

# CLEAN WATER

## Skagit County

2 0 1 2      A N N U A L      R E P O R T

*Skagit County Public Works Department*



## A Message from the Commissioners



Ron Wesen  
District #1



Ken Dahlstedt, Chairman  
District #2



Sharon Dillon  
District #3

Clean water is everyone's business. We all need clean water to ensure healthy lives and safe recreation, cleaner storm water, viable habitat for fish, shellfish and wildlife. As your Commissioners representing you, we are dedicated to ensuring our waters remain clean and safe.

The purpose of this report is to share with you our mission for enhancing water quality for everyone. In these pages you will find the many measures we are taking to implement water quality corrective actions, educate the public and develop programs to involve our community.

We are engaged with our community to improve water quality as we work with tribes, state and local governments, our Skagit Conservation District and numerous conservation organizations to make steady progress.

Our Pollution Identification and Correction Program is producing positive results in the Samish. Our staff and volunteers are dedicated to working with home and property owners to help them be good stewards of this beautiful basin. We encourage you to take part in the ongoing clean water efforts to improve the health of our watersheds and communities.

Sincerely,  
Skagit County Board of Commissioners

## A Message from the Public Works Director

Water quality is an incredibly important issue that we take very seriously. Skagit County Public Works administers the Clean Water Program, but it is a team effort with our Departments of Health, Planning & Development Services and Parks & Recreation. We also have solid, working partnerships with federal and state agencies, local non-profits and our Skagit Conservation District.

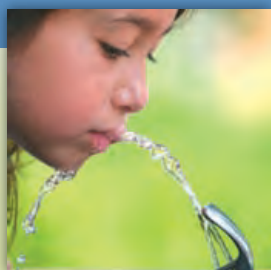


Director Henry Hash,  
out in the field.

Cleaning up and maintaining our watersheds requires strong community involvement. We thank everyone who maintained their septic system, disposed of animal waste correctly, and managed their property to prevent pollution and correct problems.

Clean water is everyone's business. Whether we're monitoring water quality, planting trees near streams, improving fish passage, or employing best management practices to reduce pollution, we're all in this together.

Sincerely,  
Henry Hash, Director  
Skagit County Public Works



**Fecal coliform indicates the presence of organisms that can cause diseases such as typhoid fever, viral and bacterial gastroenteritis, and hepatitis A.**

## HISTORY OF THE CLEAN WATER PROGRAM

**In 2005, Skagit County created the Clean Water Program (CWP) to enhance Skagit County's water quality and address and correct non-point pollution.**

The CWP was an expansion of the Clean Water (Shellfish Protection) District (CWD) created in 1995, which was originally designed to reduce bacterial pollution in Samish Bay and improve the quality of local shellfish beds by cleaning up failing septic systems in Edison and Blanchard.

From 1999 – 2005, as part of the CWD, Skagit County monitored water quality through the Baseline and Samish Bay Watershed Monitoring Projects. This monitoring revealed continuing fecal coliform pollution in the Samish Basin. Fecal coliform indicates the presence of organisms that can cause diseases such as typhoid fever, viral and bacterial gastroenteritis, and hepatitis A. As a result of the continued bacterial pollution, Skagit County created the Clean Water Program to strengthen fecal coliform bacteria pollution reduction measures, educate the public, control stormwater pollution, and develop a more thorough water-monitoring program.

All of the programs listed within this publication are wholly or partially funded by the CWP and are dedicated towards improving Skagit County's water quality.

# Natural Resource Stewardship Program

## Grant funding to enhance YOUR watershed

Cleaning up and enhancing streamside land is difficult and can be expensive, but the Skagit County Natural Resource Stewardship Program (NRSP) is making an effort to help. By applying to the program, landowners can receive up to \$35,000 in grant funding to enhance their property, **at no cost to the landowner!**

This program, started in 2009, works with individual landowners or community groups who own property next to a stream and want help in protecting or enhancing their land to improve the habitat and water quality of their watershed. Projects include removing invasive plants and planting native vegetation along streambanks, installation of fences to keep livestock out of streams, and installation of logs to provide fish habitat and bank stabilization.

Join the growing number of participants today!

## Restoring Riparian Areas

NPRS can help to re-establish native vegetation by removing streamside invasive plants which outcompete. Invasive plants commonly found include Himalayan Blackberry, Japanese Knotweed, Reed Canary Grass, and English Ivy. Following removal of the invasive vegetation,



NRSP will replant with native vegetation. We work with the landowner to choose native vegetation that is both preferred and appropriate

for the site. Some common choices for native vegetation include Western Red Cedar, Douglas Fir, Big Leaf Maple, Twinberry, Indian Plum, and Salmonberry. Native plants provide shade to help keep the water cool. Effective riparian areas also filter out harmful pollutants such as soil runoff, fertilizers, and herbicides. NRSP works closely with landowners to create a plan that meets the landowner's needs while still benefiting the water quality of the stream.

