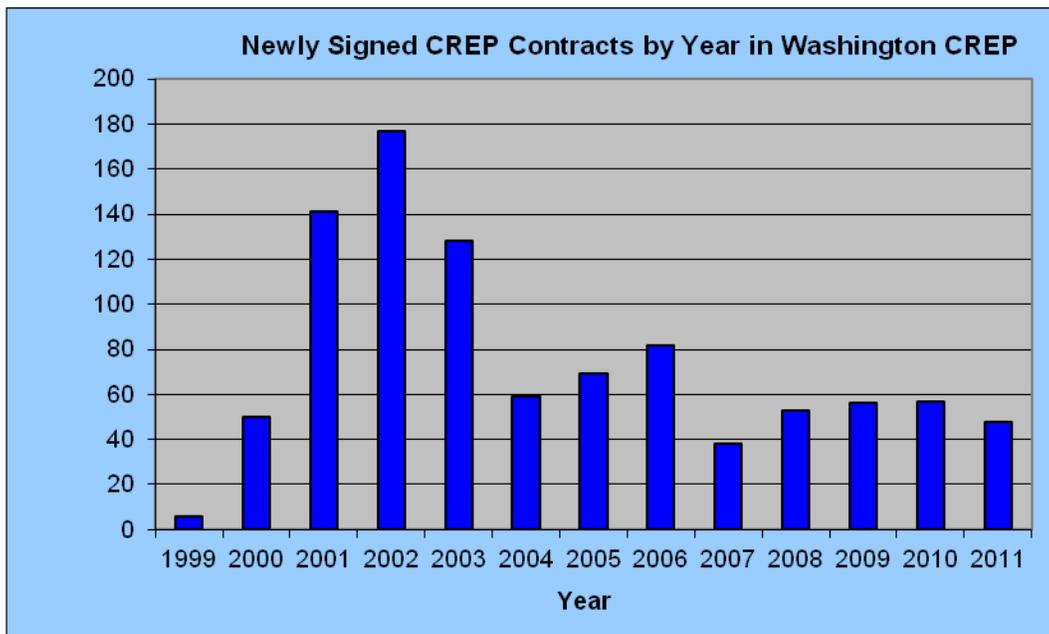
In 2011, 48 new CREP CRP-1 contracts were signed (Figure 1). This is a slightly lower number than in recent years, the result of reduced state funding to district staff to develop new plans. Forty two of the new contracts are forested riparian buffers (CP22 Buffer, NRCS practice code 391), which is one of four different riparian practices allowed in the Washington CREP. These new projects restored 15.7 miles of stream and 236 acres of buffer in 2011.

Wetland enhancement (CP 23, 23A, 30, NRCS practice code 659), riparian hedgerows (CP 22 Hedgerows, NRCS practice code 422), and grass filter strips (CP 21, NRCS practice code 393) are also allowed in different circumstances. Hedgerows are only eligible along small streams. Grass filter strips are limited to stream reaches that don't directly support salmon and steelhead, but flow into such reaches. This is because filter strips improve water quality from managed croplands, but do not contain trees that contribute towards salmon habitat. Of the 48 new contracts in 2011, two are hedgerows totaling 2.8 acres and spanning 4,563 feet of stream. Four of the new contracts are wetland enhancement totaling 7 acres and 7,527 feet of stream.

In 2011, 88,824 native trees and shrubs were planted. Washington CREP buffers are considered "no touch"; no management activities can occur within them. Therefore livestock must be excluded, and fencing and off-site watering facilities are funded to meet these objectives. In 2011, 26,034 feet of fence and five watering facilities were constructed.

The riparian hedgerows in CREP are planted to a high density of about 1,100 stems per acre. The plants are fast growing shrubs and deciduous trees and past experience has shown that these quickly provide canopy cover over smaller water courses (Figure 2). In the Washington CREP, hedgerows are only allowed on streams that are 15' or less bank-full-width because the smaller trees used in hedgerows will not adequate shade over wide streams.

**Figure 1. New CREP contracts per year.**



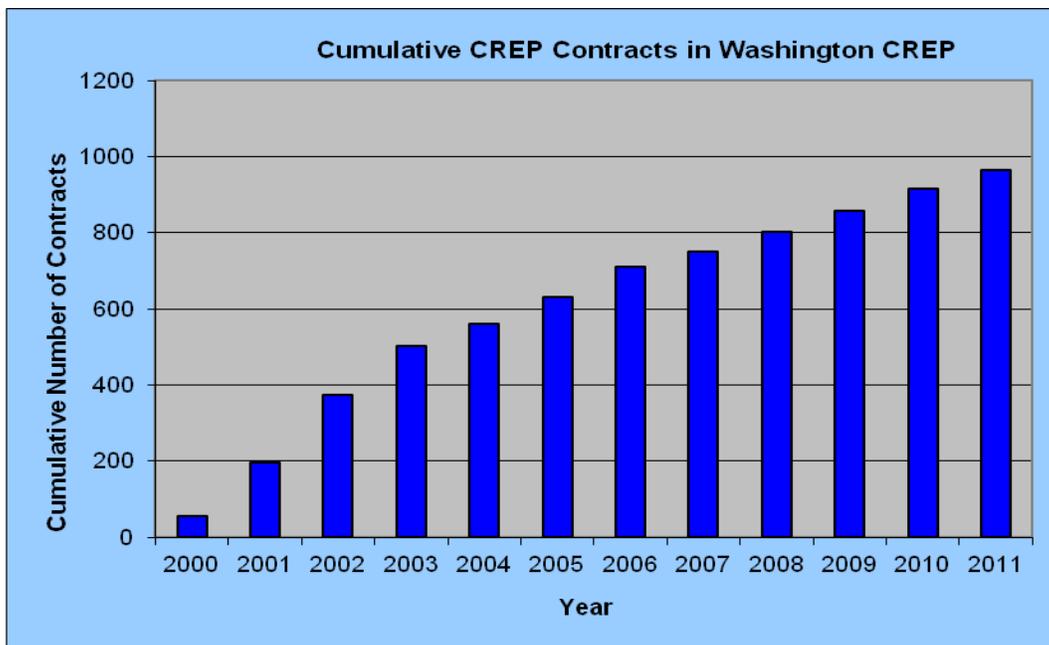
**Figure 2. Example of a riparian hedgerow after 4-5 years of growth. Shade levels are already functional.**



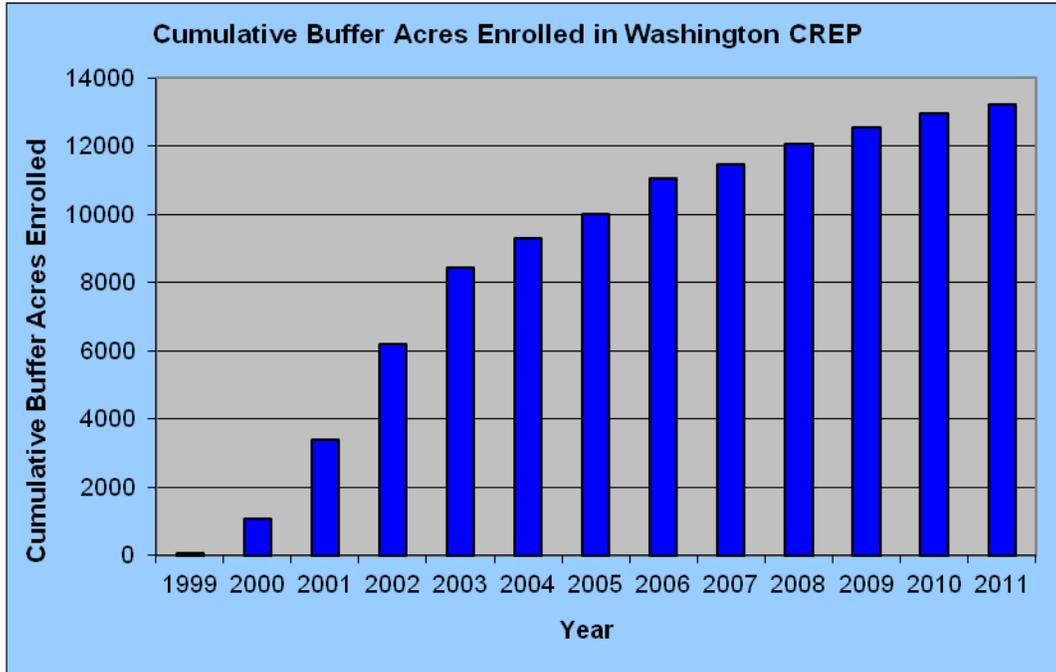
**Cumulative Program Accomplishments**

Since the first contract was signed in 1999, there are a total of 964 CREP contracts in Washington State (Figure 3). These restored 13,223 acres and 708 miles of salmon streams (Figures 4 and 5).

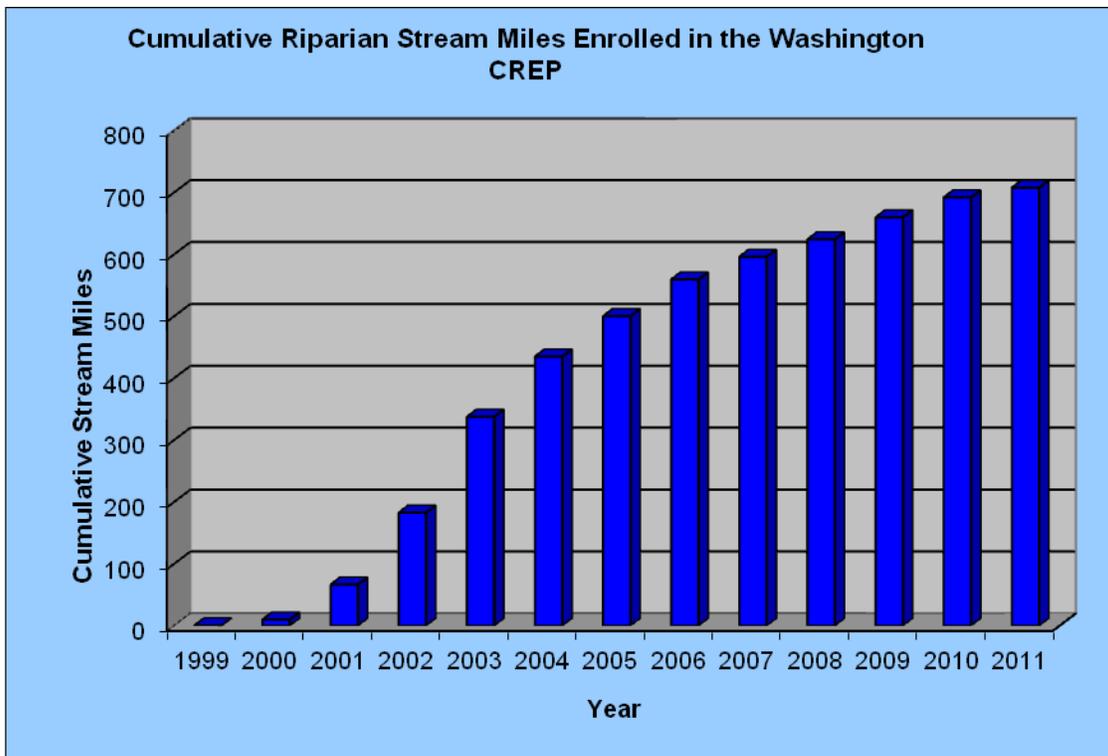
**Figure 3. Total number of CREP contracts by year.**



**Figure 4. Total number of riparian buffer acres restored and protected in the Washington CREP.**

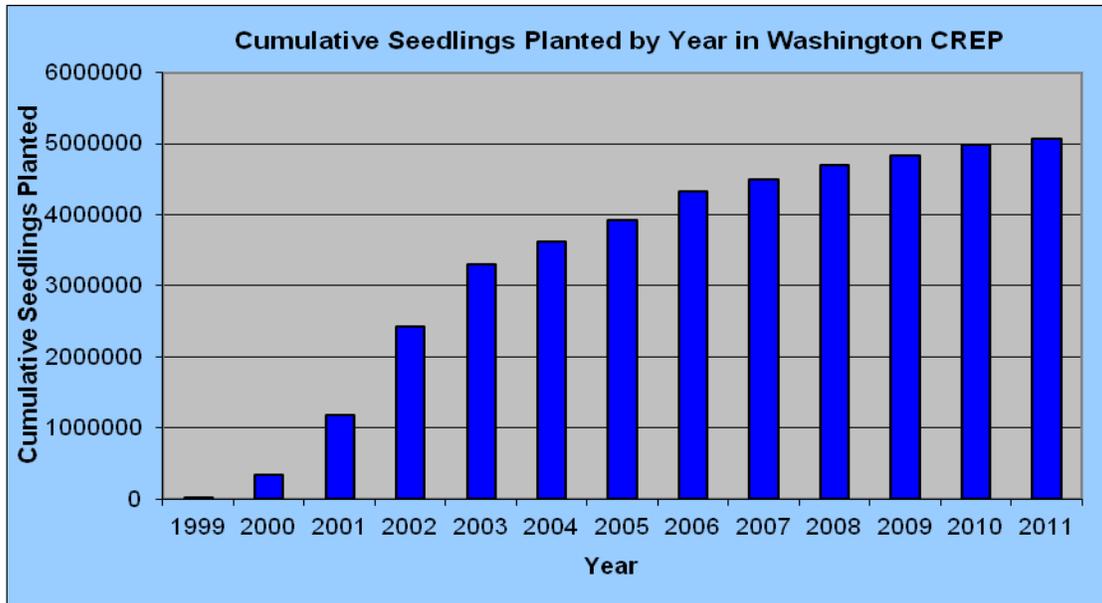


**Figure 5. Total number of stream miles of salmon and steelhead habitat restored in the Washington CREP.**

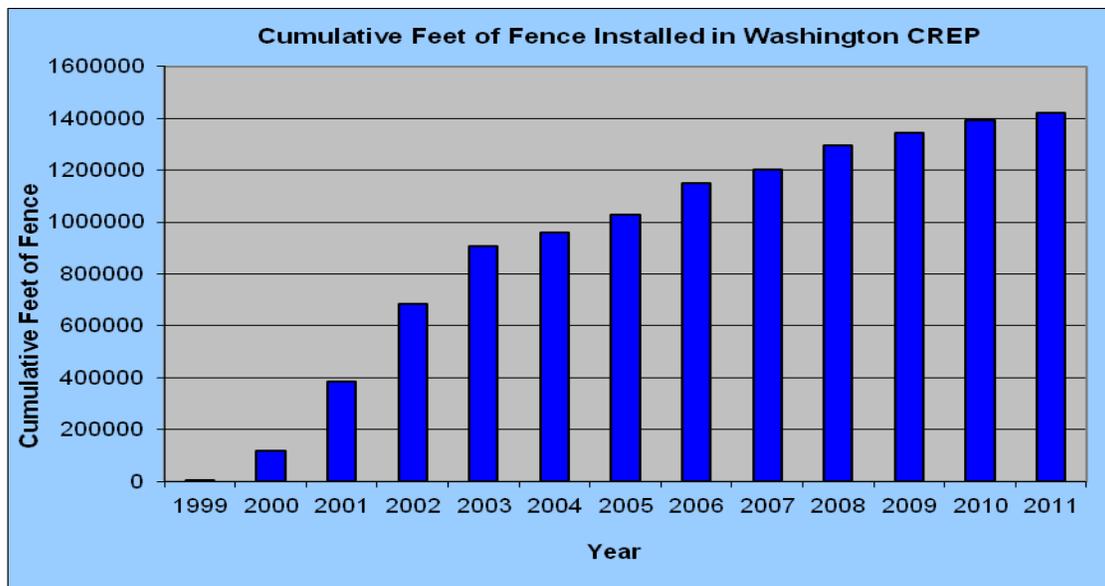


CREP has changed the face of the landscape by planting more than 5 million native trees and shrubs along salmonid streams (Figure 6). This is very apparent in north Puget Sound, southeast Washington, and Lewis County. Livestock exclusion has been an integral component of CREP resulting in not only healthier riparian buffers, but also improved water quality. Since 1999, over 1.42 million feet of fencing has been built and 208 water facilities have been installed (Figures 7 and 8).

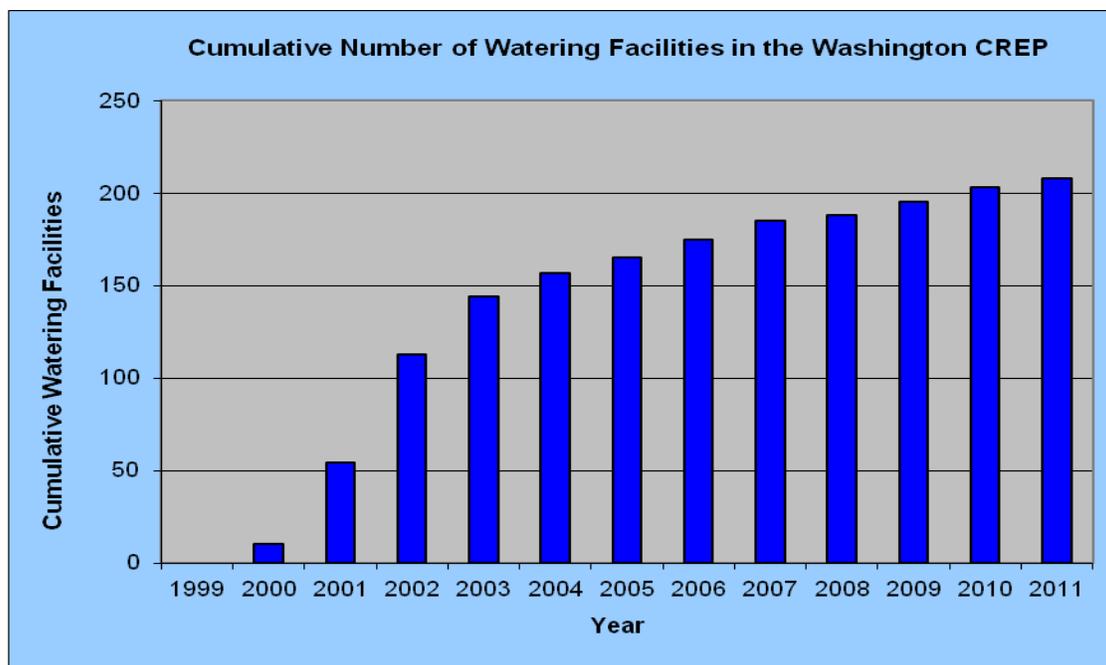
**Figure 6. Cumulative number of native trees and shrubs planted using CREP funds.**



**Figure 7. Total amount of fencing installed over the years in CREP.**



**Figure 8. Total number of watering facilities installed over time in the Washington CREP.**



## **Contributions to Salmon Recovery and Water Quality**

The implementation measures discussed above have demonstrated that the Washington State CREP has been restoring and protecting increasing amounts of riparian buffers since 1999. We also have effectiveness monitoring results that show increased canopy cover (shade), decreased invasive plant species, and increased riparian buffer health, and these data are discussed later in this report. However, CREP was developed in response to the addition of Pacific salmon on the Endangered Species List, and it is important to assess whether the program can be linked to improvements in water quality pertaining to salmon as well as direct contributions to salmon recovery.

For this purpose, water quality data and salmon data were examined in watersheds where numerous CREP projects have been installed. To be informative, water quality data were needed over at least a 10-year time frame that spans most of the CREP program. The station with the water quality data would need to be located in the specific watershed where the CREP projects were installed, preferably in a downstream location. These criteria were difficult to find. Three watersheds or sub-watersheds were examined that met the water quality data needs and had numerous CREP contracts.

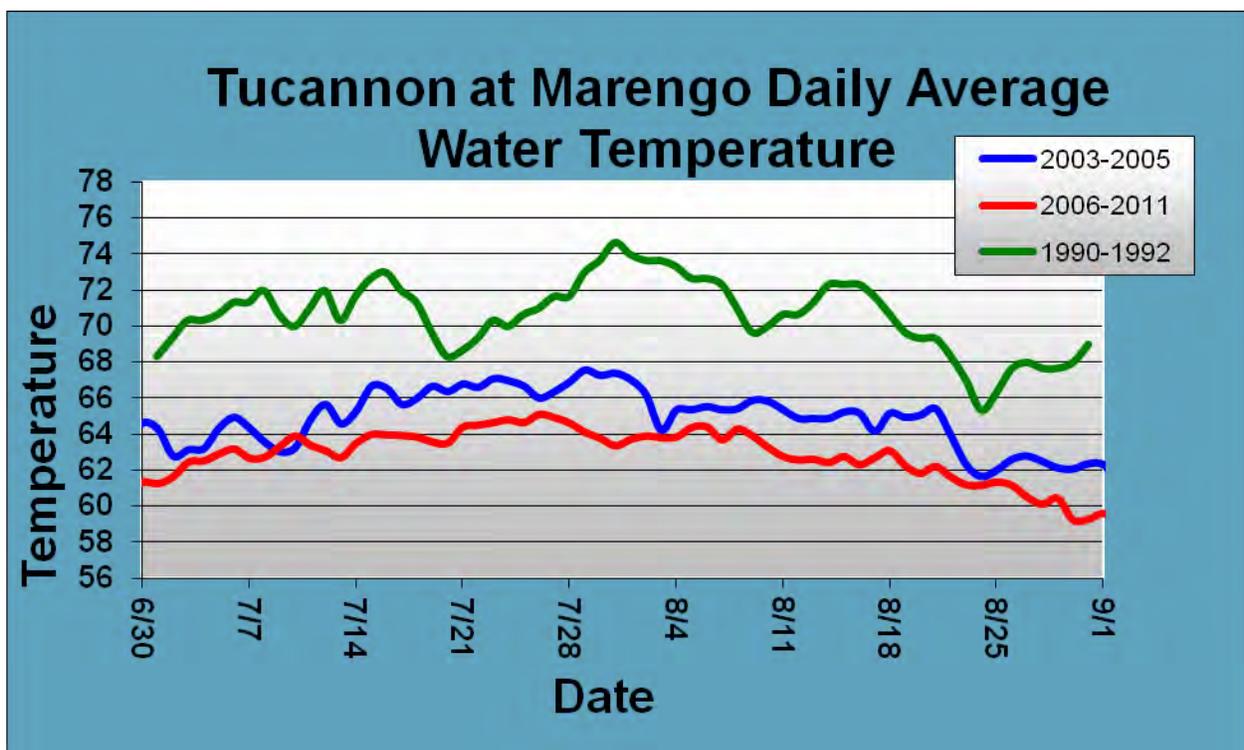
One of these also had salmon counts specific to the stream. Their results are presented below.

It is noteworthy that the water temperature standard for these streams in the summer months is 17.5°C or 63.5°F (Department of Ecology 2011; Payne 2012).

### Basin Examples: The Tucannon River in the Snake River Basin

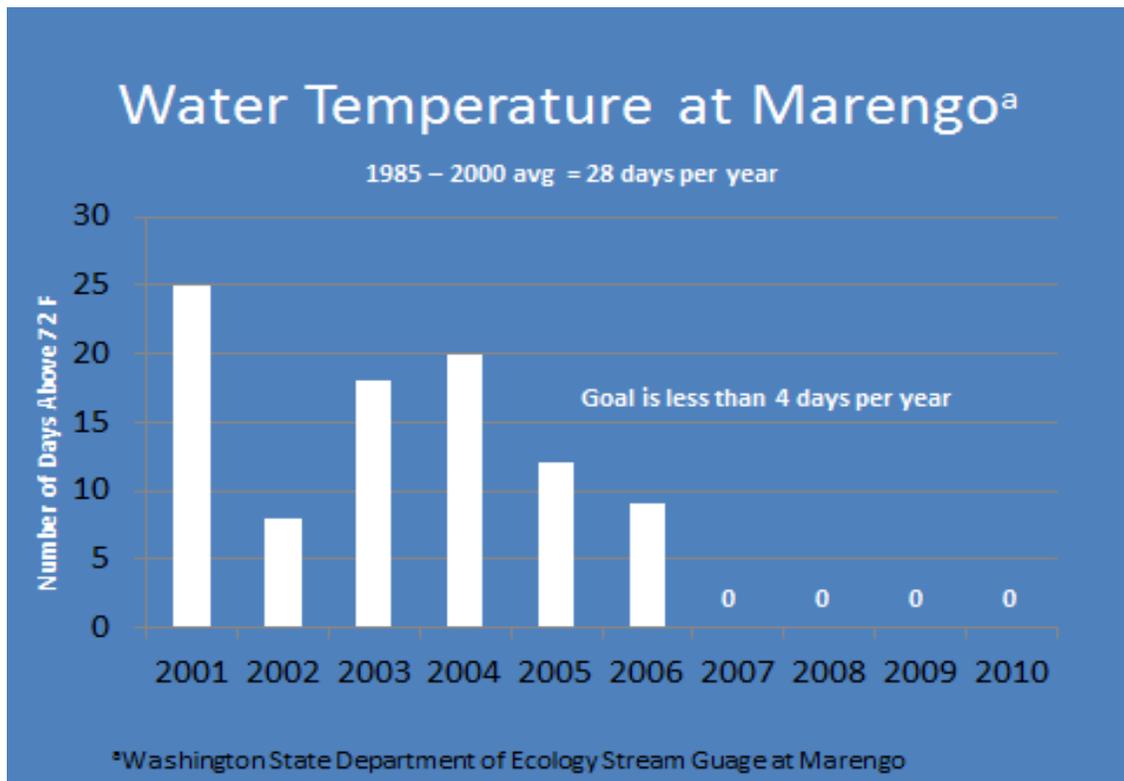
The Tucannon River is an excellent example of how CREP can be combined with other programs in a targeted area to produce meaningful and remarkable results. In the 1980s, Tucannon River water temperatures often exceeded 80°F (daily maximum). CREP contracts began to be implemented in 1999, and from the late 1990s through the present, 1,100 acres of riparian buffer were restored, mostly through CREP. This represents 79% of the identified goal for riparian restoration in that stream (Steve Martin, Snake River Salmon Recovery Board, personal communication). Water temperatures have cooled coincident to the riparian restoration. Figure 9 shows water temperatures prior to CREP buffers (green line). The red line shows water temperatures in the most recent years. These measurements were taken by the Department of Ecology at the Marengo Station RM 25.5.

**Figure 9. Change in daily average water temperature in °F over time in the Tucannon River. The green line represents data prior to CREP. Blue represents 4-6 years into CREP, and red shows current water temperature conditions. Data from: <https://fortress.wa.gov/ecy/wrx/wrx/flows/station.asp?sta=35B150>.**



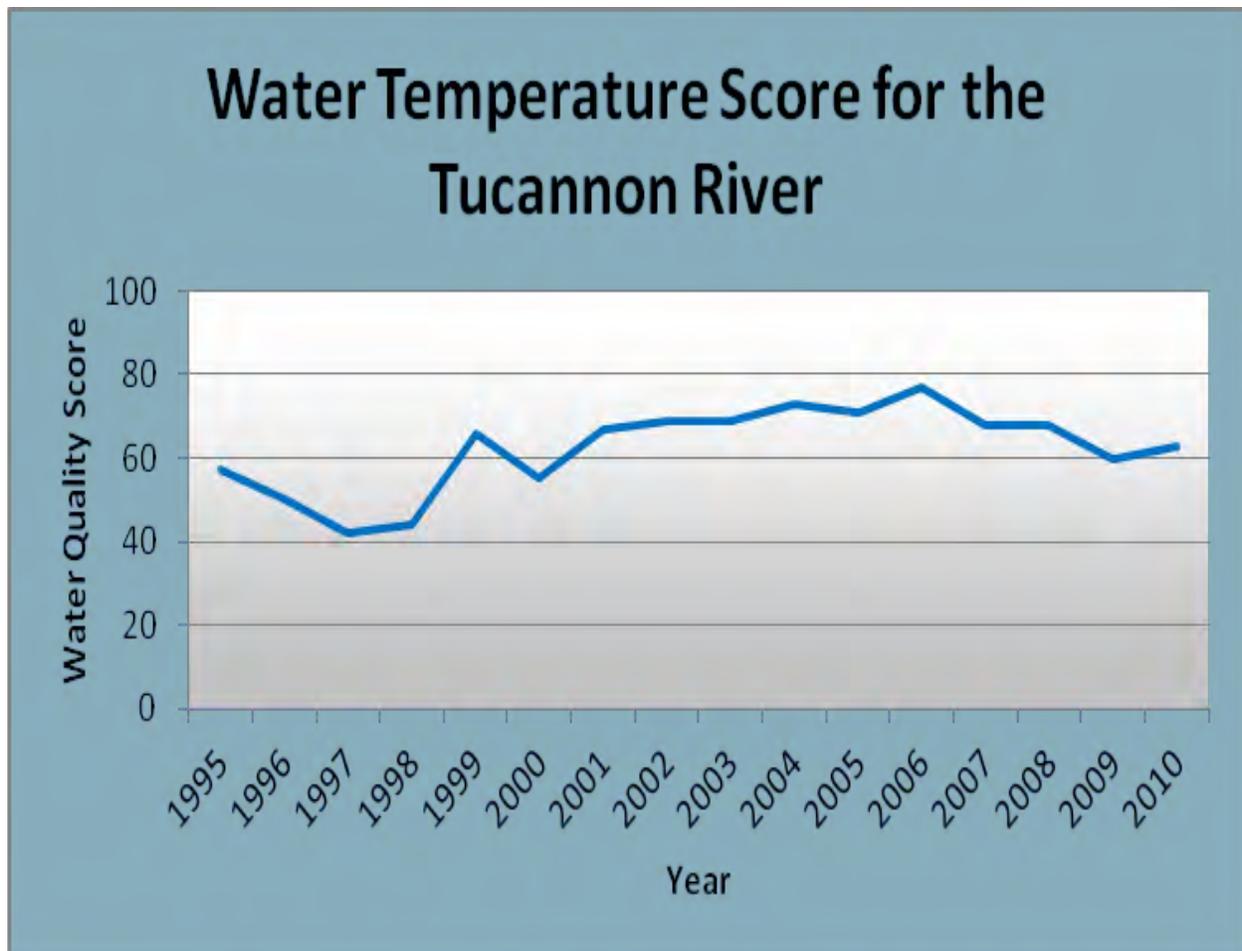
In addition to the riparian restoration goal, the Snake River Salmon Recovery Board established a water temperature goal for the Tucannon River. This goal is to reduce the frequency of warm water temperatures, specifically to have less than 4 days per year of water temperatures above 72°F. That goal was achieved in 2007 and in each year since then (Figure 10).

**Figure 10. Tucannon River water temperatures relative to the goal of less than 4 days per year of temperatures above 72°F. Graph provided by Steve Martin, Director of the Snake River Salmon Recovery Board. Data from <https://fortress.wa.gov/ecy/wrx/wrx/flows/station.asp?sta=35B150>.**



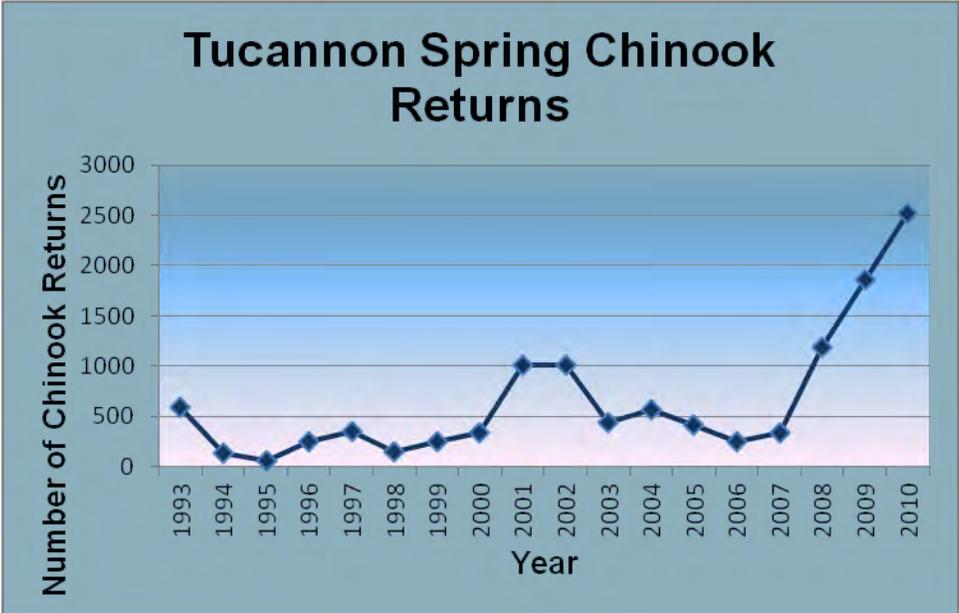
The above water temperature improvements were documented at RM 25.5 in the Tucannon River. Additional water quality data are available for Tucannon at Powers, near the mouth at RM 2.3. The Department of Ecology developed water temperature scores for this station. Higher scores mean better water quality with 100 as the maximum score. Figure 11 shows the water temperature scores from 1995 through 2010. Most of the scores are in the fair to moderate range, but more importantly these scores have shown a significant improvement over time. A regression analysis indicates an  $r^2$  of 0.37 at a significance level of 0.012.

**Figure 11. The water temperature score for the Tucannon River at RM 2.3 developed by the Department of Ecology. Data at: <http://www.ecy.wa.gov/apps/watersheds/riv/station.asp?theyear=&tab=wqi&scroll=y=394&wria=35&sta=35B060>**



Riparian restoration has been of significant importance in the Tucannon Basin along with improved fish passage, reduced sediment loads due to conservation tillage, and increased water flow. Together these priority habitat actions are attributed with contributing to the improved salmon runs in this stream. Prior to 2000, juvenile salmonids were not seen in the lower 20 miles of the Tucannon, and high water temperatures were to blame (Steve Martin, Snake River Salmon Recovery Board, personal communication). Currently, high densities of juveniles have been documented by WDFW and others from RM 10 to 20, adding 10 more miles of rearing habitat with the improved water temperatures (Gallinat and Ross 2011). Juveniles were also seen from RM 10 to the mouth, but were not counted. Adult Chinook salmon runs hit a low of about 50 fish in 1995. However since 2001, returning adults have increased in number to a high of about 2500 in the year 2010 (Figure 12).

**Figure 12. Adult spring chinook returns to the Tucannon River (Gallinat and Ross 2011).**

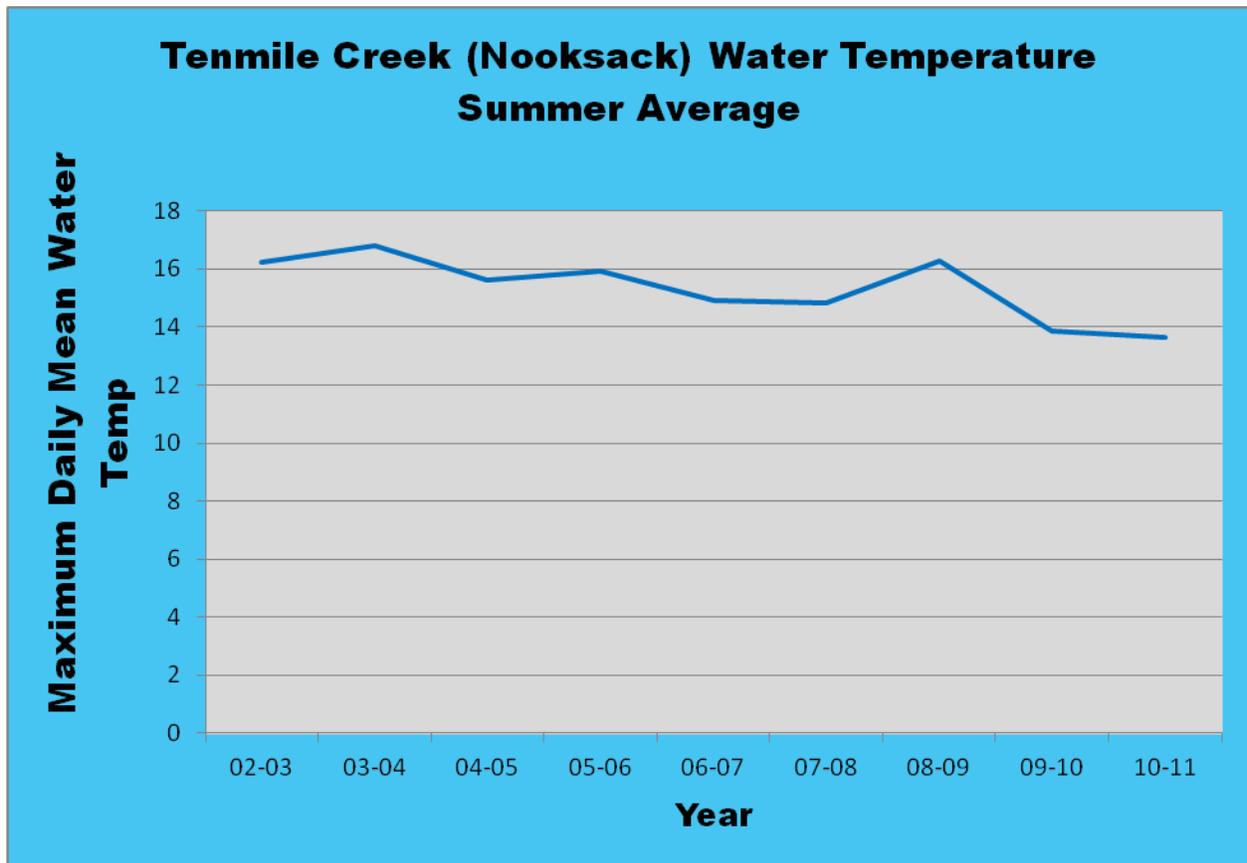


**Basin Examples: Tenmile Creek in the Nooksack Basin**

Since the late 1990s, CREP has restored 11.2 miles of buffer out of 40.4 total miles of stream banks along Tenmile and Fourmile Creeks in Whatcom County (stream banks miles are double the channel length) (data from Andrew Phay, Geographic Information System Analyst, Whatcom Conservation District). This results in about 28% of the possible buffer area restored and protected in CREP. Additional restoration has occurred in the tributaries and by other programs such as the Nooksack Salmon Enhancement Association, EQIP, and others.

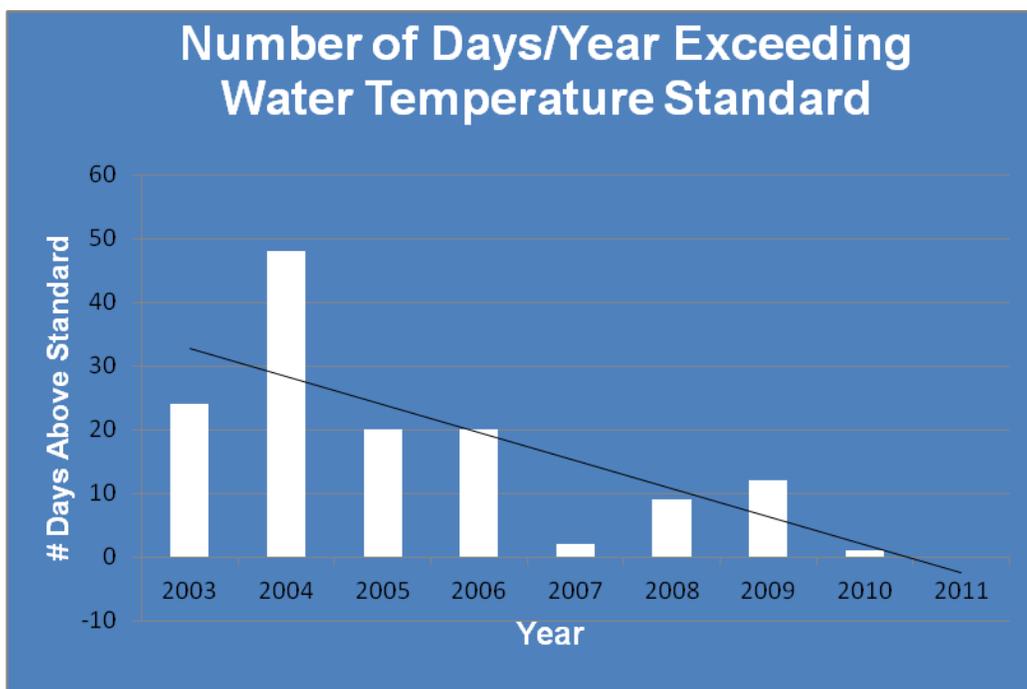
A water quality station exists at RM 2.8 and the data have been published by the Department of Ecology at: <https://fortress.wa.gov/ecy/wrx/wrx/flows/station.asp?sta=01P080>. From those data, the maximum daily mean has been graphed and analyzed and shows a significant improvement in water temperatures (Figure 13). The maximum daily mean water temperature has decreased over time with a  $r^2$  of 0.62 at a significance of 0.01.

Figure 13. Maximum daily mean water temperatures (°C) have decreased over the years in Tenmile Creek of the Nooksack Basin. Data from: <https://fortress.wa.gov/ecy/wrx/wrx/flows/station.asp?sta=01P080>



The water quality standard for Tenmile Creek is 17.5°C (Department of Ecology 2011; Payne 2012). The number of days that water temperatures exceeded this standard has decreased in the last nine years (Figure 14). A regression analysis shows that the decline in number of exceeding days is significant with an  $r^2$  of 0.63 and  $F= 0.01$ .

**Figure 14. Number of days per year that water temperatures exceeded the water quality standard of 17.5°C in Tenmile Creek in the Nooksack Basin. Data from: <https://fortress.wa.gov/ecy/wrx/wrx/flows/station.asp?sta=01P080>**

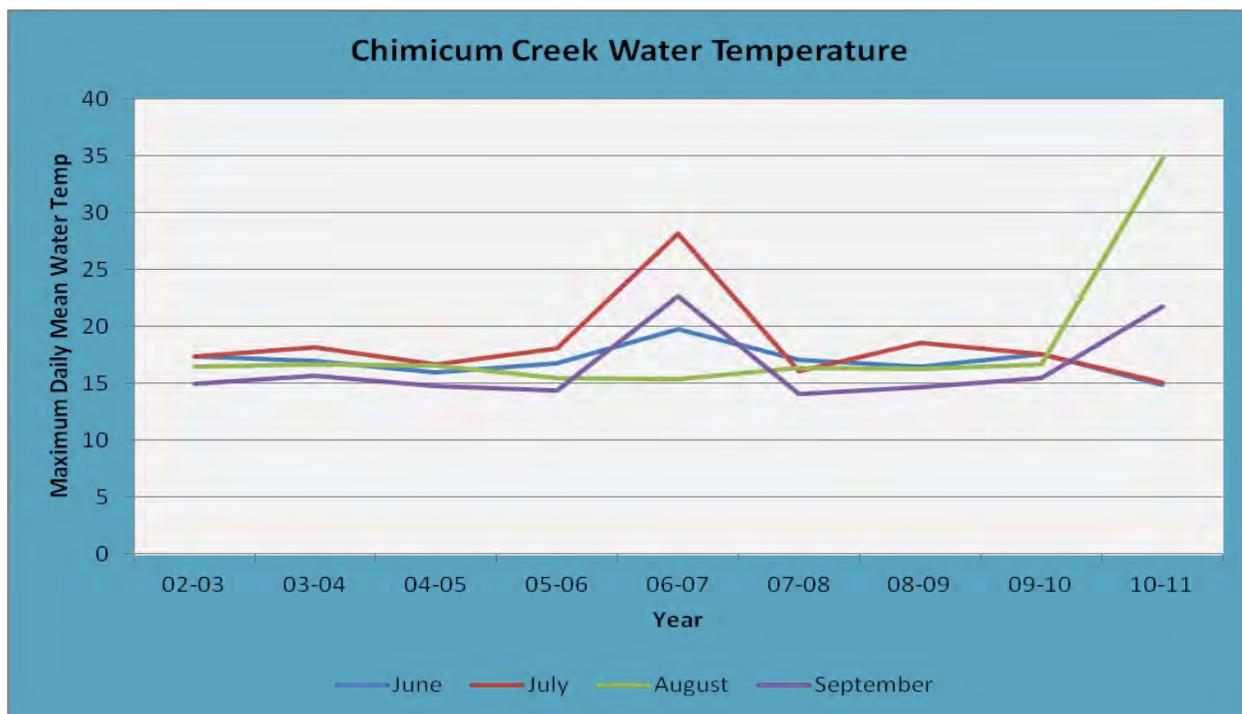


### **Example Where Watershed- Wide Benefits Not Yet Realized**

In addition to the success stories above, one other basin with numerous CREP contracts was also home to a water quality monitoring station. Data from Chimicum Creek were also analyzed. In this stream, CREP contracts are fairly numerous, but most are small. They account for about 2.9 miles planted out of 20.3 miles (14%). The riparian condition of the remaining 17.4 miles has not been assessed, but much of it is agricultural land with forestland in the upper reaches.

Average water temperatures in June, July, August, and September were analyzed with a regression analysis over a period of nine years (Figure 15). An analysis was also done combining the months. None of the months or the combination produced a significant regression trend. It is likely that not enough of the watershed has been restored to have a significant water quality benefit yet. Also, the gauge is at the very most downstream reach, subject to tidal influence and the recipient of all waters upstream. CREP has been concentrated in the East Fork with more limited CREP in other sections of the watershed. This points out the need to have water quality data that bracket the restoration area or to have a more extensive restoration area. The extremely high temperature in water year 10-11 is probably a malfunction/misplacement of the gauge.

**Figure 15. Average water temperatures in Chemicum Creek . Data from: <https://fortress.wa.gov/ecy/wrx/wrx/flows>**



## Riparian Benefit of CREP

### Riparian Function Overview

Riparian areas include the land adjacent to streams, rivers, and nearshore environments, and serve as the interface between the aquatic and terrestrial environments. These zones are normally covered with grasses and forbs to shrubs and large trees depending upon the ecoregion type. Riparian habitat begins at the ordinary high water line and extends to that part of the terrestrial landscape that directly influences the aquatic ecosystem through shade, large woody debris (LWD), nutrients, organic and inorganic debris, or terrestrial insects. It includes the entire extent of the floodplain because that area interacts with the stream system during flood events. The riparian habitat area also encompasses the entire extent of vegetation adapted to wet conditions.

The type of vegetation within the riparian zone is crucial, as different types of vegetation have different functions. Tree and shrub roots hold streambanks together, stabilizing channels, decreasing erosion, and creating fish habitat (Bjornn and Reiser 1991, Montgomery and Buffington 1998). Overhanging trees shade water, maintaining cool

water temperatures and contributing leaf litter, which serves as food for the organisms that in turn provide food for fish (Bjornn and Reiser 1991, Bisson and Bilby 2001, Naiman et al. 2001). Mature trees in the riparian zone also provide important functions when they fall into streams to become large woody debris (LWD) because LWD stabilizes streambeds and banks, holds spawning gravels, creates pools that provide resting areas for salmonids (Bilby and Bisson 2001). Grasses in the riparian zone filter pollutants from soil and aid in bank stability and sediment trapping (Knutson and Naef 1997, Welch et al. 2001, Fischer and Fischenich 2000). Invasive species such as reed canary grass and Himalayan blackberry are not effective at most riparian functions, and their rapid growth often replaces the native, functional plants that comprise a healthy riparian zone.

### **Riparian Width Related to Function**

Riparian buffers have numerous functions, and each operates from different distances from the stream. Table 1 illustrates the various functions and distances of riparian trees. The tree height is based upon the site potential tree height (SPTH), which is defined as the average maximum height of the tallest, mature, dominant trees for a given site class (USFS 1994). Average site potential tree heights are 175' in western Washington, 120' in eastern Washington, and 90' at high elevations as reported in NMFS (2000). However, differences between sites within these regions as well as different reporting mechanisms result in different potential tree heights. The Forest Practices 4D document reports a range of site potential tree heights from 90-210' in western Washington and a range of 60-120' in eastern Washington. This illustrates two very different recommendations for riparian buffer widths in eastern Washington between two widely used data sources. It also points out the importance of using site potential tree height for each specific area rather than a general average.

Once site potential tree height is determined, the percentage of tree height can be used to determine the extent of provided riparian functions. Table 1 shows that at 30% of tree height, half or more of the full benefits of five major riparian functions are addressed (FEMAT 1993, NMFS 2000, Fischer and Fischenich 2000). These functions include shade, leaf litter, soil moisture retention, bank stability, and nutrient/pollutant filtering, which together comprise many of the water quality functions. At half to  $\frac{3}{4}$  tree height, nearly full functions occur for leaf litter, soil moisture, bank stability, filtering, and sediment control with half or more function for shade and LWD recruitment. This is supported by McDade et al. (1990) who found that 70-90% of instream LWD came from within 50 feet of the stream bank in a mature forest setting. Note that the functions also depend upon what type of vegetation exists in the buffer. Grasses are the most effective filtering and flood conveyance vegetation, while shrubs excel at stabilizing banks, and trees provide the best shade, LWD, and bank failure prevention (Fischer

and Fischenich 2000). This demonstrates the need for diverse buffers so that a broad array of riparian functions can be addressed.

The current minimum buffer width for a CREP project is 35', but wider buffers are strongly encouraged along large streams. The actual buffer cannot be less than the minimum at any location of the project. The maximum buffer width that can receive rental is 180 feet measured as an average maximum of the project. The landowner can choose to enroll the minimum buffer width or anywhere up to the maximum buffer width of 180 feet. National Resource Conservation Service (NRCS) standards must be used to restore the riparian buffer.

A 30-53' (30% of SPTH) established diverse buffer on a low slope area would likely fully or nearly fully address soil moisture retention, detrital input, filtering, and bank stabilization with half or more function of shade and half or slightly less function of LWD recruitment. In short, it would significantly address many water quality functions and improve fish habitat, although not to full function for LWD recruitment and shade of larger streams. Wildlife habitat would require a much larger buffer if wildlife habitat is a goal of the project.

**Table 1. Riparian buffer widths needed for various riparian functions. Tree height data from NMFS (2000) citing FEMAT 1993, buffer width in meter data from reviews by Spence et al. (1996) and Fischer and Fischenich (2000). One tree height averages 175' in western Washington and 120' in eastern Washington.**

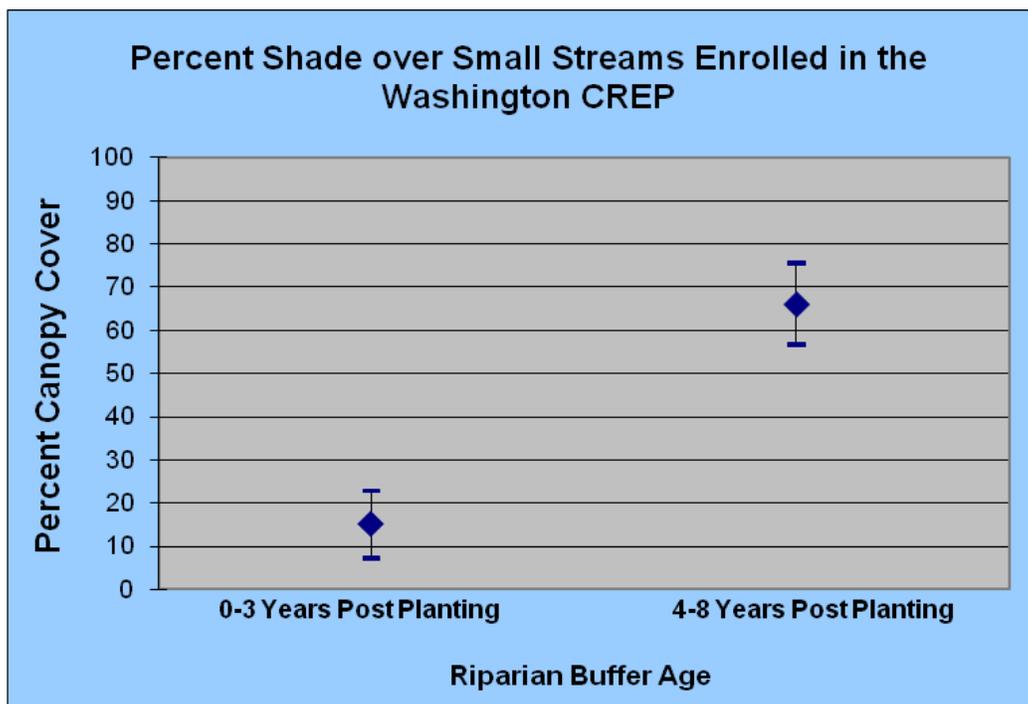
Riparian functions relative to distance from stream:	30% Tree Height	Half Tree Height	75% Tree Height	1-2 Tree Height	Buffer Width (feet) for Functionality (Spence et. al. 1996)	Buffer Width (meters) for Functionality (Fischer and Fischenich 2000)
Root Strength/ Bank Stability	50-60%	60-90%	90-100%		<30m (98')	10-20m (33-66')
Soil Moisture Retention	80-90%	100%				10-20m (33-66')
Leaf Litter and Organic Material (food web)	50-60%	60-90%	100%		<30m (98')	3-10m (10-33')
Shade (dependent on stream width and topography)	40-50%	50-60%	60-90%	>90%	25-39m (82-128')	
Trees contributing large wood to the system	<40%	40-60%	60-80%	80-100%	1 site potential tree height; or 30-60m (98-197') in Cederholm (1994)	
Sediment Control					30m (98') on gentle slopes-90m (295') on steep	
Pollutants/ Nutrients (Most filtering)						5-30m

occurs in first 10m. Depends on slope and load)						(16-98')
Flood Attenuation						20-150m (66-492')
Wildlife Habitat						30-500+m (98- 1640')

### Canopy Cover from Washington CREP Buffers

The amount of shade over the CREP-planted stream reaches was estimated as percent canopy cover measured mid-channel. This was measured only for the small, wadeable CREP stream reaches because the larger mainstem reaches were not able to be sampled mid-channel. For the small streams, shade significantly increased ( $P=0.00003$ ) over the CREP reaches that were planted at least 4 years prior as compared to younger CREP sites (Figure 16). The mean percent canopy cover for young sites (0-3 years old) was 15, while older sites had a mean of about 66 percent. These results are not applicable to wider streams as those are more difficult to shade and require a combination of wide buffers and taller (more mature) trees. If canopy cover were measured for the wider streams, the results would likely be much more variable and less significant between the two age groups.

**Figure 16. Percent canopy cover over small (wadeable) CREP enrolled-stream reaches.**



### **Bank Erosion and Invasive Species Control by CREP Buffers**

The percentage of eroding banks was low in the eastern Washington CREP sites with an average of 3 percent across sites and a maximum of 15 percent at one contract site (Figure 17). Most sites had no bank erosion in the sampled areas. In western Washington, most sites also had no bank erosion, but one site with 43 percent bank erosion raised the mean to 5 percent bank erosion across sites (Figure 18). The site with a high percentage of bank erosion was subjected to a large flood event the prior winter. There were no significant differences between eastside and westside sites ( $P=0.5667$ ) or between 0-3 year planting seasons and 4-8 year sites ( $P=0.6176$ ).

Figure 17. Percent bank erosion along CREP reaches in eastern Washington.

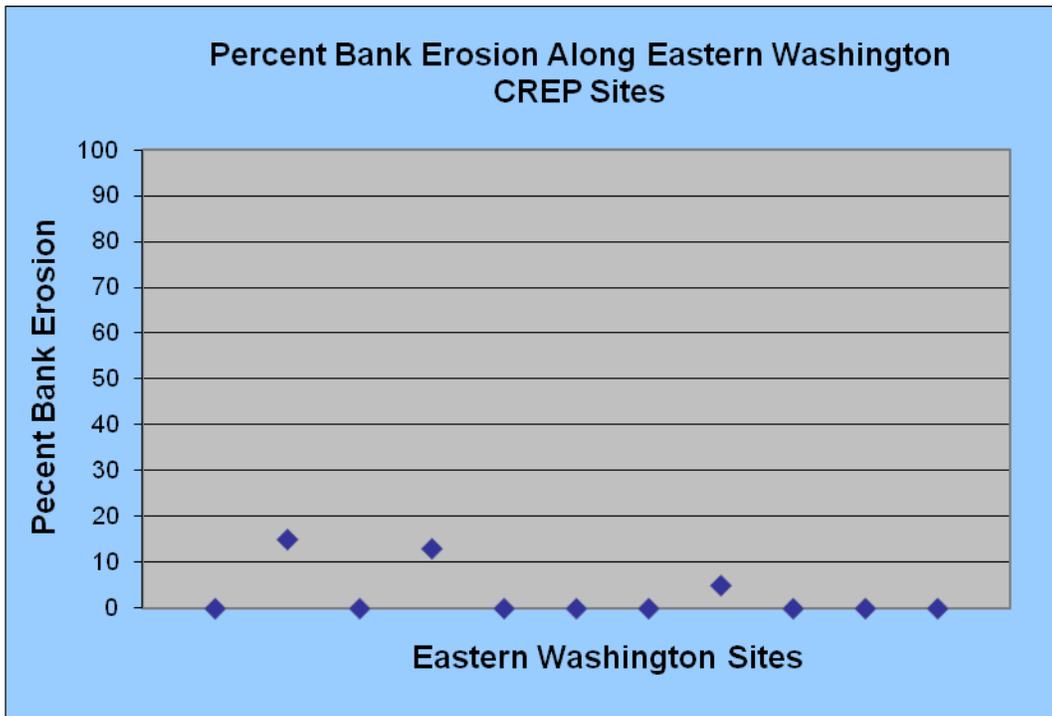
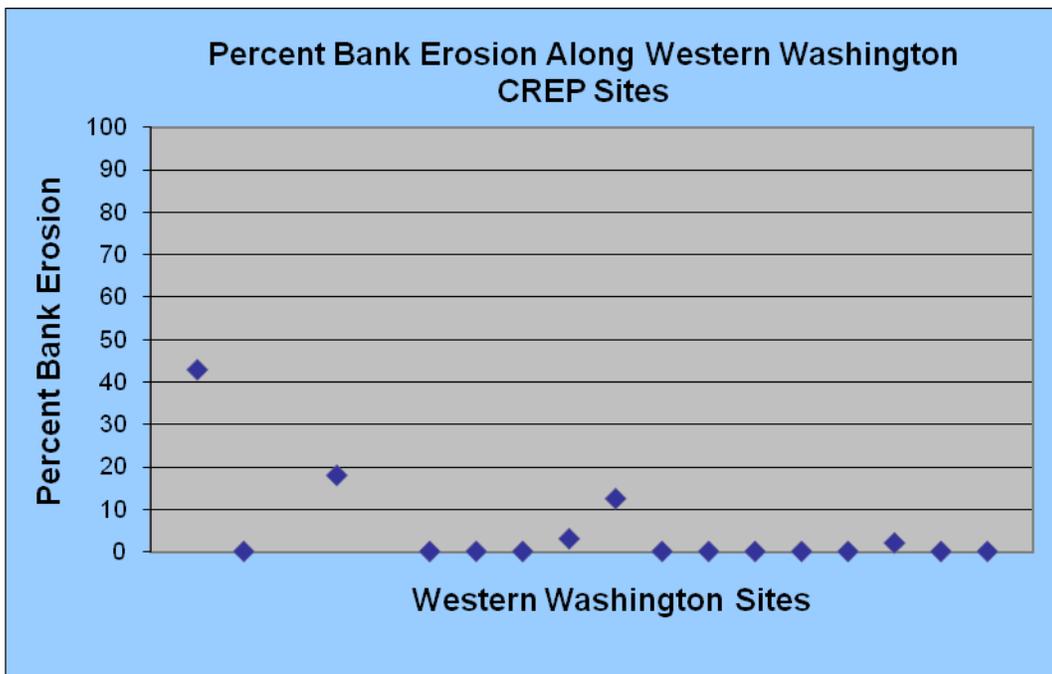


Figure 18. Percent bank erosion along CREP reaches in western Washington.



The percent of land coverage by invasive plant species is very low. It averaged 2.3 percent for younger (0-3 growing seasons) and 3.4 percent for older (4-9 years) contracts. There were no significant differences between these two groups ( $P=0.6777$ ).

## **Plant Condition in Washington CREP Buffers**

### *Plant Growth*

The CREP plants in Washington State are growing at rates that are generally greater than documented elsewhere. Conifer growth rates in CREP averaged 10.8 inches per year in eastern Washington and 13.4 inches per year in western Washington. In other studies, conifer growth of 1+0 Douglas fir plugs and 2+0 bareroot was 4.2 inches and 4.3 inches per year after two years respectively, in western Oregon (Helgerson 1985). Ponderosa pine grew 4.1 and 4.7 inches per year for plugs and bareroot. In another study, mixed age conifers grew an average of 1.92 inches per year for Douglas fir and 2.62 inches per year for western hemlock along the Pacific coast (Hann et al. 2003). British Columbia reported riparian conifer growth rates of 6.1 to 17.6 inches per year (Poulin and Warttig 2005).

CREP deciduous tree growth averaged 29.3 inches per year in western Washington and 16.6 inches in eastern Washington, while shrubs grew an average of 13.4 inches per growing season in western Washington and 13.8 inches per year in eastern Washington. In a similar restoration project in western Oregon, red alder grew an average of 39.4 inches per year (Bishaw 2002), and in another study in British Columbia, black cottonwoods (one of the fastest growing deciduous trees) grew an average of 66 inches per year over a ten-year period (Burns and Honkala 1990). Pacific willow, a commonly used small tree in CREP projects, averaged 13.2-36 inches per year in Corvallis, Oregon (USDA Soil Conservation Service and Oregon State University Agriculture Experiment Station 1988). Sampled Washington CREP contracts included many different types of deciduous trees including big-leaf maple, red alder, black cottonwood, Pacific willow, ash, birch, oak, and cascara. The species diversity could account for lower deciduous growth rates than those documented in other areas that focus only on the fastest growing species.

While there are no set standards for plant growth in CREP, we consider sites successful if the growth/year of CREP plants plus the original height are showing a 20% increase compared to the original height. All of the sampled CREP plant types (conifer, deciduous, and shrub) in both regions greatly exceeded this measure of success.

### *Plant Survival*

Plant survival was excellent at nearly all of the sampled CREP sites. The median percent survival was 91% in eastern Washington and 93% in western Washington.

Survival results differ greatly in the literature, and depend heavily on weather patterns and environmental conditions, which can vary locally. In an Oregon study, survival of conifers averaged 98% for bareroot stock and 89% for plugs after two growing seasons (Helgerson 1985). However, in a recent restoration project along Beaver Creek in Oregon, survival was about 50% during the first year (due to beaver damage), but after providing better protection, increased to a range of 67-75% after three years (Bishaw et al. 2002). A riparian project in the Oregon high desert reported early survival results of 70-80% for a mix of ponderosa pine, deciduous trees, and shrubs (Fox Creek Farm 2006).

The Salmon Recovery Funding Board (SRFB) in Washington State defines plant survival as successful when survival is 50% or greater at year 10 (Crawford 2004). Several of our sampled CREP contracts are 8-9 years old with survival of 80-100%. The NRCS plant stocking specifications assume a 15-20% mortality within the first few years, which is why we chose a goal of 85% survival. The majority of Washington CREP sites are generally performing better than these assumptions.

### *Plant Diversity*

Plant species diversity can have a valuable role in riparian buffers by providing a wider array of wildlife habitat and ecological benefits. In addition, different types of vegetation have varying levels of effectiveness for riparian functions. For example, grasses are the most effective vegetation type to trap sediments and filter pollutants (Fischer and Fischenich 2000). They have a moderate ability to prevent bank erosion and a low effectiveness for bank failure prevention and habitat formation. In contrast, trees have a high effectiveness for forming habitat and preventing bank failures with a low to moderate ability to prevent bank erosion, trap sediments, and filter pollutants (Fischer and Fischenich 2000). Shrubs have the highest effectiveness for bank stabilization, a medium ability to trap sediments, prevent bank failures, and provide habitat with a low effectiveness for filtering pollutants. The most effective riparian buffers will ultimately have a mix of plant types as they mature, and diversity is a characteristic that develops over time in natural forests. Old growth forests are much more heterogeneous than young forests (Franklin et al. 1981).

The sampled CREP sites had generally good plant diversity, although specific standards do not exist. The westside sites had a median of 11 species per contract, while the eastside had a median value of 5 tree or shrub species per sampled areas in a given contract.

# Quality Assurance and Accountability

## Standards

The practices funded in the Washington State CREP must meet the requirements of that specific conservation practice as defined in the 2-CRP handbook maintained by FSA. The CREP practices are based upon NRCS practice standards, which provide criteria to develop technically sound practices. However, additional requirements are added by FSA to meet more specific requirements to address salmon recovery issues in Washington State.

## Monitoring

CREP practices are monitored for implementation and effectiveness measures. The Washington Conservation Commission has collected and reported on implementation measures for CREP since the beginning of the program. These measures are: acres treated, stream miles restored, number of contracts, feet of fencing installed, and number of plants planted.

Effectiveness monitoring of the Washington CREP include parameters such as plant growth, plant survival, plant diversity, plant and conifer density, stream shading, bank erosion, and extent of non-native plant species.

The methodology used for the effectiveness monitoring is described in Smith (2011). The methodology is consistent with the Governor's Forum on Monitoring recommendation to use protocols compatible with EPA's Environmental Monitoring and Assessment Program (EMAP) of probabilistic sampling (Peck et al. 2001; Cusimano et al. 2006). Site selection occurs via random sampling of existing CREP sites, and channel measurements (percent canopy cover and condition of bank erosion) follows the methodologies used in EMAP, SRFB project monitoring, and King County (Henshaw and Booth 2000; Peck et al. 2001; SRFB 2003). The measurements within the buffer (plant growth, survival, density, diversity, and non-native plant species control) are program needs and not assessed in EMAP or SRFB projects. For those measurements, the plot design follows the methodology used by the Skagit Cooperative riparian assessment (Haight 2002).

## Buffer Condition Objectives

The projects will be considered effective if they meet the objectives described below. Because of the site variability, it is possible that future objectives could be based upon site-specific characteristics, such as: soil type, average annual precipitation, and extent of irrigation. Data on these will be collected wherever possible, and compared to the

rates below as well as to literature values. From this, the best set of objectives will be chosen after an initial analysis.

*Growth Rates.* While we have no set objectives for plant growth in CREP, we will preliminarily consider sites successful if the growth/year of CREP plants plus the original height are showing a 20% increase compared to the original height.

*Plant Survival.* Plant survival success measures will follow those used by The Salmon Recovery Funding Board (SRFB), who lists their riparian restoration projects as successful for plant survival when survival is 50% or greater at year 10 (Crawford 2004).

*Plant Density.* High densities of trees can have an adverse effect on the long-term development of a buffer. Dense growths of deciduous trees can prevent the growth of conifers needed for large woody debris recruitment. Dense plots of conifers can stunt the development of an understory as well as stunt their own diameter growth (Tappeiner et al. 2000; Berryman et al. 2004).

Planting density for reforestation usually ranges from 400-700 trees per acre at planting time, assuming a 50% survival by year 5. However, the Washington CREP follows the NRCS recommendation of 300-400 stems per acre for initial planting, and previous monitoring had median survivals between 93-95%. The SRFB used a standard of 200 trees per acre for restored riparian buffers at year 10 (Crawford 2004), which is compatible with the initial density of 400-700 before mortality. For CREP, our interim density objective will be an upper limit of 400 trees per acre at year 10. Shrubs will not be included in the density estimates.

In addition, for sites that historically supported conifer in western Washington, a 30% conifer component is desired.

*Shade/Bank Erosion:* Contracts will be considered successful for increased shading if there is an appropriate change of 20% or more by year 10 with an alpha of 0.10 (Crawford 2004). We are not expecting large changes in bank stability over time with CREP contracts because sites with unstable banks are not eligible for CREP. Success will be defined as a mean bank stability rating of 3 or greater for a given site.

## **Oversight**

Oversight of CREP contracts is coordinated between four different organizations, each with a specialized function that is shared across all. The organizations include: the USDA Farm Service Agency (FSA), the USDA Natural Resources Conservation Service (NRCS), the local conservation district, and the Washington Conservation Commission. They function according to this timeline.

- 1) Plan Development. Most plans are developed by the conservation district, some in concert with NRCS. Plans must be approved by FSA, the landowner, NRCS, and the District Board of Supervisors.
- 2) Buffer Planted. After the site is planted, it is inspected by NRCS and the district or by a district with job approval authority.
- 3) Buffer Maintenance. The district inspects each site at least on an annual basis during the 5-year maintenance period after planting. Maintenance plans are developed as necessary during this time. Inspections assure that the trees and shrubs are surviving and growing and that the buffer is maintained according to contract specifications.
- 4) Long-Term Oversight. After the 5-year maintenance period, the site is inspected by NRCS to assure compliance with standards. After which, the contract is handed over to FSA. FSA may do spot checks on the buffer condition throughout the life of the contract.
- 5) Effectiveness Monitoring. The Washington Conservation Commission conducts effectiveness monitoring on any contract that is randomly selected that year regardless of age. This measures buffer condition, canopy cover, and extent of invasive plant species.

## **Data Management**

The implementation and effectiveness monitoring data are stored in the Conservation Practice Data System (CPDS) at the Washington State Conservation Commission. Data includes all pertinent information about the farm, funding, and practices, including all the measurements in this report. Information is updated twice a year.

## **Funding**

### **General Funding Allocation**

Overall, the Washington CREP is funded with about 80% federal funds and 20% state funds. Federal funds are used for the rental payments to landowners, the sign-up bonuses, and 90% of the costs to install the buffer. The state pays the buffer maintenance costs, the planning and oversight costs, and the remaining 10% of the costs to install the buffer.

### **Federal Contributions**

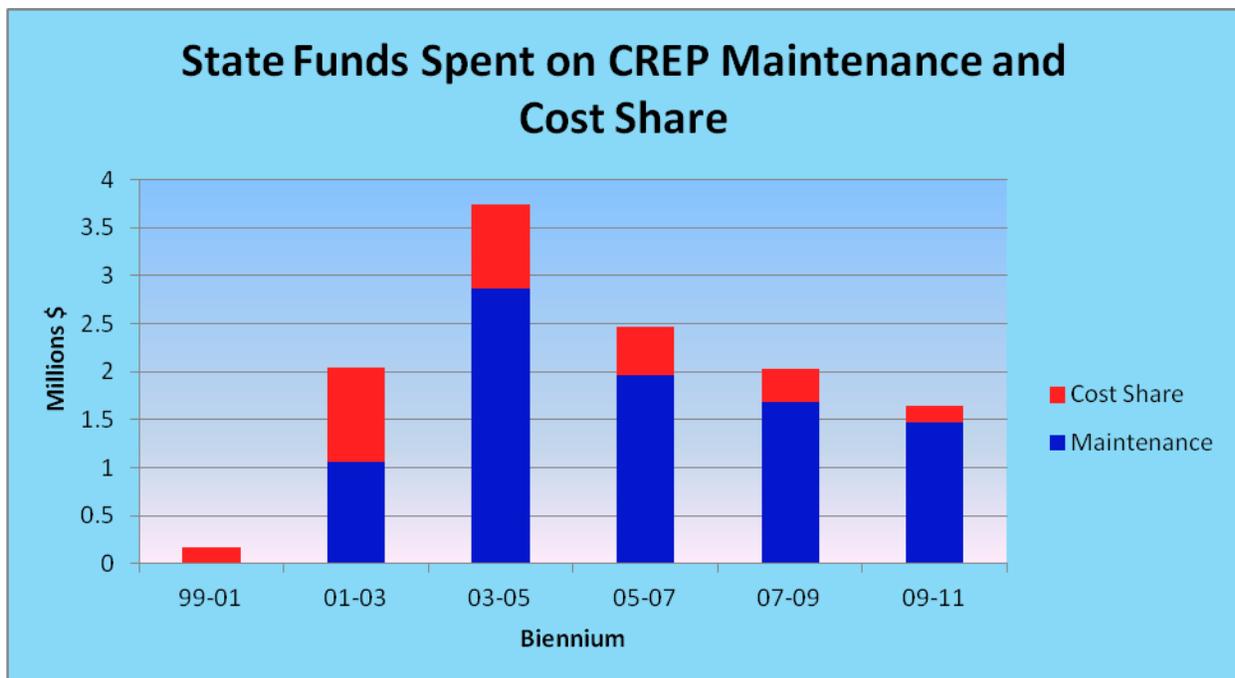
Since the beginning of the program, it is estimated that \$31.1 million in federal funds have been spent on installing the buffers. This includes cost share and the practice

incentive payment. In addition, landowners have received roughly \$1.6 million in signing incentive bonuses, and based upon contracts signed to-date, about \$33.2 million would need to be paid for the life of those contracts using federal funds (data from Rod Hamilton, Farm Service Agency, personal communication).

### State Contribution/Match

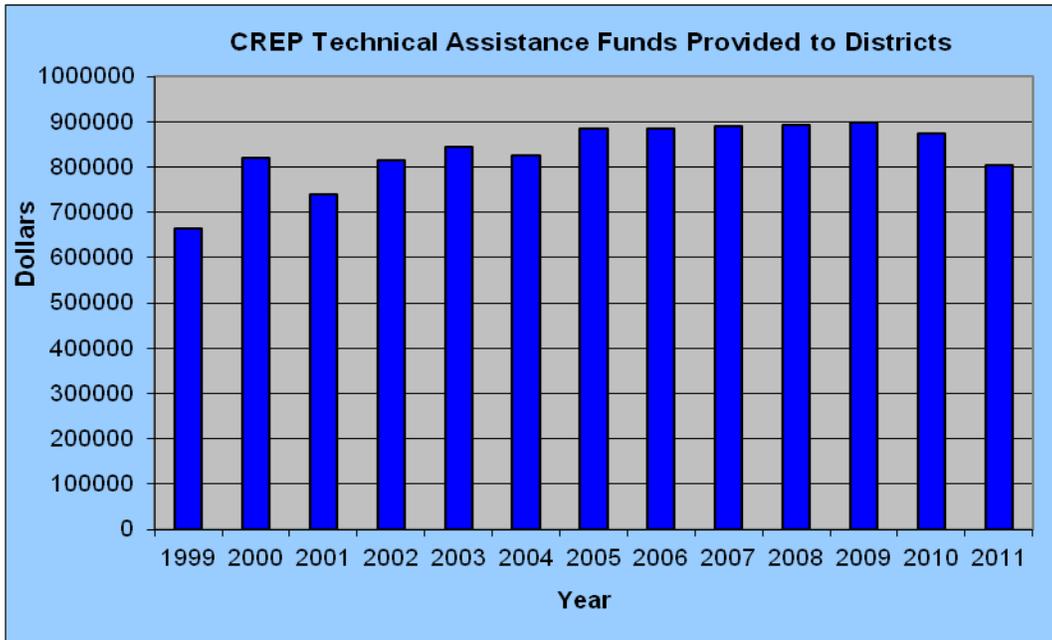
The Washington CREP began in 1998 and state funds used for site maintenance and cost share peaked in the 2003-2005 biennium (Figure 19). Since then, state expenditures for the on-the-ground work has steadily decreased in both maintenance and cost share. Part of the reason for this decline is increased expertise in understanding what works best and applying only those techniques, thereby becoming more efficient and reducing costs. However, in the last and current biennia, the allocation of state funds by the legislature has decreased, and this decline is creating funding shortfalls in implementing the program.

**Figure 19. Washington State funds spent on CREP maintenance and cost share.**



Technical assistance expenses have also decreased in recent years (Figure 20). These funds are used to develop plans and inspect the sites. The recent decrease is due to a lack of available funding, stunting the growth of the program in Washington State.

**Figure 20. Washington State funds spent on technical assistance for CREP projects.**



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**2012 Implementation and Effectiveness  
Monitoring Results for the Washington  
Conservation Reserve Enhancement Program  
(CREP): Plant and Buffer Performance**

**December 2012**

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# Washington Conservation Reserve Enhancement Program: Plant and Buffer Performance

## Executive Summary

The Conservation Reserve Enhancement Program (CREP) is a voluntary program that offers financial incentives to farmers to restore riparian habitat and preclude agricultural activities in those buffers during the contract duration (10 or 15 years). The primary purpose of CREP is to restore habitat for salmon and steelhead and improve water quality in those streams. It is co-administered by the U.S. Department of Agriculture Farm Service Agency (FSA) and the Washington State Conservation Commission. Federal funding covers about 80% of the costs of CREP.

The program has been in operation for nearly 14 years, and has several important features that contribute to successful habitat restoration:

- By specializing in riparian restoration, staff are highly trained for this function.
- All CREP practices must follow federal standards, which increase the consistency of results.
- Contracts are visited on at least an annual basis in the first 5-6 years. They are sporadically visited thereafter. This assures landowner adherence to the program requirements and allows for measures to be taken to improve plant growth and survival.
- Oversight is provided by two separate agencies, FSA and the Conservation Commission, to help assure standards are met. In addition, the Natural Resources Conservation Service is often involved in site planning.
- Maintenance of the riparian area is funded for a five-year period after planting to control invasive plant species and provide watering during dry periods.
- Contracts are part of an effectiveness monitoring program using random sampling. In addition, all contracts are monitored for implementation performance.

The Washington State Conservation Commission monitors CREP in two ways. Implementation measures are collected for every contract on an annual basis to show the extent of restoration. Randomly selected contracts are monitored for their effectiveness in improving stream and riparian function and structure. This report summarizes the results of both types of monitoring for contracts signed through the end of 2012 and monitored for effectiveness for the calendar years of 2008-2012.

In 2012, we reached a milestone by surpassing 1,000 total contracts. The total number of CREP contracts is now 1,021 after 14 years from the beginning of the program. In 2012, 57 new CRP-1 contracts were signed. Two of these 57

contracts are hedgerow buffers and 12 are wetland enhancement contracts. No CRP-1 contracts were signed for the grass filter strip practice in 2012. The cumulative total number of each of the new practices is: 27 wetland enhancement practices, 13 hedgerow contracts, and no grass filter strip contracts. Compared to the total number of contracts (1,021), the riparian forest buffer practice is by far the most common (96%) with wetland enhancement as the most popular new practice (3% of total). Riparian hedgerows are rare (1%) and no contracts exist for grass filter strips that are not in combination with another riparian planting practice. The 2012 contracts added 28 stream miles, 440 acres of buffer, 175,000 seedlings, and 31,000 feet of fencing.

These buffers are rapidly growing with average rates ranging from 10.6 to 12.7 inches per year in eastern Washington and 14.3 to 29.3 inches per year in western Washington (averaging across plant types). By species, eastern Washington plants that grow the fastest are: blue elderberry, serviceberry, and willow with rates that range from 22-29" per year. In western Washington, the fastest growing CREP plants are: Pacific willow, black cottonwood, red alder, and birch with rates ranging from 31-50" per year. Survival of the CREP plants is 75% in eastern Washington and 90% in western Washington.

More importantly are the results of these actions on the environment. The canopy cover results were remarkable with approximately 72% coverage (shade) in the 5-10 year contracts compared to 9% in the 1-4 year old category. These measurements were conducted only in the small wadeable streams. It is likely that if wide streams were included, the results would be more variable and less significant. However, it shows how quickly and effectively buffers can shade small (25' or less bankfull width) streams enrolled in CREP.

A low level of invasive plant species presence was noted with less than 1% in younger contracts (1-4 years) compared to 3% coverage in mid-year contracts (5-10 years). Bank erosion was low with 8% average in younger contracts and 4% along older CREP sites.

The most common buffer width category is 180' or wider with 39% of all riparian forested buffers developed to 180' or greater in width. Eighty percent of all CREP forested buffers are 100' or greater in width. The average buffer width is 143' while the median is 150'. The buffer composition differs dramatically when comparing eastside to westside. Eastside buffers often have more shrub species (80%). The most common eastside CREP plants are: willow, rose, Ponderosa pine, juniper, black cottonwood, and red-osier dogwood. Trees dominate westside buffers (75%). The most common westside plants are: red alder, western red cedar, Sitka spruce, willow, Douglas fir, black cottonwood, red-osier dogwood, Oregon ash, shorepine, and rose.

These results indicate that CREP is successful in several ways. The sites are preventing the spread of invasive plant species while increasing the coverage by

native species that can perform the necessary fish and wildlife functions of a riparian buffer. The CREP plants are surviving and growing quickly, providing important shade to the smaller streams. Previous monitoring has shown that when CREP and other riparian restoration is targeted to significantly span a stream, water temperatures improve for salmonid use (Smith 2012). The implementation of the program has been growing at a steady rate. With federal funding paying for 80% of the total costs, CREP remains an effective and cost-efficient program for riparian restoration on agricultural lands in Washington State.

## Introduction

The Conservation Reserve Enhancement Program (CREP) is a voluntary program that offers financial incentives to farmers to restore riparian habitat (streamside trees and shrubs) and to preclude agricultural activities in those buffers during the contract duration (10-15 years). The program began in 1998 with the first signed contracts in 1999. It is cooperatively administered by the U.S.D.A. Farm Service Agency (FSA) and the Washington State Conservation Commission. The federal government pays for approximately 80% of the total costs.

In Washington State, about 37% of salmon streams on private land pass through agricultural land use (USFWS and NMFS 2000). Because much of the agricultural land is located in or near historic floodplain-rich habitat, it is important that efforts continue to develop opportunities to not only improve riparian habitat for healthy watersheds, but also to maintain viable agriculture. Once land is converted to more intensive development (urban and industrial), environmental impacts increase and the prospects to preserve or restore habitat near streams greatly decrease. Between 1982 and 1997, about 20% of the farmland in the Puget Sound region was lost to other uses, especially in King and Snohomish Counties where urban growth has been high (Canty and Wiley 2004).

The primary focus of the Washington CREP is riparian buffer restoration and protection along salmon streams. This includes buffers along streamside wetlands. CREP areas become “no touch” buffers. Fencing and livestock watering facilities are installed on livestock farms to prevent their access to the buffers and stream. The newly planted native trees and shrubs are then actively maintained for five years to increase the likelihood of success. Maintenance primarily includes weed control and watering.

Monitoring is an important component of habitat restoration. Without it, there can be no knowledge of what’s been done, where it has been done, and no measurement of success in the investments and techniques. Implementation monitoring of CREP tracks how much has been done. These measures are: acres treated, stream miles restored, number of contracts, feet of fencing installed, and number of plants planted. The implementation monitoring data is used to show program performance to the Office of Financial Management, the legislature, and the Farm Service Agency. It is also used for management purposes within the Washington Conservation Commission to allocate funds and better manage the program.

It is also important to know how effective CREP is. Our measures of success include plant growth, plant survival, buffer diversity, shade, bank erosion, and non-native plant species control. This year, the results are merged with data collected from past years to show plant growth and buffer composition by

species. The species-specific information is of interest to the staff who develop the plans, aiding in future plant selection.

This report describes the methodologies and results for both implementation and effectiveness monitoring assessments in the Washington State CREP from its origins in 1999 through the 2012 calendar year. Together, these measures demonstrate the level of performance for both program growth and environmental benefit.

## Methodology

Following Environmental Monitoring and Assessment Program (EMAP) protocols (Peck et al. 2001), 10 sites were randomly selected for field measurements for 2012 and the results were merged with data collected from 2008-2011. Data were also collected in 2006, but those are not yet entered into our data system, making it infeasible to merge those data at this time. Randomization was accomplished using the Research Randomizer (2012). Sites with a pre-existing canopy were either not included, or were measured for other parameters besides canopy cover because pre-established cover would skew the results in a favorable manner. For the analyses, all measurements were grouped according to the number of growing seasons. Projects from the westside or eastside were analyzed separately and/or together.

### Effectiveness Monitoring Within the Buffer

Data were collected to answer the following buffer effectiveness monitoring questions by contract site, by growing season, by eastside versus westside, and statewide. Plant type is defined as conifer trees, deciduous trees, or shrubs. This year, results are both grouped by plant type and analyzed by species. Grouping by plant type should reduce some of the plant growth variability. However, it is valuable for technicians to know which plants are the dominant buffer species and which are growing the fastest.

What is the growth rate of plants overall, by type, by species?

What is the percent survival of plants overall?

What is the plant species diversity within buffers?

The field measurements for the buffer effectiveness measures followed the strip-plot design methodology described in Haight (2002). This design is a good choice for assessing a diverse buffer that often has differing conditions near the shoreline versus further upland. Details on setting up the strip-plot are described below. These 20-foot wide strips encompassing the buffer width were assessed for:

- Species of plant
- Plant type (conifer, deciduous, shrub)
- Height of plant (ground to tip of plant) using a laser rangefinder for taller trees
- Live/dead/missing status for each plant (sometimes missing plants are obvious, but other times are not and could be under-recorded)
- The number of plants total, by plant type, and by species per square foot of sampling area were obtained from these data (will likely be converted to per acre later) to calculate buffer density and diversity.
- Presence of non-native invasive plants and extent of coverage (area of plot)
- Notes about the site, such as predation, flooding, fire, and other issues.

The plots were at equally spaced intervals (100') beginning at a random start near the edge of a project and extending through the project site in areas without significant interplanting. Because some sites have buffer lengths approaching 20,000', it isn't feasible to treat large sites as a single site, and for those with distinctly different sections or parcels, one or more parcels would be randomly selected for sampling.

After the interval start point was found, the strip-plot was set up as follows. A tape was run through the buffer width perpendicular to the stream to create the perpendicular tapeline. The buffer width (length of tape) was recorded for later calculations of sample area used in diversity and density estimates (tape length (buffer width) X 20'). All CREP plants within 10-feet of each side of the tapeline were assessed. This has been shown to be a statistically valid yet efficient plot design for riparian buffers of varying ages (Haight 2002). Borderline plants were included if half or more of their trunk radii at diameter breast height (Dbh) (generally 4.5') is within the 10' mark.

In addition, data were obtained from the planting records regarding the original height of plants by species and the date of planting to determine the number of growing seasons. Any replanting or thinning data was also recorded.

Data was entered and stored in the Conservation Practice Data System at the Washington Conservation Commission. Data was grouped by plot, project, district, region (eastside/westside), and state to summarize at various levels. Plants were grouped by species and type.

## **Effectiveness Monitoring in Stream Channel**

Stream channel effectiveness monitoring included in-channel measurements of percent canopy cover and condition of bank erosion. These were measured in the stream channel as an extension of the mid-point of the buffer plot described above.

The questions answered include:

- What is the percent canopy cover by site, by region, and by growing season?
- What is the condition of bank erosion by site, by region, and by growing season?
- How does each of these measurements change with age of project (number of growing seasons)?

*Percent Shade (canopy cover) Measurements.* The percent canopy cover was used to assess shade following EMAP protocols (Peck et al. 2001). At each instream transect, the percent canopy cover was measured using a convex spherical densitometer mid-channel. Four readings were taken at each transect

of wadeable streams. They included: upstream, left bank, downstream, right bank. A score of 1-17 was given to each site. The readings were averaged for each transect.

*Bank Erosion Measurements.* The bank erosion condition was estimated by visually assessing the 20' length of bank (same side as CREP contract) centered around each in-channel transect (10' from each direction of transect point). The assessment included noting the percent of bank eroded, the percent of bank lacking vegetation, and the number of slides entering the stream

## **Data Analysis**

Trends over time by growing season were analyzed, as well as differences between groups using ANOVA or Student's unpaired t-test.

## Results

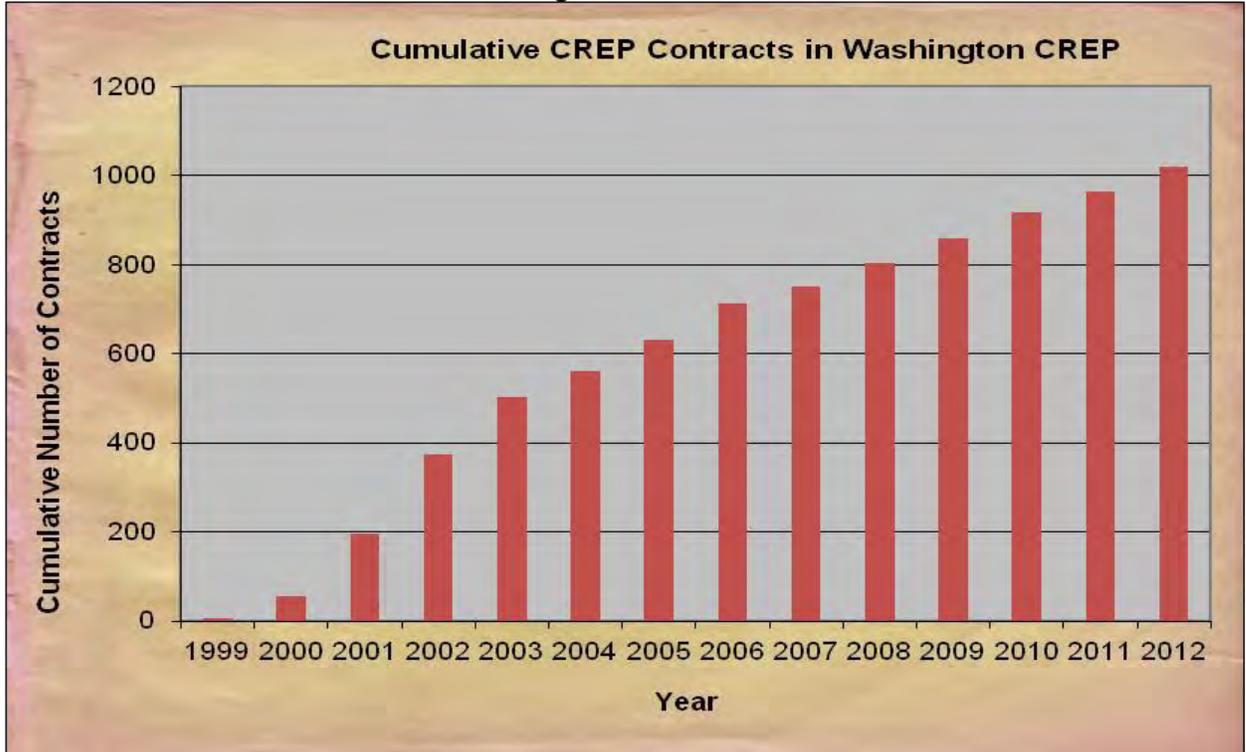
### Implementation Monitoring: New Contracts

In 2012, we reached a milestone by surpassing 1,000 total contracts. The total number of CREP contracts is now 1,021 after 14 years from the beginning of the program (Figure 1). In 2012, 57 new CRP-1 contracts were signed (Figure 2). It is likely that the number would be greater if the Farm Bill had not expired on October 1. That prevented new contracts from being signed in the last quarter of the year.

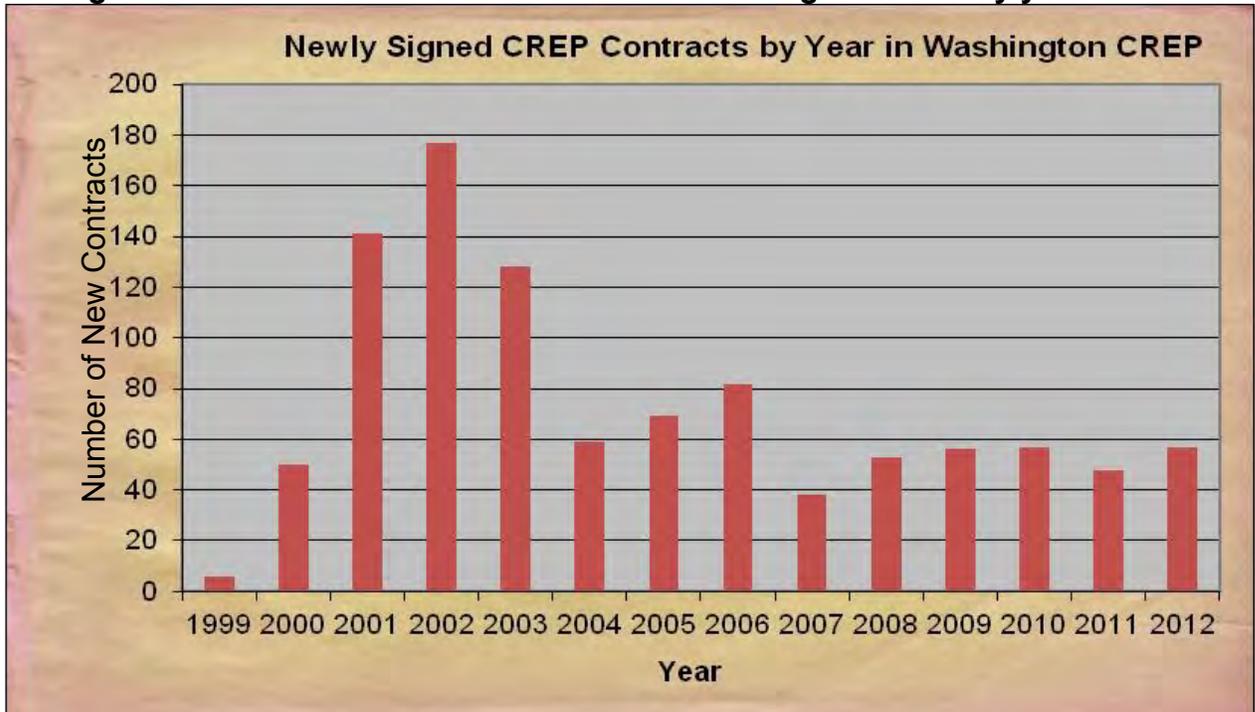
Two-three years ago, new practices were allowed in the Washington CREP in addition to the riparian forest buffer. These included wetland enhancement, riparian hedgerows, and grass filter strips. Of the 57 new contracts this year, two are hedgerow buffers and 12 are wetland enhancement contracts. No CRP-1 contracts were signed for the grass filter strip practice in 2012. The cumulative total number of each of the new practices is: 27 wetland enhancement practices, 13 hedgerow contracts, and no grass filter strip contracts. Compared to the total number of contracts (1,021), the riparian forest buffer practice is by far the most common (96%) with wetland enhancement as the most popular new practice (3% of total). Riparian hedgerows are rare so far (1%) and grass filter strips are non-existent.

The number of signed contracts for 2012 was slightly higher than expected considering that new contracts could not be signed in the last quarter of the year after the Farm Bill expired. The reason for the higher than expected number is likely because the program funding had been restored in the spring of 2012 (Figure 3).

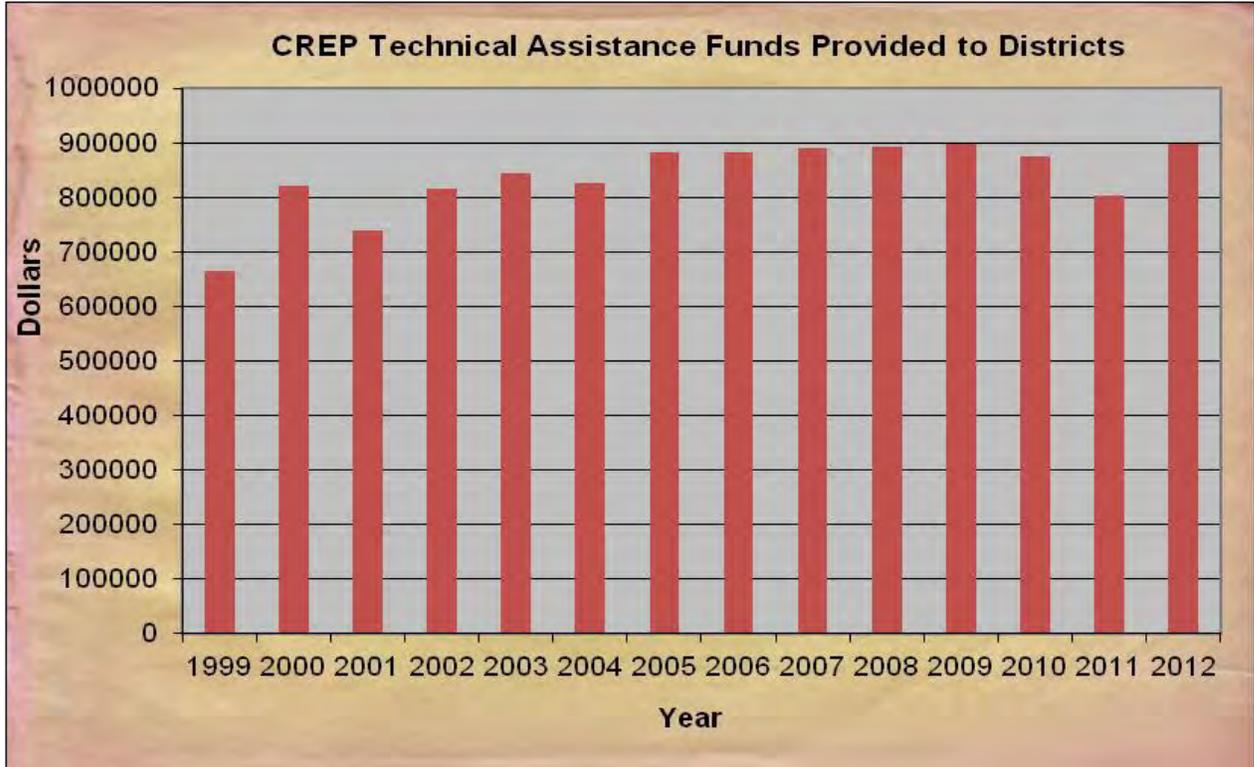
**Figure 1. The total number of signed CREP contracts by year in Washington State.**



**Figure 2. The number of contracts in the Washington CREP by year.**

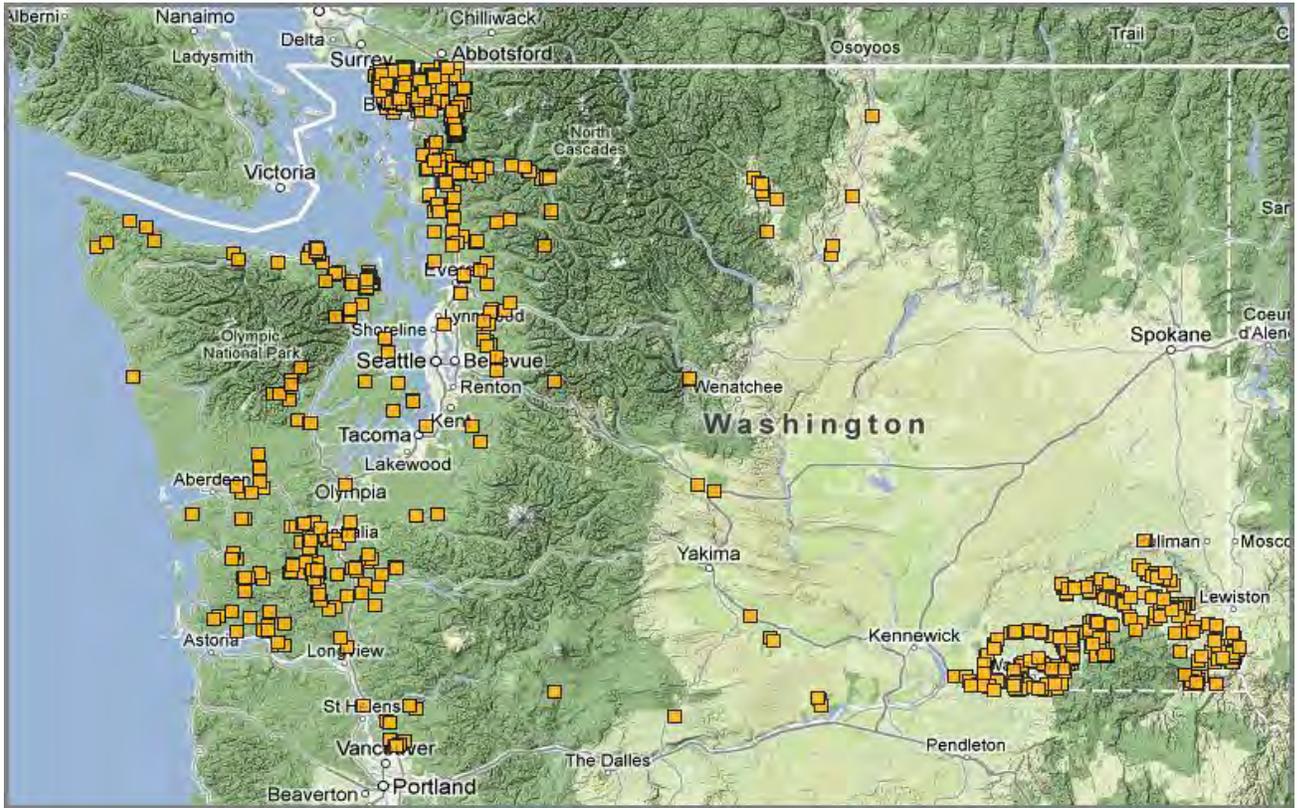


**Figure 3. CREP technical assistance funds provided to Washington State Conservation Districts.**

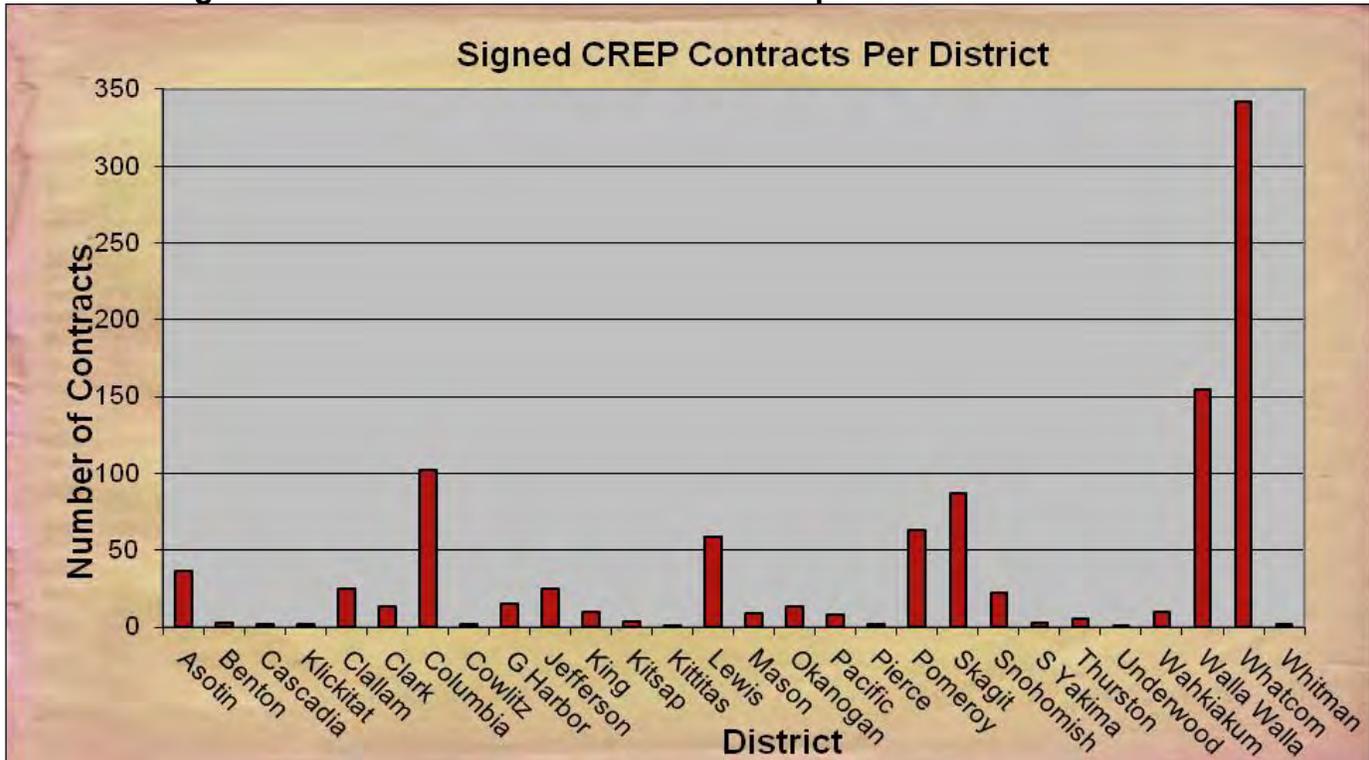


The CREP contracts are scattered throughout western Washington and congregated in southeast Washington. Very few are in central Washington (Figure 4). The districts with the greatest number of contracts overall are: Whatcom, Walla Walla County, Columbia, Skagit, and Pomeroy Conservation Districts. However, the most active ones in 2012 were: Whatcom, Lewis County, Clallam, Snohomish and King Conservation Districts (Figure 5).