## Livestock Exclusion

Livestock can have many negative impacts on streams when their access to waterways is unrestricted. These impacts include:

- Reduced vegetation along stream banks
- Compacted soil and increased runoff
- Increased erosion resulting in poor salmon spawning gravel
- Manure-contaminated runoff resulting in high fecal coliform counts downstream



NRSP can install fences and/or off-channel watering areas to prevent and/or reduce these negative impacts, all at **no charge** to the landowner.

## Bank Stabilizing and Restoring Fish Habitats

Many streams in our area have failing and eroding banks. This can be caused by natural stream migration, changes upstream, or current land use practices which may result in increased erosion along the bank. Often landowners have limited bank vegetation which allows unrestricted erosion. Unrestricted bank erosion increases fine sediment in the system which is bad for water quality and salmon. NRSP can install wood in an effort to reduce bank erosion while enhancing the natural environment and increasing available habitat for juvenile salmonoids.



## Completed Projects

Since 2009, NRSP has worked with 27 landowners and has completed 17 projects with 9 in progress. NRSP has successfully restored or enhanced 51 acres of land. This work has included the installation of 10,150 feet (nearly 2 miles!) of livestock exclusion fencing, more than 14,700 native plantings, 100 pieces of large woody debris (used for bank stability as well as increased channel complexity) and one livestock crossing.

For more information, or to see if you are eligible to partake in the program, visit [www.skagitcounty.net/NRSP](http://www.skagitcounty.net/NRSP) or contact Emily Derenne at [emilyjd@co.skagit.wa.us](mailto:emilyjd@co.skagit.wa.us).

# SKAGIT COUNTY MARINE RESOURCES COMMITTEE

The Skagit County Marine Resources Committee (SMRC) was established in 1999 as part of a grassroots effort to protect, enhance, and restore our local marine resources. Through multiple partnerships and a large volunteer base, the SMRC is able to keep project costs low and achieve long-term success. SMRC has been primarily supported by federal grant funding through the Northwest Straits Marine Conservation Initiative, and partly by the Clean Water Program (CWP) and other grant funding. However, federal funding was significantly reduced in 2012 to primarily support basic SMRC operations. Additional funding for projects and staff support was provided by the CWP and various grants administered through the Northwest Straits Foundation, a non-profit, fund-raising organization established to support the Initiative. Projects completed in 2012 include:

- **Spartina Surveys:** 15 trained volunteer kayakers surveyed over 26 miles of Skagit marine shoreline and identified 69 square meters of invasive Spartina.
- **Olympia Oyster Restoration:** 19 volunteers collected over 500 oyster samples at the Fidalgo Bay trestle site. The native oysters showed signs of light spawning. Additional oyster shell was distributed to provide habitat for new oyster settlement.
- **Community Beach Seining Day:** SMRC partnered with the Shannon Point Marine Center to facilitate two Community Beach Seining Day events which took place at Ship Harbor in 2012. Over 30 people participated at each event. The data collected was added to the Skagit River System Cooperative's fish database for future research.
- **Fidalgo Bay Day:** More than 30 organizations, 45 volunteers and 302 visitors participated in the ninth annual Fidalgo Bay Day event that took place at the Samish Indian Nation's Fidalgo Bay RV Park in 2012. Highlights featured a beach seining demonstration, the Shannon Point Marine Center touch tanks, educational booths, and free samples of shellfish and chowder.
- **Forage Fish Surveys:** 12 trained Beach Watcher volunteers surveyed seven forage fish habitat sites in 2012. As part of a collaborative effort, a comprehensive long-term forage fish monitoring program for Skagit County will be developed and additional survey sites will be identified and prioritized in 2013.
- **Beach Watcher Training:** A record number of 27 new Beach Watcher volunteers received 100 hours of professional training. Beach Watchers logged over 2,000 hours of work in 2012.
- **Weaverling Spit Beach Restoration:** SMRC partnered with the Samish Indian Nation to prevent shoreline erosion and improve 500 feet of forage fish spawning habitat at Fidalgo Bay. The project involved native plantings along the shoreline, beach enhancement, and softshore beach stabilization.
- **Padilla Bay Tideland Acquisition:** SMRC partnered with the Washington State Department of Ecology to complete the acquisition of 70-acres of privately owned tideland in Padilla Bay. The parcel was added to the 12,000 acre Padilla Bay Research Reserve for the purpose of conservation, research and education.