**Figure 4. Location of CREP Sites in Washington State.**



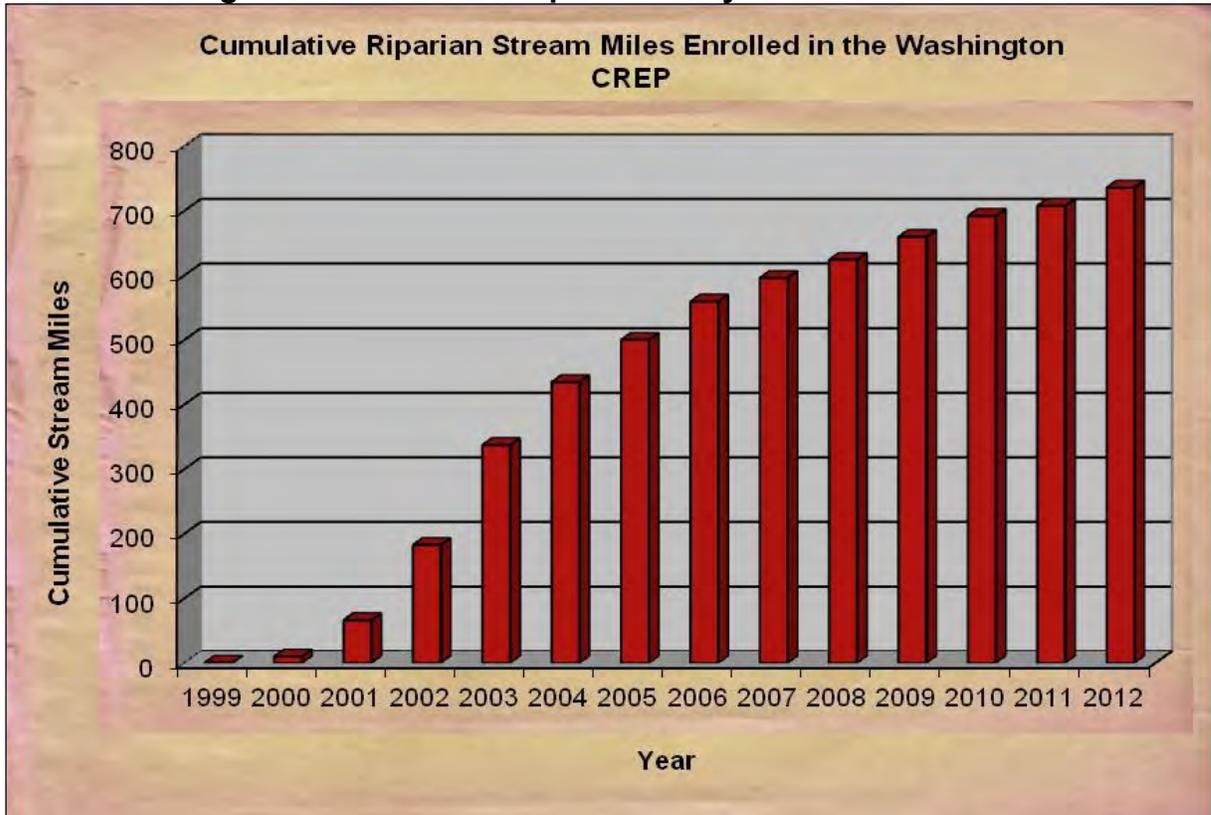
**Figure 5. Total number of CREP contracts per district.**



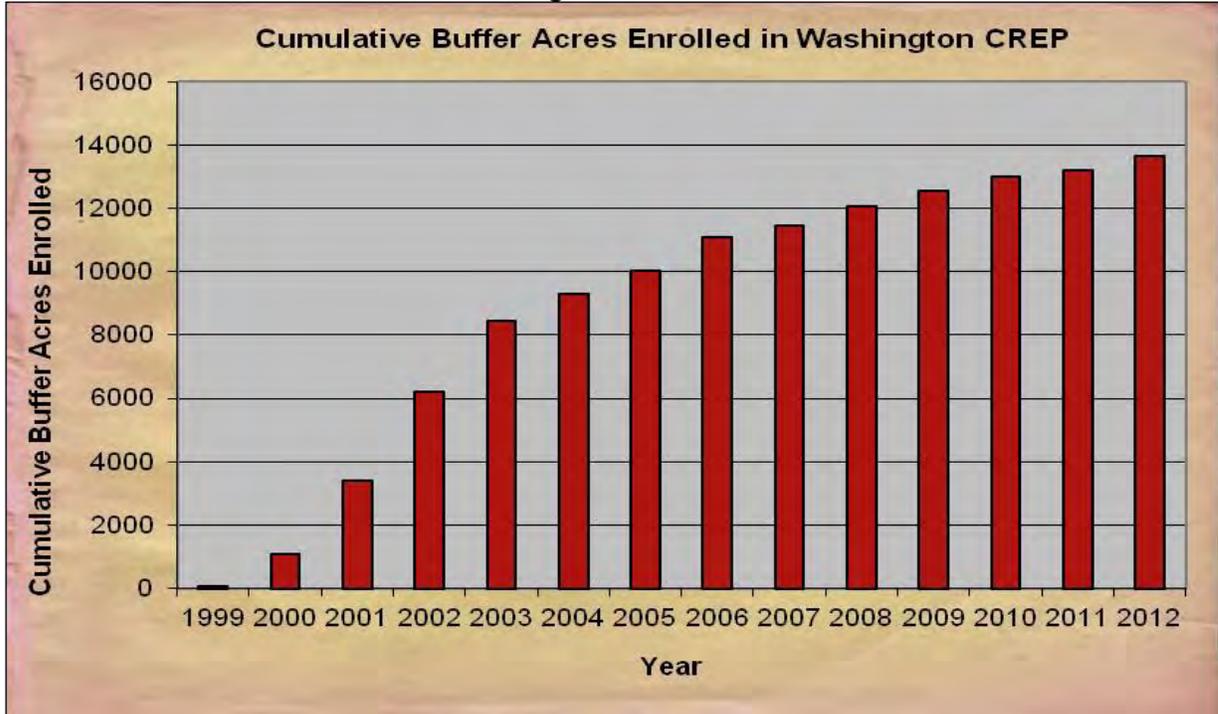
## Implementation Monitoring: Riparian Benefits

In 2012, 28 additional stream miles were restored and protected in the Washington CREP, bringing the total number of stream miles under contract to 735 (Figure 6). CREP buffer acres increased by 440 with a new total of 13,662 acres of riparian buffer restored and protected with CREP contracts (Figure 7).

**Figure 6. Stream miles protected by CREP buffers.**

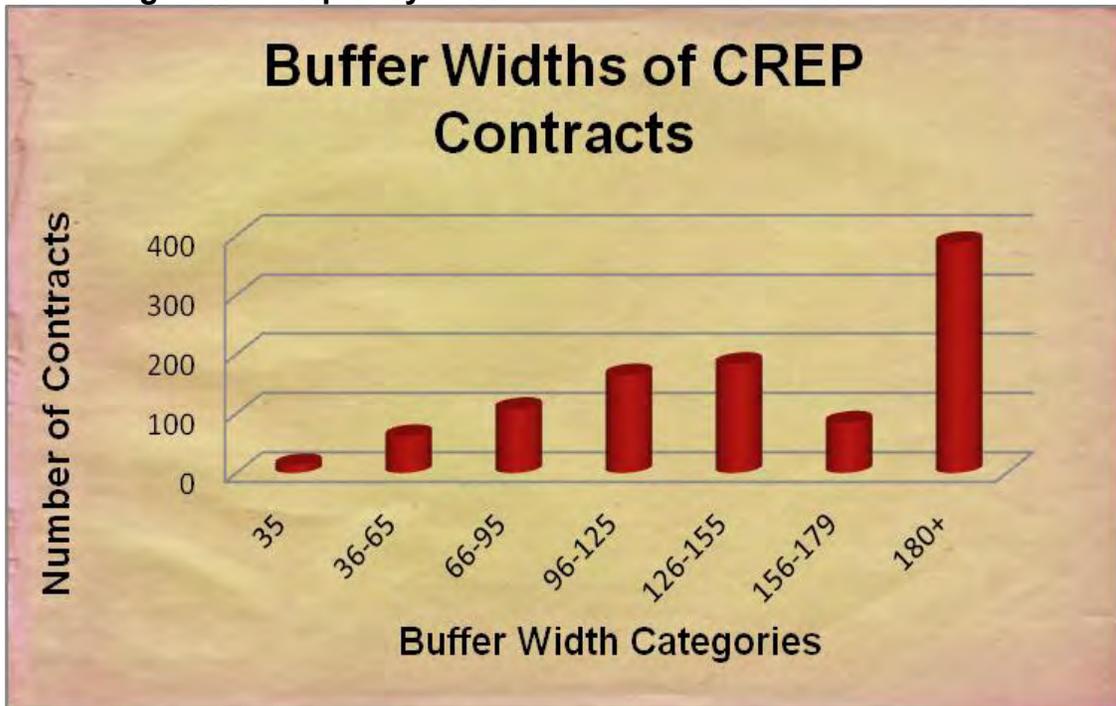


**Figure 7. Total cumulative acres of riparian buffer enrolled in the Washington CREP.**



The vast majority (96%) of CREP contracts use the riparian forest buffer practice. In this practice, buffer widths can range from a minimum of 35' to 180' from the stream edge. Buffers can and do extend wider than 180', but rental payments do not pay for buffers greater than 180'. Figure 8 shows the frequency of various buffer widths found in CREP. The most common buffer width category is 180' or wider with 39% of all riparian forested buffers developed to 180' or greater in width. Eighty percent of all CREP forested buffers are 100' or greater in width. The average buffer width is 143' while the median is 150'.

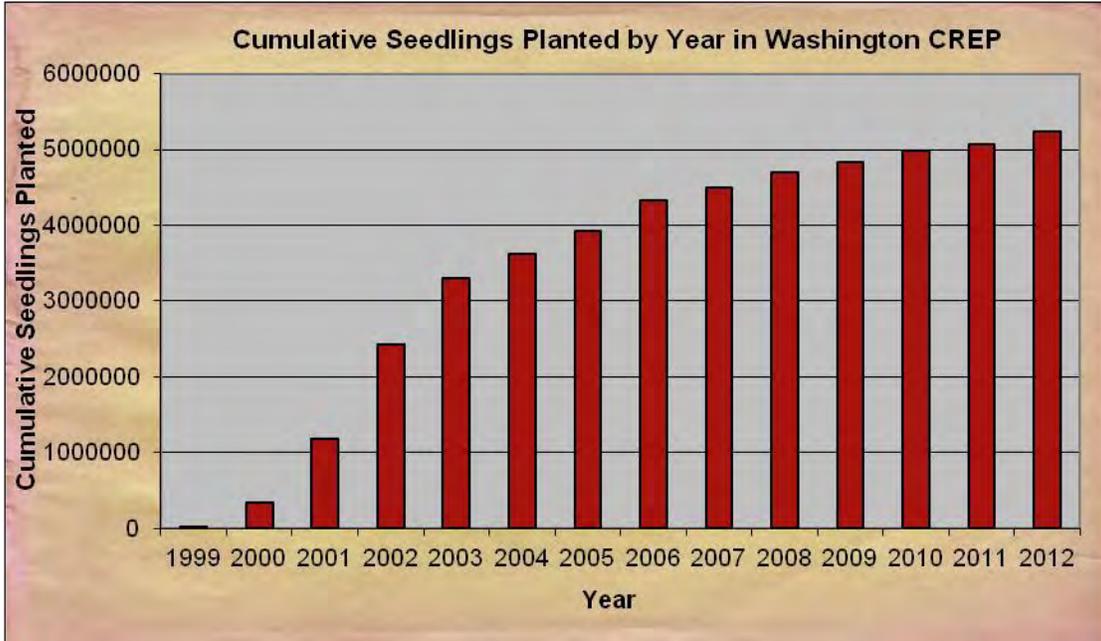
Figure 8. Frequency of various buffer widths at CREP sites.



### Implementation Monitoring: Seedlings, Troughs, and Fencing

About 175,000 native tree and shrubs were planted in 2012 for a total, cumulative 5.2 million seedlings planted throughout the last 14 years of CREP (Figure 9). In addition, a total of over 1.5 million feet of fencing has been installed along CREP riparian buffers to exclude livestock from these sensitive areas with about 31,000 feet installed in 2012 (Figure 10). Lastly, a total of 211 watering facilities have been installed in CREP over the last 14 years to facilitate livestock exclusion from salmon streams (Figure 11).

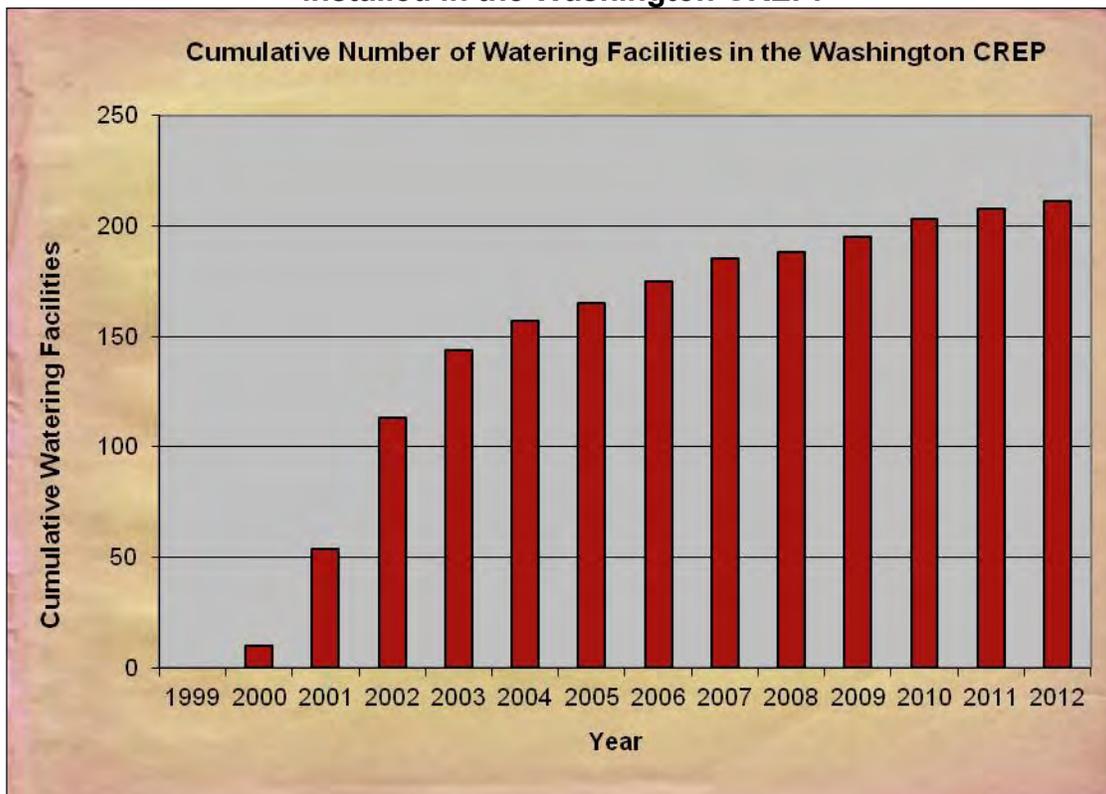
**Figure 9. Total, cumulative seedlings planted in the Washington CREP.**



**Figure 10. Total, cumulative feet of fence installed in the Washington CREP.**



**Figure 11. Total number of watering facilities such as troughs and wells, installed in the Washington CREP.**



### **Effectiveness Monitoring: Buffer Composition**

Results from 2008-2012 were merged to analyze the plant composition of CREP riparian buffers by plant type and by plant species. By plant type number, shrubs dominated many of the CREP buffers on the eastside, comprising 80% of eastside CREP buffers (Figure 12). Trees encompassed 20% of the riparian with 13% conifer and 7% deciduous tree species. By species, the most commonly used on the eastside were: willow species, rose, ponderosa pine, juniper, black cottonwood, and red-osier dogwood (Figure 13). A total of 21 different species were used in the sampled eastside CREP sites with all but the above listed species in low frequency.

Figure 12. CREP buffer plant composition by type in eastern Washington.

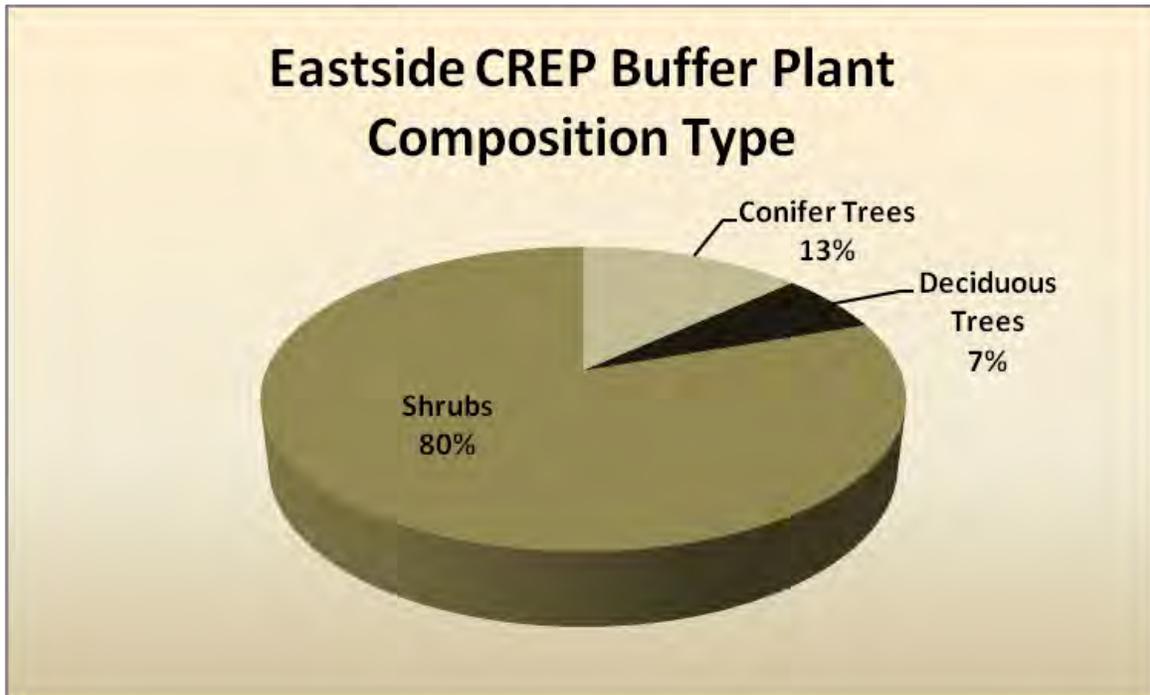
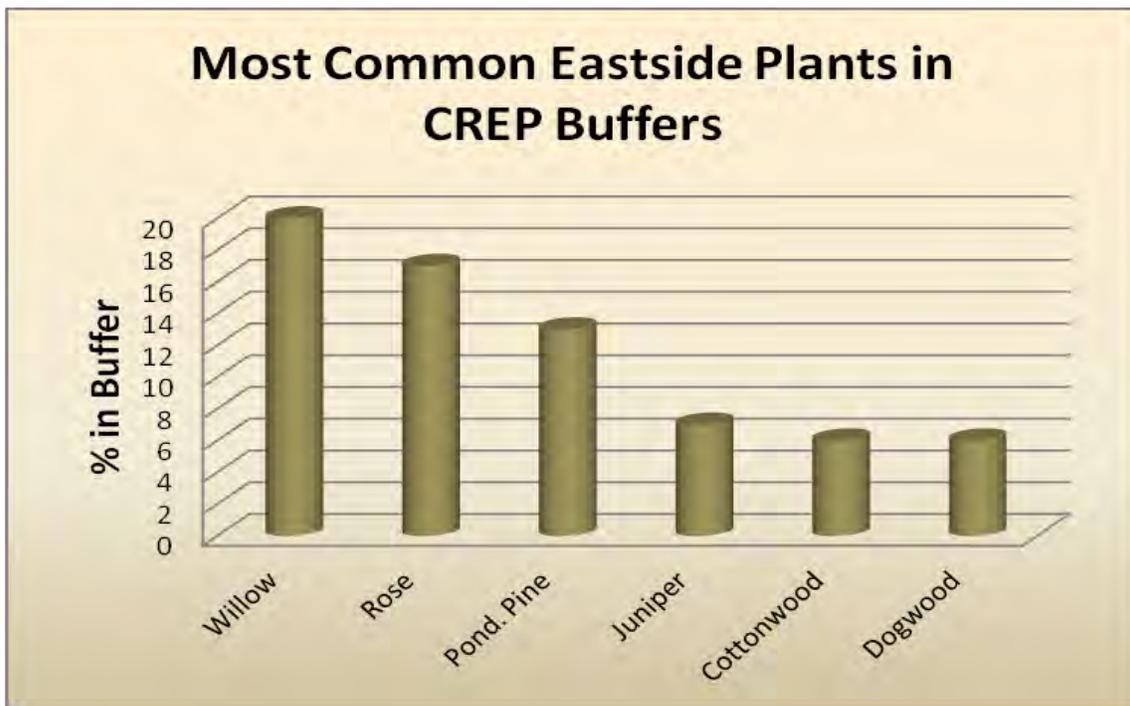
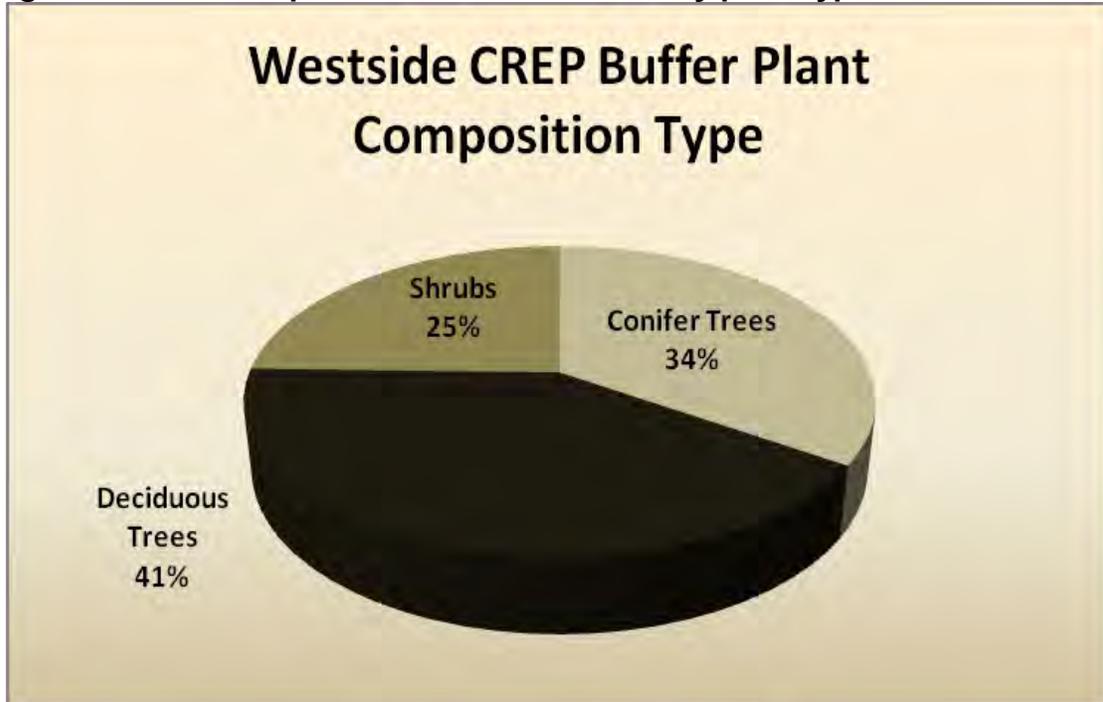


Figure 13. The most common CREP plants in eastern Washington sites. Full plant names can be found in Appendix 1 and were shortened here for better graphic readability.

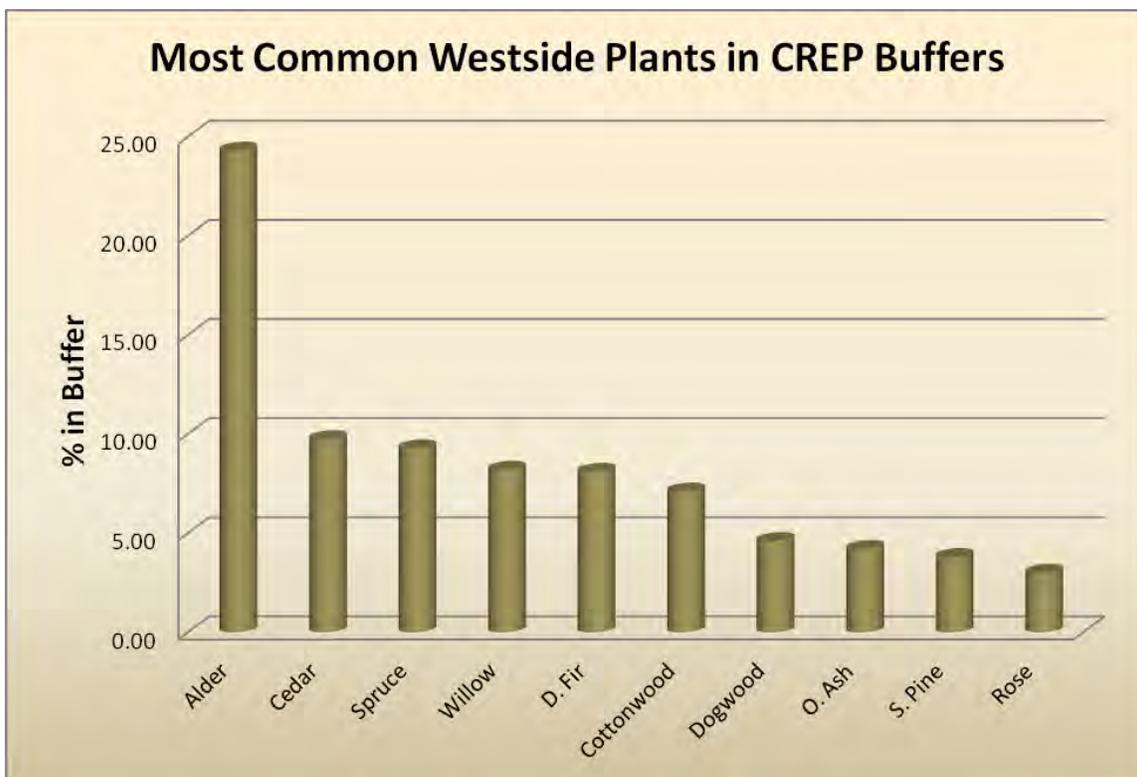


In contrast, the westside CREP buffers were comprised predominately of trees with 41% deciduous and 34% conifer (Figure 14). Shrubs encompassed 25% of the buffer plant composition. Of 34 different species recorded in the westside CREP samples, the most common, in order from high to lower frequency, were red alder, western red cedar, Sitka spruce, willow shrub species, Douglas fir, black cottonwood, red-osier dogwood, Oregon ash, shore pine, and rose (Figure 15).

**Figure 14. The composition of CREP buffers by plant type on the westside.**



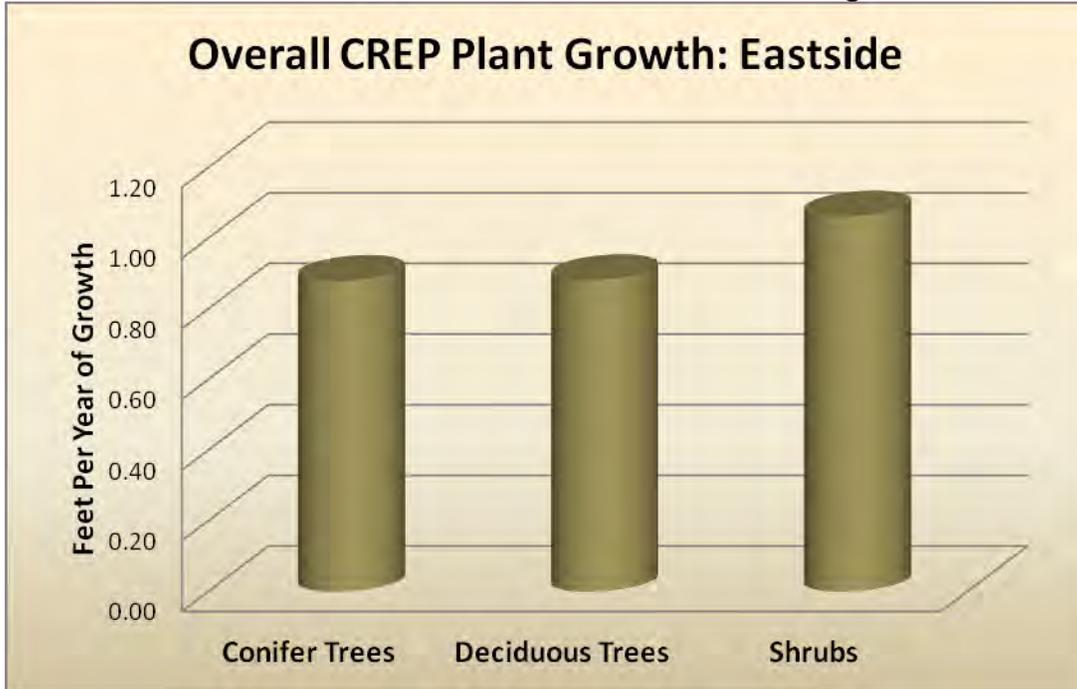
**Figure 15. The most common CREP plants in western Washington sites. Full plant names can be found in Appendix 1 and were shortened here for better graphic readability.**



### **Effectiveness Monitoring: Plant Growth**

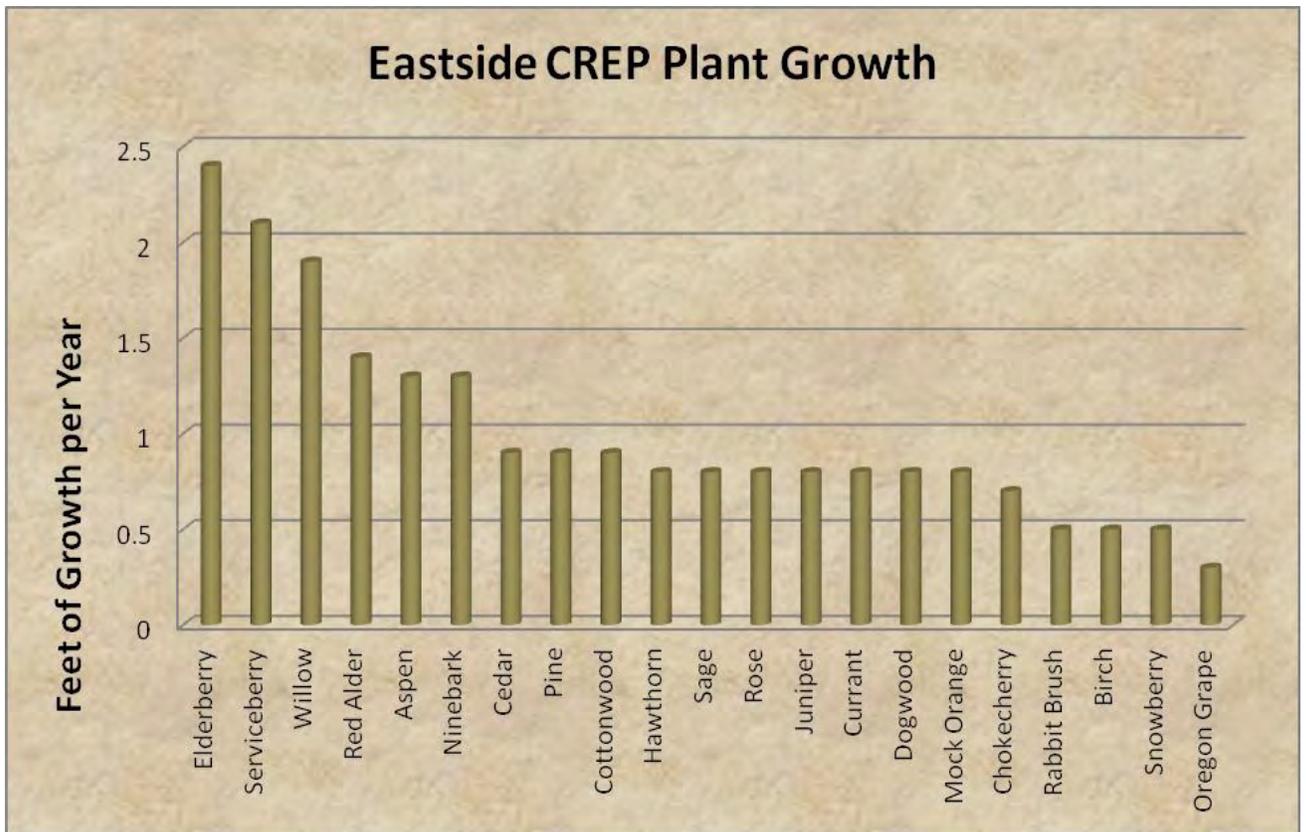
The year 2012 marked our sixth year of effectiveness monitoring sampling of Washington CREP sites. Data for five of those years has been inputted into the Conservation Practice Data System enabling us to combine results across those years, stratified into two groups: western and eastern Washington. At the eastern Washington CREP sites, conifer (ponderosa pine) and deciduous trees grew at an average of 10.6 inches per year, while shrubs (mostly willow) grew an average of 12.7 inches per growing season (Figure 16).

**Figure 16. Plant growth per year of installed plants in the Washington CREP on the east side of the Cascade Range.**



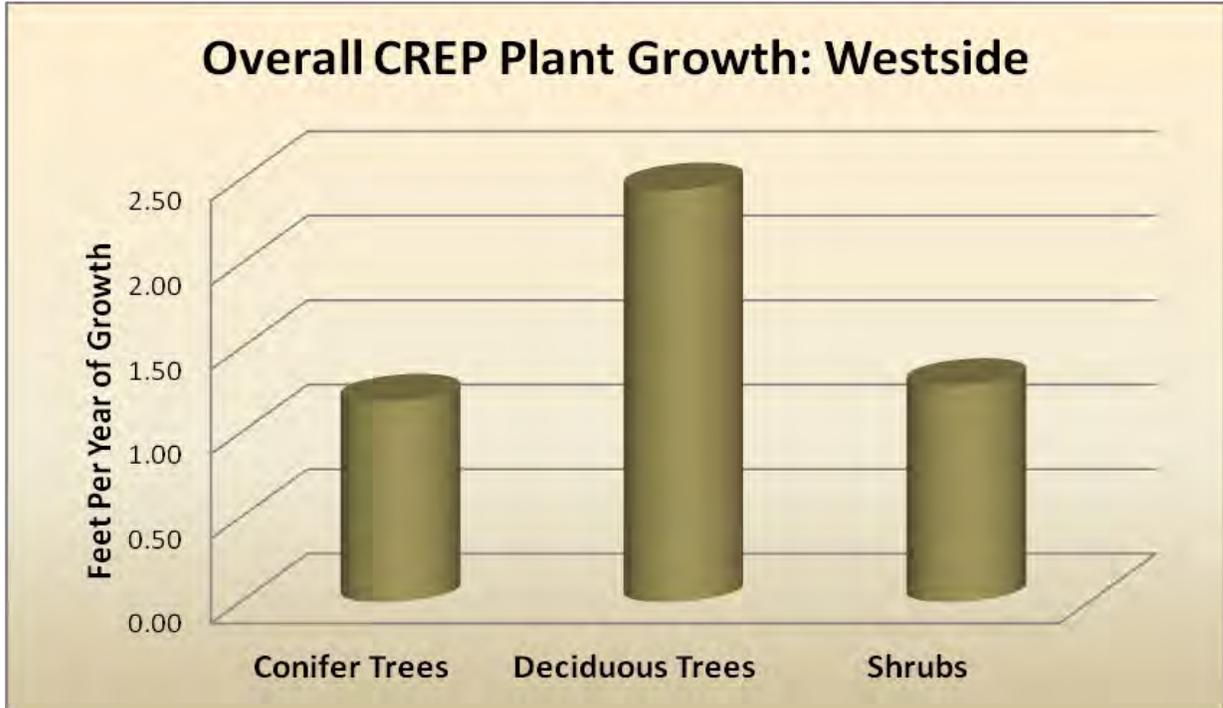
Data were also analyzed by plant species (willow shrub species were merged) for both the east and west sides. Species plant growth was greatest in blue elderberry (28.7" per year), serviceberry (25.3" per year), and willow shrubs (22.3" per year). Growth rates for other species are shown in Figure 17.

**Figure 17. Plant growth per year by species in eastern Washington CREP sites. Plant names are shortened for graph readability and are listed in full in Appendix 1.**



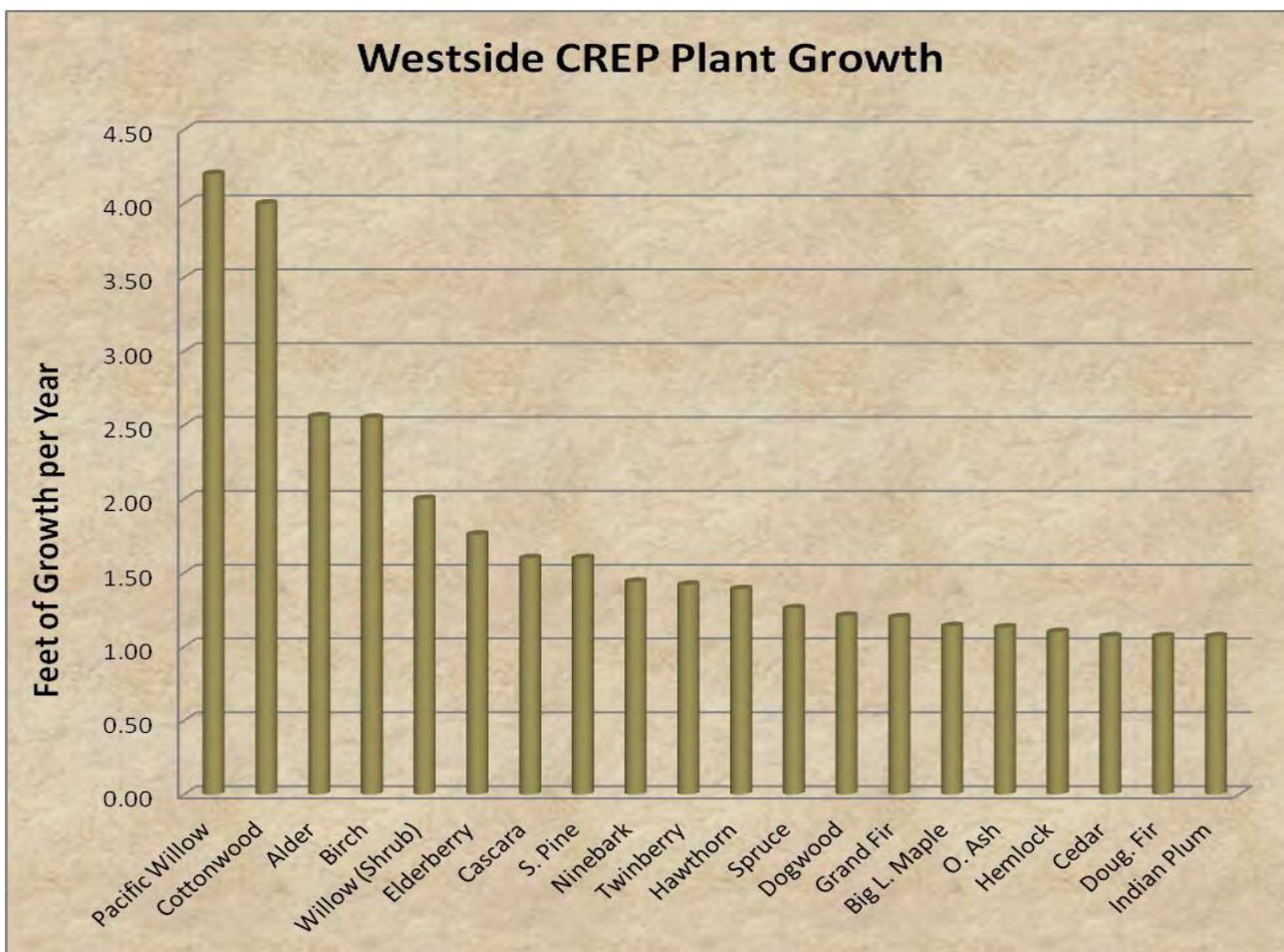
In western Washington, conifers and shrubs grew at an average of 14.3 and 15.4 inches per year respectively, and deciduous trees grew at a mean of 29.3 inches per growing season (Figure 18).

Figure 18. Plant growth by plant type in western Washington CREP sites.



The fastest growing CREP plants in western Washington sites were: Pacific willow (49.8" per year), black cottonwood (48.4" per year), red alder (30.7" per year), and birch (30.6" per year). Shore pine was the fastest growing conifer at 19" per year. A more complete list of growth rates can be found in Figure 19.

**Figure 19. Plant growth per year by species in eastern Washington CREP sites. Plant names are shortened for graph readability and are listed in full in Appendix 1.**



**Effectiveness Monitoring: Plant Survival**

Survival of CREP plants at eastern Washington sites is shown in Figure 20 with a mean survival across sites of 75 percent. Western Washington CREP plant survival has a mean of 90% (Figure 21). Our plant survival goal is 85%.

Figure 20. CREP plant survival (mean of 2008-2012 results).

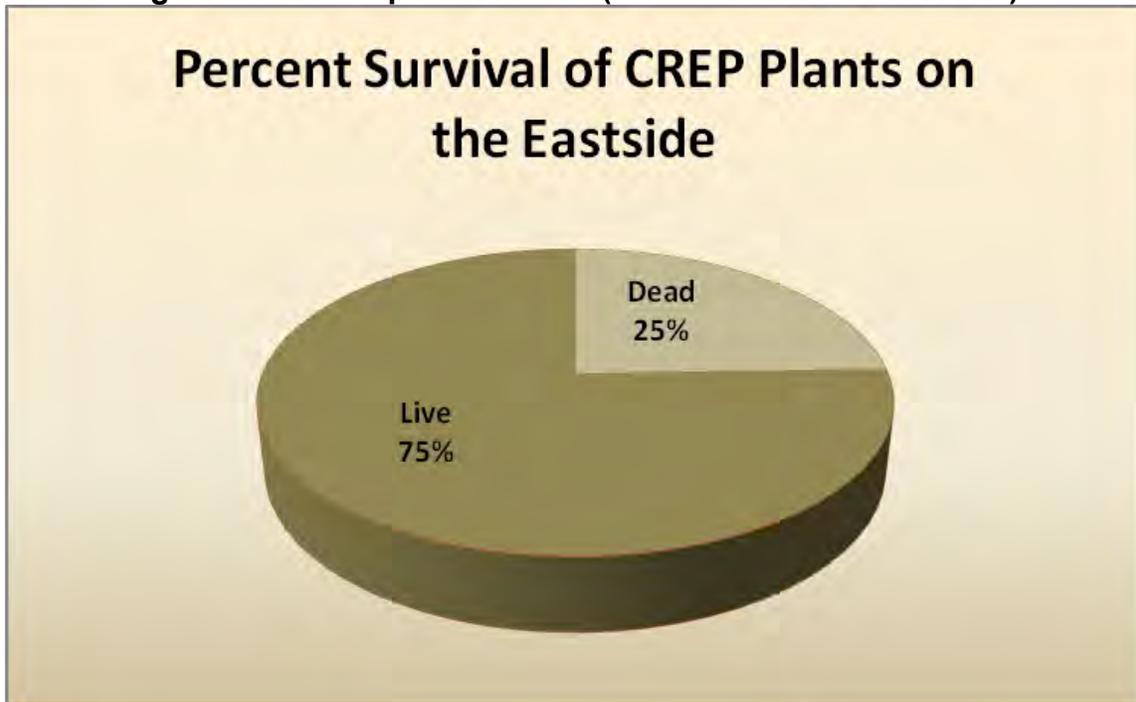
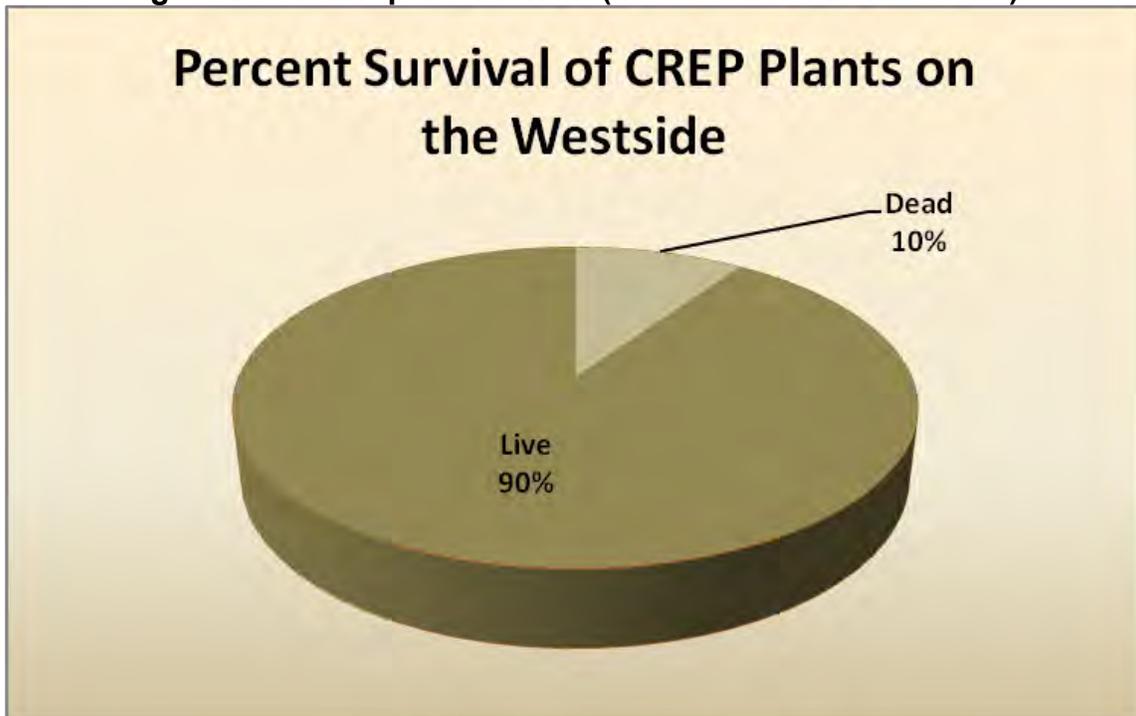


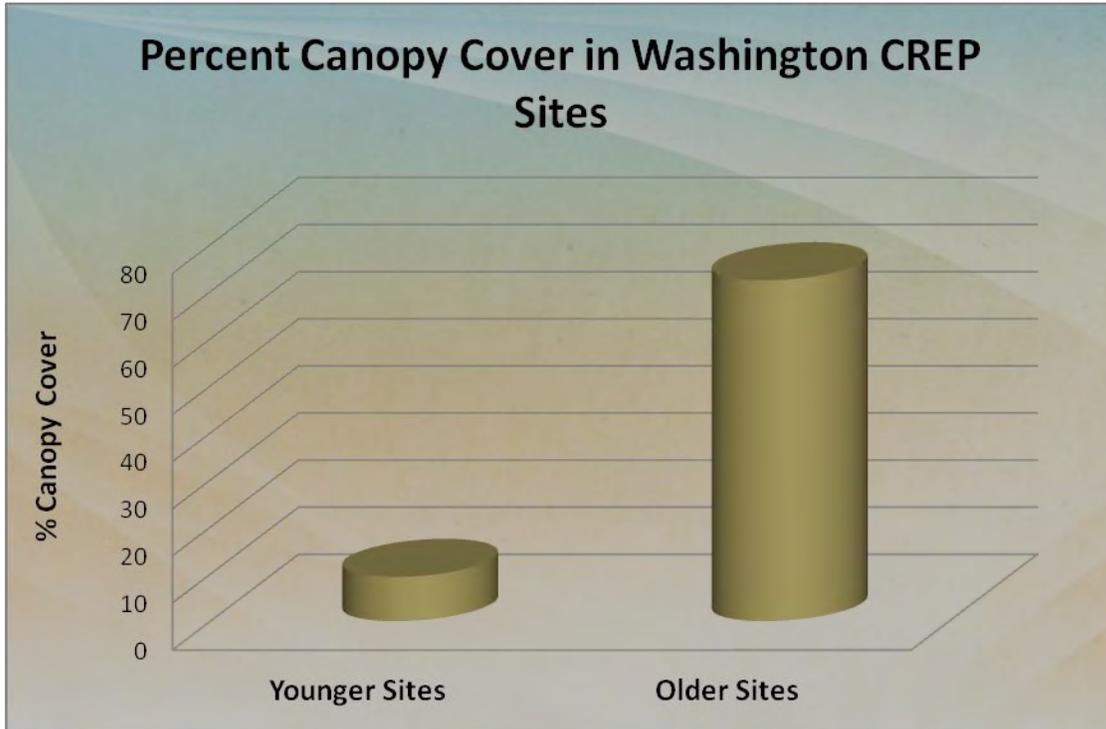
Figure 21. CREP plant survival (mean of 2008-2012 results).



## Effectiveness Monitoring: Canopy Cover

The amount of shade over the CREP-planted stream reaches was estimated as percent canopy cover measured mid-channel. This was measured only in wadeable CREP stream reaches because the larger mainstem reaches were not able to be sampled mid-channel. For the sampled streams, shade significantly increased ( $P < 0.0001$ ) over the CREP reaches that were planted at least 4 years prior as compared to younger CREP sites (Figure 22). The mean percent canopy cover for young sites (0-4 years old) was 9, while older sites had a mean of about 72 percent. These results are not applicable to wider streams as those are more difficult to shade and require a combination of wide buffers and taller (more mature) trees. If canopy cover were measured for the wider streams, the results would likely be much more variable and less significant between the two age groups.

**Figure 22. Percent canopy cover over small (wadeable) CREP enrolled-stream reaches.**



## Effectiveness Monitoring: Bank Erosion and Extent of Invasive Species

The percentage of eroding banks was low throughout most Washington CREP sites with an average of 8 percent along younger (less than 5 years) sites and 4 percent along older sites (Figure 23). These two groups are not significantly different from each other ( $p = 0.4608$ ). Bank erosion is expected to be low within CREP projects because sites with significant levels of erosion are not eligible for

CREP. However, we monitor to make sure that our actions are not contributing to increased bank erosion over time.

The percent of land coverage by invasive plant species averaged less than one percent for younger (0-4 growing seasons) and 3 percent for older (5-10 years) contracts (Figure 24). There were no significant differences between these two groups ( $p=3988$ ).

**Figure 23. Percent bank erosion along CREP reaches in eastern Washington.**

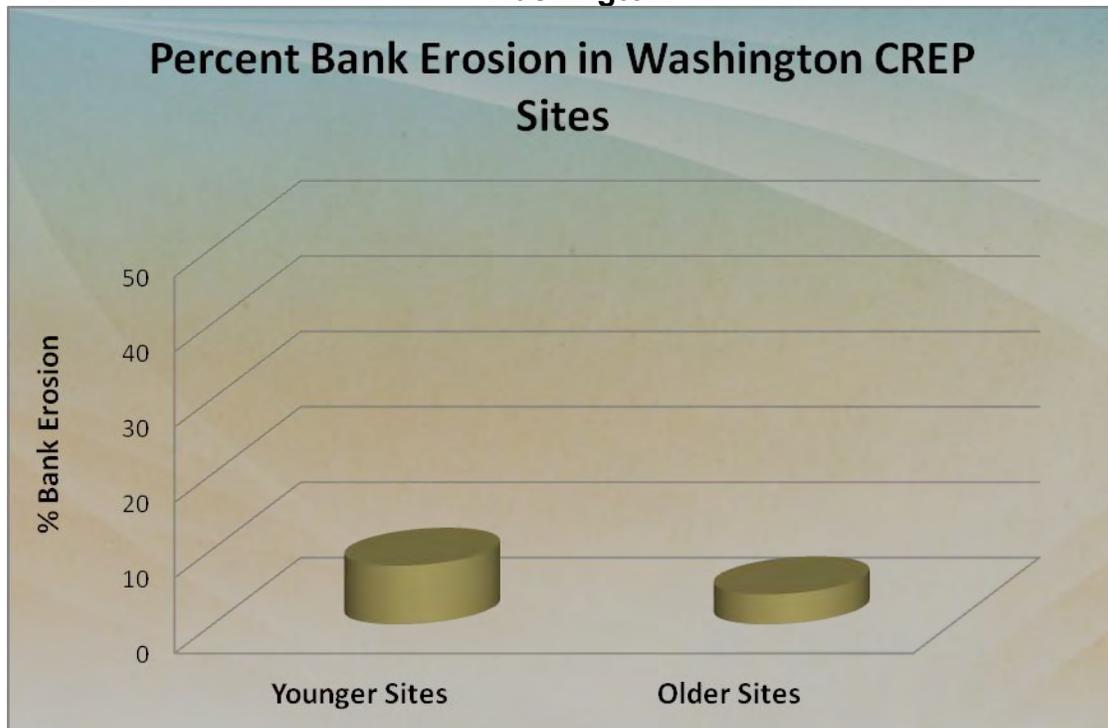
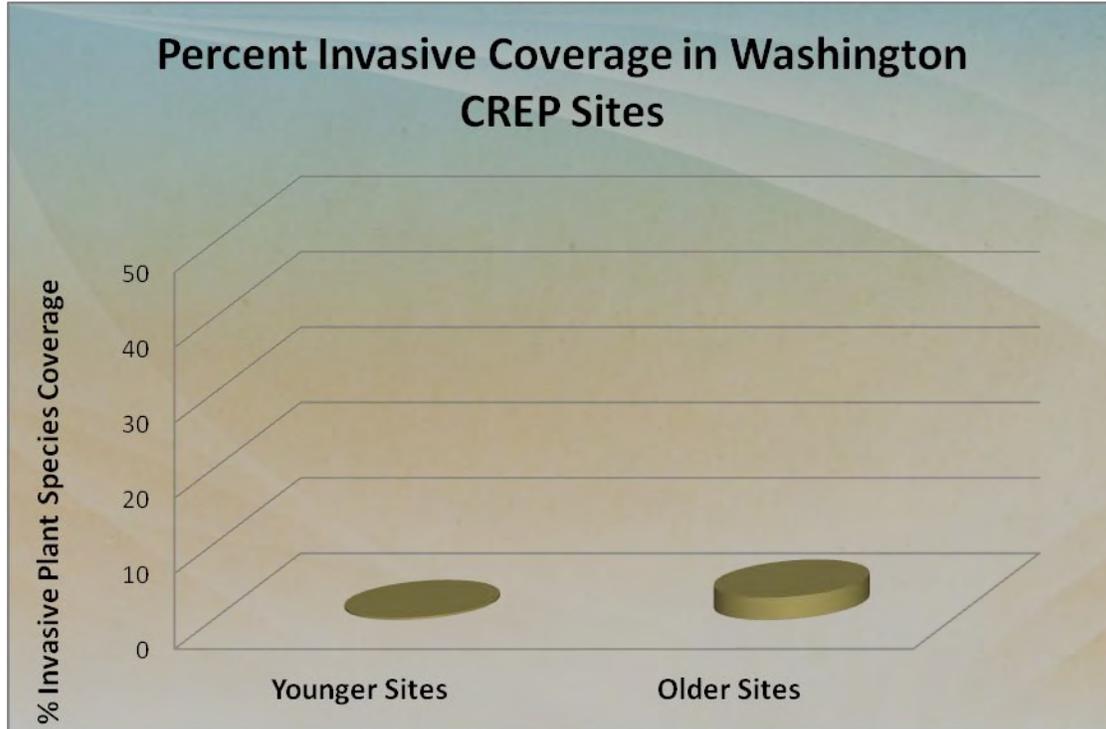


Figure 24. Percent of invasive plant species coverage within CREP buffers.



## Discussion

### Program Progress

The number of CREP contracts enrolled in 2012 was greater than expected. The expiration of the Farm Bill cut-off three months of possible enrollment, yet this was a relatively high year in contract numbers compared to the last six years of the program. The main reason for the increase in contracts is that the state level funding was fully restored this year.

Another interesting change is the shift in location of project activity in the state. In the past, southeast Washington and north Puget Sound have been our most active areas in CREP. That appears to be changing. While north Puget Sound remains very active, there is much less activity in southeast Washington and more activity in other western areas such as Lewis and Clallam Counties.

### CREP Buffer Widths and Function

The vast majority (96%) of CREP projects use the riparian forest buffer practice. This has a minimum width of 35' and the program provides funding for up to 180' in buffer width. Some buffers extend past 180' using exclusion fencing and upland watering facilities to direct livestock away from steep areas. The most common buffer width used in the Washington CREP is 180' and 80% of existing

CREP contracts have riparian buffer widths of 100' or greater. The average width is 143'.

Riparian buffers that are 100' or wider are able to provide a wide-array of functions. Literature values indicate that high levels of shade (50-100%) are achieved with these widths (see review by Knutson and Naef 1997, Spence et al. 1996). Riparian buffers at these widths are fully functional for filtering nutrients, controlling bank erosion, supplying leaf litter and organic material, and retaining soil moisture (Spence et al. 1996, Knutson and Naef 1997, Fischer and Fishenich 2000). The provision of large woody debris requires buffer widths of approximately 100-180' (Cederholm 1994, Knutson and Naef 1997). Many of the CREP buffers are adequate for this function. However, for wide streams with narrower buffers (35-100'), it is likely that those sites will not be fully functional in large woody debris recruitment. These are low in number in the Washington CREP.

The removal of other pollutants, such as pesticides and fecal coliform, often requires additional practices in addition to a CREP buffer. Also, filtering is generally more effective using grass filter strips and grass/shrub buffers rather than forested buffers (Fisher and Fishenich 2000, Mankin et al. 2007). Grass/shrub buffers have been demonstrated to be effective at removing nitrogen, phosphorus, and total suspended solids using widths of 8m (26').

In concert with the literature results, our monitoring of the Washington CREP shows that shade (canopy cover) is greatly improved in as little as five years. Projects under five-years old were compared against those that were five-years or older and the older contracts averaged 72% canopy cover compared to 9% in younger contracts. This compares to a review of riparian restoration studies in the Pacific Northwest Inland, which showed shade improvements from 3% at baseline to 31% by year four (Wall 2011). Oregon projects increased to supply 46% shade by years 10-14 after planting (Demeter Design 2010). Riparian restoration projects funded by the Salmon Recovery Funding Board did not show an increase in canopy cover at year 5, the oldest year in their study (Tetrattech 2010).

Increasing shade is an effective way to decrease water temperatures and improve conditions for salmon and steelhead that rely on cool water temperatures. Opperman and Merenlender (2004) have shown that restored riparian areas led to acceptable water temperatures for steelhead as compared to controls. Similarly, in areas targeted for large-scale riparian restoration using Washington CREP and other programs, water temperatures have cooled (Smith 2012). In addition, salmon began using 20 miles of habitat in the Tucannon River in Washington State that prior to riparian restoration was too warm for salmonids (Gallinat and Ross 2011).

## CREP Buffer Composition and Plant Growth

CREP riparian buffers are designed to primarily benefit salmon and steelhead. Desirable characteristics of such buffers include:

- Native plants to support a native ecosystem.
- A significant conifer component in areas that historically supported conifers to provide longer-lasting large woody debris to streams.
- A diversity of tree and shrub species to support an array of functions and food web components.
- A component of fast-growing native plants to aid in controlling invasive plant species and more quickly provide shade to cool water temperatures.
- The inclusion of other farm practices, where needed, to reduce land management impacts. These typically include fencing and upland water facilities to exclude livestock from riparian areas. It could also include the use of a grass filter strip between cropland and streams to reduce pollutants.

Two of these characteristics are required: the use of native plants (with rare exception) and inclusion of other farm practices where needed. All CREP buffers are “no touch”. Contracts are signed with landowners to require the ecological functionality of the buffers and no management (agriculture) is allowed within them. Part of this includes the requirement for fencing to be installed where livestock are present to preclude them from riparian and stream areas. In addition, native plants are used as much as possible. Funding reimburses plant costs, but will only do so when acceptable plants are used for a given region. These programmatic requirements are in place to assure that CREP buffer objectives are met.

The remaining characteristics are desired, and our monitoring shows how close we are to achieving those objectives and points out where improvements could be made. Buffer plant diversity is one of those characteristics. The most effective riparian buffers will ultimately have a mix of plant types as they mature, and diversity is a characteristic that develops over time in natural forests. Old growth forests are much more heterogeneous than young forests (Franklin et al. 1981). Past monitoring has shown that CREP buffers are very diverse in western Washington with a median of 11 plant species per sampled area and less diverse, but still adequate in eastern Washington with 5 plant species per sampled area (Smith 2011).

Yet another desired characteristic is the presence of conifer trees. These are important to contribute large wood to the stream. As trees mature and fall into the stream, they help shape streambed and channel morphology to the benefit of native fish species (Bisson et al. 1987; Cederholm et al. 1997). Western Washington CREP sites had a large conifer component (34%) in their buffers. Eastern Washington sites, much less (13%). However, some riparian areas historically did not support conifers. For example, the low to mid-reaches of the Snake River tributary systems were historically dominated by cottonwood (Kuttel

2002). This is the area where much of the eastern Washington CREP sites are located and current levels of conifer are low. Because this area did not historically support much conifer, the lower levels are justified.

The most commonly found plants in Washington CREP sites are: willow, black cottonwood, rose, red-osier dogwood, Ponderosa pine (eastern sites), juniper (eastern sites), red alder (western sites), western red cedar (western sites), Sitka spruce (western sites), and Douglas fir (western sites). Many of these are adapted to wet conditions, such as willow, cottonwood, dogwood, red alder, western red cedar, Sitka spruce, while Ponderosa pine is well-suited for drought-prone sites (Crawford 2003, Bennett and Ahrens 2007, Coos Watershed Association 2012).

Another desirable component is to have at least some fast-growing native plants. This can provide shade and cooler water temperatures sooner, and can aid in the control of invasive plant species. Invasive plant species are a major problem. Changes in dominant riparian plants result in changes in riparian function (Richardson et al. 2007), and invasive plants generally have reduced riparian function. Maintenance of newly restored riparian buffers is vital to the control of invasive species and for improved growth and survival of the native tree and shrub species (Roni et al. 2002, Oregon Watershed Enhancement Board 2010, Cramer 2012). Many authors recommend several years of maintenance, with one recommending up to ten years to control invasive species (Lennox et al. 2011). We fund active maintenance of the buffers for up to five years after planting, primarily to assure control of invasive plant species. Invasive plant species coverage is low in CREP sites (3% or less average). This compares to riparian restoration sites in Oregon had invasive plant species coverage ranging from 1-49% depending on the region (Demeter Design 2011).

It is useful though to know which native tree and shrub species are high growth performers so that they can be used in problematic sites if appropriate for those sites (selected plants must still meet the local conditions such as flood/drought tolerance, etc.). The plants with the greatest growth in eastern Washington restoration sites are: blue elderberry, serviceberry, and willow. Of these, willow species are the only one of these plants that is commonly planted in this region. Districts may want to consider greater use of elderberry and serviceberry where faster buffer growth is needed. In addition, elderberry can grow to be tall enough to supply considerable shade along smaller streams.

Western Washington CREP plants with high growth rates are: Pacific willow, black cottonwood, red alder, and birch. Shore pine was the westside's fastest growing conifer, but Sitka spruce, western hemlock, Douglas fir, and western red cedar all grew well too. The western Washington top growing plants were also among those most commonly planted at CREP sites.

Overall, the CREP plants in Washington State are growing at rates that are generally equivalent or greater than those documented elsewhere. Growth rates for most of the sampled contracts are high for both the arid regions in the east and the wet areas of the west. When comparing to the available information, the CREP sites are meeting or exceeding expectations.

In these other studies, conifer growth of 1+0 Douglas fir plugs and 2+0 bareroot was 4.2 inches and 4.3 inches per year after two years respectively, in western Oregon (Helgerson 1985). Ponderosa pine grew 4.1 and 4.7 inches per year for plugs and bareroot. In another study, mixed age conifers grew an average of 1.9 inches per year for Douglas fir and 2.6 inches per year for western hemlock along the Pacific coast (Hann et al. 2003). British Columbia reported riparian conifer growth rates of 6.1 to 17.6 inches per year (Poulin and Warttig 2005). Most of these growth rates are lower than our conifer rates of 10.6 inches per year in eastern Washington and 14.3 inches per year in western Washington.

Results for deciduous tree growth are highly variable. Washington CREP deciduous trees averaged 29.3 inches per year in western Washington and 10.6 inches in eastern Washington, while shrubs grew an average of 15.4 inches per growing season in western Washington and 12.7 inches per year in eastern Washington. In a similar restoration project in western Oregon, red alder grew an average of 39.4 inches per year (Bishaw 2002), compared to 30.7 for the same species in the Washington CREP. In another study in British Columbia, black cottonwoods grew an average of 66 inches per year over a ten-year period (Burns and Honkala 1990), whereas the same species in western Washington CREP sites grew 48.4" per year. Along the Sacramento River, cottonwoods and willows planted in restoration sites were the most successful species in terms of growth, at 28" per year (Alpert et al. 1999). Pacific willow, a commonly used small tree in CREP projects, averaged 13.2-36" per year in Corvallis, Oregon (USDA Soil Conservation Service and Oregon State University Agriculture Experiment Station 1988). Pacific willow in the Washington CREP was our fastest growing plant at 49.8" per year.

While there are no set standards for plant growth in CREP, we consider sites successful if the growth/year of CREP plants plus the original height are showing a 20% increase compared to the original height. All of the sampled CREP plant types (conifer, deciduous, and shrub) in both regions greatly exceeded this measure of success.

## **Plant Survival**

Plant survival is another measure of riparian buffer success. It is more difficult to measure, especially as the buffers age, because missing plants become more difficult to notice. Average percent survival of sites across eastern Washington was under the goal of 85%. It averaged 75%. Two sites had very high

mortalities. The western Washington sites performed very well with 90% average survival.

Survival results differ greatly in the literature, and depend heavily on weather patterns and environmental conditions, which can vary locally. In an Oregon study, survival of conifers averaged 98% for bareroot stock and 89% for plugs after two growing seasons (Helgerson 1985). However, in a recent restoration project along Beaver Creek in Oregon, survival was about 50% during the first year (due to beaver damage), but after providing better protection, increased to a range of 67-75% after three years (Bishaw et al. 2002). A riparian project in the Oregon high desert reported early survival results of 70-80% for a mix of ponderosa pine, deciduous trees, and shrubs (Fox Creek Farm 2006). The Oregon Watershed Enhancement Board (Anderson and Graziano 2002) monitored many riparian restoration sites and found that slightly less than half of these projects had tree survival rates of 75% or greater. Riparian restoration projects in Vermont had better survival of around 72% at year three after planting (Szafranski 2012). These comparisons are similar to our results in eastern Washington and lower than our western Washington average.

The Salmon Recovery Funding Board (SRFB) in Washington State defines plant survival as successful when survival is 50% or greater at year 10 (Crawford 2004). In year 3, 89% of their riparian projects met this criterium (Tetra Tech 2011). Several of our sampled CREP contracts are 8-9 years old with survival of 80-100%. The NRCS plant stocking specifications assume a 15-20% mortality within the first few years, which is why we chose a goal of 85% survival. The majority of Washington CREP sites are generally performing better than these assumptions.

These results demonstrate that the Washington State CREP buffers are successfully growing and surviving with generally rich plant species diversity. The small streams are quickly shaded, and the five-year maintenance program appears to be successful in controlling invasive plant species at least through the 10 years of sampled contracts.

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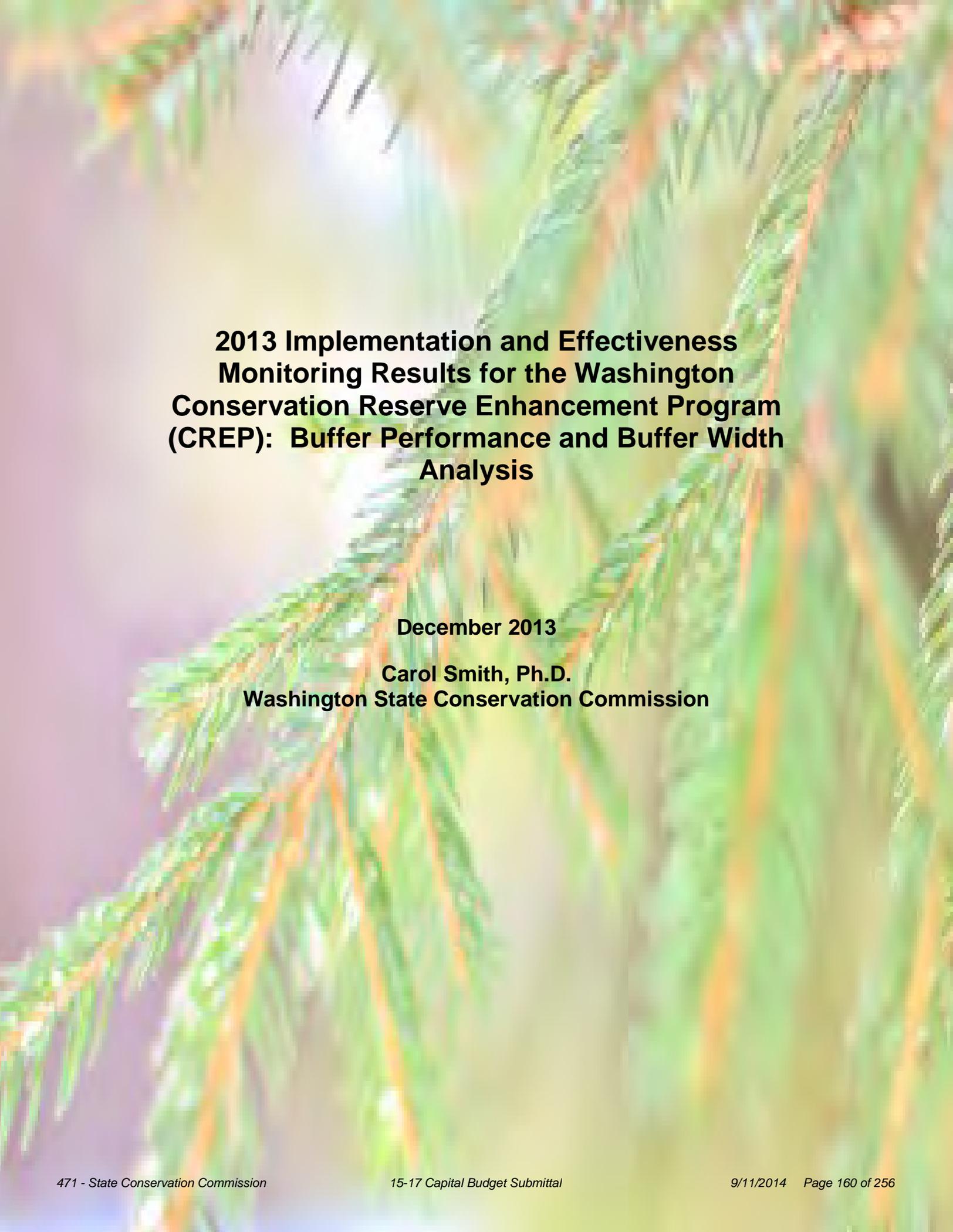
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## Appendix 1. List of Plant Species Monitored in Washington CREP Sites.

Common Name	Species Name
Aspen (Quaking)	<i>Populus tremuloides</i>
Bigleaf Maple	<i>Acer macrophyllum</i>
Birch (Water Birch)	<i>Betula occidentalis</i>
Black Cottonwood	<i>Populus balsamifera</i>
Blue Elderberry	<i>Sambucus nigra ssp.</i>
Cascara	<i>Rhamnus purshiana</i>
Chokecherry	<i>Prunus virginiana</i>
Current (Golden)	<i>Ribes aureum</i>
Douglas Fir	<i>Psuedotsuga menziesii</i>
Douglas Hawthorn	<i>Crataegus douglasii</i>
Grand Fir	<i>Abies grandis</i>
Hemlock (Western)	<i>Tsuga heterophylla</i>
Indian Plum	<i>Oemleria cerasiformis</i>
Juniper (Western)	<i>Juniperus occidentalis</i>
Mock Orange	<i>Philadelphus lewisii</i>
Oregon Ash	<i>Fraxinus latifolia</i>
Oregon Grape	<i>Mahonia aquifolium</i>
Pacific Ninebark	<i>Physocarpus capitatus</i>
Pacific Willow	<i>Salix lucida</i>
Ponderosa Pine	<i>Pinus ponderosa</i>
Rabbit Brush	<i>Ericameria nauseosa</i>
Red Alder	<i>Alnus rubra</i>
Red-Osier Dogwood	<i>Cornus Stolonifera</i>
Rose	<i>Rosa spp.</i>
Sagebrush	<i>Artemisia tridentate</i>
Serviceberry	<i>Amelanchier alnifolia</i>
Shore Pine	<i>Pinus contorta</i>
Sitka Spruce	<i>Picea sitchensis</i>
Snowberry	<i>Symphoricarpus albus</i>
Twinberry (Black)	<i>Lonicera involucrate</i>
Western Red Cedar	<i>Thuja plicata</i>
Willows	<i>Salix spp.</i>



**2013 Implementation and Effectiveness  
Monitoring Results for the Washington  
Conservation Reserve Enhancement Program  
(CREP): Buffer Performance and Buffer Width  
Analysis**

**December 2013**

**Carol Smith, Ph.D.  
Washington State Conservation Commission**

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# Washington Conservation Reserve Enhancement Program: Buffer Performance and Buffer Width Analysis

## Executive Summary

The Conservation Reserve Enhancement Program (CREP) is a voluntary program that offers financial incentives to farmers to restore riparian habitat and preclude agricultural activities in those buffers during the contract duration (10 or 15 years). The primary purpose of CREP is to restore habitat for salmon and steelhead and improve water quality in those streams. It is co-administered by the U.S. Department of Agriculture Farm Service Agency (FSA) and the Washington State Conservation Commission. Federal funding covers about 80% of the costs of CREP.

The program has been in operation for nearly 15 years, and has several important features that contribute to successful habitat restoration:

- By specializing in riparian restoration, staff are highly trained for this function.
- All CREP practices must follow federal standards, which increase the consistency of results.
- Contracts are visited on at least an annual basis in the first 5-6 years. They are sporadically visited thereafter. This assures landowner adherence to the program requirements and allows for measures to be taken to improve plant growth and survival.
- Oversight is provided by two separate agencies, FSA and the Conservation Commission, to help assure standards are met. In addition, the Natural Resources Conservation Service is often involved in site planning.
- Maintenance of the riparian area is funded for a five-year period after planting to control invasive plant species and provide watering during dry periods.
- Contracts are part of an effectiveness monitoring program using random sampling. In addition, all contracts are monitored for implementation performance.

The Washington State Conservation Commission monitors CREP in two ways. Implementation measures are collected for every contract on an annual basis to show the extent of restoration. Randomly selected contracts are monitored for their effectiveness in improving stream and riparian function and structure. This report summarizes the results of both types of monitoring for contracts signed through the end of 2013 and monitored for effectiveness for the calendar years of 2006, 2008-2013. Effectiveness monitoring was not done in 2007.

In 2013, the cumulative number of CREP contracts reached 1,113 with 56 new contracts signed in 2013. Compared to the total number of contracts (1,113), the riparian forest buffer practice is by far the most common (93%) with wetland

enhancement at 4% of total. Riparian hedgerows comprise 3% of the contracts, less than 1% are grass filter strip contracts. The 2013 contracts added 15 stream miles, 203 acres of buffer, 66,000 seedlings, and 25,000 feet of fencing.

These buffers are rapidly growing with average rates ranging from 12-18 inches per year in eastern Washington and 14-27 inches per year in western Washington (averaging across plant types). More importantly are the results of these actions on the environment. The canopy cover results were remarkable with approximately 68% coverage (shade) in the 5-10 year contracts compared to 13% in the 1-4 year old category. These measurements were conducted only in the small wadeable streams. It is likely that if wide streams were included, the results would be more variable and less significant. However, it shows how quickly and effectively buffers can shade small (25' or less bankfull width) streams enrolled in CREP.

A low level of invasive plant species presence was noted with 2% in younger contracts (1-4 years) compared to 4.5% coverage in mid-year contracts (5-10 years). Bank erosion was low with 13% average in younger contracts and 3% along older CREP sites.

The most common buffer width category is 180' or wider with 39% of all riparian forested buffers developed to 180' or greater in width. Eighty percent of all CREP forested buffers are 100' or greater in width. The average buffer width is 142' while the median is 150'.

These results indicate that CREP is successful in several ways. The sites are preventing the spread of invasive plant species while increasing the coverage by native species that can perform the necessary fish and wildlife functions of a riparian buffer. The CREP plants are surviving and growing quickly, providing important shade to the smaller streams. Previous monitoring has shown that when CREP and other riparian restoration are targeted to cover a major amount of stream length, water temperatures improve for salmonid use (Smith 2012a). The implementation of the program has been growing at a steady rate. With federal funding paying for 80% of the total costs, CREP remains an effective and cost-efficient program for riparian restoration on agricultural lands in Washington State.

Even with the demonstrated success of the Washington CREP coupled with average wide buffer widths, efforts are underway to increase the minimum buffer width from 35' to a significantly wider buffer. One suggested increase is to 100'. Widening our minimum buffer requirement will reduce the ability to develop site-specific plans that consider constraints within parcels that include: topography, hydrology, agricultural use, infrastructure, property boundaries, and valley configuration. Increasing the minimum width will not increase overall buffer widths in the program. Instead, the expected results are a decrease in some of the buffer sizes at the farm scale and decrease in the number of contracts. This

will result in less stream length covered by high quality buffer; an overall decrease in riparian restoration at the watershed scale.

## Introduction

The Conservation Reserve Enhancement Program (CREP) is a voluntary program that offers financial incentives to farmers to restore riparian habitat (streamside trees and shrubs) and to preclude agricultural activities in those buffers during the contract duration (10-15 years). The program began in 1998 with the first signed contracts in 1999. It is cooperatively administered by the U.S.D.A. Farm Service Agency (FSA) and the Washington State Conservation Commission. The federal government pays approximately 80% of the total costs.

In Washington State, about 37% of salmon streams on private land pass through agricultural land use (USFWS and NMFS 2000). Because much of the agricultural land is located in or near historic floodplain-rich habitat, it is important that efforts continue to develop opportunities to not only improve riparian habitat for healthy watersheds, but also to maintain viable agriculture. Once land is converted to more intensive development (urban and industrial), environmental impacts increase and the prospects to preserve or restore habitat near streams greatly decrease. Between 1982 and 1997, about 20% of the farmland in the Puget Sound region was lost to other uses, especially in King and Snohomish Counties where urban growth has been high (Canty and Wiley 2004).

The primary focus of the Washington CREP is riparian buffer restoration and protection along salmon streams. This includes buffers along streamside wetlands. CREP areas become “no touch” buffers. Fencing and livestock watering facilities are installed on livestock farms to prevent their access to the buffers and stream. The newly planted native trees and shrubs are then actively maintained for five years to increase the likelihood of success. Maintenance primarily includes weed control and watering.

Monitoring is an important component of habitat restoration. Without it, there can be no knowledge of what’s been done, where it has been done, and no measurement of success in the investments and techniques. Implementation monitoring of CREP tracks how much has been done. These measures are: acres treated, stream miles restored, number of contracts, feet of fencing installed, and number of plants planted. The implementation monitoring data is used to show program performance to the Office of Financial Management, the legislature, and the Farm Service Agency. It is also used for management purposes within the Washington Conservation Commission to allocate funds and better manage the program.

It is also important to know how effective CREP is. Our measures of success include plant growth, plant survival, buffer diversity, shade, bank erosion, and non-native plant species control. This year, the results are merged with data collected from past years to show plant growth and buffer composition by species. The species-specific information is of interest to the staff who develop the plans, aiding in future plant selection.

This report describes the methodologies and results for both implementation and effectiveness monitoring assessments in the Washington State CREP from its origins in 1999 through the 2013 calendar year. Together, these measures demonstrate the level of performance for both program growth and environmental benefit. In addition, the issue of buffer width is analyzed. Buffer widths are a contentious issue in Washington State. This report examines the current CREP buffer width status and discusses some likely outcomes if the CREP minimum buffer width is increased.

## Methodology

Following Environmental Monitoring and Assessment Program (EMAP) protocols (Peck et al. 2001), 10 sites were randomly selected for field measurements for 2013 and the results were merged with data collected from 2006, 2008-2012. Monitoring was not done in 2007. Randomization was accomplished using the Research Randomizer (2012). Sites with a pre-existing canopy were either not included, or were measured for other parameters besides canopy cover because pre-established cover would skew the results in a favorable manner. For the analyses, all measurements were grouped according to the number of growing seasons. Projects from the westside or eastside were analyzed separately and/or together.

### Effectiveness Monitoring Within the Buffer

Data were collected to answer the following buffer effectiveness monitoring questions by contract site, by growing season, by eastside versus westside, and statewide. Plant type is defined as conifer trees, deciduous trees, or shrubs. This year, results are both grouped by plant type and analyzed by species. Grouping by plant type should reduce some of the plant growth variability. However, it is valuable for technicians to know which plants are the dominant buffer species and which are growing the fastest.

What is the growth rate of plants overall, by type, by species?

What is the percent survival of plants overall?

What is the plant species diversity within buffers?

The field measurements for the buffer effectiveness measures followed the strip-plot design methodology described in Haight (2002). This design is a good choice for assessing a diverse buffer that often has differing conditions near the shoreline versus further upland. Details on setting up the strip-plot are described below. These 20-foot wide strips encompassing the buffer width were assessed for:

- Species of plant
- Plant type (conifer, deciduous, shrub)
- Height of plant (ground to tip of plant) using a laser rangefinder for taller trees
- Live/dead/missing status for each plant (sometimes missing plants are obvious, but other times are not and could be under-recorded)
- The number of plants total, by plant type, and by species per square foot of sampling area were obtained from these data (will likely be converted to per acre later) to calculate buffer density and diversity.
- Presence of non-native invasive plants and extent of coverage (area of plot)
- Notes about the site, such as predation, flooding, fire, and other issues.

The plots were at equally spaced intervals (100') beginning at a random start near the edge of a project and extending through the project site in areas without significant interplanting. Because some sites have buffer lengths approaching 20,000', it isn't feasible to treat large sites as a single site, and for those with distinctly different sections or parcels, one or more parcels would be randomly selected for sampling.

After the interval start point was found, the strip-plot was set up as follows. A tape was run through the buffer width perpendicular to the stream to create the perpendicular tapeline. The buffer width (length of tape) was recorded for later calculations of sample area used in diversity and density estimates (tape length (buffer width) X 20'). All CREP plants within 10-feet of each side of the tapeline were assessed. This has been shown to be a statistically valid yet efficient plot design for riparian buffers of varying ages (Haight 2002). Borderline plants were included if half or more of their trunk radii at diameter breast height (Dbh) (generally 4.5') is within the 10' mark.

In addition, data were obtained from the planting records regarding the original height of plants by species and the date of planting to determine the number of growing seasons. Any replanting or thinning data was also recorded.

Data was entered and stored in the Conservation Practice Data System at the Washington Conservation Commission. Data was grouped by plot, project, district, region (eastside/westside), and state to summarize at various levels. Plants were grouped by species and type.

## **Effectiveness Monitoring in Stream Channel**

Stream channel effectiveness monitoring included in-channel measurements of percent canopy cover and condition of bank erosion. These were measured in the stream channel as an extension of the mid-point of the buffer plot described above.

The questions answered include:

- What is the percent canopy cover by site, by region, and by growing season?
- What is the condition of bank erosion by site, by region, and by growing season?
- How does each of these measurements change with age of project (number of growing seasons)?

*Percent Shade (canopy cover) Measurements.* The percent canopy cover was used to assess shade following EMAP protocols (Peck et al. 2001). At each instream transect, the percent canopy cover was measured using a convex spherical densitometer mid-channel. Four readings were taken at each transect

of wadeable streams. They included: upstream, left bank, downstream, right bank. A score of 1-17 was given to each site. The readings were averaged for each transect.

*Bank Erosion Measurements.* The bank erosion condition was estimated by visually assessing the 20' length of bank (same side as CREP contract) centered around each in-channel transect (10' from each direction of transect point). The assessment included noting the percent of bank eroded, the percent of bank lacking vegetation, and the number of slides entering the stream

## **Data Analysis**

Trends over time by growing season were analyzed, as well as differences between groups using ANOVA or Student's unpaired t-test.

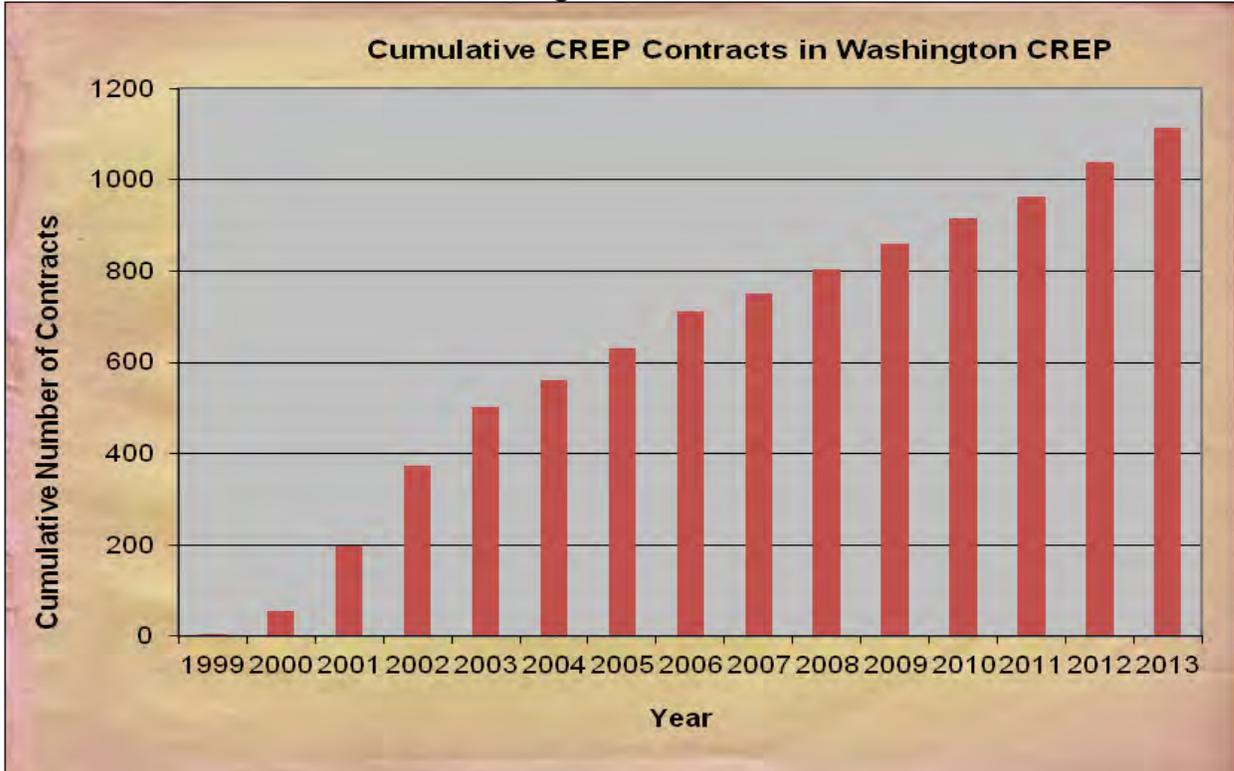
## Results

### Implementation Monitoring: New Contracts

In 2013, we gained 56 new contracts for a total of 1,113 restored sites in Washington State (Figures 1 and 2). This is a remarkable number considering that we had a sign-up period of less than five months for the calendar year. Complications with farm bill extension funding prevented the ability to sign new contracts from January through early May, and farm bill extension expiration on October 1 prevented the approval of new contracts from October through December. The higher than expected number is likely because state funding for the program was fully restored, allowing conservation districts to provide technical assistance in a proactive manner with landowners in anticipation of a sign-up period.

Three to four years ago, new practices were allowed in the Washington CREP. In addition to the original riparian forest buffer practice, the new practices include wetland enhancement, riparian hedgerows, and grass filter strips. Of the 56 new contracts this year, ten were hedgerow buffers and ten were wetland enhancement contracts. Also, two CRP-1 contracts were signed for the grass filter strip practice in 2013. The cumulative total number of each of the new practices is: 40 wetland enhancement practices, 29 hedgerow contracts, and 2 grass filter strip contracts. Compared to the total number of contracts (1,113), the riparian forest buffer practice is by far the most common (93%) with 4% wetland enhancement practices, 3% riparian hedgerow practices, and less than 1% grass filter strip practices.

**Figure 1. The total number of signed CREP contracts by year in Washington State.**



**Figure 2. The number of contracts in the Washington CREP by year.**

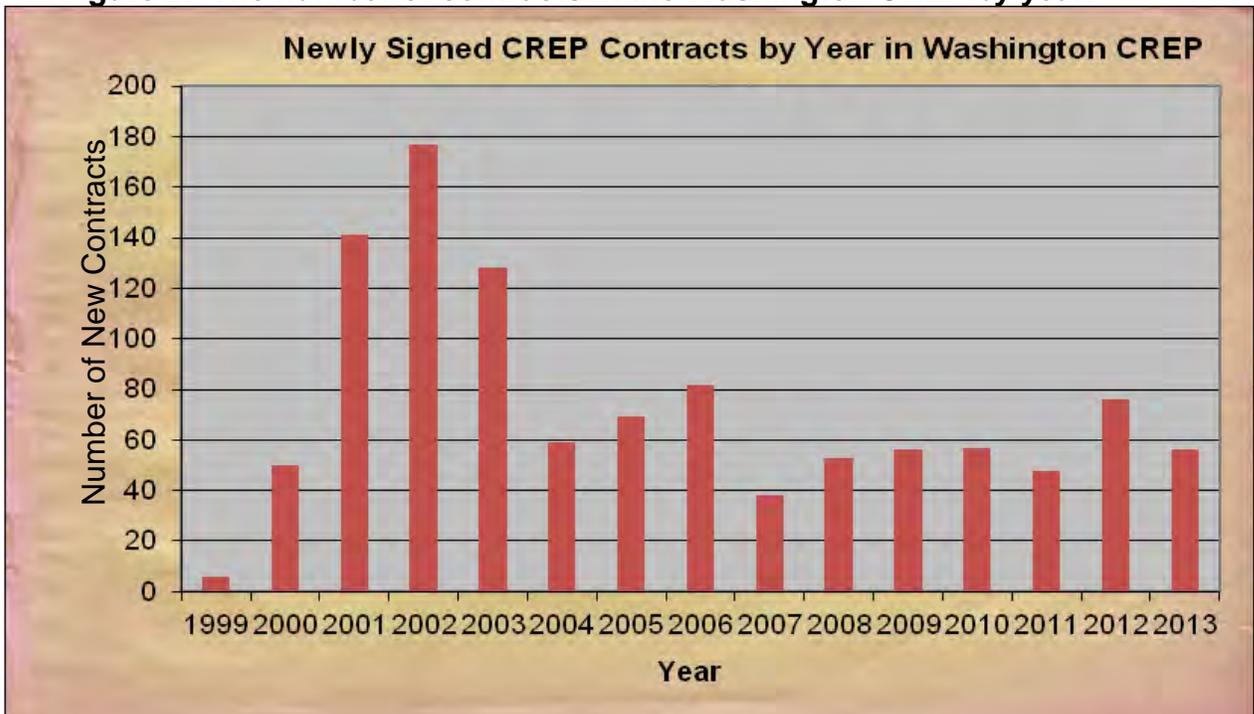


Figure 3 shows the distribution of CREP projects across Washington State. Most contracts are located in north Puget Sound and southeast Washington. However, almost all of the new contracts for 2013 are located in western Washington with 37 in Whatcom, 9 in Lewis/Grays Harbor, 5 in Skagit, 2 each in Pacific and Snohomish, and 1 in Walla Walla Counties.

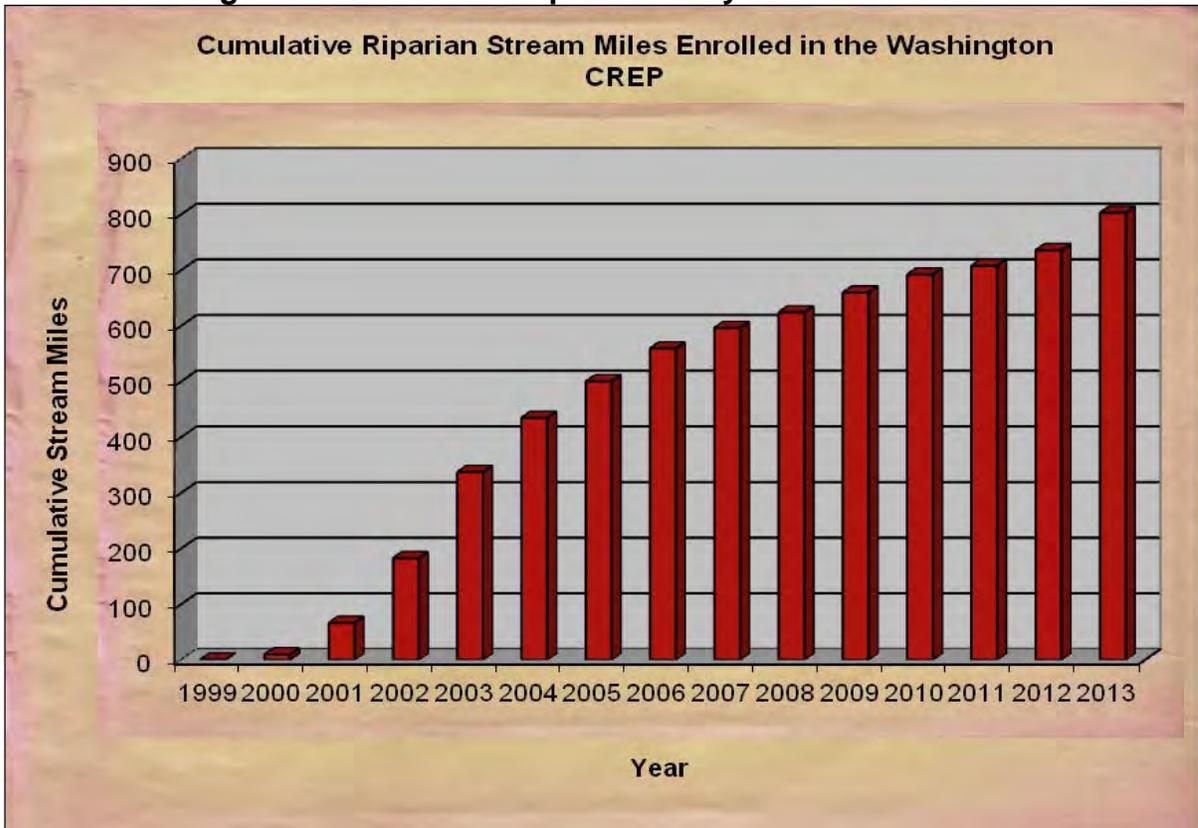
**Figure 3. Location of CREP Sites in Washington State.**



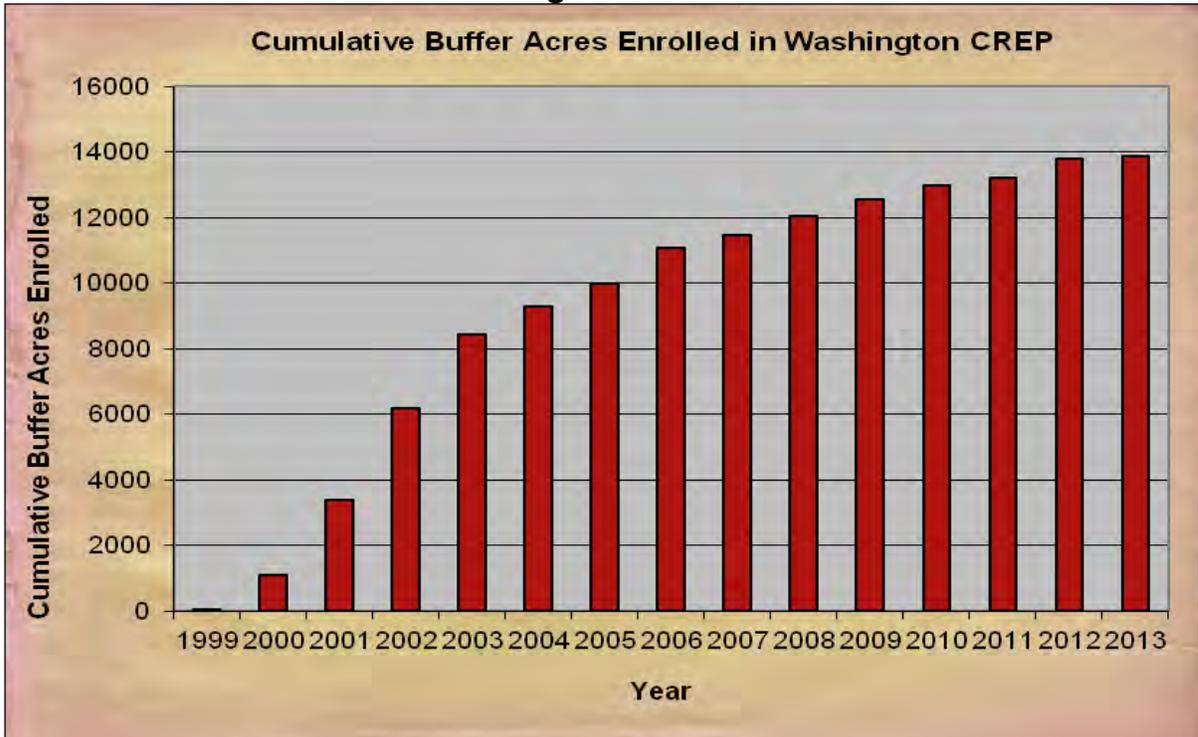
### **Implementation Monitoring: Riparian Benefits**

In 2013, 15 additional stream miles were restored and protected in the Washington CREP, bringing the total number of stream miles under contract to 803 (Figure 4). CREP buffer acres increased by 203 for a new total of 13,879 acres of riparian buffer (Figure 5).

**Figure 4. Stream miles protected by CREP buffers.**

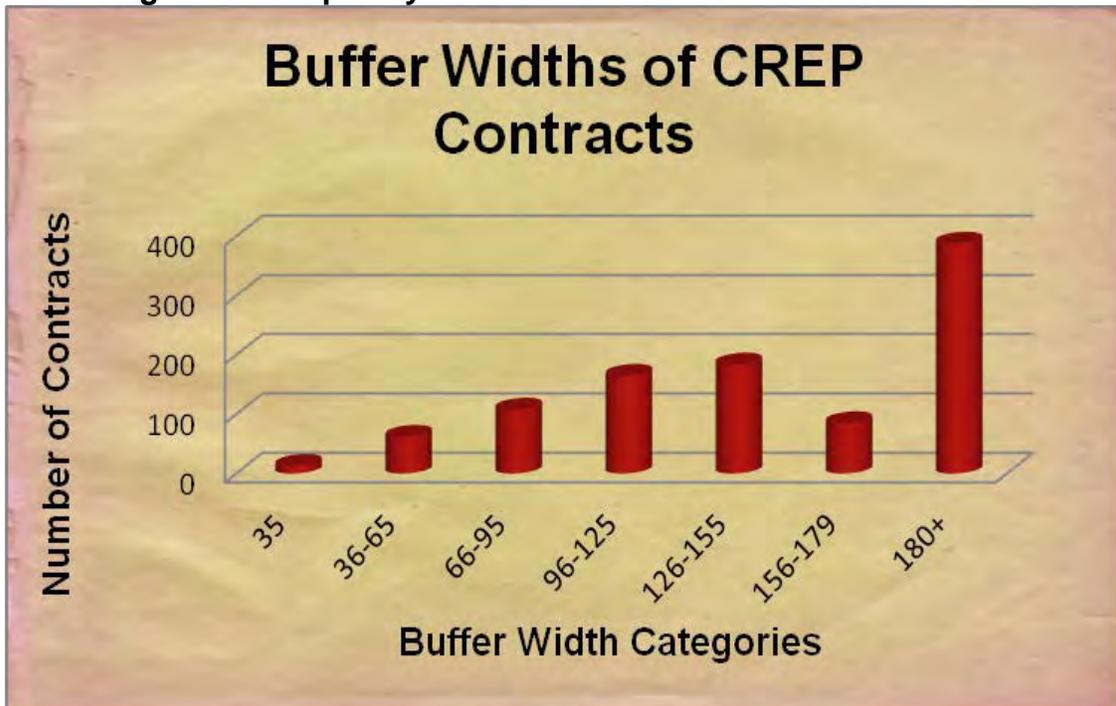


**Figure 5. Total cumulative acres of riparian buffer enrolled in the Washington CREP.**



The vast majority (93%) of CREP contracts use the riparian forest buffer practice. In this practice, buffer widths can range from a minimum of 35' to 180' from the stream edge. Buffers can and do extend wider than 180', but rental payments do not pay for buffers greater than 180'. Figure 6 shows the frequency of various buffer widths found in CREP. The most common buffer width category is 180' or wider with 39% of all riparian forested buffers developed to 180' or greater in width. Eighty percent of all CREP forested buffers are 100' or greater in width. The average buffer width is 142' while the median is 150'. Less than 1% are 35' wide.

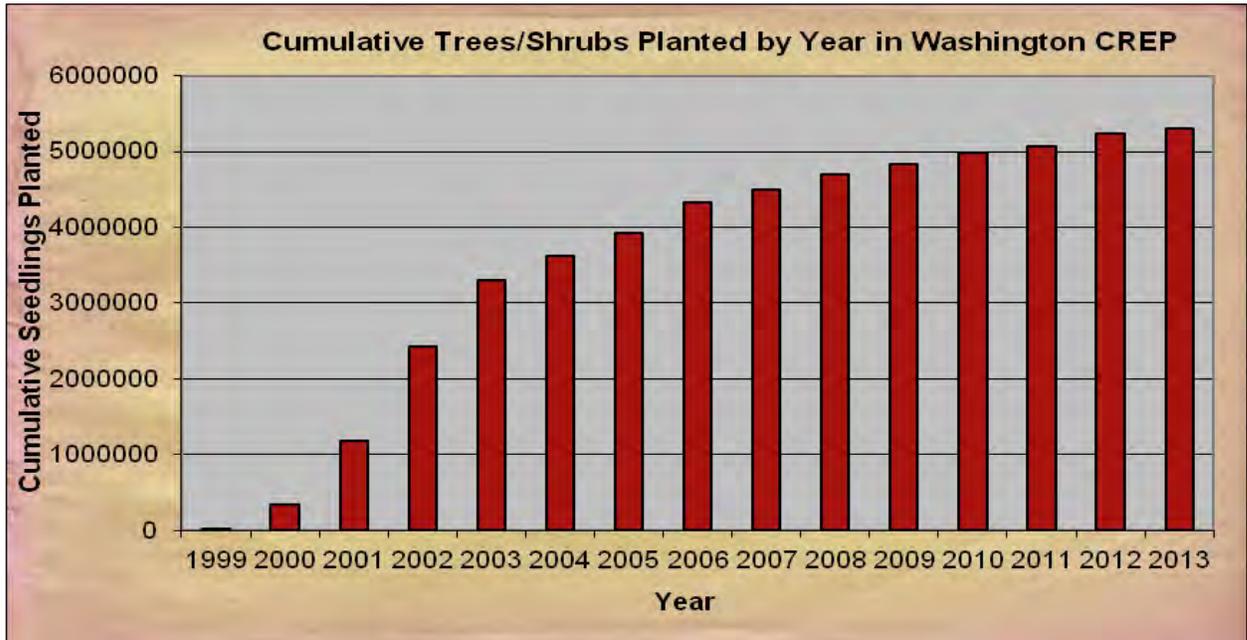
**Figure 6. Frequency of various buffer widths at CREP sites.**



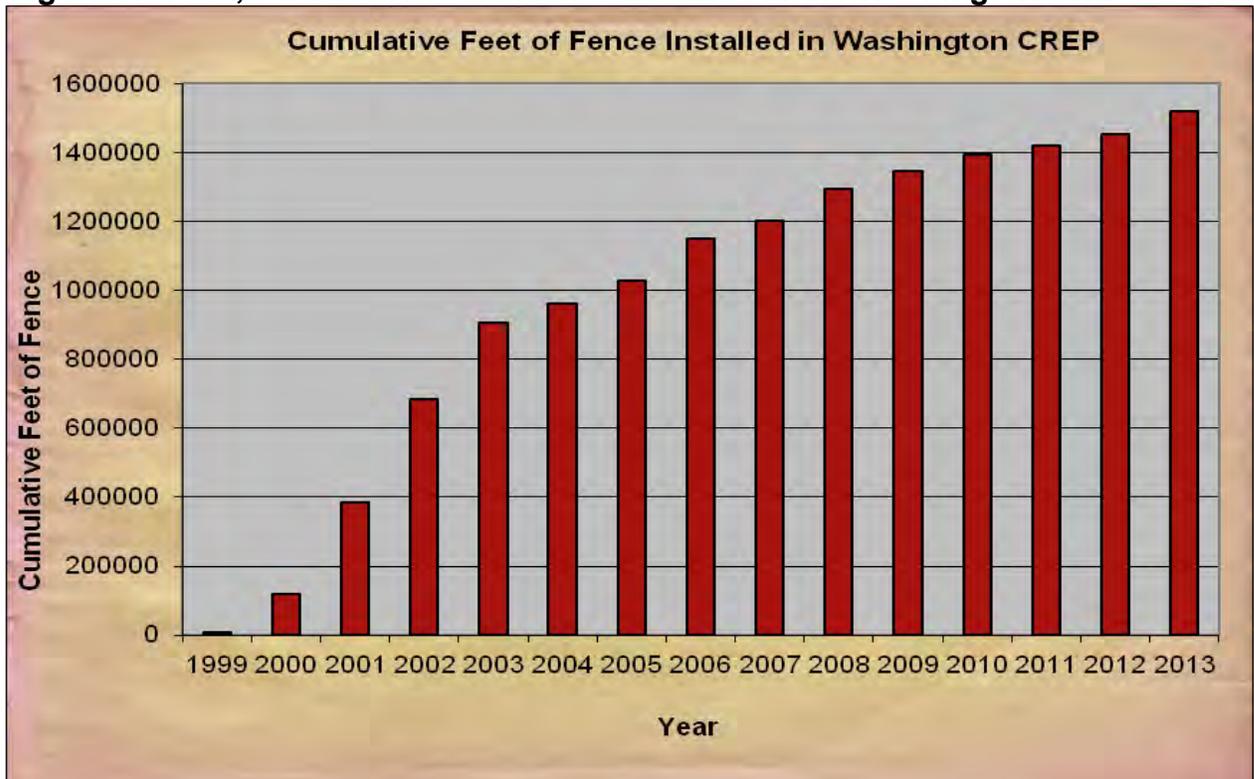
**Implementation Monitoring: Seedlings, Troughs, and Fencing**

About 66,000 native tree and shrubs were planted in 2013 for a total, cumulative 5.3 million seedlings planted throughout the last 15 years of CREP (Figure 7). In addition, a total of over 1.5 million feet of fencing has been installed along CREP riparian buffers to exclude livestock from these sensitive areas with about 25,000 feet installed in 2013 (Figure 8). Lastly, a total of 229 watering facilities have been installed in CREP over the last 15 years to facilitate livestock exclusion from salmon streams.