# Fish Habitat Restoration Program

The Fish Habitat Restoration Program is an ongoing County program dedicated to protecting and restoring fish and fish habitat. The program encompasses a myriad of activities, programs, and projects including habitat monitoring, culvert replacements, stream restoration, re-vegetation of riparian areas, and off-channel habitat reconnection projects.

Projects designed to improve fish habitat also typically have other benefits. Riparian vegetation acts as a filter by removing pollutants before they reach streams while at the same time providing distance between pollutant sources and streams and stabilizing banks. Riparian habitat restoration therefore results in improved stream temperatures and reduced pollution levels. Reconnection of streams to their floodplains and restoration of floodplain function decreases flooding, which in turn reduces erosion and pollutant loads to bays during flood events.

## Habitat Improvement Plan

The Fish Habitat Restoration Program is guided by the Habitat Improvement Plan (HIP). The mission of the HIP is to create and advance restoration strategies that support Skagit County goals for promoting the health of our watershed, improved water quality and enhanced habitat for salmon. The HIP provides a road map for restoring salmonid habitat by identifying short, medium, and long-term project goals. The goals of the HIP are to: (1) restore streamside riparian land, (2) enhance fish passage under County roads, (3) coordinate drainage and flood damage reduction with restoration efforts, and (4) participate as an active member in Puget Sound clean-up and restoration efforts. As well as identifying projects, the HIP also identifies project partners and funding sources. The HIP will be updated annually to stay current with ever-evolving restoration goals and strategies. To read the current HIP, visit: [www.skagitcounty.net/HIP](http://www.skagitcounty.net/HIP).

## Salmon Habitat Monitoring

In 2004 Skagit County initiated the Salmon Habitat Monitoring Program to verify that County land use codes are adequately protecting critical areas near agricultural lands. The program is designed to detect whether salmon habitat is improving, deteriorating, or remaining the same as a result of the County's Critical Area Ordinance. A County monitoring team surveys, records, and documents channel and in-stream habitat conditions at randomly selected sites throughout the county. Between 15 and 20 sites are surveyed annually and 60 sites are surveyed every five years. The monitoring team looks at sediment quality, pool frequency, quality of riparian areas around streams, presence of woody debris, and other parameters. Monitoring takes place every year from June to October. The nature of habitat change in the stream environments is such that it is too early in the study to make any meaningful determination of whether significant changes have occurred since the study began. In 2012, Skagit County surveyed 15 annual monitoring sites.

In 2011, Skagit County joined 28 other Washington counties and enrolled in the state's Voluntary Stewardship Program (VSP). The VSP is a new approach for counties to participate in a watershed-based, collaborative stewardship planning process that uses incentives to promote agricultural and environmental stewardship in lieu of the more traditional process outlined in the state's Growth Management Act. Implementation of the VSP is contingent on appropriation of funds from the state. Skagit County plans to integrate the existing salmon habitat monitoring program with the VSP. Additional information on this process will be forthcoming as the VSP unfolds.

## Fish Passage

In order to complete their spawning migration, salmon must be able to swim upstream to riffles where they can lay eggs before dying. Older culverts under roads however, act as barriers for fish attempting to make the upstream migration. Small culverts oftentimes present a velocity barrier for fish attempting to migrate through them and perched culverts prevent fish from jumping and entering the culvert. Conversely, large culverts and bridges allow water to flow through at a more natural rate providing a more stable stream environment for fish that also reduces flooding problems. Skagit County has over 800 miles of roads with hundreds of culverts. In the past two decades, the County has replaced many small, inefficient culverts with larger culverts or other fish-friendly crossings. Skagit County plans to replace five culverts in 2013 including one under Concrete-Sauk Valley Road discussed below. In 2012, Skagit County commenced a study to do preliminary design work on

10 additional older culverts. Once preliminary design is complete, the County will seek funding to construct new culverts or crossings to allow better fish passage.