**Figure 7. Total, cumulative seedlings planted in the Washington CREP.**



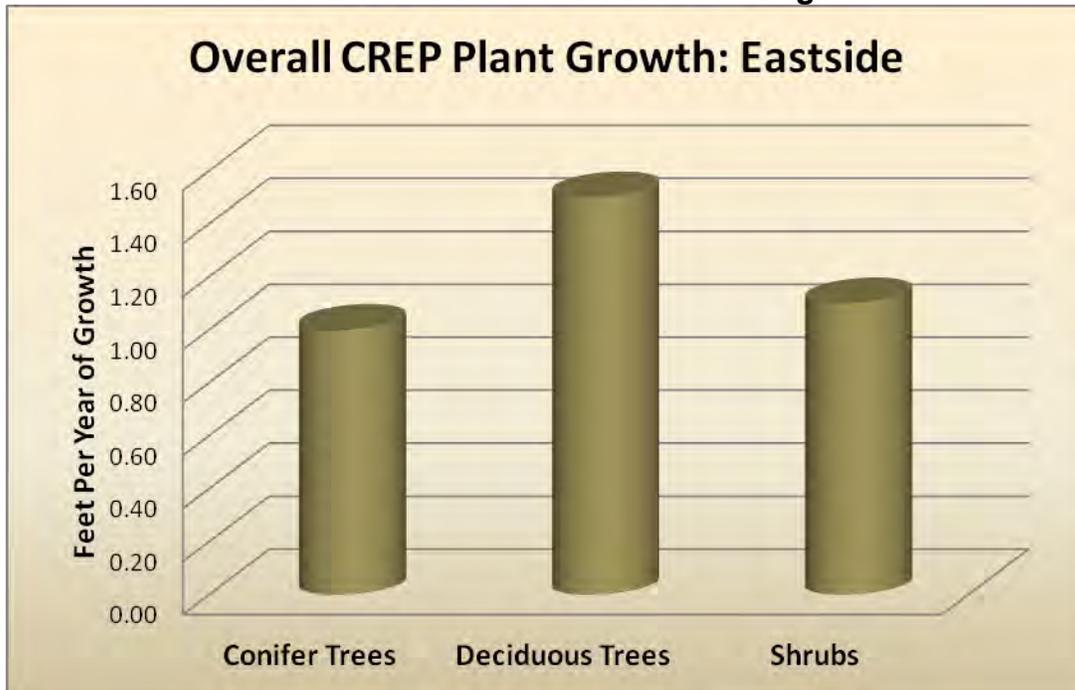
**Figure 8. Total, cumulative feet of fence installed in the Washington CREP.**



### Effectiveness Monitoring: Plant Growth

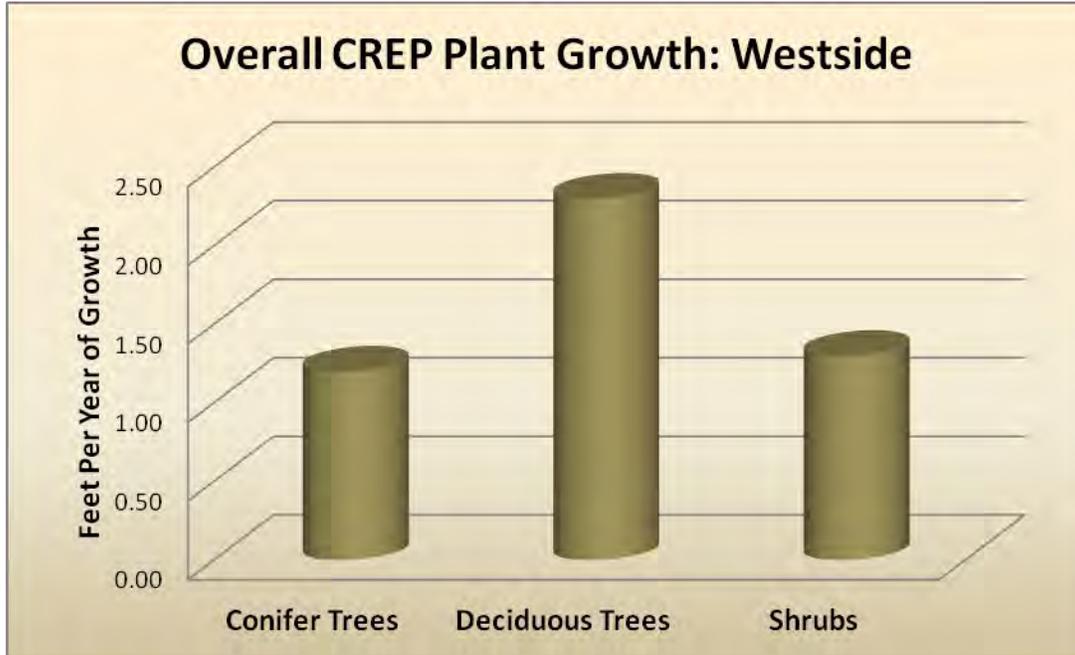
The year 2013 marked our seventh year of effectiveness monitoring sampling of Washington CREP sites. Data has been inputted into the Conservation Practice Data System enabling us to combine results across those years, stratified into two groups: western and eastern Washington. Across the eastern Washington CREP sites, conifer (ponderosa pine) grew an average of 12 inches per year. Deciduous trees grew an average of 18 inches per year, while shrubs (mostly willow) grew an average of 13 inches per growing season (Figure 9).

**Figure 9. Plant growth per year of installed plants in the Washington CREP on the east side of the Cascade Range.**



In western Washington, conifers and shrubs grew at an average of 14 and 15 inches per year respectively, and deciduous trees grew at a mean of 27 inches per growing season (Figure 10).

Figure 10. Plant growth by plant type in western Washington CREP sites.



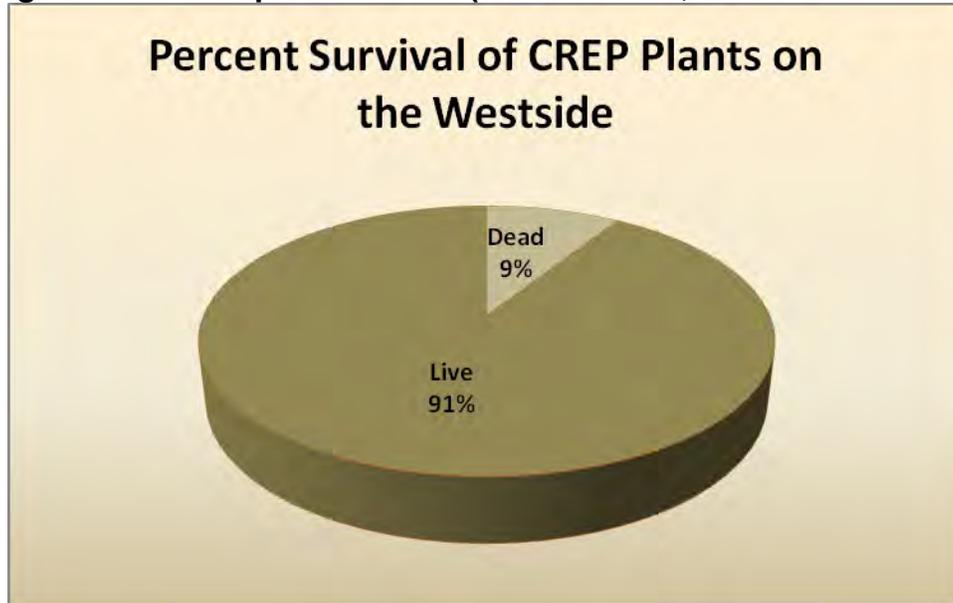
### Effectiveness Monitoring: Plant Survival

Survival of CREP plants at eastern Washington sites is shown in Figure 11 with mean survival of 80%. Mean survival across western Washington CREP sites is 91% (Figure 12). Our plant survival goal is 85%.

Figure 11. CREP plant survival (mean of 2006, 2008-2013 results).



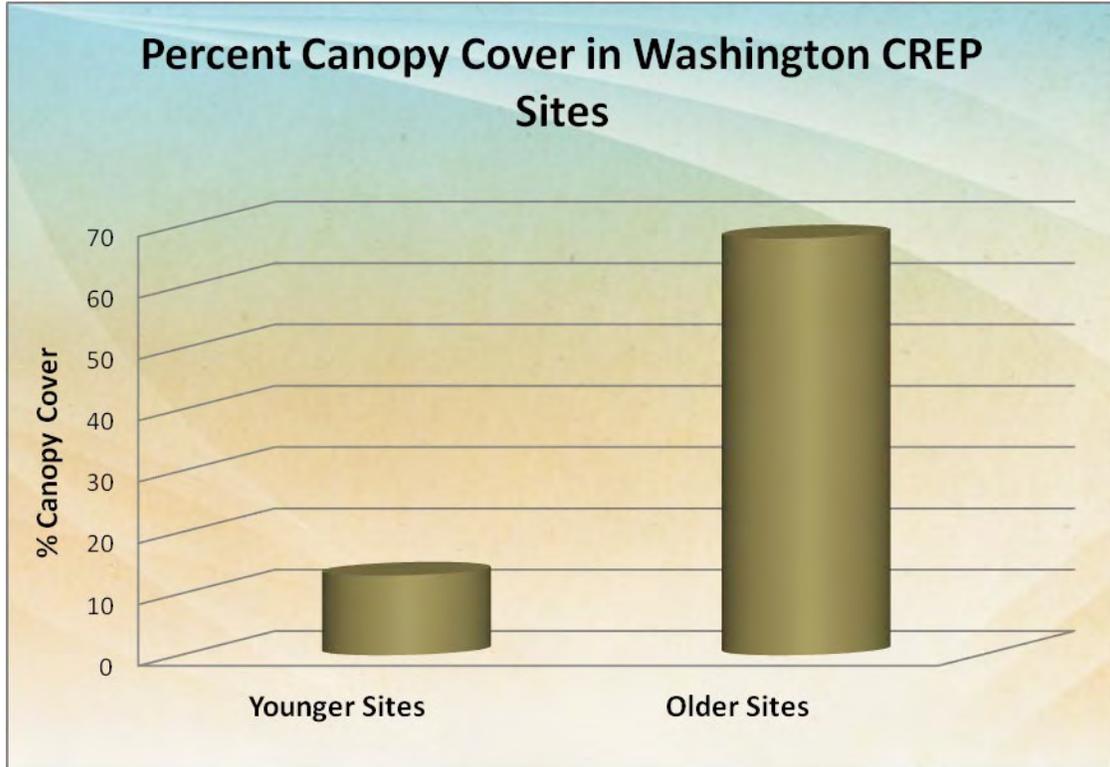
**Figure 12. CREP plant survival (mean of 2006, 2008-2013 results).**



### **Effectiveness Monitoring: Canopy Cover**

The amount of shade over the CREP-planted stream reaches was estimated as percent canopy cover measured mid-channel. This was measured only in wadeable CREP stream reaches because the larger mainstem reaches were not able to be sampled mid-channel. For the sampled streams, shade significantly increased ( $P < 0.0001$ ) over the CREP reaches that were planted at least 4 years prior as compared to younger CREP sites (Figure 13). The mean percent canopy cover for young sites (0-4 years old) was 13, while older sites had a mean of about 68%. These results are not applicable to wider streams as those are more difficult to shade and require a combination of wide buffers and taller (more mature) trees. If canopy cover were measured for the wider streams, the results would likely be much more variable and less significant between the two age groups.

**Figure 13. Percent canopy cover over small (wadeable) CREP enrolled-stream reaches.**

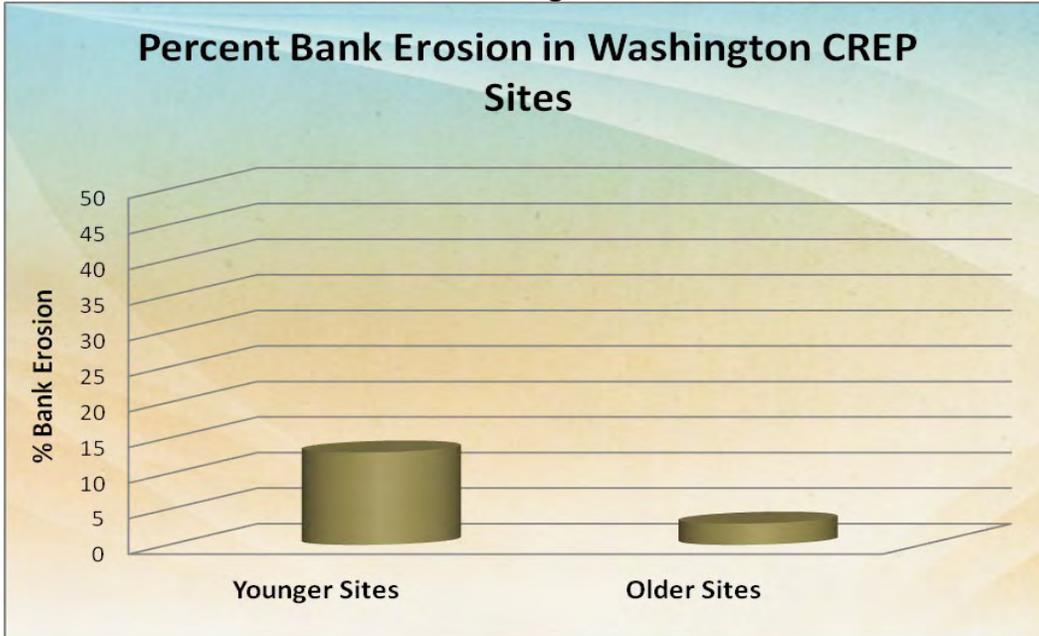


### **Effectiveness Monitoring: Bank Erosion and Extent of Invasive Species**

The percentage of eroding banks was low throughout most Washington CREP sites with an average of 13 percent along younger (less than 5 years) sites and 3 percent along older sites (Figure 14). These two groups are not significantly different from each other ( $P=0.08$ ). Bank erosion is expected to be low within CREP projects because sites with significant levels of erosion are not eligible for CREP. However, we monitor to make sure that our actions are not contributing to increased bank erosion over time.

The percentage of land coverage by invasive plant species averaged 2% for younger (0-4 growing seasons) and 4.5% for older (5-10 years) contracts (Figure 15). There were no significant differences between these two groups ( $P=0.47$ ).

**Figure 14. Percent bank erosion along CREP reaches in eastern Washington.**



**Figure 15. Percent of invasive plant species coverage within CREP buffers.**



## Discussion

### Program Progress

The number of CREP contracts enrolled in 2013 was greater than expected. Farm Bill expiration issues reduced the enrollment period to less than five months for the calendar year. The main reason for the relatively high number of new contracts is that the state funding was fully restored this year, allowing conservation districts to proactively provide technical assistance to landowners in advance of the short sign-up period.

Another interesting change is the shift in location of project activity in the state. In the past, southeast Washington and north Puget Sound have been our most active areas in CREP. That appears to be changing. While north Puget Sound remains very active, there is much less activity in southeast Washington and more activity in other western areas such as Lewis, Snohomish, and Pacific Counties.

### CREP Buffer Composition and Plant Growth

CREP riparian buffers are designed to primarily benefit salmon and steelhead. Desirable characteristics of such buffers include:

- Native plants to support a native ecosystem.
- A significant conifer component in areas that historically supported conifers to provide longer-lasting large woody debris to streams.
- A diversity of tree and shrub species to support an array of functions and food web components.
- A component of fast-growing native plants to aid in controlling invasive plant species and more quickly provide shade to cool water temperatures.
- The inclusion of other farm practices, where needed, to reduce land management impacts. These typically include fencing and upland water facilities to exclude livestock from riparian areas. It could also include the use of a grass filter strip between cropland and streams to reduce pollutants.

Two of these characteristics are required: the use of native plants (with rare exception) and inclusion of other farm practices where needed. All CREP buffers are “no touch”. Contracts are signed with landowners to require the ecological functionality of the buffers and no management (agriculture) is allowed within them. Part of this includes the requirement for fencing to be installed where livestock are present to preclude them from riparian and stream areas. In addition, native plants are used as much as possible. Funding reimburses plant costs, but will only do so when acceptable plants are used for a given region. These programmatic requirements are in place to assure that CREP buffer objectives are met.

The remaining characteristics are desired, and our monitoring shows how close we are to achieving those objectives and points out where improvements could be made. Buffer plant diversity is one of those characteristics. The most effective riparian buffers will ultimately have a mix of plant types as they mature, and diversity is a characteristic that develops over time in natural forests. Old growth forests are much more heterogeneous than young forests (Franklin et al. 1981). Past monitoring has shown that CREP buffers are very diverse in western Washington with a median of 11 plant species per sampled area and less diverse, but still adequate in eastern Washington with 5 plant species per sampled area (Smith 2011).

Yet another desired characteristic is the presence of conifer trees. These are important to contribute large wood to the stream. As trees mature and fall into the stream, they help shape streambed and channel morphology to the benefit of native fish species (Bisson et al. 1987; Cederholm et al. 1997). Western Washington CREP sites had a large conifer component (34%) in their buffers. Eastern Washington sites, much less (13%) (Smith 2012b). However, some riparian areas historically did not support conifers. For example, the low to mid-reaches of the Snake River tributary systems were historically dominated by cottonwood (Kuttel 2002). This is the area where much of the eastern Washington CREP sites are located and current levels of conifer are low. Because this area did not historically support much conifer, the lower levels are justified.

Another desirable component is to have at least some fast-growing native plants. This can provide shade and cooler water temperatures sooner, and can aid in the control of invasive plant species. Invasive plant species are a major problem. Changes in dominant riparian plants result in changes in riparian function (Richardson et al. 2007), and invasive plants generally have reduced riparian function. Maintenance of newly restored riparian buffers is vital to the control of invasive species and for improved growth and survival of the native tree and shrub species (Roni et al. 2002, Oregon Watershed Enhancement Board 2010, Cramer 2012). Many authors recommend several years of maintenance, with one recommending up to ten years to control invasive species (Lennox et al. 2011). We fund active maintenance of the buffers for up to five years after planting, primarily to assure control of invasive plant species. Invasive plant species coverage is low in CREP sites (3% or less average). This compares to riparian restoration sites in Oregon had invasive plant species coverage ranging from 1-49% depending on the region (Demeter Design 2010).

It is useful though to know which native tree and shrub species are high growth performers so that they can be used in problematic sites if appropriate for those sites (selected plants must still meet the local conditions such as flood/drought tolerance, etc.). The plants with the greatest growth in eastern Washington restoration sites are: blue elderberry, serviceberry, and willow (Smith 2012b).

Western Washington CREP plants with high growth rates are: Pacific willow, black cottonwood, red alder, and birch.

Overall, the CREP plants in Washington State are growing at rates that are generally equivalent or greater than those documented elsewhere. Growth rates for most of the sampled contracts are high for both the arid regions in the east and the wet areas of the west. When comparing to the available information, the CREP sites are meeting or exceeding expectations. In these other studies, conifer growth of 1+0 Douglas fir plugs and 2+0 bareroot was 4.2 inches and 4.3 inches per year after two years respectively, in western Oregon (Helgerson 1985). Ponderosa pine grew 4.1 and 4.7 inches per year for plugs and bareroot. In another study, mixed age conifers grew an average of 1.9 inches per year for Douglas fir and 2.6 inches per year for western hemlock along the Pacific coast (Hann et al. 2003). British Columbia reported riparian conifer growth rates of 6.1 to 17.6 inches per year (Poulin and Warttig 2005). Most of these growth rates are lower than our conifer rates of 10.6 inches per year in eastern Washington and 14.3 inches per year in western Washington.

Results for deciduous tree growth are highly variable. Washington CREP deciduous trees averaged 29.3 inches per year in western Washington and 10.6 inches in eastern Washington, while shrubs grew an average of 15.4 inches per growing season in western Washington and 12.7 inches per year in eastern Washington. In a similar restoration project in western Oregon, red alder grew an average of 39.4 inches per year (Bishaw 2002), compared to 30.7 for the same species in the Washington CREP. In another study in British Columbia, black cottonwoods grew an average of 66 inches per year over a ten-year period (Burns and Honkala 1990), whereas the same species in western Washington CREP sites grew 48.4" per year. Along the Sacramento River, cottonwoods and willows planted in restoration sites were the most successful species in terms of growth, at 28" per year (Alpert et al. 1999). Pacific willow, a commonly used small tree in CREP projects, averaged 13.2-36" per year in Corvallis, Oregon (USDA Soil Conservation Service and Oregon State University Agriculture Experiment Station 1988). Pacific willow in the Washington CREP was our fastest growing plant at 49.8" per year.

While there are no set standards for plant growth in CREP, we consider sites successful if the growth/year of CREP plants plus the original height are showing a 20% increase compared to the original height. All of the sampled CREP plant types (conifer, deciduous, and shrub) in both regions greatly exceeded this measure of success.

## **Plant Survival**

Plant survival is another measure of riparian buffer success. It is more difficult to measure, especially as the buffers age, because missing plants become more difficult to notice. Average percent survival of sites across eastern Washington

was under the goal of 85%. It averaged 80%. The western Washington sites performed very well with 91% average survival.

Survival results differ greatly in the literature, and depend heavily on weather patterns and environmental conditions, which can vary locally. In an Oregon study, survival of conifers averaged 98% for bareroot stock and 89% for plugs after two growing seasons (Helgerson 1985). However, in a recent restoration project along Beaver Creek in Oregon, survival was about 50% during the first year (due to beaver damage), but after providing better protection, increased to a range of 67-75% after three years (Bishaw et al. 2002). A riparian project in the Oregon high desert reported early survival results of 70-80% for a mix of ponderosa pine, deciduous trees, and shrubs (Fox Creek Farm 2006). The Oregon Watershed Enhancement Board (Anderson and Graziano 2002) monitored many riparian restoration sites and found that slightly less than half of these projects had tree survival rates of 75% or greater. Riparian restoration projects in Vermont had better survival of around 72% at year three after planting (Szafranski 2012). These comparisons are similar to our results in eastern Washington and lower than our western Washington average.

The Salmon Recovery Funding Board (SRFB) in Washington State defines plant survival as successful when survival is 50% or greater at year 10 (Crawford 2004). In year 3, 89% of their riparian projects met this criterium (Tetra Tech 2011). Several of our sampled CREP contracts are 8-9 years old with survival of 80-100%. The NRCS plant stocking specifications assume a 15-20% mortality within the first few years, which is why we chose a goal of 85% survival. The majority of Washington CREP sites are generally performing better than these assumptions.

These results demonstrate that the Washington State CREP buffers are successfully growing and surviving with generally rich plant species diversity. The small streams are quickly shaded, and the five-year maintenance program appears to be successful in controlling invasive plant species at least through the 10 years of sampled contracts.

## **CREP Buffer Widths and Function**

The vast majority (93%) of CREP projects use the riparian forest buffer practice. This has a minimum buffer width of 35' and the program provides funding for up to 180' in buffer width. Some buffers extend past 180' using exclusion fencing and upland watering facilities to direct livestock away from steep areas. The most common buffer width used in the Washington CREP is 180' and 80% of existing CREP contracts have riparian buffer widths of 100' or greater. The average width is 142'.

Riparian buffers that are 100' or wider are able to provide a wide-array of functions. Literature values indicate that high levels of shade (50-100%) are

achieved with these widths (see review by Knutson and Naef 1997, Spence et al. 1996). Riparian buffers at these widths are fully functional for filtering nutrients, controlling bank erosion, supplying leaf litter and organic material, and retaining soil moisture (Spence et al. 1996, Knutson and Naef 1997, Fischer and Fishenich 2000). The provision of large woody debris requires buffer widths of approximately 100-180' (Cederholm 1994, Knutson and Naef 1997). Many of the CREP buffers are adequate for this function. However, for wide streams with narrower buffers (35-100'), it is likely that those sites will not be fully functional in large woody debris recruitment. These are low in number in the Washington CREP.

## **CREP Minimum Buffer Width Issues**

Riparian buffer widths are a contentious issue in Washington State. Some entities are demanding wider minimum buffer widths in voluntary incentive programs. One current proposed new minimum is 100'. CREP buffer widths are based upon NRCS practice standards and associated tools. Our current minimum buffer width for CREP is 35'. However as discussed above, less than 1% of our contracts are at this minimum width, and our average buffer width is 142'.

Even though most of the Washington CREP sites have an average buffer width that is greater than 100', it is important to continue to offer a minimum buffer width that is narrower, such as the current minimum of 35'. This serves two purposes: 1) it allows site-specific flexibility when developing the resource plan and 2) it is a tool to begin conversations with landowners about riparian buffers. Often, landowners first want to know how much land they have to give up when initially approached about the program. We had higher minimum buffer widths in the past, and found that landowners were more difficult to sign-up when we only had wide buffer width options. However, when approached with a narrower buffer width, landowners were open to conversation and some would not only sign-up in the program, but agree to a wide buffer width as the conversations progressed. When they see a larger financial benefit for an enrollment of a 180' buffer, many decide to accept even though they first were adamant about discussing the program. The narrower minimum opened the door to the discussion, and follow-up visits resulted in a wide buffer acceptance.

The need for site-specific flexibility is even more important. The 2-CRP Handbook states a minimum buffer width that must be followed by technicians when designing CREP buffers. The minimum must be adhered to with very few exceptions. For example, the buffer cannot dip below 35' to accommodate roads, property boundaries, agricultural use, etc. It is common for CREP sites to be irregular in shape. A site with an average width of 100' may dip inwards to 35' in places to accommodate productive agricultural fields and then balloon out in wetter, less-productive areas. While the average buffer width of such a site is 100' wide, the minimum is 35', and the maximum could be 180' or more. Without

the flexibility of such a minimum, the site would either not be enrolled at all, or less length of the property would be enrolled. This will result in fewer contracts and smaller sized buffers. Examples are shown in Figures 16-18.

**Figure 16. An existing CREP site outlined in yellow designed to preserve an agricultural field. If the minimum buffer width is increased to 100', the buffer would be smaller and would exclude the areas to the left of the red lines. This would result in a smaller buffer and much less stream length coverage.**

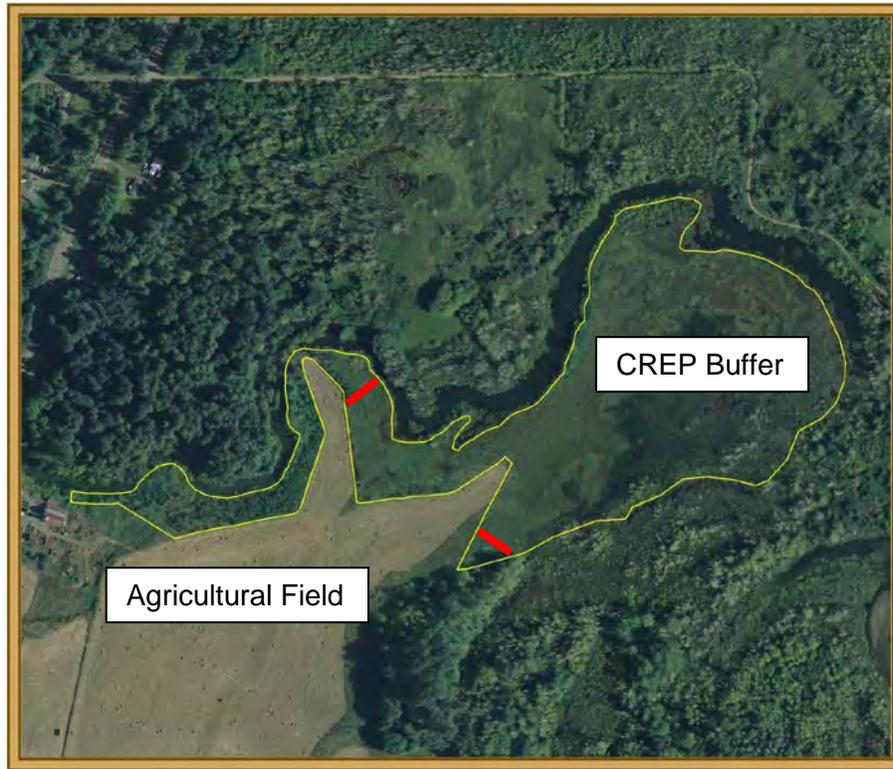
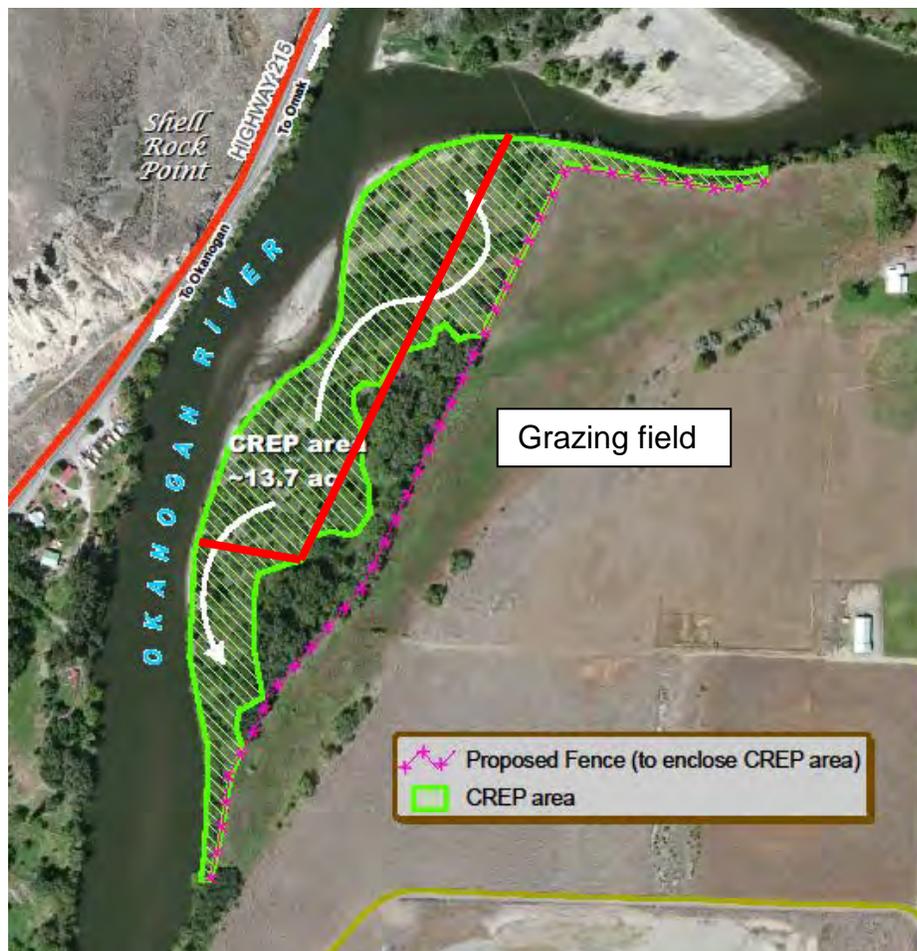
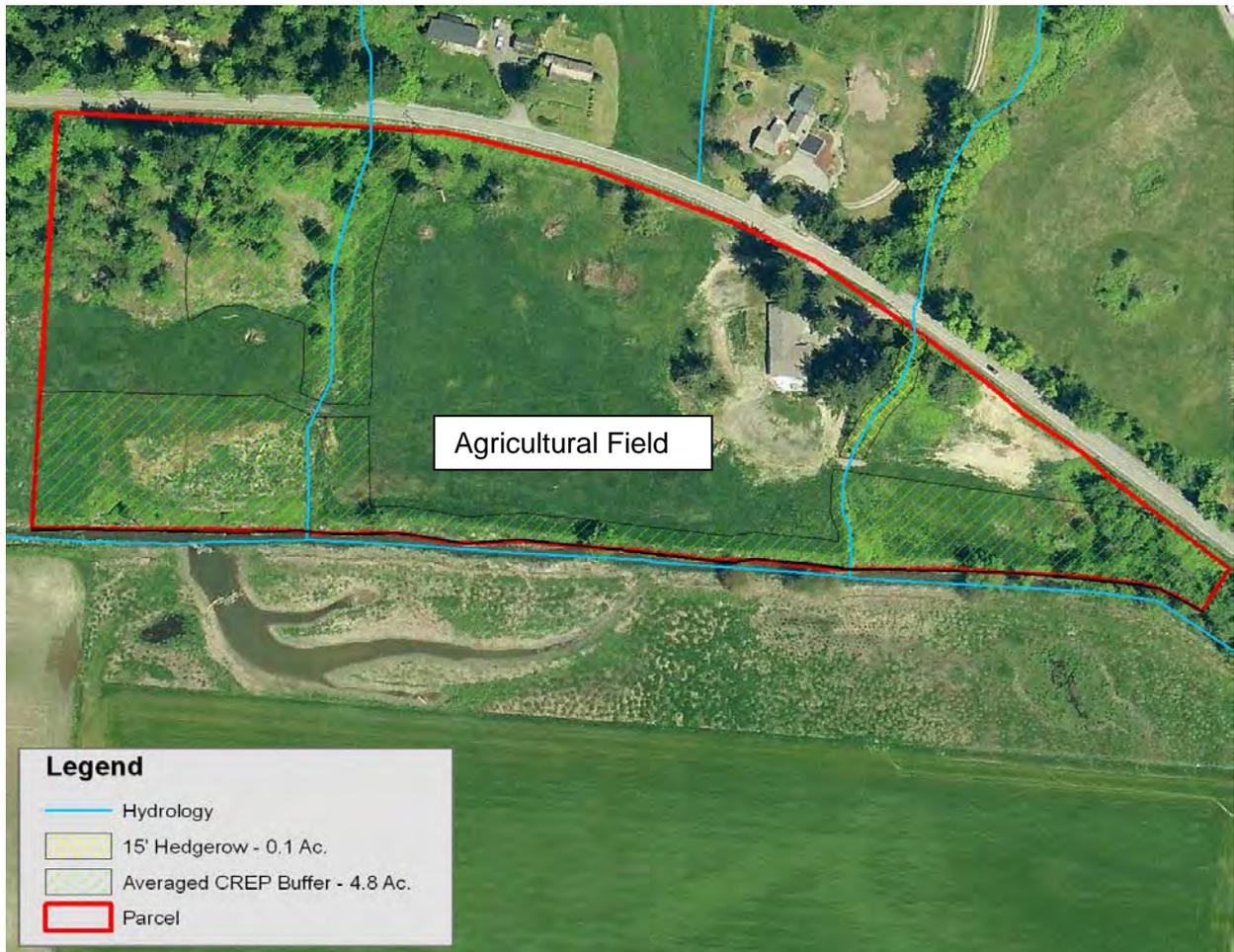


Figure 17. A planned CREP site that would be greatly reduced in size if the minimum buffer width were increased to 100'. The current buffer plan averages 180' with minimums of 35' at each end of the buffer as outlined in green. This accommodates the landowner's need to preserve their agricultural area, while still providing a maximum sized buffer. If the buffer minimum is changed to 100', the flexibility to work around the agricultural fields decreases. This would delete planned buffer areas that are less than 100' in width (both ends of the buffer) and also narrow the middle, wider part of the buffer so that an average of 180' is not exceeded. Overall result is that livestock will be closer to the river and the buffer length will be reduced by about 1700'. The outer boundaries of this new, smaller buffer are outlined in red.



**Figure 18. This is a planned CREP buffer that varies in width for an overall average of 96'. The parcel is outlined in red and is irregularly shaped, constrained by a road to the east. The landowner will not enroll more than 35' of buffer in the middle section to protect a productive agricultural field.**

**The planned buffer is denoted by the hatched area and designed to preserve the center field. If the minimum buffer width were increased to 100', the landowner would not enroll.**



## Meeting Environmental Goals

There are many different types of environmental goals and concerns in Washington State, but two directly pertain to the Washington CREP. Those are salmon riparian habitat recovery/salmon populations and water quality improvements, especially water temperature. In 2011, the CREP monitoring results were examined in concert with salmon numbers and water quality measurements (Smith 2012a). Two watersheds showed significant improvement in at least one of those two environmental goals. Water temperatures in the Tucannon River decreased by 10° F in the decade following riparian restoration

(Steve Martin, Snake River Salmon Recovery Board, personal communication). As water temperatures cooled, juvenile spring Chinook salmon began using 20 miles of the river that were previously too warm. Adult returns of spring Chinook also increased (Gallinat and Ross 2011). In this example, both salmon and water quality improved. The second example is in the Nooksack Basin, where Ten Mile Creek had a significant level of riparian restoration, much through CREP, and also showed an improvement in summer water temperatures (Smith 2012a).

The reason these two areas showed improvements at the watershed scale for large environmental goals is because high quality work was done that encompassed a significant length of the stream. There was targeted outreach and a critical number of landowners enrolled, allowing enough length of the riparian at the watershed scale to be restored to produce a measureable difference. Another key requirement is that monitoring data were available to show the difference throughout the years, documenting conditions from the beginning of the efforts to present time.

One of the primary mechanisms for improving water temperature is increased shade or canopy cover and this is measured in the Washington CREP. Increasing shade is an effective way to decrease water temperatures and improve conditions for salmon and steelhead that rely on cool water temperatures. Opperman and Merenlender (2004) have shown that restored riparian areas led to acceptable water temperatures for steelhead as compared to controls. In concert with the literature results, our monitoring shows that shade (canopy cover) is greatly improved in as little as five years. Projects under five-years old were compared against those that were five-years or older. The older contracts averaged 68% canopy cover compared to 13% in younger contracts.

This compares to a review of riparian restoration studies in the Pacific Northwest Inland, which showed shade improvements from 3% at baseline to 31% by year four (Wall 2011). Oregon projects increased to supply 46% shade by years 10-14 after planting (Demeter Design 2010). Riparian restoration projects funded by the Salmon Recovery Funding Board did not show an increase in canopy cover at year 5, the oldest year in their study (Tetrattech 2010). The Washington CREP results demonstrated increased canopy cover more quickly. Maintenance oversight and is funded and implemented for at least five years after planting. Because of this, increased plant survival and growth result in faster developing canopy cover.

## **Will Increasing Buffer Width Increase Success?**

Although we can show success at the landowner scale with the canopy cover results, we can only show success at the watershed scale in the two above examples. Because of this and the slowness in seeing sufficient salmon

recovery, there has been increasing criticism regarding riparian restoration in Washington State. That criticism has led to an assumption that the problem is buffer width. The criticism fails to notice that buffer width is only one criteria of a successful riparian buffer. May and Horner (2000) have clarified the definition of successful riparian buffers. They state that resource concerns should be addressed at a watershed level, and successful buffers should be judged based upon 1) width, 2) quality, and 3) corridor connectivity (length) at the watershed scale. Richardson et al. (2012) also report the need to assess riparian buffers at a watershed scale.

The response by critics in Washington State is to address future habitat restoration needs by focusing only on riparian buffer widths at the landowner scale. This will result in a new, wider, riparian buffer width. As shown in the previous section, increasing the minimum riparian width will have unintended consequences. It will decrease the size of CREP buffers by reducing the flexibility to work around agricultural fields, property boundaries, infrastructure, roads, and other site-specific issues. It will also result in fewer CREP contracts. The final result will be smaller buffers in length and fewer contracts yielding further decreases in buffer length at the watershed scale.

Instead of focusing on buffer width at the landowner scale, increased effort is needed to focus on buffer *length* at the *watershed scale*. There are three major riparian buffer criteria to meet (width, quality, and length). Regarding current width, the average, current CREP buffer is 142' and the desired, proposed buffer width is 100'. This suggests that buffer width is not the problem. The monitoring results demonstrate that the quality of CREP buffers is not a problem either with a diverse array of native trees and shrubs surviving at 80-91%. However, statewide the length of streams covered with high quality buffer remains low. In the Washington CREP, we have identified 10,000 miles of streamside habitat that is eligible for CREP. Not all of this is likely degraded, but much probably is. There isn't a complete inventory to estimate the quantity. To-date, only about 800 miles of stream have been restored in CREP. This is only 8% of the total length. Even if 10,000 miles is an overestimate of the need, the amount restored is still not close to the needed length of buffer statewide.

To increase buffer length, increased participation and more contracts are needed. Increasing the buffer width will have the opposite effect. Instead, there are other actions that can have a positive effect on participation. These include:

- Increase financial incentives to increase participation. This could be used to prioritize areas or to increase sign-ups statewide.
- Target contiguous landowners within a watershed. This has been shown to lead to increased water quality and salmon numbers in the Washington CREP (Smith 2012a). Priority watersheds could be identified and additional outreach efforts used to target those areas. This could be combined with higher financial incentives.

- Increase financial incentives to those who enroll a wide buffer. While they already receive more money because they are enrolling a greater amount of land, this could be further incentivized if wider buffers are desired.
- Reduce financial constraints on buffer enrollment in CREP. These include the cap on CRP and CREP payments and the Adjusted Gross Income cap.

Tools to increase incentives could include raising rental rates, increasing the sign-up bonus, or providing a contiguous parcel bonus. The CREP in Oregon has a contiguous parcel bonus, called a cumulative impact bonus (CIB). It is a one-time payment equal to 4 times the rental rate given to all the participating landowners who together enroll at least 50% of a given 5-mile stretch into CREP (Lois Loop, personal communication, Oregon FSA).

The Washington CREP has demonstrated success at the landowner level to improve riparian conditions for salmon and water quality. This indicates that buffer width and quality of the buffer are not the issues that prevent success from being demonstrated at a broader level. Instead, the amount of stream length restored appears to be the greater issue. This can be overcome with increased participation. Increased incentives and/or a reduction of hurdles to enroll in the program are possible solutions. Targeting outreach to priority watersheds would also help in demonstrating positive results.

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## Capital Project Request

2015-17 Biennium

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Version: D1 2015-17 Capital Budget Request

Report Number: CBS002

Date Run: 9/9/2014 5:05PM

Project Number: 30000012

Project Title: CREP Riparian Contract Funding

## Description

Starting Fiscal Year: 2014

Project Class: Grant

Agency Priority: 4

### Project Summary

Related to Puget Sound Action Agenda Implementation. Funding in this proposal will support CREP contract development and implementation. This program is a critical component of our state's salmon recovery and restoration efforts. Supported by a wide variety of agricultural groups, local entities, and tribes, CREP improves riparian habitat functions and creates the conditions necessary for providing cool, clean water. Previous CREP implementation has demonstrated measureable natural resource improvements. Uploaded attachments include Implementation monitoring results, before and after photos, and reports for 2011, 2012 and 2013.

### Project Description

The Conservation Reserve Enhancement Program (CREP) is a voluntary program that offers financial incentives to farmers to restore riparian habitat (streamside trees and shrubs) and to preclude agricultural activities in those buffers during the contract duration (10-15 years). The program began in 1998 with the first signed contracts in 1999. It is cooperatively administered by the U.S.D.A. Farm Service Agency (FSA) and the Washington State Conservation Commission. The federal government pays approximately 90% of the total costs.

In Washington State, about 37% of salmon streams on private land pass through agricultural land use (USFWS and NMFS 2000). Because much of the agricultural land is located in or near historic floodplain-rich habitat, it is important that efforts continue to develop opportunities to not only improve riparian habitat for healthy watersheds, but also to maintain viable agriculture. Once land is converted to more intensive development (urban and industrial), environmental impacts increase and the prospects to preserve or restore habitat near streams greatly decrease. Between 1982 and 1997, about 20% of the farmland in the Puget Sound region was lost to other uses, especially in King and Snohomish Counties where urban growth has been high (Canty and Wiley 2004).

The primary focus of the Washington CREP is riparian buffer restoration and protection along salmon streams. This includes buffers along streamside wetlands. CREP areas become "no touch" buffers. Fencing and livestock watering facilities are installed on livestock farms to prevent their access to the buffers and stream. The newly planted native trees and shrubs are then actively maintained for five years to increase the likelihood of success. Maintenance primarily includes weed control and watering.

### Riparian Function Overview

Riparian areas include the land adjacent to streams, rivers, and nearshore environments, and serve as the interface between the aquatic and terrestrial environments. These zones are normally covered with grasses and forbs to shrubs and large trees depending upon the ecoregion type. Riparian habitat begins at the ordinary high water line and extends to that part of the terrestrial landscape that directly influences the aquatic ecosystem through shade, large woody debris (LWD), nutrients, organic and inorganic debris, or terrestrial insects. It includes the entire extent of the floodplain because that area interacts with the stream system during flood events. The riparian habitat area also encompasses the entire extent of vegetation adapted to wet conditions.

The type of vegetation within the riparian zone is crucial, as different types of vegetation have different functions. Tree and shrub roots hold streambanks together, stabilizing channels, decreasing erosion, and creating fish habitat (Bjornn and Reiser 1991, Montgomery and Buffington 1998). Overhanging trees shade water, maintaining cool water temperatures and contributing leaf litter, which serves as food for the organisms that in turn provide food for fish (Bjornn and Reiser 1991, Bisson and Bilby 2001, Naiman et al. 2001).

Mature trees in the riparian zone also provide important functions when they fall into streams to become large woody debris (LWD) because LWD stabilizes streambeds and banks, holds spawning gravels, creates pools that provide resting areas for salmonids (Bilby and Bisson 2001). Grasses in the riparian zone filter pollutants from soil and aid in bank stability and sediment trapping (Knutson and Naef 1997, Welch et al. 2001, Fischer and Fischenich 2000). Invasive species such as reed canary grass and Himalayan blackberry are not effective at most riparian functions, and their rapid growth often replaces the native, functional plants that comprise a healthy riparian zone.

### **Proposed Project and Funding**

This request is to provide funds for developing plans and conducting landowner outreach to continue the Conservation Reserve Enhancement Program (CREP) with private landowners. CREP is a program that was developed in Washington State to address important habitat for salmon listed under the Endangered Species Act. It plants native trees and shrubs while removing livestock and agricultural activities from the riparian area of streams. These riparian areas are among the most sensitive and important ecological areas within a watershed, supporting a wide variety of fish and wildlife species. Healthy riparian buffers also improve water quality for human uses, such as improved drinking water, recreational use, and cleaner water draining into shellfish beds. The buffers are preserved under 10-15 year renewable contracts with the federal government (Farm Service Agency). Because the federal government pays rental payments for these buffers, this program restores sensitive riparian areas without negative financial impacts to farmers and other private landowners. In the past decade, CREP has become the largest riparian restoration program in the state with over 13,000 acres of buffer installed along 700 miles of stream.

The U.S. Department of Agriculture through the Farm Service Agency provides up to 80% of the funds for this program, which greatly leverages state dollars spent on salmon habitat restoration and water quality improvements, making this a very cost-effective way for Washington State to restore and preserve salmon habitat. The funds also support local private-sector employment, such as plant nurseries, land preparation, and employs private-sector labor to plant and maintain the buffers. We estimate that about 116 jobs will be maintained or created with federal and state funding for this program in a two-year period. In addition, the federal government pays rental payments to the farmers for these buffers, which provides local farmers with increased income.

CREP contributes to the Conservation Commission's strategic plan by supporting Conservation Districts in their effort to help landowners conserve and sustain resources. Specifically, CREP provides funding to restore riparian buffers to a forested condition, and through contracts, protect this buffer for 10-15 years. The buffers are developed according to scientific standards developed by the Natural Resources Conservation Service with the existing maintenance program of up to five years. This maintenance is important to assure successful growth and survival of the native plants and eradication of invasive species until the installed trees are established to the extent that they can survive well on their own. Without this maintenance, there would likely be a loss of investment due to plant death and spread of invasive plants. CREP sites are regularly inspected and monitored for compliance and accountability, and the Conservation Commission requires Conservation Districts to adhere to documented performance measures.

The Washington CREP contributes to many important agency and statewide goals and needs. The Washington Conservation Commission strategic plan has several goals that will be aided by CREP. These are:

- 1) *Sustain or improve fish habitat.* CREP restores and protects riparian areas around salmonid streams, directly improving fish habitat and water quality.
- 2) *Changing individual behavior and choices.* CREP provides on the ground examples to the private landowner that restoring and protecting natural resources can be a mutually beneficial choice.
- 3) *Improve, maintain, and restore water quality.* CREP results in the restoration and protection of trees and shrubs along streams, which is one of the most important actions towards improving water quality. The trees and shrubs cool water temperatures (shade), increase oxygen levels (from decreasing temperatures), decrease sediment inputs, and filters out pollutants. In addition, CREP provides funds for farmers to fence the riparian areas so that livestock cannot access the streams. This improves water quality by decreasing pollutants and sediment inputs.
- 4) *Improve watershed health.* Restoration and protection of riparian areas are vital to watershed health. Functional riparian zones improve many aspects of watershed health such as water temperatures, oxygen levels, pollutants, stream flow, sediment inputs, floodplain habitat, primary productivity, and instream habitat such as wood and pools for fish use.
- 5) *Increased productivity of land and natural resources.* CREP improves the productivity of the watershed by increasing the watershed health, increasing primary productivity, and addressing a key limiting factor to salmon production in our state.

CREP also contributes to statewide goals. In every recovery region of Washington State, degraded riparian habitat has been identified as a major factor limiting the recovery of salmon listed under the Endangered Species Act (Governor's Salmon Recovery Office 2006). CREP is an important solution for this problem. It is the largest riparian restoration program in the state, and has highly trained, specialized staff to implement this high quality program. Federal standards must be met, and oversight and accountability is high with inspections from Conservation Districts, the Conservation Commission, the Natural Resources Conservation Service, and

the Farm Service Agency. The Conservation Commission requires districts to meet performance standards and report accountability measures twice a year, and we randomly field visit sites to assure implementation and effectiveness success.

In addition, one of the main goals of the Department of Ecology is to “prevent water pollution including aquatic habitat loss, and ensure adequate water quality and quantity to meet beneficial uses”. CREP results in decreased pollutants, improved aquatic habitat, and improved water quality, thereby contributing to water quality goals for the state.

### **CREP Monitoring Reports**

Each year, a randomly-selected group of CREP sites is monitored by the Conservation Commission for effectiveness. Below are the links to each of the annual reports that include this monitoring:

2013 Implementation and Effectiveness Monitoring Results for the Washington CREP: Buffer Performance and Buffer Width Analysis – Describes the methodologies and results for both implementation and effectiveness monitoring assessments in the Washington State CREP from its origins in 1999 through the 2013 calendar year. The report also examines the current CREP buffer width status and discusses some likely outcomes if the CREP minimum buffer width is increased.

CREP Effectiveness Monitoring Report 2012 - This provides program measurables for 2012 and cumulative totals. It also analyzes plant growth by species and plant species composition in the buffers.

2011 CREP Annual Report - Includes measurables for 2011 and cumulative totals. Also analyzes targeted watersheds for changes in water temperature and salmon numbers.

### **Accomplishments**

In 2012, we reached a milestone by surpassing 1,000 contracts. We currently have 1,021 CREP projects across the state.

CREP projects cover 13,662 acres along 735 miles of streams, likely making CREP the largest riparian restoration program in Washington.

More than 5.2 million native trees and shrubs have been planted, including nearly 1 million in Whatcom County alone.

CREP buffers are “no touch” buffers. Animals must be excluded. To that end, more than 1.5 million feet of fencing has been installed by this program.

### **Results**

CREP plants are growing and surviving well with growth ranging from 10.6 to 29.3% per year, and site survival averaging 75-90%.

Cooling summer water temperatures for salmon is an important goal for CREP. CREP sites that are 5-10 years old are already averaging 72% canopy cover along small streams. This is a remarkable result!

In areas where CREP has been targeted so that most of the stream has been restored, benefits to water temperature and salmon have been seen. In the Tucannon River, 79% of the riparian has been restored and in response, summer water temperatures have dropped about 10 degrees and young salmon are using areas of the river that were previously too warm for them.

### **Changing the Face of the Landscape**

“CREP has changed the landscape in Whatcom County” (Wayne Chaudiere, Whatcom Conservation District). Riparian buffers, now span 132 miles of stream in Whatcom County, forming a panorama of native tree and shrub forests that were just recently open fields or invasive plant species such as blackberry.

### **Awards and Accolades for CREP**

Whatcom Conservation District received the Puget Sound Champion Award in December 2012 for their extensive CREP buffer work. They have restored more than 2300 acres of riparian habitat in their district. In the Walla Walla County Conservation District, Drs. Sato and Nakagawa recently visited from Japan. They’ve been studying various riparian programs around the world and found the Walla Walla CREP to be the most advanced and successful of those that they’ve visited. They are selecting the program as the

template by which Japan will design their riparian restoration programs. As part of their 25th anniversary of the federal Conservation Reserve Program, the Farm Service Agency awarded their State Conservation Stewardship award to the Schulke family in Walla Walla County for their use of CREP to restore over 260 acres of family farmland for fish and wildlife habitat.

### **Business Problem Driving this Request**

Much of Washington State has ESA-listed salmonid species in its streams, and degraded riparian habitat is identified as a key limiting factor to salmon populations (Governor's Salmon Recovery Office 2006). In addition, 37% of salmon streams on private land pass through agricultural lands (NMFS and USFWS 2000). For these reasons, it is important to improve riparian habitat on agricultural lands to make progress towards salmon recovery. CREP directly improves water quality in several ways. The buffers filter pollutants from farmland and help remove excess sediment, fecals, and chemicals before they reach the stream. The CREP trees shade the rivers to keep water temperatures cool and oxygen levels high. The leaf litter increases the productivity of streams, enhancing the food web, and the plants in the buffer provide food and shelter to many other wildlife species. Currently, nearly all of our basins have streams with 303(d) listings, which means they have failed to meet water quality standards (DOE 2004). CREP is an important tool to assist in water quality improvements in our state. This is also important for compliance with the Clean Water Act.

This voluntary program allows the state and conservation districts to focus on success and implementation rather than a regulatory approach to dealing with non-point sources of pollution. Regulatory activity would be far more expensive, create an environment of distrust, and potentially lead to expensive litigation for the regulatory agencies. The Growth Management Act and Shoreline Master Programs are just two examples of such regulatory frameworks. They have not resulted in the benefits seen to-date with the CREP program.

### **Specific Benefits of this Project**

- Greatly leverages state dollars spent on salmon habitat restoration and water quality improvements because the federal government provides up to 80% of the funds for this program.
- The money, including the 80% leveraged from the federal government, also supports local private-sector jobs, many of which are located in rural areas where such jobs are needed. About 116 jobs will be maintained or created mostly in rural areas due to this program. These are jobs directly created by these funds. Several additional million dollars are paid by the federal government to farmers who enroll in this program. Those create more indirect jobs that are in addition to the estimate we provided for direct jobs.
- Improves water quality for both humans and wildlife. These improvements include water temperature, dissolved oxygen, decreased sediments, and decreased pollutants. Contributes towards compliance with the Clean Water Act.
- Contributes to salmon habitat. Addresses a key limiting factor for ESA-listed salmon, which will lead to increased salmon production and aid the fisheries industry (Governor's Salmon Recovery Office 2006).
- Increases private landowner awareness and cooperation regarding the restoration and protection of natural resources.
- Provides a way for farmers to continue to farm while also improving watershed health.
- CREP has proven success with plant survival rates of 87-95%, plant growth rates of 13-20" per year, and the proven ability to provide 70% shade to streams after only 4-7 years after planting.

### **Impact on clients and services**

- CREP has economic benefits including federal rental payments to local farmers and providing private-sector jobs (116 direct jobs) for people who grow plants and prepare and maintain the land that is planted with the buffers.
- CREP aids the state budget by infusing an 80% match of federal funds into our economy, while improving greatly needed salmon habitat and water quality.
- CREP aids the landowner by providing financial incentives to improve salmon habitat and watershed health. This experience often results in a positive change in outlook regarding environmental issues.
- CREP aids the state by improving water quality for both humans and wildlife. It also contributes towards compliance with the federal Clean Water Act.
- CREP aids the state by improving salmon habitat, contributing towards recovery goals for ESA-listed salmonids. Improvements in

salmonid populations also have an economic value in their fisheries.

### **Impact / Relationship to Other State Programs or Units of Government**

- Washington Department of Fish and Wildlife. Improvement of fish habitat contributes towards increased fish production and contributes to the progress towards salmon recovery and other fish and wildlife habitat needs.
- Washington Department of Ecology. Improvement of water quality reduces their need for Total Maximum Daily Load (TMDL) analyses and addresses one of their key goals of maintaining good water quality in Washington State.
- Governor's Salmon Recovery Office. Degraded riparian habitat is listed as a major limiting factor in every one of their recovery plans for ESA-listed salmon. CREP provides on the ground restoration of this key habitat, and has proven success after 11 years of experience.
- Governor's Office and the Puget Sound Partnership. Improvements in water quality and riparian habitat are an identified need in the Puget Sound Action Agenda.
- Puget Sound Stormwater Workgroup. Restoration of riparian habitat results in improved water quality. This is one of the goals of the Puget Sound Stormwater Workgroup.
- Washington State Indian Tribes. Improving salmon habitat is a key interest to the tribes, who depend upon fisheries for much of their livelihood.
- Department of Health. Reducing livestock access to streams and decreasing nutrients from farms into streams improves water quality for human health. Many of our streams are used for human water supplies and recreational uses as well as drain into marine areas important for shellfish consumption.
- National Oceanic and Atmospheric Administration and U.S. Fish and Wildlife Service. CREP improves salmonid habitat for ESA listed species managed by these two agencies.
- Environmental Protection Agency. EPA is a co-steward along with DOE and the tribes to implement the Clean Water Act in our state. Improved water quality conditions aid their mission as well as ours.

### **Alternatives explored by agency & why is this the Best Option or Alternative**

One alternative is to not offer the program. This would result in much slower progress towards salmon recovery and less compliance with the federal Clean Water Act. In the last decade, CREP has restored over 13,000 acres of riparian habitat and improved over 700 miles of stream. It is unlikely that many private landowners and farmers would improve the habitat without the financial and technical assistance that CREP provides. It has also leveraged the use of several millions of federal dollars into our state each biennium because of the approximate 80% match provided by the Farm Service Agency. This creates private-sector jobs and provides an economic stimulus while tapping into federal funds that would go to other states if we were unable to provide the necessary 20% match with state funds. The 20% match is partially provided by this decision package. The remaining match is provided by the CREP cost share decision package.

Another alternative is to rely on other programs, such as the Salmon Recovery Funding Board. However, their funds are scattered among many different types of projects, and do not focus on riparian habitat. By specializing in riparian restoration, we tap into experts who conduct this work on a daily basis, thereby increasing the rate of success of our investments. In addition, rental payments and on-going maintenance are not often provided in other funding sources, reducing private landowner participation and success of the projects. Perhaps the most important point is that up to 80% of the cost of CREP is covered by the federal government, which greatly leverages our state dollars towards salmon habitat restoration.

### **Required changes to existing RCW, WAC, contract, or plan:**

None.

State funding of 2.231 million dollars per biennium leverages up to another 8.9 million dollars in federal funds that directly restore salmon habitat and improve water quality in our state. The federal funding pays for most of the restoration costs and all of the land rental costs. The state dollars pay for the planning costs, program marketing, maintenance of plants, and 10% of the restoration costs.

### **Expenditure calculations and assumptions:**

The expenditure calculations were based upon past spending levels and the operating budget of CREP TA which funds the project planning. This operating budget limits the growth of the program, and until it is increased significantly, the program needs will continue to be at the present level.

Funding Package

.5 FTE to be covered by Capital package #3000009 and .5 FTE to be covered by Capital package #3000012

Capital Funding Package	3000009	3000012
CREP Coordinator FTE	0.5	0.5
Salaries	65,000	65,000
Benefits	19,500	19,500
Goods & Services	5,000	5,000
Travel*	10,000	10,000
Grants for landowner projects	2,500,500	2,131,500
Total Budget	2,600,000	2,231,000

\*travel costs expected to be higher this biennium do to hiring a replacement coordinator. Previous coordinator hired by ECY.

**Effects of non-funding:**

Not funding this package would result in the end of this program. To-date, this program has restored over 13,000 acres of riparian buffer (700 miles of stream) predominantly located along our largest, most important rivers in the state. The majority of CREP projects focus on salmonids that are listed under the Endangered Species Act. Riparian habitat has been listed as a major limiting factor affecting listed salmon in every salmon recovery region. The cessation of CREP would end most of the recovery actions for riparian conditions on agricultural lands, and would slow progress towards salmon recovery. It would also end the infusion of several millions of federal dollars into our state each biennium for this program, which would have a negative economic impact and reduce private-sector employment, cutting at least 116 private-sector jobs per year.

Not funding CREP would also end restoration actions that are important for compliance with the Clean Water Act.

**Key Stakeholders / Organizations Involvement and Positions:**

CREP has support from a wide variety of groups. NOAA and USFWS have expressed support for the program due to its success in restoring salmon habitat. We've also met with several agricultural groups who have expressed support including the Western Washington Agricultural Association, the Washington State Dairy Federation, Washington Cattlemen's Association, the Washington Farm Bureau, and the Washington Department of Agriculture. CREP is also an important component in salmon habitat restoration and is used by many salmon recovery boards as part of their strategy to address ESA listings.

**Proviso**

Not a budget proviso, but a contract Memorandum of Agreement signed by the State of Washington and USDA, agreeing to the program and its associated costs.

**Location**

<b>City:</b> Centralia	<b>County:</b> Lewis	<b>Legislative District:</b> 020
<b>City:</b> Clarkston	<b>County:</b> Asotin	<b>Legislative District:</b> 009
<b>City:</b> Dayton	<b>County:</b> Columbia	<b>Legislative District:</b> 016
<b>City:</b> Ellensburg	<b>County:</b> Kittitas	<b>Legislative District:</b> 013
<b>City:</b> Lake Stevens	<b>County:</b> Snohomish	<b>Legislative District:</b> 044
<b>City:</b> Lynden	<b>County:</b> Whatcom	<b>Legislative District:</b> 042
<b>City:</b> Montesano	<b>County:</b> Grays Harbor	<b>Legislative District:</b> 019
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 010
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 040
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 007
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 012
<b>City:</b> Pomeroy	<b>County:</b> Garfield	<b>Legislative District:</b> 009
<b>City:</b> Port Angeles	<b>County:</b> Clallam	<b>Legislative District:</b> 024
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 011
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 033
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 037
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 041
<b>City:</b> Shelton	<b>County:</b> Mason	<b>Legislative District:</b> 035
<b>City:</b> South Bend	<b>County:</b> Pacific	<b>Legislative District:</b> 019
<b>City:</b> Tumwater	<b>County:</b> Thurston	<b>Legislative District:</b> 022
<b>City:</b> Unincorporated	<b>County:</b> Jefferson	<b>Legislative District:</b> 024

**City:** Unincorporated  
**City:** Walla Walla

**County:** Wahkiakum  
**County:** Walla Walla

**Legislative District:** 019  
**Legislative District:** 016

**Grant Recipient Organization:** Conservation Districts  
**RCW that establishes grant:** RCW 89.08

**Application process used**

Monitoring is an important component of habitat restoration. Without it, there can be no knowledge of what's been done, where it has been done, and no measurement of success in the investments and techniques. Implementation monitoring of CREP tracks how much has been done. These measures are: acres treated, stream miles restored, number of contracts, feet of fencing installed, and number of plants planted. The implementation monitoring data is used to show program performance to the Office of Financial Management, the legislature, and the Farm Service Agency. It is also used for management purposes within the Washington Conservation Commission to allocate funds and better manage the program.

**Growth Management impacts**

Under GMA, all jurisdictions are required to designate resource lands of long-term commercial significance. These lands include agricultural, forestry and mineral resource lands. Furthermore, jurisdictions planning under the GMA must designate and protect critical areas, which include wetlands, critical wildlife habitat, aquifer recharge areas, geologic hazards, and frequently flooded areas. This proposal supports these local requirements and objectives through the implementation of on-the-ground projects. All locally implemented projects are planned and implemented in a manner consistent with local comprehensive plans and ordinances.

**Funding**

Acct Code	Account Title	Estimated Total	Expenditures		2015-17 Fiscal Period	
			Prior Biennium	Current Biennium	Reappropriations	New Appropriations
057-1	State Bldg Constr-State	13,386,000		1,731,000	500,000	2,231,000
	<b>Total</b>	<b>13,386,000</b>	<b>0</b>	<b>1,731,000</b>	<b>500,000</b>	<b>2,231,000</b>
		<b>Future Fiscal Periods</b>				
		<b>2017-19</b>	<b>2019-21</b>	<b>2021-23</b>	<b>2023-25</b>	
057-1	State Bldg Constr-State	2,231,000	2,231,000	2,231,000	2,231,000	
	<b>Total</b>	<b>2,231,000</b>	<b>2,231,000</b>	<b>2,231,000</b>	<b>2,231,000</b>	

**Operating Impacts**

**No Operating Impact**

**Narrative**

The CREP program has been highly successful and cost effective. Due to its ability to bring 80% federal funding into the state, it is a wise method to not only improve watershed health, but also stimulate local economies and private-sector employment. Costs are similar to past years and are expected to remain at this level for the near future. This budget request also relates to the CREP Practice Incentive Payment Loan Program request.

## Capital Project Request

2015-17 Biennium

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Version: D1 2015-17 Capital Budget Request

Report Number: CBS002

Date Run: 9/9/2014 5:05PM

Project Number: 30000011

Project Title: CREP PIP Loan Program

## Description

Starting Fiscal Year: 2014

Project Class: Grant

Agency Priority: 5

### Project Summary

Related to Puget Sound Action Agenda Implementation. A PIP (Practice Incentive Payment) loan is a bridge loan to a landowner to cover the upfront contract payment pending funding from the federal agencies for the payment. Sometimes there is a time like for the incentive payment as part of a CREP contract due to a variety of factors at the federal agency. In order to keep the projects moving forward, a PIP loan is provided where future federal funding is expected. The funding request continues funding for this activity.

### Project Description

What is the proposed project?

CREP is one of the more important tools available to improve and protect riparian habitat on agricultural lands. Much of Washington State has ESA listed salmonid species in its streams, and a key limiting factor to salmon habitat is degraded riparian habitat (Governor's Salmon Recovery Office 2006). In addition, 37% of salmon streams on private land pass through agricultural lands (NMFS and USFWS 2000). For these reasons, it is important to improve riparian habitat on agricultural lands to make progress towards salmon recovery.

Through successful voluntary landowner participation, the CREP program removes livestock and agricultural activities from the riparian area of salmon-bearing streams. The sites are planted with native trees and shrubs for a contract period of 10-15 years. This program improves salmon habitat and water quality without negative financial impacts to farmers and private landowners who have removed the area from farm production. This voluntary program is the result of a contractual agreement between the State of Washington and United States Department of Agriculture established in 1998. The U.S. Department of Agriculture through the Farm Service Agency (FSA) provides up to 90% of the funds for this program, which greatly leverages state dollars spent on salmon habitat restoration and water quality improvements. However, the payments from the FSA are not issued to the landowner until the restoration is complete. Many landowners are unable to pay the restoration costs then wait for federal reimbursement. To address this problem, the 2004 Legislature created the Conservation Assistance Revolving Account for the Conservation Commission to administer. This provides the funds to complete the restoration. Those funds are later reimbursed by FSA. Loans are made based upon actual receipts in accordance with FSA, USDA, and Conservation Commission policies. The repayment of the loans ranges from 1 to 3 years.

What opportunity or problem is driving this request?

This particular budget request is for the Conservation Assistance Revolving Account portion of CREP. This is a loan program to cover the 40% of the restoration costs that are not paid by the U.S. Department of Agriculture until the entire restoration is complete. Many landowners are unable to pay the restoration costs then wait for federal reimbursement.

CREP is one of the more important tools available to improve and protect riparian habitat on agricultural lands. Much of Washington State has ESA listed salmonid species in its streams, and a key limiting factor to salmon habitat is degraded riparian habitat (Governor's Salmon Recovery Office 2006). In addition, 37% of salmon streams on private land pass through agricultural lands (NMFS and USFWS 2000). For these reasons, it is important to improve riparian habitat on agricultural lands to make progress towards salmon recovery.

CREP also directly improves water quality in several ways, and currently, nearly all of our basins have streams with 303(d) listings, which means they have failed to meet water quality standards (DOE 2004). CREP is an important tool to assist in water quality improvements in our state. This is also important for compliance with the Clean Water Act.

#### How does the project support the agency and statewide results?

The Conservation Assistance Revolving Account directly supports the Conservation Reserve Enhancement Program, which contributes to the Conservation Commission's strategic plan by supporting Conservation Districts in their effort to help landowners conserve and sustain resources. The strategic plan has several goals that will be aided by CREP. These are:

- 1) Sustain or improve fish habitat. CREP restores and protects riparian areas around salmonid streams, directly improving fish habitat and water quality.
- 2) Changing individual behavior and choices. CREP provides on the ground examples to the private landowner that restoring and protecting natural resources can be a mutually beneficial choice.
- 3) Improve, maintain, and restore water quality. CREP results in the restoration and protection of trees and shrubs along streams, which is one of the most important actions towards improving water quality. The trees and shrubs cool water temperatures (shade), increase oxygen levels (from decreasing temperatures), decrease sediment inputs, and filters out pollutants. In addition, CREP provides funds for farmers to fence the riparian areas so that livestock cannot access the streams. This improves water quality by decreasing pollutants and sediment inputs.
- 4) Improve watershed health. Restoration and protection of riparian areas are vital to watershed health. Functional riparian zones improve many aspects of watershed health such as water temperatures, oxygen levels, pollutants, stream flow, sediment inputs, floodplain habitat, primary productivity, and instream habitat such as wood and pools for fish use.
- 5) Increased productivity of land and natural resources. CREP improves the productivity of the watershed by increasing the watershed health, increasing primary productivity, and addressing a key limiting factor to salmon production in our state.

CREP also contributes to statewide goals. In every recovery region of Washington State, degraded riparian habitat has been identified as a major factor limiting the recovery of salmon listed under the Endangered Species Act (Governor's Salmon Recovery Office 2006). CREP is an important solution for this problem.

In addition, one of the main goals of the Department of Ecology is to "prevent water pollution including aquatic habitat loss, and ensure adequate water quality and quantity to meet beneficial uses". CREP results in decreased pollutants, improved aquatic habitat, and improved water quality, thereby contributing to water quality goals for the state.

#### What are the specific benefits of this project?

- 1) The Conservation Assistance Revolving Account provides the upfront funds needed to implement the riparian restoration.
- 2) It allows state dollars spent on salmon habitat restoration and water quality improvements to be greatly leveraged because the federal government provides up to 80% of the funds for this program.

In addition, all components of CREP have the following benefits:

- Improves water quality for both humans and wildlife. These improvements include water temperature, dissolved oxygen, decreased sediments, and decreased pollutants.
- Contributes to salmon habitat. Live trees provide organic material that increases productivity of streams. Dead trees fall into streams to create various important types of fish habitat.
- Addresses a key limiting factor for ESA listed salmon (Governor's Salmon Recovery Office 2006). Contributes towards compliance with the Clean Water Act.
- Increases private landowner awareness and cooperation regarding the restoration and protection of natural resources. Provides a way for farmers to continue to farm while also improving watershed health.

#### How will clients be affected and services change if this project is funded?

Without this portion of the program, many landowners would be unable to personally fund the riparian restoration then wait for federal reimbursement. The outcome would be fewer CREP projects if this loan program did not exist.

CREP has many important impacts on clients and services, such as:

CREP aids the landowner by providing financial incentives to improve salmon habitat and watershed health. This experience often results in a positive change in outlook regarding environmental issues.

CREP aids the state by improving water quality for both humans and wildlife. It also contributes towards compliance with the

federal Clean Water Act.

CREP aids the state by improving salmon habitat, contributing towards recovery goals for ESA listed salmonids. Improvements in salmonid populations also have an economic value in their fisheries.

How will other state programs or units of government be affected if this project is funded?

In general, CREP has many relationships to other state programs and entities.

Washington Department of Fish and Wildlife. Improvement of fish habitat contributes towards increased fish production.

Washington Department of Ecology. Improvement of water quality reduces their need for Total Maximum Daily Load (TMDL) analyses and addresses one of their key goals of maintaining good water quality in Washington State.

Governor's Salmon Recovery Office. Degraded riparian habitat is listed as a major limiting factor in every one of their recovery plans for ESA listed salmon. CREP provides on the ground restoration of this key habitat, and has proven success after 7 years of experience.

Governor's Office and Puget Sound Action Team. Improvements in water quality have a positive effect downstream, and many of the basins improved by CREP projects drain into Puget Sound, ultimately improving some of the water quality issues there. Restoring conditions in Puget Sound is a priority identified by the Governor's Office and is the focus of the Puget Sound Action Team.

Washington State Indian Tribes. Improving salmon habitat is a key interest to the tribes, who depend upon fisheries for much of their livelihood.

Department of Health. Reducing livestock access to streams and decreasing nutrients from farms into streams improves water quality for human health. Many of our streams are used for human water supplies and recreational uses.

National Oceanic and Atmospheric Administration and U.S. Fish and Wildlife Service. CREP improves salmonid habitat for ESA listed species managed by these two agencies.

Environmental Protection Agency. EPA is a co-steward along with DOE and the tribes to implement the Clean Water Act in our state. Improved water quality conditions aids their mission as well as ours.

In addition to the above listed general relationships, the Conservation Assistance Revolving Account portion of CREP has important ties to the U.S. Department of Agriculture's Farm Service Agency in that this is a loan program that is reimbursed by FSA.

What is the impact on the state operating budget?

This is a loan program that accompanies the CREP Cost Share Capital Budget decision package within the Conservation Commission.

Why is this the best option or alternative?

One alternative is to not offer the program. Most landowners cannot afford to fund the restoration on their own then wait for the federal government to reimburse them. The result of this is that CREP participation would be greatly reduced.

What is the agency's proposed funding strategy for the project?

These funds are reimbursed by the federal government (U.S. Department of Agriculture's Farm Service Agency).

Distinction Between One-Time and Ongoing Costs

It will be important to continue these funds throughout the duration of CREP. Therefore all \$180,000 for the biennium are ongoing costs.

Expenditure calculations and assumptions:

We are requesting \$180,000 for the biennium. This is based on the recent past level of use.

The entire amount is obligated to districts for the landowner loans which are guaranteed by USDA.

Effects of non-funding:

If this program is not funded, there will be reduced participation in CREP and the participation that will exist will be based more upon the ability of the landowner to carry these costs rather than the priority of the habitat to protect.

Key Stakeholders / Organizations Involvement and Positions:

CREP has support from a wide variety of groups. NOAA and USFWS have expressed support for the program due to its success in restoring salmon habitat. We've also met with several agricultural groups who have expressed support including the Western Washington Agricultural Association, the Washington State Dairy Federation, Washington Cattlemen's Association, the Washington Farm Bureau, and the Washington Department of Agriculture.

**Proviso**

Not a budget proviso, but a contract Memorandum of Agreement signed by the State of Washington and USDA, agreeing to the program and its associated costs.

**Location**

<b>City:</b> Chehalis	<b>County:</b> Lewis	<b>Legislative District:</b> 020
<b>City:</b> Clarkston	<b>County:</b> Asotin	<b>Legislative District:</b> 009
<b>City:</b> Dayton	<b>County:</b> Columbia	<b>Legislative District:</b> 016
<b>City:</b> Ellensburg	<b>County:</b> Kittitas	<b>Legislative District:</b> 013
<b>City:</b> Lake Stevens	<b>County:</b> Snohomish	<b>Legislative District:</b> 044
<b>City:</b> Lynden	<b>County:</b> Whatcom	<b>Legislative District:</b> 042
<b>City:</b> Montesano	<b>County:</b> Grays Harbor	<b>Legislative District:</b> 019
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 010
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 040
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 007
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 012
<b>City:</b> Pomeroy	<b>County:</b> Garfield	<b>Legislative District:</b> 009
<b>City:</b> Port Angeles	<b>County:</b> Clallam	<b>Legislative District:</b> 024
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 011
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 033
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 037
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 041
<b>City:</b> Shelton	<b>County:</b> Mason	<b>Legislative District:</b> 035
<b>City:</b> South Bend	<b>County:</b> Pacific	<b>Legislative District:</b> 019
<b>City:</b> Tumwater	<b>County:</b> Thurston	<b>Legislative District:</b> 022
<b>City:</b> Unincorporated	<b>County:</b> Jefferson	<b>Legislative District:</b> 024
<b>City:</b> Unincorporated	<b>County:</b> Wahkiakum	<b>Legislative District:</b> 019
<b>City:</b> Walla Walla	<b>County:</b> Walla Walla	<b>Legislative District:</b> 016

**Project Type**

Grants

**Grant Recipient Organization:** Conservation Districts  
**RCW that establishes grant:** RCW 89.08

**Application process used**

Secured by assignment of payment between landowner and SCC. Prior to funding being awarded, landowner must assign payment from USDA to SCC.

**Growth Management impacts**

Growth Management impacts Under GMA, all jurisdictions are required to designate resource lands of long-term commercial significance. These lands include agricultural, forestry and mineral resource lands. Furthermore, jurisdictions planning under the GMA must designate and protect critical areas, which include wetlands, critical wildlife habitat, aquifer recharge areas, geologic hazards, and frequently flooded areas. This proposal supports these local requirements and objectives through the implementation of on-the-ground projects. All locally implemented projects are planned and implemented in a manner consistent with local comprehensive plans and ordinances.

## Funding

Acct Code	Account Title	Estimated Total	Expenditures		2015-17 Fiscal Period	
			Prior Biennium	Current Biennium	Reappropriations	New Appropriations
552-1	Cons Assistance Acct-State	680,000		30,000	150,000	100,000
	<b>Total</b>	<b>680,000</b>	<b>0</b>	<b>30,000</b>	<b>150,000</b>	<b>100,000</b>
<b>Future Fiscal Periods</b>						
		<b>2017-19</b>	<b>2019-21</b>	<b>2021-23</b>	<b>2023-25</b>	
552-1	Cons Assistance Acct-State	100,000	100,000	100,000	100,000	
	<b>Total</b>	<b>100,000</b>	<b>100,000</b>	<b>100,000</b>	<b>100,000</b>	

## Operating Impacts

### No Operating Impact

### Narrative

This program has been entirely funded from the Capital Budget. This separate fund 552, was set up as a bridge loan and this funding is guaranteed from USDA, Farm Service Agency. So no general fund operating dollars are impacted.

## Capital Project Request

2015-17 Biennium

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Version: D1 2015-17 Capital Budget Request

Report Number: CBS002

Date Run: 9/9/2014 5:05PM

Project Number: 30000013

Project Title: Voluntary Stewardship Program for protection of critical areas

## Description

Starting Fiscal Year: 2016

Project Class: Grant

Agency Priority: 6

### Project Summary

Related to Puget Sound Action Agenda Implementation. The Voluntary Stewardship Program (VSP) is the result of a negotiated process to address issues involving impacts to critical areas from agricultural activities. VSP is part of the state Growth Management Act (GMA) and provides an alternative path for counties to address these issues. There are 28 counties opted in to the VSP. Funding in this proposal will support the development and implementation of county VSP work plans.

### Project Description

The VSP addresses impacts to natural resource critical areas from agricultural activities. This program is a negotiated solution supported by agricultural, environmental, and county interests. Twenty-eight counties opted-in to VSP and implementation begins when available funding is received. Funding for this project will support VSP county development of a work plan to identify key areas for on-the-ground capital funded projects. The end result of this funding will be each of the 28 counties will have a completed work plan and begin implementation of projects identified in each plan.

#### Related to Puget Sound Action Agenda Implementation:

There are 4 VSP counties in the Puget Sound basin – Thurston, Mason, San Juan, and Skagit. The VSP is identified in the PS Partnership Action Agenda as a near term action in support of Puget Sound recovery.

### What is the proposed project?

Funding in this proposal will support the development of a capital project work plan in each of the 28 VSP counties. Each county must convene a broad stakeholder work group to guide the development of the work plan. The work group must identify the critical areas within the watershed, identify the nature of agricultural activities in the watershed, describe how the agricultural activities are impacting the critical areas, and develop a strategy for outreach to landowners. The work plans are submitted to the Conservation Commission for review and approval. Each work group must develop and implement a monitoring program to monitor progress on plan implementation and report progress status to the Conservation Commission one every five years.

A VSP work plan must identify the capital funded programs that will be utilized with landowners in the area. These programs are currently funded through state capital funds (such as the Conservation Reserve Enhancement Program, or CREP) or funded through federal programs. The result of implementation of a work plan will be improved on-the-ground installation of capital funded projects leading to improved efficiencies because the projects will be developed in a more locally coordinated manner. The work plan will also provide for more effective capital projects since they will be installed in the critical areas specifically needing protection and restoration.

### What opportunity is driving this request?

The VSP addresses the problem of increasing conflict between the agricultural community, environmental groups, and counties in the area of protection of critical areas from agricultural activities. Critical areas include wetlands, frequently flooded areas, steep

slopes, aquifer recharge areas, and critical species habitat especially salmon habitat. The solution to the problem is a collaborative approach at the local level where stakeholders will identify the critical areas in the county, the agricultural activities impacting those areas, and develop a program of service delivery to landowners of capital funded opportunities to address these issues.

With this program a change is expected in the performance of each of the 28 counties in the implementation of the way capital funded projects are deployed in a watershed. It's expected capital funded projects will be more efficiently and effectively implemented to address critical area concerns.

This project is necessary because it will improve the delivery of capital funded projects at the local level. Currently capital funded habitat protection and restoration projects are funded on a project-by-project approach that doesn't maximize funding effect because the projects are scattered across the landscape. With this project, the VSP county work plan will require more targeted implementation of capital funded projects.

Also, this project is necessary because the VSP will end in July 2015 without adequate funding. The result of this termination will be a return to the problems of the past in the area of critical area protection with increased costs associated with lawsuits. In one county, pre-VSP legal costs have topped \$3 million. This project will reduce these costs for all counties by utilizing collaborative approaches at the local level.

#### **The effects of non-funding:**

Without this funding the project will end in July 2015 consistent with statutory requirements. The result of this termination will be a return to the problems of the past in the area of critical area protection with increased costs associated with lawsuits. For agricultural and environmental stakeholders the consequences will be devastating. These entities, along with counties, negotiated the creation of VSP to resolve a long-standing dispute in the highly contentious area of land use planning. The negotiations were long and involved risk-taking on all sides. Failure to fund the project will send the message that these types of negotiated settlements are a waste of time and will be less likely to occur in the future.

Failure to fund this project could also result in increased legal costs for counties. If this project is not funded, VSP counties will revert back to the Growth Management Act (GMA) planning process for agricultural activities and critical areas. This element of GMA planning has historically been very contentious and fraught with lawsuits. In one county, pre-VSP legal costs associated with agriculture and critical areas issues have topped \$3 million. Failure to fund would result in more of these legal challenges.

There are also risks for the Governor in failing to fund this project. This was a negotiated solution. The stakeholders involved have traditionally fought each other on this issue. They have come together and taken risks within their own organizations to support this program. Failure to fund would send a message that these risks will go unrewarded and unsupported and make them less likely to occur in the future.

#### **This proposal supports several of the Conservation Commission's strategic actions for FY 2015 including:**

- Implementation of activities related to the tribal treaty rights at risk response (VSP is specifically identified as a response activity);
- Coordination with other agencies using a model area concept for getting together on an area-wide project(s) to address an area-wide resource concern;
- Impact on natural resources demonstrated with data, monitoring, and Discovery Farms concept;
- Commission is a leader in facilitating change in culture to be a positive, results oriented conservation district family by involving partners and opportunities.

#### **This request is essential to support the Governor's priorities:**

Economy – Agriculture is identified in this priority as one of the key industries creating the backbone for a strong economy. Maintaining a viable agriculture economy is one of the requirements of the VSP project in this proposal. By coordinating activities at the county level, VSP implementation supports one of the Governor's economic development priorities to streamline state government to better support private-sector business growth. Farms are a key private sector business that will be supported in this proposal.

Budget – Governor Inslee supported funding the VSP two county initial implementers in his 2013 Climate, Energy and Natural Resources Budget Priorities for a Working Washington.

#### **This request provides essential support to the Governor's Results Washington Goals:**

Goal 3 – Shellfish: Will result in the increase of the number of BMPs implemented in four Puget Sound counties and in Grays Harbor and Pacific counties. Goal 3 2.1.b

Goal 3 – Pacific Salmon: Salmon habitat is a critical area to be addressed under VSP. This project will support this goal and indicators by increasing miles of stream habitat opened through identification of the best locations for these capital funded projects. Goal 3 2.2.

Goal 3 – Wildlife: Critical species habitat is a critical area to be addressed under VSP. This project will support this goal and indicators by addressing listed species habitat. More specifically, Thurston County is a VSP county and this project will address the indicator calling for the increase in Mazama pocket gopher habitat. Goal 3 2.3.d. VSP will also address the indicator calling for increasing the sage-grouse population in eastern Washington counties that are VSP counties. Goal 3 2.3.b

Goal 3 – Clean, Cool Water: This proposal will address capital funded projects to improve good water quality by identifying locations for these projects that will have the most impact on protecting water quality resources.

Goal 3 – Working and Natural Lands: Results Washington has a goal to increase the net acreage dedicated to working farms. Stewardship plans implemented under this proposal will allow farmers to continue agricultural production while protecting natural resources. By staying in production farmers will stay on the land and therefore we can increase the net acreage dedicated to working farms. Goal 3 4.1.a.

### **What are the specific benefits to the project?**

By investing in the Voluntary Stewardship Program (VSP) through this proposal, we will be supporting continued economically viable agricultural production while protecting natural resources. More specifically, this proposal invests in 28 local capital work plans that will identify locations within these counties where capital funded on-the-ground projects will be implemented. These plans and the subsequent projects will benefit the environment by addressing impacts to natural resources from agricultural activities. These projects will support local economic activity and jobs through the purchase of supplies and equipment for practice installation.

Local governments, particularly counties, will benefit through VSP implementation by reducing the number and cost of challenges and appeals of local growth management decisions. Already one county has spent approximately \$3 million in litigation costs on growth management appeals of issues relating to agriculture and critical areas. This proposal will reduce significantly those costs for local governments by utilizing collaborative approaches to address the resource concern and engaging landowners through incentive-based capital funded projects.

Specific benefits for the local and state economy through implementation of project under VSP will vary by county depending on how many projects each county proposes to implement. More information on these projects will be known as the local plans are developed.

### **How will clients and services be affected?**

If this VSP proposal is funded, landowner clients will see a significant improvement in outreach and engagement with them at the local level for the implementation of best management practices and projects. Local governments will also see improved support and services from the state in meeting their growth management planning needs.

Finally, the state will see improved implementation of capital funds for on-the-ground projects by the development of work plans developed through this proposal. Local work groups will identify the best locations within their watersheds for the implementation of projects that will be the most effective and efficient to address resource concerns.

### **FTEs needed?**

1.5 FTE will be needed to implement this project. Activities include agency staff to provide technical assistance to local work groups and county governments for implementation of the proposal. Half an FTE will be required to support and process the necessary contract for the 28 jurisdictions in the program.

### **Other impacted governments?**

Four state agencies will be impacted by this proposal – the Conservation Commission, WSDA, WDFW, and Ecology. These agencies are identified in statute as participants on a state technical panel that is responsible for reviewing each work plan funded in this

proposal. Each of the four agencies may also provide local technical support during development of local work plans. This local technical support may also include staff from the Department of Commerce, Growth Management Division.

The Conservation Commission will have ongoing program implementation responsibilities.

**Why is this the best alternative?**

Previously counties have been following the alternative of addressing these issues through the traditional growth management planning process. But this approach has resulted in several legal challenges and increased legal costs to local governments. The growth management approach has also led to acrimony at the local level between agricultural interests and the environmental community.

**Best funding alternative?**

This proposal is the best alternative because it was the result of a negotiated process between entities typically fighting each other on these issues. The proposal will lead to real on-the-ground actions to improve critical area conditions and maintain agricultural activity.

The Conservation Commission has been seeing federal funding to support this proposal. The Commission will continue with this effort. Funding of this proposal will help by demonstrating to federal funders that the state has invested in this proposal thereby creating momentum for federal agencies to also provide matching funds.

**Funding Strategy**

VSP Funding Package	30000013
<b>Program Specialist 3</b>	<b>0.5 fte</b>
<b>WMS 2 Tech Coordinator for Counties</b>	<b>1.0 fte</b>
Salaries	100,000
Benefits	30,000
Goods & Services	10,000
Travel	15,000
Funding for the 28 Counties	7,505,000
<b>Total Budget</b>	<b>7,660,000</b>

**Proviso**

No additional proviso language will be required. This proposal supports implementation of RCW 36.70A.700-760.

**Location**

<b>City:</b> Asotin	<b>County:</b> Asotin	<b>Legislative District:</b> 009
<b>City:</b> Chehalis	<b>County:</b> Lewis	<b>Legislative District:</b> 020
<b>City:</b> Colfax	<b>County:</b> Whitman	<b>Legislative District:</b> 009
<b>City:</b> Colville	<b>County:</b> Stevens	<b>Legislative District:</b> 007
<b>City:</b> Dayton	<b>County:</b> Columbia	<b>Legislative District:</b> 016
<b>City:</b> East Wenatchee	<b>County:</b> Douglas	<b>Legislative District:</b> 012
<b>City:</b> Ellensburg	<b>County:</b> Kittitas	<b>Legislative District:</b> 013
<b>City:</b> Ephrata	<b>County:</b> Grant	<b>Legislative District:</b> 013
<b>City:</b> Friday Harbor	<b>County:</b> San Juan	<b>Legislative District:</b> 040
<b>City:</b> Kelso	<b>County:</b> Cowlitz	<b>Legislative District:</b> 019
<b>City:</b> Montesano	<b>County:</b> Grays Harbor	<b>Legislative District:</b> 019
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 010
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 040
<b>City:</b> Newport	<b>County:</b> Pend Oreille	<b>Legislative District:</b> 007
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 007
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 012
<b>City:</b> Olympia	<b>County:</b> Thurston	<b>Legislative District:</b> 022
<b>City:</b> Pomeroy	<b>County:</b> Garfield	<b>Legislative District:</b> 009
<b>City:</b> Prosser	<b>County:</b> Benton	<b>Legislative District:</b> 016
<b>City:</b> Ritzville	<b>County:</b> Adams	<b>Legislative District:</b> 009
<b>City:</b> Shelton	<b>County:</b> Mason	<b>Legislative District:</b> 035

**City:** South Bend  
**City:** Stevenson  
**City:** Unincorporated  
**City:** Walla Walla  
**City:** Wenatchee  
**City:** Yakima  
**City:** Yakima

**County:** Pacific  
**County:** Skamania  
**County:** Ferry  
**County:** Walla Walla  
**County:** Chelan  
**County:** Yakima  
**County:** Yakima

**Legislative District:** 019  
**Legislative District:** 014  
**Legislative District:** 007  
**Legislative District:** 016  
**Legislative District:** 012  
**Legislative District:** 014  
**Legislative District:** 015

**Project Type**  
Grants

**Grant Recipient Organization:** County Governments  
**RCW that establishes grant:** 89.08

**Application process used**

Funds will be provided to each of the 28 opt-in VSP counties when each county notifies the Conservation Commission that they are prepared to begin the process. Counties have 2 years 9 months from the date funds are made available to them to complete work plan. Failure to meet this requirement will result in the county being removed from the program.

**Growth Management impacts**

This proposal supports GMA by implementing a statutorily provided alternative approach to address critical area protection (required by statute) while maintaining a viable agricultural economy. The work plans developed in this proposal serve as the GMA planning requirement for counties to protect critical areas.

**Funding**

Acct Code	Account Title	Estimated Total	Expenditures		2015-17 Fiscal Period	
			Prior Biennium	Current Biennium	Reapprops	New Approps
057-1	State Bldg Constr-State	7,660,000				7,660,000
	<b>Total</b>	<b>7,660,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7,660,000</b>
<b>Future Fiscal Periods</b>						
		<b>2017-19</b>	<b>2019-21</b>	<b>2021-23</b>	<b>2023-25</b>	
057-1	State Bldg Constr-State					
	<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	

**Operating Impacts**

**No Operating Impact**

**Narrative**

This proposal will have no operating impacts since the bulk of the work will be done at the county level and funded through this proposal. Conservation Commission staff work to assist counties will be considered part of the administrative costs of this capital project.



# Voluntary Stewardship Program



Washington State's Voluntary Stewardship Program (VSP) provides an optional approach for counties to address Growth Management requirements on agricultural lands. The program uses a watershed-based, collaborative stewardship planning process, and relies on incentive-based practices for protecting critical areas, promoting viable agriculture, and encouraging cooperation among diverse stakeholders.

**Background** Conflicts surrounding the protection and enhancement on agricultural lands of environmentally critical areas under Washington's Growth Management Act (GMA) have resulted in years of legal battles.

To resolve this issue, the 2011 Washington State Legislature created the Voluntary Stewardship Program (HB1886, RCW 36.70A.700)—a new framework of policies and practices that uses incentive-based programs to support BOTH critical areas and viable agriculture.

**Action Needed** Twenty-eight counties have opted into VSP. However, they are not required to implement VSP unless funding is made available. If no VSP funding is available by July 31, 2015, counties will revert to the traditional GMA requirements, which could take us back to more divisive processes to protect critical areas associated with agricultural activities.

Federal agencies and the congressional delegation are supportive of VSP, but they have made it clear that state funds to initiate the program are necessary to receive federal assistance for stewardship activities.

## Funding Details

ENTITY	ACTIVITY	REQUEST
26	Establish watershed groups and technical assistance entities, develop watershed work plans (subject to technical review), monitor and evaluate progress, and report.	\$6,500,000 / \$250,000 per county
Conservation Commission	Program administration and technical assistance. Coordination of the state-wide advisory committee. Coordination and participation in technical review process. Priority watershed designation/oversight. Review and evaluation of program success and report to Legislature.	\$240,000
Commerce	Technical assistance to counties. Code review and coordination with GMA activities.	\$120,000
WDFW WSDA Ecology	Provide technical assistance to counties and watersheds, participation on technical review panel, and implementation monitoring.	\$230,000
	<i>Total Request</i>	<i>\$7,090,000</i>

Stakeholders are requesting \$7,090,000 to implement Washington State's Voluntary Stewardship Program



## Twenty-eight counties have opted into the Voluntary Stewardship Program



**How it Works** Once funding is available, the Washington State Conservation Commission (WSCC) will administer funding for counties to implement the program. Counties then designate a work group to develop a watershed-scale plan that will:

- Identify critical areas and resource concerns.
- Identify agricultural activities in the critical areas.
- Create a plan for targeted outreach to assist landowners in developing farm plans that address agricultural impacts to critical areas on their property.
- Identify and maintain economically viable agriculture while protecting and restoring critical areas (if funding is available).

A county has 18 months to develop a work plan and submit it to the WSCC for approval. The WSCC then submits the plan to a state technical review panel for review and recommendation on approval.

Every five years counties must submit progress reports to the WSCC on program implementation and resource conditions. If progress is not being made, the work group must adaptively manage to reach program and natural resource goals.

Implementation of practices by landowners to address impacts to critical areas would be funded through existing federal and state programs.

### Voluntary Stewardship Program Partners



**Washington State Conservation Commission**

### Contact Information

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## Capital Project Request

2015-17 Biennium

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Version: D1 2015-17 Capital Budget Request

Report Number: CBS002

Date Run: 9/9/2014 5:05PM

Project Number: 30000016

Project Title: Disaster Recovery, Response, &amp; Training

## Description

Starting Fiscal Year: 2016

Project Class: Grant

Agency Priority: 7

**Project Summary**

Conservation districts serve a unique role in their local community after a natural disaster. In the short term, Districts are the only local government entity whose sole purpose after a disaster is to work with landowners to conduct damage assessments on private lands and to identify available recovery resources. Districts also organize initial natural resource recovery efforts among a variety of local, state, and federal government agencies. In the long term, Districts serve to coordinate natural resource conservation restoration efforts on both public and private land. Districts are the only local government entity to work directly with local landowners on a voluntary, non-regulatory basis to effectuate natural resource recovery conservation work on private lands. Currently, conservation districts do not have staff trained in disaster recovery principals or programs, which reduces their effectiveness and response time during disasters. Related to Puget Sound Partnership Action Agenda

**Project Description**

During and immediately after natural disasters, a gap exists between available recovery funding programs and local community needs. The Conservation Commission and conservation districts have consistently filled that gap by providing funds necessary to access and leverage state and federal disaster recovery funding programs and providing cost-share recovery programs in affected local communities after natural disasters for private landowners' environmental and agricultural recovery needs.

Typically, the Commission provides the 25% match for federal recovery programs, thus leveraging 75% more funding from the federal government. However, the Commission and Districts struggle to provide adequate funding to meet the local community need as recovery funds have to be cobbled together in an ad hoc basis from existing Commission funding programs.

In the short term, Districts are the only local government entity whose sole purpose after a disaster is to work with landowners to conduct damage assessments on private lands and to identify available recovery resources. Districts also organize initial natural resource recovery efforts among a variety of local, state, and federal government agencies. In the long term, Districts serve to coordinate natural resource conservation restoration efforts on both public and private land.

Districts are the only local government entity to work directly with local landowners on a voluntary, non-regulatory basis to effectuate natural resource recovery conservation work on private lands.

Currently, the Commission, which controls conservation district funding, does not have a disaster response fund dedicated to accessing and leveraging state and federal disaster recovery funding programs providing cost-share recovery programs in affected local communities after natural disasters for private landowners' environmental and agricultural recovery needs. This lack of a dedicated funding reduces effective relief and recovery efforts for private landowners, the agricultural community and smaller local communities. The failure to adequately fund recovery practices adversely affects salmon bearing streams and water quality.

**Project Description:**

The project would establish a disaster response and recovery fund within the Commission dedicated to accessing and leveraging federal disaster recovery funding programs to provide cost-share recovery programs in affected local communities after natural disasters. The Commission would work with conservation districts to create cost-share programs using the monies from this dedicated fund to leverage 75% more in federal funding to construct and establish conservation rehabilitation and recovery practices on private lands affected by natural disasters. Conservation recovery practices would reduce soil erosion, minimize the

impacts of flooding events, and mitigate water quality degradation after natural disasters.

### **What opportunity or problem is driving this request?**

"We depend on natural resources for our health, food, culture, recreation, economy, and transportation."<sup>[1]</sup> Yet climate change has brought on more extreme weather events that jeopardize our natural resources – from increasingly devastating flooding events to more intense and more frequent wildfire activity and drought. In 2013 Governor Inslee warned that "we face grave and immediate danger if we fail to act. Nine of 10 of the hottest years on record happened in the past decade. We've had epic flooding, searing drought and devastating wildfires, including last summer's fires in Central Washington and the rising tides along our coast."<sup>[2]</sup> "Actions to build resilience against the projected impacts of climate change are required today."<sup>[3]</sup> "Wildfires now burn twice as many acres per year than they did 40 years ago. On average, each year there are now seven times as many wildfires greater than 10,000 acres."<sup>[4]</sup> Impacts from climate change include decreased agricultural production; coastal flooding, erosion, and submergence; increases in heat-related illness and other stresses due to extreme weather events; reduction in water availability and quality; displacement of people and increased risk of violent conflict; and species extinction and biodiversity loss.<sup>[5]</sup>

The protection and rehabilitation of natural resources, especially those owned by private landowners, builds resilience against climate change.

In this environment, the Conservation Commission and conservation districts serve a unique role in their local community after a natural disaster. In the short term, the 45 conservation districts in Washington State are the only local government entity whose sole purpose after a disaster is to work with landowners to conduct damage assessments on private lands and to identify available recovery resources. Districts also organize initial natural resource recovery efforts among a variety of local, state, and federal government agencies. In the long term, Districts serve to coordinate natural resource conservation restoration efforts on both public and private land. Districts are the only local government entity to work directly with local landowners on a voluntary, non-regulatory basis to effectuate natural resource recovery conservation work on private lands.

The Commission, which controls conservation district funding, does not have a disaster response fund dedicated to accessing and leveraging federal disaster recovery funding programs providing cost-share recovery programs in affected local communities after natural disasters for private landowners' environmental and agricultural recovery needs. This lack of a dedicated funding reduces effective relief and recovery efforts for private landowners, the agricultural community and smaller local communities. The failure to adequately fund recovery practices adversely affects salmon bearing streams and water quality.

Conservation districts have recently provided response and recovery assistance for local landowners for flooding in Lewis, Cowlitz, Kittitas, and Yakima counties, wildfires in Kittitas, Douglas Chelan, Grant, Klickitat, Spokane and Yakima counties, a landslide in Yakima county, and windstorms across the state. So far in 2014, Conservation Commission and conservation district staff provided assistance during the Oso landslide and the ongoing Central Washington firestorm (Carlton Complex and Slag Canyon Fires), among others. Current ongoing costs, just for the wildfires burning in Central Washington (Carlton Complex, Chiwaukum Complex, and Snag Canyon are estimated to be \$138,717,500 over 309,822 burned acres.<sup>[6]</sup>

In the last seven years, the Commission has allocated \$2,755,820 on disaster relief in multiple counties across Washington State:

In Lewis County in 2007-2009, the Commission provided \$713,185 in cost-share and \$75,000 in technical assistance (\$788,185 total) to support recovery efforts after the 2007 flooding. In 2011 the Commission obtained a \$148,825 grant from the Natural Resource Conservation Service's Conservation Innovation Grant (CIG) program and provided the 25% match (\$37,206) to support research on technical studies and GIS mapping in support of flooding prevention efforts in the Lewis Chehalis watershed.

Between July 2012 and current fiscal year funding, the Commission provided \$632,036 in state funds and \$25,086 in CIG matching funds (\$657,122) to support the permitting, surveying, cultural review and cost-sharing of livestock flood sanctuary mounds ("critter pads") to save farm animals vital to the economic viability of farms and ranches.

In Grays Harbor and Lewis County, between 2013 and current fiscal year funding, the Commission has allocated \$645,226 toward the design, permitting, and construction of additional critter pads and \$120,000 more to support continued work with the Chehalis Food Authority.

In Kittitas County, between September 2012 and June 2013, the Commission provided \$79,873 to cover Kittitas County Conservation District's staff expenses as they coordinated cost share for the NRCS Emergency Watershed Protection Program (EWP) after the Taylor Bridge Fire.<sup>[7]</sup> The Commission also provided the 25% match (\$170,126) for the EWP after the Taylor Bridge Fire.

In Chelan County, between November 2012 and June 2013, after the Wenatchee Complex Fire<sup>[8]</sup>, the Commission provided \$29,318 to cover Cascadia Conservation District's staff expenses as they coordinated cost share for the NRCS Emergency

Watershed Protection Program (EWP). The Commission also provided \$113,032 to help install rain gauges to give early warning of flash flooding and erosion events and provide information to the public on flash flood prevention and control measures.

In Douglas County, after the Barker Canyon (and Buffalo Lake Road, Byrd Canyon, Wenatchee Complex, and Goat) fire in 2012<sup>[9]</sup>, the Commission provided \$74,112 for a cost share program to landowners in Douglas County for livestock fence repair, reseeding, and erosion control recovery efforts.

In Grant, Kittitas, Douglas and Chelan Counties, so far in 2014, the Commission has provided \$50,000 to support emergency relief efforts for irrigators affected by the Wanapum Dam drawdown and repairs after a crack was discovered in the Dam.<sup>[10]</sup> Irrigators lost the ability to draw water from the pool behind the dam and irrigation systems had to be extended to accommodate the lower pool elevation.

Conservation districts already participate in the Firewise program<sup>[11]</sup> to promote wildfire prevention efforts for landowners, but in a recent survey of conservation districts, Firewise programs and Forest Health ranked as Priority #1 with \$1,842,932 in high priority, unfunded needs waiting to be met. That was before the 2014 summer Central Washington Firestorms and unrelated to natural disaster recovery damages.

This project will allow the Conservation Commission, in partnership with local conservation districts, to assist local landowners and the agricultural community with short-term and long-term response and recovery efforts after a natural disaster by establishing a trained force for natural resource disaster recovery. Conservation district staff would become experts in available local, state and federal disaster recovery programs available to mainly rural private landowners.

Currently, effective and immediate rehabilitation of natural resources after a disaster is not being done. Rural communities and the agricultural community are unique from the business community as a whole, as each sector of agriculture has unique disaster response and recovery issues. Dairies, livestock operators, organic farmers, ranchers (including timber), and specialty crop growers all have unique issues and requirements that must be addressed in times of disaster. Ad-hoc groups of local landowners and government agencies have attempted, during past disasters, to meet the immediate land resource needs with little success. This program would serve to fill that gap by providing timely, efficient, effective and trained natural resource disaster personnel as needed. This project would work with disaster recovery agencies and would provide a local conservation district connection for agricultural landowners, producers and ranchers. The local conservation district connection would alleviate some of the barriers and other issues common to communication between governmental agencies and local agricultural communities and landowners. Local conservation district staff would help the local agricultural community with both short-term and long-term recovery issues (serving to assist with interactions with other governmental agencies, filling out applications and paperwork, assisting in the gathering of information and documentation, and other needs).

Resilience of Washington state government and citizens in the face of more severe disasters as a result of climate change will continue to be hampered if this package is not funded. "Climate variability and increases in temperature, extreme events (such as storms, floods, heat waves, and droughts), and sea level rise are expected to have widespread impacts on the provision of services from state, regional, local, and tribal governments. Emergency management, energy use and distribution systems, transportation and infrastructure planning, and public health will all be affected."<sup>[12]</sup>

"If rural communities are to respond adequately to future climate changes, they will likely need help assessing their risks and vulnerabilities, prioritizing and coordinating projects, funding and allocating financial and human resources, and de-ploying information-sharing and decision support tools. <sup>[13]</sup> The Conservation Commission and conservation districts can provide that assistance, if this package is funded.

### **How does the project support the agency and statewide results?**

The mission of the Conservation Commission is to lead the citizens of the state in the wise stewardship, conservation, and protection of soil, water, and related natural resources. This mission is even made even more imperative after a natural disaster affecting private lands.

This package meets all three of the Conservation Commission's strategic goals:

1. *Technical Services and Program Delivery: Provide conservation services, including timely planning, practice implementation, permitting, and other requirements for conservation work by maintaining a recognized, high quality conservation district technical and administrative staff with the needed training, knowledge, and demonstrated skills.*

Currently, the Commission and conservation districts provide technical assistance in disaster recovery programs, services or

operations on an ad hoc basis, depending on which federal, state or local recovery programs can be leveraged. Conservation district staff, while highly trained in the delivery of conservation technical planning and programs, must learn the parameters of each emergency response recovery program, depending which are available at any given time. Funding this package would allow the Commission and conservation districts to develop expertise in just a few recovery programs, allow them to successfully interact with first responders and to bring local, state, and federal disaster relief programs effectively and in a timely manner to local populations.

- 2) *Conservation District Operations and Accountability: All conservation districts successfully provide conservation technical, financial incentive, and educational services to land owners and managers addressing natural resource issues in their communities through an infrastructure of qualified technical and administrative staff, board member leadership, long range and annual planning, conservation district operations and accountability.*

This package would focus Commission and conservation district recovery efforts to provide effective and timely technical, financial, and educational services to landowners and managers addressing natural resources issues after natural disasters. District staff would become experts in administrating cost-share disaster recovery programs and this package would serve to meet district operations and accountability goals.

- 3) *State Conservation Commission Operations and Administration: The Conservation Commission is recognized as the independent and trusted agency of choice that implements stewardship in the state of Washington in partnership with conservation districts, and other agencies and organizations.*

This package would further the Commission's strategy of being recognized as the independent and trusted agency of choice for implementation of natural resource stewardship in Washington State by demonstrating our recognition of increasing instances of natural disasters affecting private landowners, developing a source of funds to leverage federal and state disaster recovery programs to directly assist landowners affected by climate change, and furthering our partnership with conservation districts and other natural resources conservation agencies.

#### **What are the specific benefits of this project?**

On September 20, 2013, Governor Inslee signed Executive Order 13-04 - Results Washington. He identified five priority goals. This decision package addresses all five: World-Class Education; a Prosperous Economy; Sustainable Energy and a Clean Environment; Healthy and Safe Communities; and Effective, Efficient, and Accountable Government.

Further, in 2013 Governor Inslee noted that "we face grave and immediate danger if we fail to act. Nine of 10 of the hottest years on record happened in the past decade. We've had epic flooding, searing drought and devastating wildfires, including last summer's fires in Central Washington and the rising tides along our coast."<sup>[14]</sup> "We're spending more time each year fighting more intense forest fires,"<sup>[15]</sup> he has said, and "[w]ildfires and invasive pests threaten our forest products industry."<sup>[16]</sup> The costs of climate change continue to grow, projected to reach \$10 billion by 2020 just for Washington State.<sup>[17]</sup> Natural resource benefits impacted by climate change from wildfire alone include "air quality, carbon sequestration, moderation of extreme events, soil retention, biological control, water regulation, pollination, habitat and biodiversity, property and aesthetic values and recreational values."<sup>[18]</sup>

This package serves to act to address climate change issues and protect our natural resources by providing timely disaster recovery technical and programmatic expertise and resources to local landowners through their local conservation districts. Conservation district staff would become experts in available disaster recovery programs and recovery practices. As a result, our local, especially rural, communities would benefit from a faster application and recovery of damaged natural resources and would be more likely to apply preventative measures prior to subsequent disasters. This would serve to minimize the economic damage projected to be caused by more frequent and intense natural disasters due to climate change.

#### **Linkage with Results Washington**

The funding requested in this package will be directly responsible for achieving the goals outlined in three of the Governor's Results Washington priorities. Simply stated, without this funding, the targets will not be met.

##### Healthy Fish and Wildlife Protect and restore Washington's wildlife Working and Natural Lands Use our lands responsibly

- .4.2.a. Increase treatment of forested lands for forest health and fire reduction from X to X by 2016.

In addition, the conservation districts and SCC undertake actions to implement and support the following Governor's Results

Washington priorities:

Healthy Fish and Wildlife Protect and restore Washington's wildlife

- 2.1 Increase improved shellfish classification acreage in Puget Sound from net increase of 3,038 acres from 2007-13 to net increase of 8,614 acres by 2016
- 2.2 Increase the percentage of ESA listed salmon and steel-head populations at healthy, sustainable levels from 16% to 25% by 2022
  - 2.2.a. Demonstrate increasing trend in Puget Sound Chinook populations from one in 2010 to five by 2016
  - 2.2.b. Increase miles of stream habitat opened from 350 to 450 by 2016
  - 2.2.c. Increase number of fish passage barriers corrected per year from 375 to 500 by 2016
- 2.3 Increase the percentage of current state listed species recovering from 28% to 35% by 2020
  - 2.3.b. Increase the 5-year running average of statewide sage-grouse population from 1,000 to 1,100 by 2017

Clean and Restored Environment Keep our land, water and air clean

- 3.2 Increase the percentage of rivers meeting good water quality from 43% to 55% by 2020
  - 3.2.a. Increase the number of projects that provide storm water treatment or infiltration from 10 to 34 by 2016
  - 3.2.b. Increase percentage of core saltwater swimming beaches meeting water quality standards from 89% to 95% by 2016

Working and Natural Lands Use our lands responsibly

- 4.1 Increase the net statewide acreage dedicated to working farms from 7.237 million to 7.347 million by 2020, reduce loss of designated forests of long-term commercial significance from X to zero by 2020
  - 4.1.b. Increase treatment of forested lands for forest health and fire reduction from X to X by 2016
  - 4.1.c. Reduce rate of loss of designated forests of long-term commercial significance from X to X by 2015
- 4.3 Reduce the rate of loss of priority habitats from 1.5% to 1.0% by 2016
  - 4.3.c. Reduce rate of conversion of marine and freshwater riparian habitat in Puget Sound from 0.13% to 0.10% by 2016 and provide mitigation to ensure maintenance of today's habitat functions
  - 4.3.d. Reduce annual rate of shrub steppe loss from 1.4% to 1% by 2016

Response and recovery – manage event.

- Prevention – assess, prevent, mitigate risk.
- Data and information – information management and information sharing (through the collection of information relating to landowner impact due to a natural disaster).
- Preparedness – Plan, train, deploy.

**How will clients be affected and services change if this project is funded?**

Local farmers, ranchers and landowners will receive timely and effective assistance during and immediately after times of natural disaster. This will allow them to recover from disasters quickly and with less economic impact to their operations. They will be able to access a broader range of recovery programs using the match that will be available to them from this package. This will make them more resilient before, during and after natural disasters. This project aids the landowner by continuing to provide a source of voluntary, non-regulator financial incentives to improve salmon habitat, watershed health, and soil erosion. This experience often results in a positive change in outlook regarding environmental issues.

Local jurisdictions will see increased economic benefits including federal payments to local farmers, federal monies spent on recovery and rehabilitation projects, and the provision of private-sector jobs for people employed to construct the projects. This project will supplement the ability of local jurisdictions to obtain federal recovery funds.

This project aids the state budget by infusing a 75% match of federal funds into our economy, while rehabilitating and improving greatly needed salmon habitat and water quality from soil erosion and the effects of flash flooding. It aids the state by improving water quality for both humans and wildlife. It also contributes towards compliance with the federal Clean Water Act.

While it may seem like there are numerous programs available to the agricultural community for conservation restoration efforts through the federal government (FEMA, USDA, BLM, etc), all of these programs are underfunded, and have strict criteria and match requirements. None provide comprehensive restoration and recovery for damaged areas, and none of them can be utilized immediately in order to timely repair and restore lands damage by natural disasters. Those programs include federal (those under the Federal Emergency Management Agency – Public Assistance<sup>[19]</sup>; the United States Department of Agriculture Farm Service Agency – Tree Assistance Program,<sup>[20]</sup> Noninsured Crop Disaster Assistance Program,<sup>[21]</sup> Emergency Forest Restoration Program,<sup>[22]</sup> Emergency Conservation Program,<sup>[23]</sup> Livestock Forage Program,<sup>[24]</sup> Livestock Indemnity Program<sup>[25]</sup> and state (Washington Department of Ecology – Water Quality Grant Program and the Washington Department of Natural Resources – Eastern Washington Cost-share Program).

One of the most promising programs available to the agricultural community for immediate conservation restoration efforts is the United States Department of Agriculture Natural Resource Conservation Service's Emergency Watershed Protection Program<sup>[26]</sup> (EWPP). However, the EWPP has its own limitations. It only applies to restoration efforts that relieve imminent hazards to life and property caused by floods, fires, wind-storms, and other natural occurrences. This limits its application and narrows its focus when an entire watershed or regional application of conservation practices would best serve restoration efforts. Also, EWPP requires a sponsor and is an emergency recovery program, meaning that time is of the essence when funding projects under the EWPP. With a disaster relief account already in place and funded, the Commission would not lose any time in becoming a sponsor for EWPP and working within the EWPP's emergency recovery program window. Without a dedicated and funded emergency recovery funding mechanism, the Commission is forced to cobble together ad hoc funding in order to meet its 25% obligation to participate as an EWPP sponsor, thus delaying timely installation of conservation practices on the ground. Sponsors are also responsible for providing land rights to do repair work, securing the necessary permits, furnishing the local cost share, and accomplishing the installation of work, all of which must come from that sponsor's budget.

### **How will other state programs or units of government be affected if this project is funded?**

This project would leverage federal funding for disaster relief and recovery efforts that would otherwise not be accessed due to lack of sponsorship or funding guarantees. This would alleviate competition among state and local agencies for funding for landowners after natural disasters. Regulatory agencies (Washington State Department of Ecology, Washington State Department of Agriculture, Washington State Department of Natural Resources, Washington State Department of Fish and Wildlife) would be able to focus their efforts on their usual missions, rather than try to fit their regulatory programs into a recovery effort. State and local recovery efforts would be supported without the displacement of funding opportunities they may discover.

This project would mitigate damage to fish habitat and water quality. This project would assist the Washington Department of Fish and Wildlife in the improvement of fish habitat, which contributes towards increased fish production and contributes to the progress towards salmon recovery and other fish and wildlife habitat needs. This project would assist the Washington

Department of Ecology as they work to improve our of water quality. It would mitigate their need for Total Maximum Daily Load (TMDL) analyses and addresses one of their key goals of maintaining good water quality in Washington State. The restoration of habitat and mitigation of soil erosion would meet the goals of the many state and local agencies who strive for conservation of natural resources (The Tribes, Governor's Salmon Recovery Office, Puget Sound Partnership, Puget Sound Stormwater, etc).

The proposed disaster response and recovery program would leverage 75% in matching funds from the federal government for recovery of private landowners in Washington State. Installing conservation practices after natural disasters inhibits damaged land and resources from negatively impacting salmon bearing streams and water quality in general by decreasing sediment flows, debris flows, and promoting the natural recovery of surrounding lands. Leveraging the 75% match from the federal government stimulates local economies in areas hit hard by disaster recovery funds are spent on private-sector employment to construct and install the rehabilitation practices. Costs are similar to past years and are expected to remain at this level for the near future.

### **Why is this the best option or alternative?**

This is the best option or alternative for a variety of reasons:

**Timing.** During times of natural disaster, it is imperative to quickly get conservation practices on the ground. Typical recovery practices include erosion control structures and reseeding of highly erodible areas. To be effective, the installation of these practices must occur before the start of heavy rains which induce flooding events. In addition, the end of the federal fiscal year plays a role in which relief and recovery programs are available for federal match and how much federal match can be accessed. If the Commission had a disaster relief fund available, rather than having to cobble together funds on an ad hoc basis from other programs, the Commission and conservation districts would be able to respond quicker to the natural disaster in order to get practices installed and leverage federal funds.

**Weather.** When a disaster occurs during the calendar year dictates the available recovery practices. Reseeding cannot be done when there is snow on the ground. Construction projects must wait until snow and rain subsides before they can be installed. However, some recovery and relief practices cannot wait for installation during the spring or summer months, and if they are installed during the fall or winter installation costs increase. If the Commission had a disaster relief fund available, rather than having to cobble together funds on an ad hoc basis from other programs, the Commission and conservation districts would be able to respond quicker to the natural disaster in order to get practices installed before weather increases the cost of installation.

Leverage. Few if any, local and state government monies are available for conservation rehabilitation and recovery practices after a natural disaster. The federal government, through a variety of relief programs, makes available funds for recovery efforts on private lands. However, to access those programs, another governmental entity must provide 25% match. If the Commission had a disaster relief fund available, rather than having to cobble together available funds on an ad hoc basis from other programs, the Commission and conservation districts would be able to provide that 25% match to access 75% more in federal relief funds for Washington State.

Effective. No other governmental, non-governmental or private organization is situated as the Commission is to provide the kind of leadership and coordination necessary to effectively address recovery of private lands after natural disasters. The Commission works directly with the local conservation districts in the disaster area and those districts become the local point of contact for private landowners affected by the natural disaster. Conservation districts are trusted by the members of their local communities. They are not federal or state agencies new to the disaster area. Local landowners have worked with conservation districts in the past on other conservation projects. The gap between private landowners and the federal and state governments can be filled by effectively funding the Conservation Commission and conservation districts to carry out these efforts.

### **What is the agency's proposed funding strategy for the project?**

State funding of \$2.5 million dollars per biennium leverages up to another \$10.0 million dollars in federal funds that directly restore agricultural and range lands after natural disasters, thus contributing to salmon habitat and improving water quality in our state. The federal funding pays for most of the restoration and recovery costs through a variety of programs (USDA, FSA, etc). The state dollars pay for the planning costs and program marketing and administration. And \$75,000 is for the FTE.

#### Biennial Costs

Salaries	50,000
Benefits	15,000
Goods & Services	4,000
Travel	6,000
Grants to Districts	2,500,000

[1] Jim Peters, Commission Chair, Washington State Conservation Commission, *Connecting People To Conservation*, 2013 Conservation Commission Annual Report, pg 1.

[2] [http://www.governor.wa.gov/news/speeches/20130116\\_inaugural.pdf](http://www.governor.wa.gov/news/speeches/20130116_inaugural.pdf).

[3] CNA Military Advisory Board, *National Security and the Accelerating Risks of Climate Change* (Alexandria, VA: CNA Corporation, 2014).

[4] Batker, Christin, Schmidt, and De la Torre, *Preliminary Assessment: The Economic Impact of the 2013 Rim Fire on Natural Lands Report Version 1.2*, November 26, 2013, pg 3.

[5] The Cost of Delaying Action to Stem Climate Change, Executive Office of the President of the United States, The Council of Economic Advisers, July 2014, pgs 9-10.

[6] Based on information compiled by the State EOC from July 22-August 20, derived principally from the State Fire Marshal's Office of the Washington State Patrol (WSP) and the Department of Natural Resources (DNR).

[7] <http://inciweb.nwcg.gov/incident/3152/>.

[8] <http://inciweb.nwcg.gov/incident/3258/>.

[9] <http://inciweb.nwcg.gov/incident/3262/>.

[10] <http://scc.wa.gov/media-release-staff-from-cascadia-conservation-district-state-conservation-commission-recognized-for-efforts-during-wanapum-and-rock-island-reservoir-draw-downs/>.

[11] [www.firewise.org](http://www.firewise.org)

[12] Hales, D., W. Hohenstein, M. D. Bidwell, C. Landry, D. McGranahan, J. Molnar, L. W. Morton, M. Vasquez, and J. Jadin, 2014: Ch. 14: Rural Communities. *Climate Change Impacts in the United States: The Third National Climate Assessment*, J. M. Melillo, Terese (T.C.) Richmond, and G. W. Yohe, Eds., U.S. Global Change Research Program, 333-349. doi:10.7930/J01Z429C, pg 340. <http://nca2014.globalchange.gov/report/sectors/rural-communities>

[13] Ibid.

[14] [http://www.governor.wa.gov/news/speeches/20130116\\_inaugural.pdf](http://www.governor.wa.gov/news/speeches/20130116_inaugural.pdf)

[15] [http://www.governor.wa.gov/news/speeches/20130709\\_Northwest\\_Power\\_Conservation\\_Council.pdf](http://www.governor.wa.gov/news/speeches/20130709_Northwest_Power_Conservation_Council.pdf)

[16] [http://www.governor.wa.gov/news/speeches/20140429\\_EO14-04\\_Remarks.pdf](http://www.governor.wa.gov/news/speeches/20140429_EO14-04_Remarks.pdf)

[17] [http://www.governor.wa.gov/news/speeches/20130709\\_Northwest\\_Power\\_Conservation\\_Council.pdf](http://www.governor.wa.gov/news/speeches/20130709_Northwest_Power_Conservation_Council.pdf)

[18] Batker, Christin, Schmidt, and De la Torre, *Preliminary Assessment: The Economic Impact of the 2013 Rim Fire on Natural Lands Report Version 1.2*, November 26, 2013, pg 25.

[19] <http://www.fema.gov/public-assistance-local-state-tribal-and-non-profit>

[20] <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=tap>

[21] <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=nap>

- [22] <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=efrp>  
 [23] <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=copr&topic=ecp>  
 [24] <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=lfp>  
 [25] <http://www.fsa.usda.gov/FSA/webapp?area=home&subject=diap&topic=lip>  
 [26] <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/landscape/ewpp/>

**Location**

<b>City:</b> Aberdeen	<b>County:</b> Grays Harbor	<b>Legislative District:</b> 024
<b>City:</b> Algona	<b>County:</b> King	<b>Legislative District:</b> 030
<b>City:</b> Auburn	<b>County:</b> King	<b>Legislative District:</b> 031
<b>City:</b> Battle Ground	<b>County:</b> Clark	<b>Legislative District:</b> 017
<b>City:</b> Battle Ground	<b>County:</b> Clark	<b>Legislative District:</b> 018
<b>City:</b> Beaux Arts	<b>County:</b> King	<b>Legislative District:</b> 041
<b>City:</b> Bellevue	<b>County:</b> King	<b>Legislative District:</b> 048
<b>City:</b> Bellingham	<b>County:</b> Whatcom	<b>Legislative District:</b> 040
<b>City:</b> Bothell	<b>County:</b> King	<b>Legislative District:</b> 001
<b>City:</b> Bremerton	<b>County:</b> Kitsap	<b>Legislative District:</b> 035
<b>City:</b> Chehalis	<b>County:</b> Lewis	<b>Legislative District:</b> 020
<b>City:</b> Clarkston	<b>County:</b> Asotin	<b>Legislative District:</b> 009
<b>City:</b> Colfax	<b>County:</b> Whitman	<b>Legislative District:</b> 009
<b>City:</b> Colville	<b>County:</b> Stevens	<b>Legislative District:</b> 007
<b>City:</b> Coupeville	<b>County:</b> Island	<b>Legislative District:</b> 010
<b>City:</b> Davenport	<b>County:</b> Lincoln	<b>Legislative District:</b> 013
<b>City:</b> Dayton	<b>County:</b> Columbia	<b>Legislative District:</b> 016
<b>City:</b> Duvall	<b>County:</b> King	<b>Legislative District:</b> 045
<b>City:</b> Eatonville	<b>County:</b> Pierce	<b>Legislative District:</b> 002
<b>City:</b> Edmonds	<b>County:</b> Snohomish	<b>Legislative District:</b> 021
<b>City:</b> Edmonds	<b>County:</b> Snohomish	<b>Legislative District:</b> 032
<b>City:</b> Electric City	<b>County:</b> Grant	<b>Legislative District:</b> 012
<b>City:</b> Ellensburg	<b>County:</b> Kittitas	<b>Legislative District:</b> 013
<b>City:</b> Enumclaw	<b>County:</b> Pierce	<b>Legislative District:</b> 031
<b>City:</b> Everett	<b>County:</b> Snohomish	<b>Legislative District:</b> 038
<b>City:</b> Everett	<b>County:</b> Snohomish	<b>Legislative District:</b> 039
<b>City:</b> Friday Harbor	<b>County:</b> San Juan	<b>Legislative District:</b> 040
<b>City:</b> Gig Harbor	<b>County:</b> Pierce	<b>Legislative District:</b> 026
<b>City:</b> Goldendale	<b>County:</b> Klickitat	<b>Legislative District:</b> 014
<b>City:</b> Goldendale	<b>County:</b> Klickitat	<b>Legislative District:</b> 014
<b>City:</b> Kennewick	<b>County:</b> Benton	<b>Legislative District:</b> 008
<b>City:</b> Kennewick	<b>County:</b> Benton	<b>Legislative District:</b> 016
<b>City:</b> Kent	<b>County:</b> King	<b>Legislative District:</b> 047
<b>City:</b> Lake Stevens	<b>County:</b> Snohomish	<b>Legislative District:</b> 044
<b>City:</b> Lakewood	<b>County:</b> Pierce	<b>Legislative District:</b> 029
<b>City:</b> Longview	<b>County:</b> Cowlitz	<b>Legislative District:</b> 019
<b>City:</b> Lynden	<b>County:</b> Whatcom	<b>Legislative District:</b> 042
<b>City:</b> Marysville	<b>County:</b> Snohomish	<b>Legislative District:</b> 010
<b>City:</b> Montesano	<b>County:</b> Grays Harbor	<b>Legislative District:</b> 019
<b>City:</b> Moses Lake	<b>County:</b> Grant	<b>Legislative District:</b> 013
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 010
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 040
<b>City:</b> Mountlake Terrace	<b>County:</b> Snohomish	<b>Legislative District:</b> 001
<b>City:</b> Newport	<b>County:</b> Pend Oreille	<b>Legislative District:</b> 007
<b>City:</b> Oakesdale	<b>County:</b> Whitman	<b>Legislative District:</b> 009
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 007
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 012
<b>City:</b> Olympia	<b>County:</b> Thurston	<b>Legislative District:</b> 022
<b>City:</b> Pasco	<b>County:</b> Franklin	<b>Legislative District:</b> 009
<b>City:</b> Pasco	<b>County:</b> Franklin	<b>Legislative District:</b> 016
<b>City:</b> Pomeroy	<b>County:</b> Garfield	<b>Legislative District:</b> 009
<b>City:</b> Port Angeles	<b>County:</b> Clallam	<b>Legislative District:</b> 024
<b>City:</b> Port Townsend	<b>County:</b> Jefferson	<b>Legislative District:</b> 024

<b>City:</b> Poulsbo	<b>County:</b> Kitsap	<b>Legislative District:</b> 023
<b>City:</b> Pullman	<b>County:</b> Whitman	<b>Legislative District:</b> 009
<b>City:</b> Puyallup	<b>County:</b> Pierce	<b>Legislative District:</b> 025
<b>City:</b> Rainier	<b>County:</b> Thurston	<b>Legislative District:</b> 002
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 011
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 033
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 037
<b>City:</b> Republic	<b>County:</b> Ferry	<b>Legislative District:</b> 007
<b>City:</b> Ritzville	<b>County:</b> Adams	<b>Legislative District:</b> 009
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 032
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 036
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 043
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 046
<b>City:</b> Shelton	<b>County:</b> Mason	<b>Legislative District:</b> 035
<b>City:</b> Skykomish	<b>County:</b> King	<b>Legislative District:</b> 039
<b>City:</b> South Bend	<b>County:</b> Pacific	<b>Legislative District:</b> 019
<b>City:</b> Spokane	<b>County:</b> Spokane	<b>Legislative District:</b> 003
<b>City:</b> Spokane	<b>County:</b> Spokane	<b>Legislative District:</b> 004
<b>City:</b> Spokane	<b>County:</b> Spokane	<b>Legislative District:</b> 006
<b>City:</b> St. John	<b>County:</b> Whitman	<b>Legislative District:</b> 009
<b>City:</b> Tacoma	<b>County:</b> Pierce	<b>Legislative District:</b> 027
<b>City:</b> Tacoma	<b>County:</b> Pierce	<b>Legislative District:</b> 028
<b>City:</b> Tenino	<b>County:</b> Thurston	<b>Legislative District:</b> 020
<b>City:</b> Unincorporated	<b>County:</b> Kitsap	<b>Legislative District:</b> 035
<b>City:</b> Unincorporated	<b>County:</b> Pierce	<b>Legislative District:</b> 030
<b>City:</b> Unincorporated	<b>County:</b> Skagit	<b>Legislative District:</b> 039
<b>City:</b> Unincorporated	<b>County:</b> Spokane	<b>Legislative District:</b> 007
<b>City:</b> Unincorporated	<b>County:</b> Spokane	<b>Legislative District:</b> 009
<b>City:</b> Unincorporated	<b>County:</b> Wahkiakum	<b>Legislative District:</b> 019
<b>City:</b> Unincorporated	<b>County:</b> Yakima	<b>Legislative District:</b> 013
<b>City:</b> Vancouver	<b>County:</b> Clark	<b>Legislative District:</b> 049
<b>City:</b> Walla Walla	<b>County:</b> Walla Walla	<b>Legislative District:</b> 016
<b>City:</b> Waterville	<b>County:</b> Douglas	<b>Legislative District:</b> 012
<b>City:</b> Waterville	<b>County:</b> Douglas	<b>Legislative District:</b> 012
<b>City:</b> Wenatchee	<b>County:</b> Chelan	<b>Legislative District:</b> 012
<b>City:</b> White Salmon	<b>County:</b> Klickitat	<b>Legislative District:</b> 014
<b>City:</b> Yakima	<b>County:</b> Yakima	<b>Legislative District:</b> 014
<b>City:</b> Yakima	<b>County:</b> Yakima	<b>Legislative District:</b> 015
<b>City:</b> Yakima	<b>County:</b> Yakima	<b>Legislative District:</b> 015

## Project Type

Grants

**Grant Recipient Organization:** conservation districts

**RCW that establishes grant:** RCW 89.08

### Application process used

Participants must be affected by a natural disaster in Washington State. They must meet the requirements of federal disaster relief programs offered by the USDA, FSA, FEMA, or others. They must meet the cost-share requirements of the Conservation Commission and conservation districts. If they meet these requirements, binding contracts are entered into with individual landowners. The conservation district and landowner then begin the process of evaluating the land that needs to be restored and developing the plan for implementation of rehabilitation measures and practices. Funding is then awarded by the conservation district to cover the cost of implementation and maintenance of the restoration measures.

### Growth Management impacts

Under GMA, all jurisdictions are required to designate resource lands of long-term commercial significance. These lands include agricultural, forestry and mineral resource lands. Furthermore, jurisdictions planning under the GMA must designate and protect critical areas, which include wetlands, critical wildlife habitat, aquifer recharge areas, geologic hazards, and frequently flooded areas. This proposal supports these local requirements and objectives through the implementation of on-the-ground projects. All locally implemented projects are planned and implemented in a manner consistent with local comprehensive plans and ordinances.

## Funding

Acct Code	Account Title	Estimated Total	Expenditures		2015-17 Fiscal Period	
			Prior Biennium	Current Biennium	Reappropriations	New Appropriations
057-1	State Bldg Constr-State	12,875,000				2,575,000
	<b>Total</b>	<b>12,875,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2,575,000</b>
<b>Future Fiscal Periods</b>						
		<b>2017-19</b>	<b>2019-21</b>	<b>2021-23</b>	<b>2023-25</b>	
057-1	State Bldg Constr-State	2,575,000	2,575,000	2,575,000	2,575,000	
	<b>Total</b>	<b>2,575,000</b>	<b>2,575,000</b>	<b>2,575,000</b>	<b>2,575,000</b>	

## Operating Impacts

No Operating Impact

## Capital Project Request

2015-17 Biennium

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Version: D1 2015-17 Capital Budget Request

Report Number: CBS002

Date Run: 9/9/2014 5:05PM

Project Number: 30000015

Project Title: Forest, Rangeland Health and Fire Resiliency Program

## Description

Starting Fiscal Year: 2016

Project Class: Grant

Agency Priority: 8

**Project Summary**

Related to Puget Sound Action Agenda Implementation. Dramatic wildfires in 2014 have highlighted the need to proactively address forest health and resilience. Scientific models for climate change impacts in the Pacific Northwest indicate weather patterns will change to a hotter and dryer climate exacerbating the fire risk. This budget request supports the continuation and acceleration of activities to assist local communities, homeowners, and landowners with efforts to maximize healthier and more productive landscapes and more fire resilient communities. These efforts will not only save money, they will protect lives, structures, landscapes, and livelihoods. This request supports the Puget Sound Action Agenda Implementation Strategic Priority to Protect and Restore Habitat and the Governor's Results Washington Goal 3: Sustainable Energy and a Clean Environment.

**Project Description**

During the last several decades wildland fires have burned thousands of acres statewide with 2014 the worst fire season in state history. Costs associated with ongoing fire resource deployment, state fire mobilization, and destruction of valuable natural resource lands and associated critical habitat, as well as losses to homes and state and local infrastructure, has resulted in one of the costliest fire seasons on record. It has been shown that when private land owners and managers, communities (on all scales) and individual properties have taken the time to plan, prepare, and mitigate for wildfire they are more resilient and survivable. The cost of stewardship planning, best management practice implementation, and wildfire prevention is considerably less than the cost of suppression and recovery. Conservation districts currently have the knowledge, skills and abilities to bring a diverse group of people together to resolve natural resource and community issues at the local level utilizing a voluntary incentive based approach.

As noted, 2014 has been the worst fire season on record with over 350,000 acres – or 400 square miles- burned. During 2012, 259,526 acres of our state's forest and range lands were burned, and 152,603 acres burned in 2013. Climate predictions indicate weather patterns will be hotter and dryer in the Pacific Northwest exacerbating the fire risk. The changing climate will also bring more destructive invasive species increasing the risk to healthy forests.

Thousands of acres of our state's private forests are dead or dying due to the lack of technical and financial resources necessary to address issues such as infestations of pests including pine beetle. Thousands more acres are in unhealthy conditions due to overstocking and noxious weed infestations. This creates not only an extreme fire danger, but has resulted in the loss of thousands of acres of what was merchantable timber and the associated hundreds of jobs that a robust timber industry provides.

Thousands of acres of our state's range lands are infested with invasive species. This, too, serves as fuel for wildfire, and also creates decreased productivity of grazing lands with a resulting economic loss to the state cattle industry as well as the jobs associated with that industry. Cattle deaths due to fires of 2014 to date are estimated at 1000, with a conservative lost value of over a million dollars in current and opportunity revenue.

Thousands of homes have been constructed in the wildland urban interface – in the path of wildfire. Lack of defensible space and no ability to complete fuel reductions projects puts property – commercial and residential – at risk, as well as increasing greatly the threat to public and firefighter safety. As of mid August 2014, over 300 family homes have been lost to wildfire, with an estimated value of \$28 million. It is estimated that 45% of these were uninsured losses.

Privately held forest and range lands link to create a critical mosaic interaction zone which supports the vast majority of ESA listed

species in Washington State. Unhealthy and burned riparian areas limit the habitat for Pacific salmon. In 2012, 92,000 acres of critical ESA listed sage grouse habitat was destroyed by fire, and has yet to recover.

Burned lands in poor ecosystem health are more vulnerable to flash flooding events and severe erosion – choking our waterways with silt and debris which results in additional critical salmon habitat degradation as well as additional private and state infrastructure economic loss.

It has been demonstrated that healthy landscapes, as well as prepared communities, are more resilient and survivable to wildfire. The cost of preventative measures and management is considerable less than the immediate and future costs of suppression (usually on a 1:10 ratio), economic losses, and long term ecosystem recovery. Good management and prevention efforts not only save money, they protect lives, structures, landscapes, and livelihoods.

Conservation districts across the state currently have the expertise to bring a diverse group of people together in a non-regulatory setting to resolve natural resource and community issues at the field and local level. Conservation District Boards of Supervisors serve voluntarily, so additional administrative savings are realized.

## **Proposal**

In this funding package, the Conservation Commission and conservation districts will address the increasing problem of unhealthy private forest and rangelands, as well as the associated and growing threat of wildfire and its impact on natural resources and private property by working with conservation districts and their communities, as well as local, state and federal agencies through public education, technical assistance and on the ground treatment through best management practice implementation to restore our forests and range lands.

The Conservation Commission and conservation districts will assist owners of private lands to proactively work to minimize the impact of future wildfires by the identification of areas at risk to wildfire through Community Wildfire Protection Plans and the implementation of fuels reduction projects in critical areas.

The Conservation Commission will partner with conservation districts and the Department of Natural Resources to improve wildfire resiliency in high risk communities throughout Washington using the "Fire Adapted Communities" model. Fire adapted communities consist of informed & prepared citizens collaboratively planning and taking action to safely coexist with wildland fire. Conservation districts will provide resources to communities to work toward becoming more fire adapted. A statewide wildfire hazard assessment by the State Department of Natural Resources and established county wide Community Wildfire Protection Plans will be used as resources to help identify target communities. Outreach and education using the Firewise Communities/USA program principles will be provided to local communities.

In addition, conservation districts will expand implementation of a pilot program teaching communities to track their fire weather conditions during fire season using simple instruments such as fuel moisture sticks, rain gauges, thermometers and other tool. Volunteers, both adult and youth, will track measurements and track certain weather factors. They will be educated on the link between weather, fuel moisture, and fire hazard, and each community will be able to better understand its risk levels. The data will be compiled and local conservation districts and project partners such as the Department of Natural Resources and others can use the data to help gauge the severity of conditions for specific parts of a county.

Without this funding, we will not be able to implement locally supported and sustainable solutions to current and emergent risks to lives, structures, property, as well as sensitive ecosystems and the vulnerable plant and wildlife species that are dependent on them, and the fire cycle will continue unabated.

For the past 8 years, conservation districts in the State of Washington have been playing an active role in bringing fire preparedness education and implementation to the communities they serve. After the last three fire seasons, there has been an overwhelming call for assistance. Due to our success in past efforts, Washington State is second in the nation in the number of nationally recognized Firewise Communities/USA. Our ongoing success and the urgency to reduce and respond to costly damages from wildfire in Washington State illustrate the need for funding to continue these efforts.

Requested funding will be used to:

- Write forest and range conservation stewardship plans which will be used as basis to:
- Provide cost-share to implement best management practices to improve forest and range health, such as noxious weed eradication and native species replanting on range lands, and noxious weed treatment and removal and pre-commercial thinning on forestlands.

- Develop/update community wildfire protection plans
- Provide community and home assessment prior to:
- Developing and implementing fuels reduction projects
- While teaching communities how to gauge their risks

By fully funding this program, the Conservation Commission/conservation district partnership will be able to continue the momentum of a very highly successful public/private landowner cooperative partnership which has spanned over 70 years, and markedly increase the number of best management practices implemented in priority areas.

Conservation stewardship plans developed at the local level will identify unhealthy forest and range lands that need treatment to protect life, property, economic value, jobs, and environmentally sensitive areas and species. Conservation districts will respond to requests to provide home assessments and work with local landowners and communities to implement projects to increase resiliency to wildfire.

These projects, implemented with financial incentives to landowners, will improve forest and range health; benefit threatened and endangered species, and will reduce the threat of future wildfire on residential, agricultural and forested areas for decades to come.

Conservation districts will partner with private landowners and managers to implement resource protection projects that enhance environmentally sensitive areas. These projects will include activities such as erosion control, stream restoration, riparian revegetation, riparian fencing, and flood mitigation efforts, forest health improvements such as precommercial thinning, native plant community restoration, and biocontrol for invasive species.

These projects will assist landowners in protecting and enhancing environmentally sensitive areas, as well as working landscapes. Healthy and productive landscapes providing economic return to the landowner will result in less conversion to other uses. Local communities will be better prepared for wildfire and its affect on the landscape. Environmentally sensitive areas will be protected and enhanced.

Prevention efforts will increase the efficacy of emergency funding and wildfire suppression costs will be reduced because of these proposed projects. Also, because of the creation of defensible space around residences, firefighter safety will be greatly increased.

It is anticipated there will be fewer insurance claims due to wildfire loss.

### **Agency Strategic Plan**

This budget request supports the following Conservation Commission key strategic planning goals:

Forestry and Grazing: Forest and grazing land managers receive adequate technical, educational, and incentive assistance for application of conservation systems

CREP and Other Habitat Protection: Ecological: Assist with recovery of at-risk species and keeping common species common. Technical Expertise: Districts employ, high quality conservation district technical and administrative staff with the training, knowledge, and demonstrated skills to provide conservation services, including timely planning, practice implementation, permitting, and other requirements for conservation work.

Water Quality: Conservation districts maintain successful water quality program education and implementation programs that address water quality issues, resulting in fewer water bodies impacted by pollution.

Farmland Preservation: A future that ensures sufficient quantities of quality working agricultural lands in Washington State.

Disaster Assistance: Conservation districts partner with the appropriate agencies and organizations for disaster assistance related to natural resource conservation land manager assistance.

### **Supports Governor's Results Washington**

This budget request supports the following Governor's Results Washington action items under Goal 3: Sustainable Energy and a Clean Environment:

2.2.b Increase miles of stream habitat opened from 350 to 450 by 2016

2.2.c Increase number of fish passage barriers corrected per year from 375 to 500 by 2016

- 2.3.b Increase the 5-year running average of statewide sage-grouse population from 1,000 to 1,100 by 2017
- 3.2.c Increase number of CREP sites to improve water temperature and habitat from 1,021 to 1,171 by 2015
- 4.1.a Maintain current level of statewide acreage dedicated to working farms with no net loss through 2015
- 4.2.a Increase treatment of forested lands for forest health and fire reduction from X to X by 2016
- 4.2.b. Reduce rate of loss of designated forests of long-term commercial significance from X to X by 2015

### **Additional Impacts**

Conservation districts are required by law to create their strategic plans in partnership and consultation with all applicable natural resource agencies, governments and groups. That partnership takes into account all locally and regionally developed watershed plans, salmon recovery plans, habitat conservation plans, natural hazards mitigation plans and other locally developed initiatives. Each county is required by law to have a Natural Hazard Mitigation Plan that is updated every 5 years. Wildfire is an important component of this plan and a Community Wildfire Protection Plan addresses wildfire preparedness. Without this component, there is no official assessment of the risk or how to deal with it. Having a complete and comprehensive plan that addresses wildfire is paramount to organized and efficient preparedness and response.

Many communities and counties, throughout the state, have Community Wildfire Protection Plans, but many do not. This proposal will increase the number of adapted and prepared communities and continue to implement fuels reduction actions under existing plans. These actions could save life, property, agricultural and timber livelihoods, and environmentally sensitive and critical habitat areas.

Left unabated, the issues addressed in this package will only worsen over time due to climate change. Longer wetter winters build larger fuel loads, followed by hotter dryer summers with increased fire potential. For example, during years of high precipitation post-fire invasive and highly flammable cheat grass stands can produce more than 10,000 plants per square yard. Cheat grass turns brown and dies by early summer leaving behind thick, continuous dry fuels and creating extreme wildfire hazards. This species outcompetes native bunchgrass - increasing wildfire risk, rate of spread, and length of fire season.

The funding of this program should effectively reduce wildland fire suppression costs over time. This will have a positive fiscal impact on unpredictable suppression costs. Washington State Department of Natural Resources will be contracted with for technical assistance and other assistance with fuels reduction projects. This proposal builds on these established partnerships and allows for the continuation of resource sharing, dissemination of a unified message, shared successes, and efforts to become a more holistic fire adaptive state where all stakeholders are engaged and measureable results realized.

Washington State is currently ranked 2nd in the nation for number of nationally recognized Firewise Communities/USA. The number of communities involved in this program continues to grow at a rapid rate with the current number reported to be 106. This is a measurement of success and continued funding will allow Washington to maintain and enhance their successes and leadership in the nation.

The largest benefit for the dollars invested in this project will be realized in the prevention of injury or death to all those who live in the project areas, and the people who are charged with suppressing fires after they have started.

### **What alternatives were explored by the agency, and why was this alternative chosen?**

Since 2007, Title III funding was utilized to fund these planning activities. That source has rapidly diminished, and is not available in all areas of the state.

The Conservation Commission unsuccessfully applied to FEMA for the funding of these activities. The legislature has funded fire recovery funding through the Conservation Commission in the past.

### **What are the consequences of not adopting this proposal?**

Without funding, we will not be able to create and implement locally supported and sustainable solutions to our current and emergent issues that pose a threat to lives, structures, property, agricultural and timber production, as well as sensitive ecosystems and the at-risk plant and wildlife species that are dependent upon them. We will also not be able to recover or rehabilitate vulnerable plant and wildlife species that have been damaged by recent wildfires.

In 2012, there were 8 new Firewise Communities. In 2013, there were 23 new Firewise Communities. 2012 was the year of the Taylor Bridge fire and others in Chelan/Douglas/Kittitas counties that were so destructive. This large number of new participating communities is a direct result of the fires, as well as the competence and availability of conservation districts in those areas to meet the demands of the homeowners. However, due to lack of funding this year, so far in 2014, there is only 1 documented community,

due in part to the lack of sustainable funding for conservation districts. Without funding we will be unable to assist homeowners who request assistance.

To date in 2014, suppression costs have exceeded \$50,000,000. If fuels reduction and forest health is not funded to reduce and eliminate the devastation, these costs are only expected to rise.

In addition, proceeds from timber sales help local communities fund priority activities such as schools and roads and have been impacted by these fires. Burned, diseased, and therefore unmarketable, timber will further reduce this local revenue stream for generations to come, and local communities will be looking to the capital budget as a potential funding source to replace these dollars.

**What changes would be required to existing statutes, rules, or contracts, in order to implement the change?**

No statutory or rule changes proposed with this package.

Conservation districts were recently surveyed regarding their budget needs, reflected in their five year plans as required by law. This request is consistent with the results of that survey in addition to some follow up calls to clarify some district requests.

**Which costs and functions are one-time? Which are on-going? What are the budget impacts in future biennia?**

It is anticipated that as forest and range lands are treated, recovery and environmental rehabilitation costs should reduce over time in response to more wildfire resilient communities and landscapes across the state. Since there are millions of acres of private forested and range lands, we anticipate that there will be a continued and on-going need for conservation stewardship planning and best management practice implementation.

Landowner and first responder reaction to the Fire Adapted Communities program has been extremely positive and has shown it to be successful. This is evidenced in the number of Firewise Communities/USA in Washington State and the number of fire districts that are involved and supportive of these efforts. As wildland fire events continue to increase in numbers and acreage around the state, and suppression resources continue to be depleted, it can be assumed that these costs will be ongoing in order to reflect the increasing demand for assistance. Training costs have been and continue to be reduced every year as conservation district staff around the state become skilled at delivering this program.

**Location**

<b>City:</b> Algona	<b>County:</b> King	<b>Legislative District:</b> 030
<b>City:</b> Arlington	<b>County:</b> Snohomish	<b>Legislative District:</b> 039
<b>City:</b> Auburn	<b>County:</b> King	<b>Legislative District:</b> 031
<b>City:</b> Auburn	<b>County:</b> King	<b>Legislative District:</b> 047
<b>City:</b> Bellevue	<b>County:</b> King	<b>Legislative District:</b> 048
<b>City:</b> Bothell	<b>County:</b> King	<b>Legislative District:</b> 001
<b>City:</b> Bothell	<b>County:</b> Snohomish	<b>Legislative District:</b> 001
<b>City:</b> Bremerton	<b>County:</b> Kitsap	<b>Legislative District:</b> 035
<b>City:</b> Chehalis	<b>County:</b> Lewis	<b>Legislative District:</b> 020
<b>City:</b> Colville	<b>County:</b> Stevens	<b>Legislative District:</b> 007
<b>City:</b> Concrete	<b>County:</b> Skagit	<b>Legislative District:</b> 039
<b>City:</b> Coupeville	<b>County:</b> Island	<b>Legislative District:</b> 010
<b>City:</b> Davenport	<b>County:</b> Lincoln	<b>Legislative District:</b> 013
<b>City:</b> Deer Park	<b>County:</b> Spokane	<b>Legislative District:</b> 007
<b>City:</b> Duvall	<b>County:</b> King	<b>Legislative District:</b> 045
<b>City:</b> Edmonds	<b>County:</b> Snohomish	<b>Legislative District:</b> 021
<b>City:</b> Edmonds	<b>County:</b> Snohomish	<b>Legislative District:</b> 032
<b>City:</b> Ellensburg	<b>County:</b> Kittitas	<b>Legislative District:</b> 013
<b>City:</b> Everett	<b>County:</b> Snohomish	<b>Legislative District:</b> 038
<b>City:</b> Fairfield	<b>County:</b> Spokane	<b>Legislative District:</b> 009
<b>City:</b> Kenmore	<b>County:</b> King	<b>Legislative District:</b> 046
<b>City:</b> Lake Stevens	<b>County:</b> Snohomish	<b>Legislative District:</b> 044
<b>City:</b> Longview	<b>County:</b> Cowlitz	<b>Legislative District:</b> 019
<b>City:</b> Marysville	<b>County:</b> Snohomish	<b>Legislative District:</b> 010
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 010
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 040

<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 007
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 012
<b>City:</b> Poulsbo	<b>County:</b> Kitsap	<b>Legislative District:</b> 023
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 011
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 033
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 037
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 041
<b>City:</b> Republic	<b>County:</b> Ferry	<b>Legislative District:</b> 007
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 032
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 036
<b>City:</b> Shelton	<b>County:</b> Mason	<b>Legislative District:</b> 035
<b>City:</b> Skykomish	<b>County:</b> King	<b>Legislative District:</b> 039
<b>City:</b> Spokane	<b>County:</b> Spokane	<b>Legislative District:</b> 003
<b>City:</b> Spokane	<b>County:</b> Spokane	<b>Legislative District:</b> 004
<b>City:</b> Spokane	<b>County:</b> Spokane	<b>Legislative District:</b> 006
<b>City:</b> Unincorporated	<b>County:</b> Douglas	<b>Legislative District:</b> 012
<b>City:</b> Unincorporated	<b>County:</b> Wahkiakum	<b>Legislative District:</b> 019
<b>City:</b> Waterville	<b>County:</b> Douglas	<b>Legislative District:</b> 012
<b>City:</b> Wenatchee	<b>County:</b> Chelan	<b>Legislative District:</b> 012

## Project Type

Grants

**Grant Recipient Organization:** Conservation Districts

**RCW that establishes grant:** 89.08

### Application process used

As required under RCW 89.08(7), conservation districts submitted budget requests to the Conservation Commission which identified high priority resource concerns and the funding needed to implement the work required. (The district shall also prepare an annual work plan, which shall describe the action programs, services, facilities, materials, working arrangements and estimated funds needed to carry out the parts of the long-range programs that are of the highest priorities.) These annual plans of work and subsequent budgets were prepared in order to fulfill recommendations identified in long range plans of work, also mandated in the above referenced RCW. (To prepare and keep current a comprehensive long-range program recommending the conservation of all the renewable natural resources of the district. Such programs shall be directed toward the best use of renewable natural resources and in a manner that will best meet the needs of the district and the state, taking into consideration, where appropriate, such uses as farming, grazing, timber supply, forest, parks, outdoor recreation, potable water supplies for urban and rural areas, water for agriculture, minimal flow, and industrial uses, watershed stabilization, control of soil erosion, retardation of water run-off, flood prevention and control, reservoirs and other water storage, restriction of developments of floodplains, protection of open space and scenery, preservation of natural beauty, protection of fish and wildlife, preservation of wilderness areas and wild rivers, the prevention or reduction of sedimentation and other pollution in rivers and other waters, and such location of highways, schools, housing developments, industries, airports and other facilities and structures as will fit the needs of the state and be consistent with the best uses of the renewable natural resources of the state. The program shall include an inventory of all renewable natural resources in the district, a compilation of current resource needs, projections of future resource requirements, priorities for various resource activities, projected timetables, descriptions of available alternatives, and provisions for coordination with other resource programs.

### Growth Management impacts

This funding package meets and fully supports the legislative intent of RCW 36.70A.011 Findings — Rural lands. - The legislature finds that this chapter is intended to recognize the importance of rural lands and rural character to Washington's economy, its people, and its environment, while respecting regional differences. Rural lands and rural-based economies enhance the economic desirability of the state, help to preserve traditional economic activities, and contribute to the state's overall quality of life.

## Funding

Acct Code	Account Title	Estimated Total	Expenditures		2015-17 Fiscal Period	
			Prior Biennium	Current Biennium	Reappropriations	New Appropriations
057-1	State Bldg Constr-State	17,080,000				3,080,000
	<b>Total</b>	<b>17,080,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3,080,000</b>
<b>Future Fiscal Periods</b>						
		<b>2017-19</b>	<b>2019-21</b>	<b>2021-23</b>	<b>2023-25</b>	
057-1	State Bldg Constr-State	3,500,000	3,500,000	3,500,000	3,500,000	
	<b>Total</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	<b>3,500,000</b>	

## Operating Impacts

### No Operating Impact

### Narrative

The operating budget currently supports the infrastructure components of conservation districts.

# Capital Press

The West's **Ag** Weekly

FRIDAY, JULY 25, 2014

★★ VOLUME 87, NUMBER 30

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\$2.00

"It will be a bitter pill to swallow when we see dead cattle out there. We know them all. It's just really tough to see that."

Vic Stokes, Twisp, Wash., rancher

## 'GUT-WRENCHING' LOSSES IN WILDFIRE



Kent Stokes sifts the ash of a shed and 150 tons of alfalfa hay lost to the fire. The blaze skirted the green alfalfa field but burned the hills beyond.

Photos by Dan Wheat/Capital Press

## Incentive-based Conservation Firewise Program



Washington's Firewise Program helps protect people, property, and natural resources from the risk of damaging wildfires. The program follows the national Firewise Communities/USA™ approach, which promotes local solutions for preventing and responding to fires.

**Background** In 2013, over 140,000 acres of Washington State burned in wildfires. 2012 was the worst fire season in 100 years, when a record number of acres burned in Washington. It cost an estimated \$67.5 million to fight the four largest wildfires in central Washington that year, and that doesn't include the cost of replacing damaged or destroyed property.

The Washington State Conservation Commission (WSCC) and partner conservation districts contribute to wildfire recovery efforts, but **our main goal is wildfire prevention**. Through the Firewise Program, we help Washington save lives, protect property, and conserve natural resources.

**The Firewise Solution** Washington's Firewise Program encourages individuals and communities to implement fire-safe practices that protect people and property. Financial and technical assistance is available through the Firewise Program, including:

- Developing, implementing, and updating community- and county-level wildfire protection plans.
- Providing cost-share incentives for fire prevention, such as implementing hazardous fuels reduction projects and improving forest health.
- Providing cost-share for post-fire rehabilitation and recovery.
- Hosting educational workshops and trainings.



Home destroyed by Taylor Bridge Fire



Home also in Taylor Bridge Fire, but Kittitas Conservation District helped homeowner adopt Firewise practices

### It pays to help landowners prevent fires before they start:

- 85 percent of all wildfires that occur each year in Washington State are human caused, and the majority could have been avoided. (WA DNR)
- It cost an estimated \$48 million to fight Washington wildfires in 2013. (NW Coordination Center)
- Washington has nearly 100,000 homes built next to public forestlands. (Headwaters Economics)

**Wildfire prevention not only saves money—it saves lives, structures, landscapes, and livelihoods.**

**How it Works** The WSCC—with support from the Washington Department of Natural Resources—administers Firewise grants to conservation districts. Conservation districts then take the lead in delivering Firewise practices, plans, and trainings to communities and individual landowners. With their proven capacity to deliver education and training opportunities, Skagit Conservation District provides training, supervision, capacity building opportunities, and guidance to other conservation districts implementing Firewise Programs in their communities.

Washington's Firewise Program follows the NFPA Firewise Communities/USA™ Recognition Program approach. The national program is co-sponsored by the USDA Forest Service, the US Department of the Interior, and the National Association of State Foresters.

**Firewise Success** Every year large acreage wildfires occur in Chelan County that cause personal, environmental, and economic damage. Since 2009, Cascadia Conservation District has worked with the Firewise program to help residents and forest landowners prevent and prepare for wildfires. Their accomplishments from 2012-2013 include:

- 4 Firewise Communities/USA™ recognized.
- 55 acres treated for hazardous fuels reduction.
- 22 wildfire risk assessments completed.
- 10 additional communities moving forward to reduce risk and participate in the Firewise Communities/USA™ Recognition Program.

Cascadia Conservation District is just one of 20 conservation districts implementing Firewise practices statewide.



Washington State has more than 100 Firewise Communities, making it the second highest-ranking Firewise state in the nation.

Left: Staff from Underwood Conservation District and WA DNR conduct a Firewise Assessment for a private landowner.



**Washington State Conservation Commission**

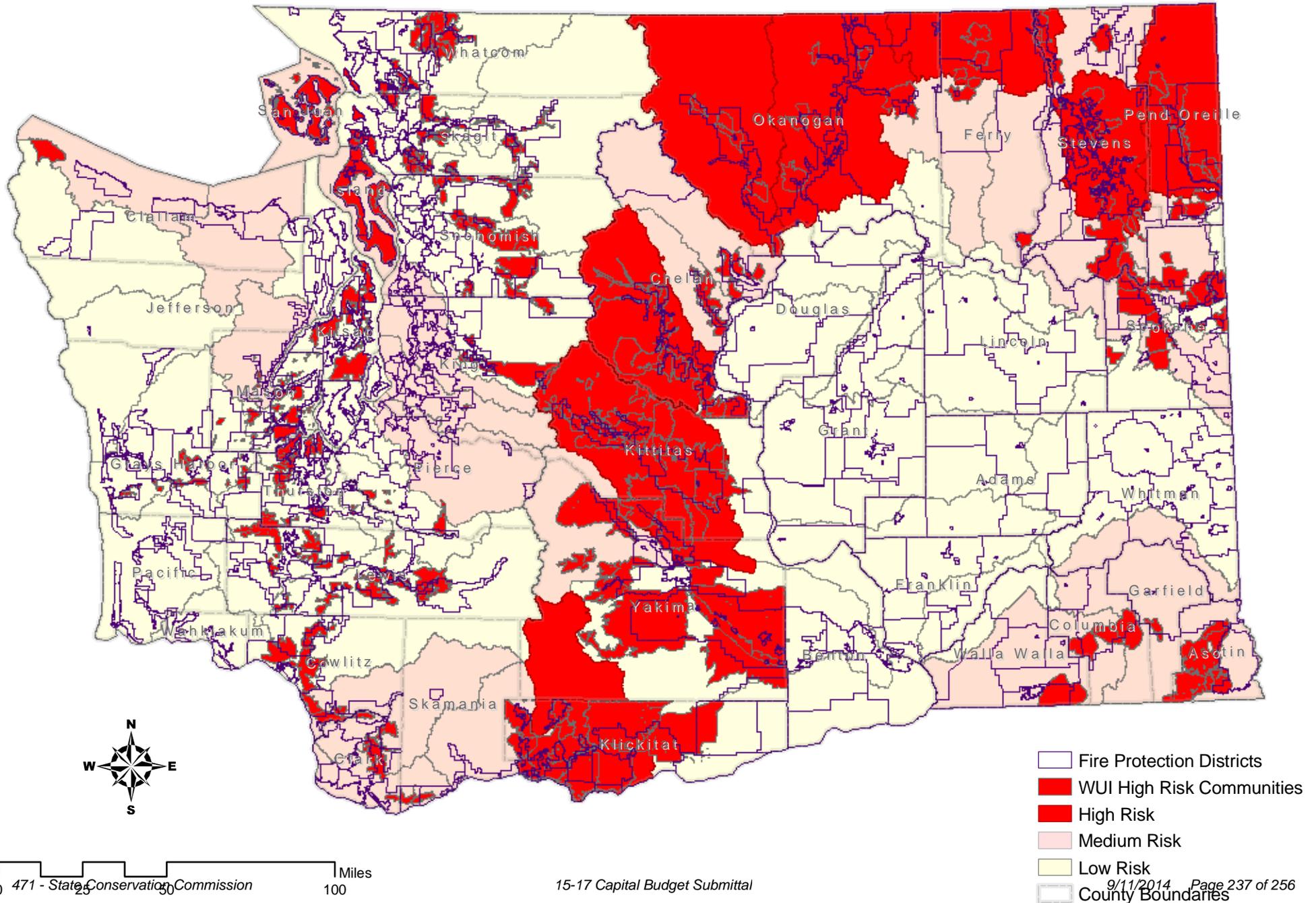
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Phone: (360) 407-7507

# Washington WUI High Risk Communities

## Statewide Assessment High and Moderate Risk Areas

### July, 2011





## Wildfire Resilient Communities

Washington's Wildfire Resilient Communities Program helps protect people, property, and natural resources from the risk of damaging wildfires. The program follows the Fire Adapted Communities approach, which consists of informed & prepared citizens collaboratively planning & taking action to safely coexist with wildland fire.

### **Kittitas County Landowner Testimonial in an email to the KCCD (Taylor Bridge Fire)**

*"...we are certain our cabin would not have made it this far without the work done by your crews. Our cabin is the realization of a dream we first had in high school. We have been planning it, building it, refining it, and loving it and the land for 25 years. It is at the center of our plans for enjoying the remainder of our lives. Clearly, we do so appreciate your foresight, initiative, and hard work to get so much land prepped just in time for the "big one."*

*"Natalie and I greatly appreciate your work. Your work to clean up forest in the area greatly helped to save us." -- Boris (Email testimonial to Kittitas CD)*

EMAIL to Jenny Hinderman (filling in for Kirsten Cook in Okanogan County) from a landowner who received a risk assessment:

Jenny. I can't thank you and Tony enough for your very professional assessment of our fire risk. I am also amazed at how quickly you got back to us with your report. We intend to act on your recommendations immediately. Thanks again for doing this.

P.S. Two fire fighters found our collie near the Little Bridge Creek burn - probably 5 or 6 miles away. They called the number on Zach's collar and we met them in Twisp for the exchange. If they hadn't been up monitoring the fire, we probably would have never found him. We owe the fire fighters a great deal this summer and we are very grateful for their service.

All the best,

John and Nancy

*"My property was extensively damaged by the Taylor Bridge Fire. My home suffered only minor damage--thanks to the Firewise Project completed several years ago....."Mike G. (Referencing Kittitas CD Firewise project)*



# Wildfire Resilient Communities



Washington's Wildfire Resilient Communities Program helps protect people, property, and natural resources from the risk of damaging wildfires. The program follows the Fire Adapted Communities approach, which consists of informed & prepared citizens collaboratively planning & taking action to safely coexist with wildland fire.

**Background** This July, Washington State experienced the largest wildfire in its recorded history; the Carlton Complex burned over 250,000 acres of land. In 2013, 152,603 acres were destroyed. Prior to that, the 2012 fire season was the worst in 100 years, totaling 259,526 acres of land burned. To date, 2014 suppression costs alone exceed \$50 million.

The Washington State Conservation Commission (WSCC) and partner conservation districts contribute to wildfire recovery efforts, but **our main goal is wildfire preparedness**. Through the Wildfire Resilient Communities Program, we help Washington save lives, protect property, and conserve natural resources.

**The Solution** Washington's Wildfire Resilient Communities Program encourages individuals and communities to implement fire-safe practices that protect people and property. Financial and technical assistance is available through this program, including:

- Developing, implementing, and updating community- and county-level wildfire protection plans.
- Providing cost-share incentives for fire preparedness, such as implementing hazardous fuels reduction projects and improving forest and range health, and for post-fire rehab and recovery.
- Providing wildfire risk assessments to homeowners.
- Implementing a community volunteer fire weather monitoring program.



Close calls and scenes of devastation from wildfires blaze across the media every summer drawing attention to suppression and recovery efforts. Conservation districts can work with Washington communities to build resilience so that we can safely coexist with wildfire.



**How it Works** The WSCC administers wildfire preparedness grants to conservation districts. Conservation districts then take the lead in delivering wildfire safe plans, practices, and resources to communities and individual landowners. With their proven ability to provide technical assistance to landowners, conservation districts can build the capacity of Washington State to become a more fire adapted community.

A fire adapted community is one that understands the risks of wildfire and takes responsibility for that risk by being proactive about preparedness and safety.

Washington State has more than 105 nationally recognized communities that are actively improving their wildfire resilience. That's the 2nd highest number in the nation.

## Success



The Kellys' home survived the Carlton Complex fire, while many of their neighbors' homes did not. As part of an active Firewise Community, they had implemented practices suggested by Okanogan CD to improve the survivability of their home. Here they are shown holding the community's charred Firewise Communities/USA recognition sign, **but their house still stands!**



Before forest health/fuels reduction project



After forest health/fuels reduction project



Washington State  
Conservation  
Commission

## Contact Information

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Phone: (360) 407-7507

## Capital Project Request

2015-17 Biennium

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Version: D1 2015-17 Capital Budget Request

Report Number: CBS002

Date Run: 9/9/2014 5:05PM

Project Number: 30000014

Project Title: Stormwater - Green Stormwater Infrastructure (GSI)

## Description

Starting Fiscal Year: 2016

Project Class: Grant

Agency Priority: 9

## Project Summary

Related to Puget Sound Action Agenda Implementation. Stormwater runoff is a significant natural resource concern because it is the primary conveyance system for pollutants impacting Puget Sound waters. The use of "Green Stormwater Infrastructure" (GSI) strategies to address runoff is now understood as one of the most efficient, effective and multi-benefit approaches to dealing with stormwater. Funding requested will support implementation of stormwater and low impact development (LID) related projects. Projects in 7 priority areas will be completed and funding will be invested in the implementation of state-wide priority projects developed in partnership with cities, counties, local integrating organizations (LIOs), and others. Also with the requested funding a regional coordination system will be developed leveraging effective and efficient use of resources and the sharing of best practices. This investment will maximize effective use of engineering and design resources; will establish effective outreach and public engagement strategies; will enable behavior change; and will ultimately realize on-the-ground projects that protect Puget Sound water resources.

## Project Description

The Governor's *Results Washington*, Puget Sound Partnership's (PSP) *Action Agenda*, and Department of Ecology's (ECY) *National Pollutant Discharge Elimination System* (NPDES) permits recognize that stormwater runoff is a significant natural resource concern because it is the primary conveyance system for pollutants impacting Puget Sound waters. The use of "Green Stormwater Infrastructure" (GSI) strategies to address runoff is now understood as one of the most efficient, effective and multi-benefit approaches to dealing with stormwater. GSI programs have been adopted across the country with great success, and the promotion of Green Infrastructure is now a major priority for the US Environmental Protection Agency. At the local level, many PSP Local Integrating Organizations' lists of *Near Term Actions* (NTA's) identify residential landowner stormwater management as a priority for the protection of state water resources. Furthermore, a key overall implementation strategy for Washington State Conservation Districts is to collaboratively address stormwater issues by utilizing green stormwater infrastructure strategies such as LID and landscape-scale conservation tools. Districts are uniquely positioned to partner with diverse entities in this effort, including cities and counties as well as industrial, urban, suburban, and rural private landowners.

This request will provide \$1,082,000 in funding to allow the Washington State Conservation Commission (WSCC) and Conservation Districts to effectively partner with private landowners and others statewide (ECY, PSP, tribes, cities, counties, NGOs, LIOs, etc.) on the implementation of stormwater and low impact development (LID) related projects. First, \$828,000 would be focused on the implementation of projects in 7 priority areas. Second, \$200,000 would be invested in the implementation of state-wide priority projects developed in partnership with cities, counties, local integrating organizations (LIOs), and others. Third, \$54,000 would be invested in the development of a regional coordination system that leverages the effective and efficient use of resources and the sharing of best practices to make all Districts more effective. This investment will maximize effective use of engineering and design resources; will establish effective outreach and public engagement strategies; will enable behavior change; and will ultimately realize on-the-ground projects that protect Puget Sound water resources.

Stormwater runoff is recognized as a significant challenge that must be addressed if the State of Washington plans to comprehensively address water quality and quantity concerns. Stormwater that is not properly managed by private landowners can have adverse impacts on shellfish and salmon species, ground and surface water, recreational water use, natural resource-dependent economies, and even soil stability in complex environments such as steep slopes and marine shorelines. Water management strategies must be implemented at multiple scales, from a city-scale to that of the rural private property.

These strategies must:

- protect and improve water quality
- support water conservation (enable infiltration to support groundwater recharge where appropriate and improve water management by private landowners)
- empower private landowners to forgo problematic practices in favor of recommended behavior changes

#### CURRENT SITUATION

The Governor, the PS Partnership, Ecology, tribes, federal agencies, and others acknowledge that stormwater is a significant resource concern that must be addressed. Conservation Districts across the State are working with partners and agencies to explore new and innovative ways to address the stormwater resource impacts associated with private landowners. Currently, the potential for Districts' services is greater than their capacity, and activities are opportunistic rather than strategic. This budget request would enable several Districts to meet increasing demand, and begin to provide the planning and coordination that will benefit Conservation Districts statewide. Leaders in this field have recommended that significant changes in stormwater issues are only possible through collective impact and collaboration – and the Commission and Districts are well-poised to fulfill this role.

#### PROPOSED SOLUTION

This proposal will drive existing collaborative efforts with partners and private landowners toward the implementation of on-the-ground projects. The Commission has identified 7 Districts that are ready to use this funding and who will serve as regional resources for other Districts in the future. These Districts will implement green stormwater infrastructure projects to manage stormwater runoff, water resource protection, and water quality in Benton, Clark, Island, Mason, Pierce, Snohomish, and Thurston counties. Remaining funds will be used to identify, design, and implement additional high-priority initiatives, such as cluster retrofits in areas that developed before stormwater infrastructure was commonplace. This initiative will support the coordination and exchange of best practices, lessons learned, and resources, as well as leverage other partnerships and funding. This effort will encourage and reward Districts that work collaboratively with other entities such as State agencies, tribes, NGOs, LIOs, etc. Districts are well-positioned to implement green stormwater infrastructure projects as they already employ regional cluster engineers as well as landscape architects and other specialized staff trained in site assessment and planning, plant selection, LID design and construction, and project management.

#### ***What specific performance outcomes does the agency expect?***

At the end of this funding cycle, these 7 Districts will be better equipped to meet current demand from their constituents and partners. They will enhance their capacity to implement programs and will have the foundation from this coordinated effort to make strategic decisions for their own districts and regions.

#### **Performance Measure Detail**

Conservation Districts will implement specific projects and will track the deliverables assigned to each project. Districts will track and provide to the Commission information on:

- collaborative partnerships on each project
- strategies and methods used to engage and educate private landowners
- the number of private landowners served as well as total acreage treated
- the number and type of GSI strategies implemented, including Low Impact Development projects, that conserve or enhance water quantity, water quality and water management
- the number of GSI best management practices implemented
- the volume of water infiltrated, treated and/or disconnected from direct discharge to Puget Sound, rivers and streams

Additionally, through regional coordination, the Commission will work with Districts and partners to increase the effectiveness of project implementation. Districts and the Commission will work to continuously improve the collective impact of GSI projects. The Commission will also coordinate and collaborate with DOE, PSP, DOH and others to ensure that the implementation of private landowner projects are consistent with partnering agency priorities and standards.

Water is a unifying factor among many of the Governor's *Results Washington* five priority goals. World class education, a prosperous economy, and healthy and safe communities will all be enhanced by improved water quality and the integration of green infrastructure projects. Districts are efficient, effective, and accountable grassroots service delivery systems uniquely positioned to work on a non-regulatory basis with private and public entities on stormwater issues relevant to their specific locale.

Nearly every sub-topic in Goal Topic 3 – "Clean and Restored Environment" – addresses the issue of needed stormwater improvement.

Specifically, 3.2 states: "Increase the percentage of rivers meeting good water quality from 43% to 55% by 2020;"

Goal 3.2a states: "Increase the number of projects that provide storm water treatment or infiltration from 10 to 34 by 2016 \*\*\*;"

Goal 3.2b states: "Increase percentage of core saltwater swimming beaches meeting water quality standards from 89% to 95% by 2016 \*\*\*."

Each of these priorities will be directly impacted by strategic district work using GSI to address water quality improvement.

Goal Topic 2 – "Healthy Fish and Wildlife" – will not be accomplished without accelerated treatment of stormwater runoff before it joins water bodies on which fish and wildlife are dependent.

District GSI programs will also address subtopic 4 – "Working and Natural Lands" - whereby GSI strategies are integrated into the farm and forest planning process, resulting in improved water quality, recreational use, and habitat protection.

This proposal enables implementation of projects on private lands that collectively impact water quality and water quantity. Green Stormwater Infrastructure provides diverse positive benefits because of its inherently multi-functional approach to design. For example, projects developed to detain and treat stormwater can also provide public infrastructure amenities such as street trees, parks, or green streets in urbanizing settings. GSI projects can also provide improved water treatment, canopy cover, and habitat conditions in rural areas while simultaneously strengthening communities. Property values have demonstrably improved in areas adjacent to green infrastructure projects, and the viability of local agriculture is improved with wise water resource protection and land management. Education of adults, professionals, and youth are also important outcomes of this work. In addition, this proposal sets the foundation for improved regional collaboration on key stormwater activities, and enables increased communication between the Conservation Commission, ECY, PSP, DOH, counties, cities, and Conservation Districts statewide.

Individual Conservation Districts have been working to secure funds to address stormwater runoff and the natural resource concerns created by unmanaged stormwater. However, limited success with securing funding and the subsequent slow pace of implementation do not keep pace with the continually growing demand for services. Furthermore, uncoordinated efforts by Conservation Districts in neighboring counties can result in unintended duplication of efforts or resources, which is not the best use of limited funding. This proposal will help Districts strategically unify resources and efforts to assist private landowners who are willing to "do the right thing" and improve water quality and quantity via the implementation of on-the-ground projects. A collaborative approach is proposed by many managers and leaders at this time, to learn from each other in this burgeoning field, and provide a high-level of consistent, science-driven technical service.

Conservation Districts are credible organizations within their communities, with longevity and highly trained staff that includes engineers and landscape architects critical for the appropriate site assessment, design, and implementation of Green Stormwater Infrastructure best management practices. This combination of trained experts and a cost-effective system for implementing critical projects makes Conservation Districts an extremely valuable resource for promoting and implementing GSI. Several Districts already integrate GSI projects into their programs, but most are underfunded and can't address current needs. Many jurisdictions requiring low impact development and alternative stormwater management in their codes lack a mechanism to fund (or provide) the technical assistance and implementation of these requirements. Conservation Districts are an asset in these areas because they provide this needed professional technical guidance to private landowners, furthering water resource protection goals. Combining the effectiveness of Conservation Districts in working with private landowners with an overall coordinated effort to develop consistent, reliable and professional Green Stormwater Infrastructure programs at these Districts, water resources in WA State will be much better protected.

By adopting this package, the state will invest in WA Conservation Districts' capacity to respond to evolving stormwater issues, and will prepare Districts for the increasing demand of services that is expected in the next 5 years. The Commission and Districts will be able to fill a critical role with high-level partners and decision makers, like ECY, PSP, DOH and others. Because of its grass-roots work and close partnerships with individual residents, Conservation Districts are uniquely able to convey the needs and challenges of landowners and thus can help agencies realize coordinated strategies and action plans more effectively. Additionally, this package will enable more direct technical assistance and outreach to be delivered to state residents, particularly in regions where there are no other existing sources of funding for this needed resource.

If this package is not adopted, Conservation Districts will remain limited in their ability to guide landowners towards implementation of stormwater best management practices. In turn, this limits their cities and counties who can't provide this service, and especially limits the thousands of willing, private landowners who want to be stewards but lack the guidance they need to properly implement stewardship goals. In short, less will be done to properly manage stormwater on private properties, and there will be many missed opportunities for partnerships that would enhance public infrastructure while addressing stormwater runoff in a citizen-driven, cost-effective manner.

**Location**

<b>City:</b> Coupeville	<b>County:</b> Island	<b>Legislative District:</b> 010
<b>City:</b> Lake Stevens	<b>County:</b> Snohomish	<b>Legislative District:</b> 044
<b>City:</b> Marysville	<b>County:</b> Snohomish	<b>Legislative District:</b> 039
<b>City:</b> Prosser	<b>County:</b> Benton	<b>Legislative District:</b> 016
<b>City:</b> Puyallup	<b>County:</b> Pierce	<b>Legislative District:</b> 025
<b>City:</b> Shelton	<b>County:</b> Mason	<b>Legislative District:</b> 035
<b>City:</b> Sumner	<b>County:</b> Pierce	<b>Legislative District:</b> 031
<b>City:</b> Tacoma	<b>County:</b> Pierce	<b>Legislative District:</b> 027
<b>City:</b> Tacoma	<b>County:</b> Pierce	<b>Legislative District:</b> 028
<b>City:</b> Tacoma	<b>County:</b> Pierce	<b>Legislative District:</b> 029
<b>City:</b> Tumwater	<b>County:</b> Thurston	<b>Legislative District:</b> 022
<b>City:</b> Vancouver	<b>County:</b> Clark	<b>Legislative District:</b> 017
<b>City:</b> Vancouver	<b>County:</b> Clark	<b>Legislative District:</b> 018
<b>City:</b> Vancouver	<b>County:</b> Clark	<b>Legislative District:</b> 049

**Project Type**

Grants

**Grant Recipient Organization:** Conservation Districts

**RCW that establishes grant:** 89.08

**Application process used**

Conservation districts will identify potential GSI projects in the Conservation Commission's database system with project descriptions including resource protection benefits. Other key criteria for project evaluation will include: • collaborative partnerships on each project • strategies and methods used to engage and educate private landowners • the number of private landowners served as well as total acreage treated • the number and type of GSI strategies implemented, including Low Impact Development projects, that conserve or enhance • water quantity, water quality and water management • the number of GSI best management practices implemented • the volume of water infiltrated, treated and/or disconnected from direct discharge to Puget Sound, rivers and streams. Seven conservation districts have projects meeting these criteria and have projects ready for implementation. Projects funded in the future will be expected to meet these criteria.

**Growth Management impacts**

The projects associated with this GSI proposal will support local government infrastructure planning requirements under the Growth Management Act. RCW 36.70A.070(1) requires local comprehensive plans to include a land use element that, among other things, is to review drainage, flooding, and storm water run-off in the area and "provide guidance for corrective actions to mitigate or cleanse those discharges that pollute waters of the state, including Puget Sound or water entering Puget Sound".

This GSI proposal will specifically support this GMA planning requirement.

**Funding**

Acct Code	Account Title	Estimated Total	Expenditures		2015-17 Fiscal Period	
			Prior Biennium	Current Biennium	Reapprops	New Approps
057-1	State Bldg Constr-State	6,204,000				1,082,000
	<b>Total</b>	<b>6,204,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1,082,000</b>
<b>Future Fiscal Periods</b>						
		<b>2017-19</b>	<b>2019-21</b>	<b>2021-23</b>	<b>2023-25</b>	
057-1	State Bldg Constr-State	1,022,000	1,100,000	1,500,000	1,500,000	
	<b>Total</b>	<b>1,022,000</b>	<b>1,100,000</b>	<b>1,500,000</b>	<b>1,500,000</b>	

**Operating Impacts**

**No Operating Impact**

**Narrative**

Funding of this project will include installation of capital projects.

## THE ROLE OF THE WASHINGTON STATE CONSERVATION COMMISSION IN STORMWATER MANAGEMENT



The Washington State Conservation Commission (SCC) contributes to state stormwater efforts in two main ways: 1) developing effective stormwater monitoring and management systems, and 2) assisting conservation districts with on-the-ground project implementation.

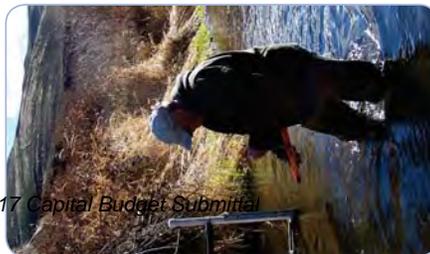
### STORMWATER MONITORING AND MANAGEMENT

SCC staff chair the Agricultural Stormwater Work Group, a subgroup of the Stormwater Work Group for Puget Sound. In this capacity, the SCC is working to quantify the stormwater problem so it can be effectively dealt with to prevent damage. The Agricultural Stormwater Work Group is creating an Agricultural Monitoring Strategy that will measure quantities of pollution, pollution components, and identify primary sources of pollution. This strategy will inform efforts to prioritize stormwater management projects.

### PROJECT IMPLEMENTATION

The SCC offers a suite of financial and technical assistance programs that conservation districts use to implement stormwater management projects. Examples of these assistance programs include:

- **Capital Cost-Share Investment:** Provides conservation districts with funding for brick-and-mortar conservation projects. Conservation districts often use this funding to implement best management practices (BMPs) for land use that prevent stormwater pollution, such as constructing manure storage facilities or LID infrastructure.
- **Conservation Reserve Enhancement Program (CREP):** Offers incentives to landowners who are willing to remove riparian (streamside) areas from production and implement conservation practices, such as planting riparian buffers. CREP buffers—which average 142 feet in width—filter pollutants from nearby agricultural lands and clean water before it reaches streams and shellfish beds.
- **Livestock Technical Assistance:** Provides funding for conservation districts to help livestock owners develop nutrient management plans and install practices that protect water quality. Through this program, livestock owners receive on-site assistance to help them better control soil, water, and animals at their facility while still maintaining viable livestock operations.



Washington State Conservation Districts  
 Washington State Conservation Commission



## MANAGING STORMWATER ON PRIVATE LANDS

Between the Puget Sound, Pacific Coast, Columbia River, and all our inland lakes and streams, Washington State is rich in water resources. This wealth creates opportunity, exhibited by our thriving port cities and reputation as a major agricultural state. But, urban and agricultural development combined with heavy rain and snowfall also causes stormwater runoff that can pollute water quality.



### WORKING WITH LANDOWNERS

As part of our mission to protect natural resources, the Washington State Conservation Commission (SCC) and 45 conservation districts are working together to manage stormwater runoff on private lands (RCW 89.08.220). Stormwater projects range from helping city residents build permeable sidewalks and rain gardens, to working with farmers to reduce surface contaminants, such as nitrates from fertilizers.

SCC staff serve on the state Stormwater Work Group that is identifying and prioritizing effective stormwater management strategies.

### WHY INVEST IN STORMWATER MANAGEMENT?

Stormwater management requires investment, but studies conducted in the Puget Sound region suggest that damages caused by untreated stormwater are far more costly.<sup>1</sup> Conservation districts implement agricultural practices that are known to reduce pollution and proven-effective urban strategies, such as Low Impact Development (LID) and Green Infrastructure.<sup>2</sup>

We're also building awareness about stormwater issues. Many conservation districts offer free stormwater education trainings and workshops. And,



1. Vissation B.J., Booth D.B., and Steinhilber A.C. 2009. "Costs and benefits of storm-water management: Case study of the piglet sound region." *Journal of Urban Planning and Development*, 135 (4): 150-158.  
 2. "Economic Benefits of Low Impact Development and Green Infrastructure Programs (2013)." US Environmental Protection Agency, EPA 833-R-001.

## WHAT IS STORMWATER RUNOFF?

Stormwater runoff occurs during periods of heavy rain and snow melt. Sometimes there is too much water than can be evaporated or soaked into the ground; or, in urban areas, water builds up on pavement where it cannot be absorbed. This stormwater flows over surfaces—from parking lots to pastures—and into streams and storm drains. Stormwater runoff is a primary transporter of toxic, nutrient, and pathogen pollutants to streams, which can degrade water quality and fish habitat.

### Contact Information

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Washington State Conservation Commission



# WASHINGTON STATE'S CONSERVATION DISTRICTS: HELPING LANDOWNERS MANAGE AGRICULTURAL AND URBAN STORMWATER



**What is Low Impact Development (LID)?**  
 LID refers to land development practices that incorporate and/or recreate functions of a natural landscape allowing stormwater to be used as a resource. Examples of LID practices include rain gardens, permeable pavement, and vegetated roof cover.

## 7. WHIDBEY ISLAND CONSERVATION DISTRICT

Helping farmers manage manure to protect shellfish. At Penn Cove Farm, the District installed a manure tunnel and solids separator to reduce liquid waste on this 500 acre dairy.

## 8. SNOHOMISH CONSERVATION DISTRICT

Worked with the City of Everett to solve frequent flooding and sewer overflows during large storm events. The District constructed rain gardens for homeowners who had experienced flooded basements. Today, basements are dry and neighborhood tours are inspiring others to create more rain gardens.



## 12. OKANOGAN CONSERVATION DISTRICT

Partnered with a landowner to restore Bonaparte Creek (a tributary of the Okanogan River) to its natural stream channel. The creek had been reengineered to run parallel to Highway 20 and was subject to stormwater runoff from the pavement. The restored, meandering stretch of stream has been planted with native vegetation.



## 13. FERRY CONSERVATION DISTRICT

Conducting a study of Curlew Lake to assess concentrations of phosphorus, nitrogen, and fecal coliform, all of which can be caused by runoff. The District also is offering a cost-share program to landowners in the Curlew Lake watershed to fund projects that benefit water quality, such as septic tank testing.

## 14. ADAMS CONSERVATION DISTRICT

Conducting water quality monitoring of Cow Creek to assess impacts from installed streamside vegetation and other practices the District has implemented to eliminate agricultural runoff.

## 15. WALLA WALLA COUNTY CONSERVATION DISTRICT

Creating Urban Riparian Buffers (CURB) in Walla Walla County. The District's CURB program educates urban residents about proper lawn care, disposal of pet waste, water conservation, and runoff control. Accomplishments so far include 41 urban riparian (streamside) buffers installed; 11,928 feet of stream bank cover restored; and over 7,200 trees, shrubs, and perennials planted. These projects will improve both water quality and wildlife habitat.

## 16. SPOKANE CONSERVATION DISTRICT



Running the Livestock and Land Program for Spokane County residents. Through this program, the District offers free site assessments, cost-share opportunities, and an upcoming grant and loan program to help livestock owners better manage mud and manure. Over 80 landowners have participated in the program so far resulting in over 40 on-the-ground improvements that will help manage runoff.



## 17. PALOUSE CONSERVATION DISTRICT

Helping livestock owners install streamside buffers that reduce excess sediment, fecal matter, organic material, nutrients, and pesticides in surface runoff. The District also administers a volunteer storm drain marking program to remind residents to keep streets clean of pollutants and litter.

## 9. PIERCE CONSERVATION DISTRICT

Worked with the City of Puyallup to install their first Green Stormwater Infrastructure street. The District planted rain gardens and hosted a volunteer event to install over 2,500 plants. The road and sidewalk are now designed to infiltrate 100 percent of rainfall on the site.

## 10. KITTITAS CONSERVATION DISTRICT

Working with the City of Cle Elum to assess stormwater sources, inventory existing facilities, educate landowners, and install streamside re-vegetation projects.

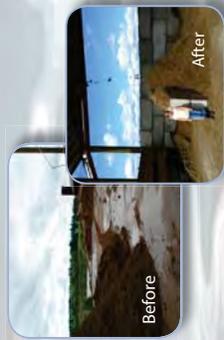


## 11. CENTRAL AND EASTERN KLICKITAT CONSERVATION DISTRICTS

Working with livestock owners to alleviate mud and manure that can pollute nearby streams accessed by steelhead and salmon. The Districts are installing fencing, rerouting water from barns, and redesigning water troughs to prevent spillage.

## 5. LEWIS COUNTY CONSERVATION DISTRICT

Working with private landowners in the Upper Chehalis River Basin to install streamside buffers that protect rivers from nutrient runoff. In the first year of this project, the District planted nearly two miles of stream banks.



## 6. CLARK CONSERVATION DISTRICT

Helping farmers manage runoff and conserve resources. At Arwana Farms, the District installed a solids separator and storage shed for manure. This dries the manure for reuse as bedding materials and decreases runoff and nutrient load on fields.

## 1. WALLA WALLA CONSERVATION DISTRICT

Established a one-acre LID demonstration site at Carrie Blake Park in Sequim. The site includes over 50 species of drought-tolerant trees, shrubs, and groundcovers; sustainable turf; a rain garden; porous asphalt; and interpretive signs.



## 2. WASON CONSERVATION DISTRICT

Worked with county public utility district to incorporate LID practices into the design of a new operations center. Installed 1.8 acres of rain gardens and over 22,000 plants.

## 3. KITSAP CONSERVATION DISTRICT

Developing an LID retrofit program that has assisted homeowners with more than 100 rain gardens, cisterns, and other infiltration practices. The District is finishing a stormwater retrofit of the county fairgrounds designed to capture and infiltrate all the rain water from fairground road surfaces, large livestock barns, and other buildings. They also are partner in the county stormwater management program.

## 4. THURSTON CONSERVATION DISTRICT

Working with landowners to prevent pollution and protect shellfish. Their *Clear Choices for Clean Water Program* offers rewards for adopting wise land use practices, such as using natural fertilizers instead of chemical. So far, 246 residents have implemented over 2,000 practices!

## Capital Project Request

2015-17 Biennium

\*

**Version:** D1 2015-17 Capital Budget Request**Report Number:** CBS002**Date Run:** 9/9/2014 5:05PM**Project Number:** 30000017**Project Title:** Match for Federal RCPP Program**Description****Starting Fiscal Year:** 2016**Project Class:** Grant**Agency Priority:** 10**Project Summary**

Related to Puget Sound Action Agenda Implementation. The Regional Conservation Partnership Program (RCPP) is a newly created program within the U.S. Department of Agriculture (USDA). The RCPP encourages coordination between the Natural Resource Conservation Service (NRCS) and local partners to deliver conservation assistance to agricultural producers and landowners. RCPP combines four existing NRCS programs for improved coordinated delivery of these programs at the local level. Total funding for RCPP is \$400 million with an award cap of \$20 million. A total of six pre-proposals from Washington State have been invited to submit full proposals for the RCPP. A description of each is included in the attachment. The full proposals are due to USDA by October 2, 2014. Proposals accepted for implementation will need to show availability of matching funds, including state dollars. This budget request would provide state matching funds for implemented projects that are a part of an approved RCPP activity.

**Project Description**

The Regional Conservation Partnership Program (RCPP) is a newly created program within the U.S. Department of Agriculture (USDA). The RCPP encourages coordination between the Natural Resource Conservation Service (NRCS) and local partners to deliver conservation assistance to agricultural producers and landowners. RCPP combines four existing NRCS programs for improved coordinated delivery of these programs at the local level. Total funding for RCPP is \$400 million with an award cap of \$20 million.

In the summer of 2014, applicants were to submit pre-proposals for funding from one of three RCPP funding pools: national, state, or within one of 8 Critical Conservation Areas (CCA). The Columbia River Basin is a designated CCA. There were a total of 8 pre-proposals from various entities in Washington State accepted by NRCS in August 2014 and asked to submit a full proposal. Full proposals are due to NRCS by October 2, 2014.

This proposal is for \$4 million for the 2015-17 biennium to provide match funding to each of the eight Washington pre-proposals.

Proposals will be evaluated and scored on four criteria: Solutions, Innovation, Participation, and Contribution. The contributions criteria (or match) include the ability of the project proponent to bring an array of financial and technical capabilities to projects. These capabilities include cash contributions, technical assistance professionals, planning and engineering staffing, experts to conduct field assessments and project implementation resources. Successful RCPP proposals will identify the types of partner committed match and the match source. Because the full RCPP proposal is due October 2 well before the passage of the 2015-17 budget is passed, no specific commitment of state funds can be identified. However, it would benefit the proposals if it could be shown a line item to provide match funding for successful RCPP proposals is in the Governor's budget.

The RCPP is a five-year program since it's tied to the recently passed federal Farm Bill. Successful proposals will have essentially a "line of credit" in the amount of the award, not to exceed \$20 million. Proponents implementing a successful RCPP activity must conduct outreach to landowners to solicit their participation in one of four existing NRCS programs. Landowners who submit applications as part of an RCPP proposal will have their applications go to the head of line for NRCS evaluation. Although a successful RCPP proposal does not receive a grant of funds, proposal implementers will know there are funds in the "line of credit" to pay for eligible landowner applications.

There are three successful pre-proposals relating to Puget Sound:

Precision Conservation for Salmon and Water Quality in Puget Sound – Submitted by the State Conservation Commission along with The Nature Conservancy, American Farmland Trust, and other groups. This proposal will address the PS Action Agenda by identifying specific geographic areas – watersheds or sub-basins – for implementation of precision conservation practices to address natural resource concerns. Early implementation areas include the Samish watershed, the Stilliguamish watershed, the Nooksack watershed, and the Puyallup.

Sentinel Landscape Partnerships – Submitted by Center for Natural Lands Management. Located in south Thurston County this proposal will address the loss of critical south PS prairie habitats. Identified in the PS Action Agenda as a near term action, this unique ecosystem is in rapid decline due to development and fragmentation. The CNLM will be working closing with their key partners at Joint Base Lewis McCord where significant prairie habitats exist.

Puget Sound WRIA 1 Regional Salmon Recovery – Submitted by the Whatcom Conservation District. Elements of this proposal will include the focused implementation of CREP to install riparian buffers as well as the implementation of nutrient reduction practices to protect the Whatcom surface and ground waters.

Each of the eight pre-proposals will address specific natural resource concerns in a defined geographic area. In addition to the Puget Sound related proposals others will address water supply issues in the Upper Columbia and Yakima basins, habitat restoration in the Lower Yakima basin, and water quality and climate change adaptation through no-till farming practices in the Palouse River watershed. Until each proposal is completed by October 2, 2014 it will be difficult to identify specific projects with specificity.

Since the RCPP makes available federal funding for specific NRCS programs that provide technical assistance and financing to landowners for implementation of site-specific practices, each RCPP proposal will focus on outreach to landowners to identify appropriate practices and implement them. A broad array of projects and practices are possible given the scope of the proposals. Potential projects and practices include: exclusion fencing to keep cattle out of streams; manure management systems; irrigation water efficiencies; easement acquisition; and direct seed drilling techniques.

Currently there is an array of federal landowner assistance programs at the NRCS. These programs are not implemented in any coordinated fashion at the local level. Also, current project proponents at the local level work in isolation when submitting funding applications to the federal NRCS programs. The new RCPP is designed to encourage local entities to reach out to multiple partners and develop local implementation approaches that will bring together multiple fund sources to address natural resource issues in a targeted fashion.

Expected changes to the current system in areas where pre-proposals are accepted for full RCPP implementation will include more efficient and effective use of limited resources. All entities involved in natural resource protection and restoration on agricultural lands face limited financial ability and staff capacity constraints. RCPP will make use of these limited financial and staff resources more efficient by coordinating the work on the ground to assist landowners. The proposals will also be more effective with the limited funds by targeting combined dollars from multiple sources for a focused resource outcome.

Natural resource improvements are also expected as the on the ground projects are installed. By implementing projects in a focused, targeted area the environmental effect is magnified. Longer stretches of river will be protect, more acres of land irrigated more efficiently, and more no-till acres applied in these focus areas.

If match funding is not identified it will be unlikely that the pre-proposals will have a chance to be considered or accepted as a full proposal. Pre-proposals are scored on the availability of matching resources by the partners and if no state funding match is available we will miss the opportunity to match state funding with up to \$20 million of federal funds.

**This project is essential to implementing the 2015 strategic priorities of the Conservation Commission as follows:**

- Coordination and leadership with other entities (groups, agencies, tribes, other)
- Impact on natural resource concerns
- Conservation district operations, technical capacity and funding
- Support Commission operations to make this happen
- Coordination with other agencies using the model area concept for getting together on an area-wide project(s) to address an area-wide resource concern

**This request is essential to support the Governor's priorities:**

Economy – Agriculture is identified in this priority as one of the key industries creating the backbone for a strong economy.

Each of the RCPP proposals will maintain a viable agriculture economy by implementing projects in a manner that will allow the farmer to stay in business while protecting and restoring the environment. By coordinating activities at the local level, each of the RCPP proposals supports one of the Governor's economic development priorities to streamline state government to better support private-sector business growth. Farms are a key private sector business that will be supported in this proposal.

Budget – This proposal leverages limited state funding to maximize opportunities to receive federal funding up to \$20 million by providing a state match.

**This request provides essential support to the Governor's Results Washington Goals**

Goal 3 – Shellfish: Will result in the increase of the number of BMPs implemented in four Puget Sound counties and in Grays Harbor and Pacific counties. Goal 3 2.1.b.

Goal 3 – Pacific Salmon: Salmon habitat statewide will be addressed in several proposals. This project will support this goal and indicators by increasing miles of stream habitat opened through identification of the best locations for these capital funded projects. Goal 3 2.2.b

Goal 3 – Wildlife: This proposal will support this goal and indicators by addressing listed species habitat.

Goal 3 – Clean, Cool Water: This proposal will address capital funded projects to improve good water quality by identifying locations for these projects that will have the most impact on protecting water quality resources.

Goal 3 – Working and Natural Lands: Results Washington has a goal to increase the net acreage dedicated to working farms. Stewardship plans implemented under this proposal will allow farmers to continue agricultural production while protecting natural resources. By staying in production farmers will stay on the land and therefore we can increase the net acreage dedicated to working farms. Goal 3 4.1.a.

**Funding in this request will leverage a potential \$20 million in federal funding per RCPP proposal.**

State matching resources will buy on the ground project implementation of state and federal capital funded projects. Because the deadline for submittal of full RCPP proposals is October 2, 2014 – well after the deadline for state budget submittals – specific projects have not been identified yet. But generally the projects must ultimately be consistent with NRCS program requirements. This means future projects will have to address identified natural resource concerns on specific landowner properties. NRCS requirements also include ongoing maintenance of projects and monitoring to ensure the project is implemented as intended.

**Successful RCPP proposals will see an increase in activity at the local level.**

RCPP will provide an infusion of available funding for on the ground projects. Since local entities will know this funding is there if they get the landowner contracts, these entities will be encouraged to increase their outreach and technical assistance. Currently local assistance is provided in an uncoordinated manner by individual entities. The successful RCPP proposal will require local entity coordination for outreach, which will lead to more effective use of state and local resources.

The WSCC will require .5 FTE to manage the contracts associated with any pass-through match to the successful RCPP proponent.

Depending on the specifics of each RCPP proposal, various state agency programs will be involved in implementation at the local level. For example, several projects in eastern Washington will support implementation of the Columbia River Initiative.

The Precision Conservation in Puget Sound proposal will leverage state, local and tribal resources at specific targeted watersheds.

Some state programs currently funded through the operating budget will support the individual RCPP proposals. No new operating funding is requested as part of this capital budget request.

Capital funding is being sought as the best option since the RCPP is a five-year program and capital funding is generally more flexible across a fiscal year than operating funding.

This request of \$4 million is for the 2015-17 biennium as match for successful RCPP proposals. No specific capital fund source is identified. The \$4 million will potentially match up to \$20 million in federal funding depending upon the RCPP proposal accepted.

**Proviso**

Historical & Provisional: Potentially historic, depending upon the specific projects implemented in a successful RCPP proposal. Funding could be made dependent upon USDA-NRCS approval of an RCPP proposal.

**Location**

<b>City:</b> Algona	<b>County:</b> King	<b>Legislative District:</b> 030
<b>City:</b> Auburn	<b>County:</b> King	<b>Legislative District:</b> 030
<b>City:</b> Auburn	<b>County:</b> King	<b>Legislative District:</b> 031
<b>City:</b> Auburn	<b>County:</b> King	<b>Legislative District:</b> 047
<b>City:</b> Black Diamond	<b>County:</b> King	<b>Legislative District:</b> 005
<b>City:</b> Bothell	<b>County:</b> King	<b>Legislative District:</b> 001
<b>City:</b> Burien	<b>County:</b> King	<b>Legislative District:</b> 034
<b>City:</b> Chehalis	<b>County:</b> Lewis	<b>Legislative District:</b> 020
<b>City:</b> Chelan	<b>County:</b> Chelan	<b>Legislative District:</b> 012
<b>City:</b> Colfax	<b>County:</b> Whitman	<b>Legislative District:</b> 009
<b>City:</b> Colville	<b>County:</b> Stevens	<b>Legislative District:</b> 007
<b>City:</b> Coupeville	<b>County:</b> Island	<b>Legislative District:</b> 010
<b>City:</b> DuPont	<b>County:</b> Pierce	<b>Legislative District:</b> 028
<b>City:</b> Duvall	<b>County:</b> King	<b>Legislative District:</b> 045
<b>City:</b> Eatonville	<b>County:</b> Pierce	<b>Legislative District:</b> 002
<b>City:</b> Edmonds	<b>County:</b> Snohomish	<b>Legislative District:</b> 021
<b>City:</b> Ellensburg	<b>County:</b> Kittitas	<b>Legislative District:</b> 013
<b>City:</b> Entiat	<b>County:</b> Chelan	<b>Legislative District:</b> 012
<b>City:</b> Everett	<b>County:</b> Snohomish	<b>Legislative District:</b> 038
<b>City:</b> Friday Harbor	<b>County:</b> San Juan	<b>Legislative District:</b> 040
<b>City:</b> Gig Harbor	<b>County:</b> Pierce	<b>Legislative District:</b> 026
<b>City:</b> Kenmore	<b>County:</b> King	<b>Legislative District:</b> 046
<b>City:</b> Lake Stevens	<b>County:</b> Snohomish	<b>Legislative District:</b> 044
<b>City:</b> Lakewood	<b>County:</b> Pierce	<b>Legislative District:</b> 029
<b>City:</b> Lynden	<b>County:</b> Whatcom	<b>Legislative District:</b> 042
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 010
<b>City:</b> Mount Vernon	<b>County:</b> Skagit	<b>Legislative District:</b> 040
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 007
<b>City:</b> Okanogan	<b>County:</b> Okanogan	<b>Legislative District:</b> 012
<b>City:</b> Port Angeles	<b>County:</b> Clallam	<b>Legislative District:</b> 024
<b>City:</b> Port Townsend	<b>County:</b> Jefferson	<b>Legislative District:</b> 024
<b>City:</b> Poulsbo	<b>County:</b> Kitsap	<b>Legislative District:</b> 023
<b>City:</b> Poulsbo	<b>County:</b> Kitsap	<b>Legislative District:</b> 023
<b>City:</b> Puyallup	<b>County:</b> Pierce	<b>Legislative District:</b> 025
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 011
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 033
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 037
<b>City:</b> Renton	<b>County:</b> King	<b>Legislative District:</b> 041
<b>City:</b> Republic	<b>County:</b> Ferry	<b>Legislative District:</b> 007
<b>City:</b> Ruston	<b>County:</b> Pierce	<b>Legislative District:</b> 027
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 032
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 036
<b>City:</b> Seattle	<b>County:</b> King	<b>Legislative District:</b> 043
<b>City:</b> Shelton	<b>County:</b> Mason	<b>Legislative District:</b> 035
<b>City:</b> Skykomish	<b>County:</b> King	<b>Legislative District:</b> 039
<b>City:</b> Tumwater	<b>County:</b> Thurston	<b>Legislative District:</b> 022
<b>City:</b> Yakima	<b>County:</b> Yakima	<b>Legislative District:</b> 014
<b>City:</b> Yakima	<b>County:</b> Yakima	<b>Legislative District:</b> 015

**Project Type**

Grants

**Grant Recipient Organization:** conservation districts

**RCW that establishes grant:** 89.08

**Application process used**

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However, it would benefit the proposals if it could be shown a line item to provide match funding for successful RCPP proposals is in the Governor's budget.

**Growth Management impacts**

Implemented projects may support GMA critical area protection requirements depending upon the RCPP proposal accepted.

**Funding**

Acct Code	Account Title	Estimated Total	Expenditures		2015-17 Fiscal Period	
			Prior Biennium	Current Biennium	Reappropriations	New Appropriations
001-2	General Fund-Federal	40,000,000				20,000,000
057-1	State Bldg Constr-State	8,000,000				4,000,000
	<b>Total</b>	<b>48,000,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>24,000,000</b>
			Future Fiscal Periods			
		2017-19	2019-21	2021-23	2023-25	
001-2	General Fund-Federal	20,000,000				
057-1	State Bldg Constr-State	4,000,000				
	<b>Total</b>	<b>24,000,000</b>	<b>0</b>	<b>0</b>	<b>0</b>	

**Operating Impacts**

**No Operating Impact**

## USDA RCPP Washington State Pre-Proposals Invited to Submit a Full Proposal

Funding Pool	Project Title	Lead Partner	Lead Project State	Who to Contact
<b>Critical Conservation Areas</b>				
Columbia River Basin CCA	Upper Columbia Irrigation Enhancement Project	Trout Unlimited	Washington	Lisa Pelly
Columbia River Basin CCA	Yakama Nation On-Reservation Lower Yakima Basin Restoration Project	Confederated Tribes and Bands of the Yakama Nation	Washington	Phil Rigdon
Columbia River Basin CCA	Yakima Basin Integrated Water Resource Management Plan Implementation	Yakima Basin Plan Integrated Water Resource Management Plan Committee	Washington	Derek Sandison

<b>National</b>				
National	Palouse River Watershed (WRIA 34) Implementation Partnership	Palouse Conservation District	Washington	Jennifer Boie
National	Precision Conservation for Salmon and Water Quality in Puget Sound	Washington State Conservation Commission	Washington	Ron Shultz
National	Sentinel Landscape Partnerships - Collaborative Conservation of Endangered Species	Center for Natural Lands Management	Washington	Patrick Dunn

**State**

Washington	CTCR Water Quality and Habitat Restoration Project	Confederated Tribes of the Colville Reservation	Washington	Todd Thorn
Washington	Puget Sound WRIA1 Regional Salmon Recovery	Whatcom Conservation District	Washington	Frank Corey

## NRCS RCPP Proposal Evaluation Criteria – August 2014

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### **Solutions**

Successful partnerships will engage communities at the outset to identify the resource management opportunities in a defined area and then establish attainable and measurable goals for delivering on those opportunities. Successful partnership will also design solutions that are enduring and locally recognized and supported by producers so that their benefits will extend well beyond the Federal investment from NRCS.

- Has the partner outlined a project plan at the watershed or regional scale, with further targeting of critical, high-priority areas in order to maximize conservation effectiveness?
- Has the partner identified the specific resource concern(s) and specific, measurable, achievable, and results-oriented goals to address the resource concern(s) in a cost effective manner, with a timeline for completion?
- Has the partner outlined a plan to deliver high percentages of applied conservation practices to address water quality, water conservation, wildlife, or state, regional, or national conservation initiatives?
- Has the partner demonstrated a strong relationship with the agricultural community, such that a number of producers in the area are likely to participate in the project?
- Has the partner demonstrated that the solutions identified in the application are supported by potential participants?
- How will the partner assess the success of the project and measure environmental outcomes?

## **Contributions**

Successful partnerships will bring an array of financial and technical capabilities to projects. These capabilities will include cash contributions, technical professionals to work one-on-one with farmers and ranchers to provide planning and engineering activities, and experts to conduct field assessments of agronomic and environmental performance. Through partnerships, there will be more resources available on the ground to achieve solutions by working with agricultural producers and forest land owners on private lands. Priority will be given to those applications that significantly leverage non-Federal financial and technical resources, particularly those that include partners who may not have traditionally worked with NRCS. NRCS' goal is to double the conservation investment with partner contributions.

- How much FA can the partner commit or leverage from other partners?
- How much TA can the partner commit or leverage from other partners?
- What types of in-kind activities will the partner contribute? Priority may be given to projects that have a plan for: outreach and education, particularly to producers who are not currently participating in NRCS programs and historically underserved producers; monitoring outcomes (e.g. water quality monitoring and species monitoring); and tracking the installation and maintenance of conservation systems.
- Are the intended uses of cash and in-kind resources clearly stated and tied to overall project objectives?

## **Innovation**

Successful partnerships will realize the full potential of RCPP by drawing all of the program authorities into an integrated project so that resource management solutions are achieved most cost effectively.

- Does the partner demonstrate an understanding of recent scientific findings and lessons learned in identifying suites of conservation practices that will lead to environmental outcomes?
- Will the project utilize innovation mechanisms (such as "safe harbor" agreements) to help producers in "assisting producers in meeting or avoiding the need for natural resource regulatory requirements." Section 1271B(d)(4)(A) of the 1985 Act.

- Will the project utilize environmental markets or other innovative methods of conservation delivery?
- Has the partner evaluated the cost-effectiveness of at least two approaches to achieving project goals?

## **Participation**

Successful partnerships will bring a diverse array of stakeholders into a project and capitalize on their unique capabilities to help make a project successful.

- Has the partner obtained a commitment from other entities, particularly nontraditional partners, to perform specific activities as part of the project? Extra consideration may be given to partner activities that NRCS does not typically perform.
- Does the project contribute to a regional plan or activities by other local, state, or federal efforts?
- Does the partnership demonstrate a strong ability to collaborate successfully with agricultural producers and forest land owners?

**ELECTRONIC SUBMITTAL CONFIRMATION FORM**

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Agency Number: 471  
Agency Name: State Conservation Commission

Agencies are required to provide electronic access to each decision package in their budget request as part of the submittal process. Confirm Option 1 or 2 below:

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This agency posts all decision packages for our 2015-17 budget request to our public facing website at the following URL:

URL: http://www.scc.wa.gov

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These decision packages conform to our agency's ADA accessibility compliance policy.

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Date: 9-11-14