## Howard Miller Steelhead County Park

Howard Miller Steelhead County Park is located near the confluence of the Sauk and Skagit Rivers, an area that contains the highest density of Chinook spawning in the entire Skagit watershed. The off-channel sloughs and wetlands associated with the Skagit River floodplain provide critical rearing habitat for juvenile Chinook and Coho originating in the upper Skagit, Sauk, and middle Skagit Rivers. In 2012, the Skagit Fisheries Enhancement Group (SFEG) worked with Skagit County, the Skagit Conservation District, and Ecco's Design to re-route a channelized perennial tributary that crossed the park back into a former Skagit River side channel that flows along an old railroad grade along the north side of the park. The project doubled the inflow into an existing backwater habitat, improving both fish access to the current backwater area and water quality within the slough, and creating approximately 11.7 acres of additional backwater habitat that will provide high quality rearing habitat for juvenile salmon. Skagit County Public Works crews constructed the new channel and also installed an equipment access/pedestrian bridge across the former stream channel. A boardwalk was also constructed to maintain the park's loop trail. SFEG and volunteers planted native trees and shrubs to restore 7 acres of floodplain forest around the newly created off-channel habitat.

## Hansen Creek – Reach 5

In 2003, Skagit County completed the Hansen Creek Management Plan to help address localized flooding and improve fish habitat in the lower Hansen Creek watershed. Hansen Creek originates on Lyman Hill and flows south crossing under State Route 20 just east of Sedro-Woolley. Since then, most of the projects listed in the plan have now been completed. The last remaining project, Reach 5, is located between State Route 20 and Minkler Road. Historic channel modifications in this reach have resulted in a straightened and simplified channel, devoid of much habitat.

Numerous meetings have been held with the local community to resolve localized flooding issues while restoring habitat. The idea of moving the Hansen Creek channel to the west was suggested by the local residents. Subsequent hydraulic modeling of this area supports this idea. Based on this analysis, Skagit County completed a conceptual plan for Reach 5 that involves moving Hansen Creek from its currently occupied straightened channel location to a more meandering channel to the west. Conceptual channel designs include a 40-foot wide channel with an 80-foot wide floodplain. The design of the new channel includes the installation of numerous woody structures as planting native vegetation along the floodplain. This new channel will provide excellent freshwater habitat for Hansen Creek Chinook, Coho, Pink, Steelhead and Chum salmon as well as Cutthroat and Bull Trout.

The Skagit River System Cooperative (SRSC) has already acquired almost 90 acres of land adjacent to Hansen Creek using funding from the state Salmon Recovery Funding Board (SRFB). With funding from Puget Sound Energy, SRSC is in the process of securing the remaining 46 acres necessary to construct the project. Skagit County currently has an application pending with the SRFB to fund the 100% project design. The County would then be ready to seek grant funding to permit and construct the project.

## Fish Passage Project at Concrete-Sauk Valley Road MP 12.5

The Milepost 12.5 culvert is located approximately 9 miles southeast of Concrete and carries an unnamed tributary to the Sauk River under Concrete-Sauk Valley Road. The existing structure consists of a 90-foot long, 48-inch corrugated metal pipe. The outlet of the culvert is perched approximately 3 feet above the downstream pool creating a barrier to fish passage. In 2012, Skagit County prepared conceptual designs that meet requirements for fish passage and County road standards. The design selected involves moving the route of the creek 90 feet to the east. The County is currently moving ahead with final design and permitting for construction in 2013. Once completed, this project will allow unrestricted fish passage to almost a half of mile stream habitat.





## *Promoting Clean Streams, Stable Soils, Healthy Forests, Productive Farms and Sustainable Communities throughout Skagit County*

For more than 70 years, the Skagit Conservation District (SCD) has been caring for the people and places that make our region among the most beautiful in the world. As the needs of our community continue to increase, so does our responsibility to protect and steward those things we hold most dear. To this end, the SCD works tirelessly to keep our local farms and forests sustainable, our rivers and streams healthy, our fish and wildlife abundant, and our children and grandchildren outdoors. The SCD is a county-wide, non-regulatory division of state government that is governed by a board of five unpaid, elected supervisors, who are all local landowners. All programs provided by SCD are voluntary and free of charge.

### **Resource Conservation Planning and Technical Assistance for Commercial and Small Livestock Operations**

The Skagit Conservation District's roots run deep in agriculture. Since the dust-bowl era of the 1930's, conservation districts throughout the nation have been working hand in hand with local farmers to protect our shared natural resources and foster a truly sustainable local agricultural community. The SCD provides free technical and resource assistance to local farmers and landowners who seek out ways to maximize land stewardship options and minimize the impacts of livestock operations on soil and water resources.

Overall, in 2012 SCD provided technical assistance to 324 local commercial and small farm landowners; completed 18 farm plans; and implemented 26 structural best management practices (BMP's) utilizing \$73,945 in District funding. Funding leveraged specifically through Skagit County's Clean Water Program supported SCD in providing technical assistance to 6 Skagit County dairy operations, 11 non-dairy commercial operations and 33

small farm landowners. The SCD also completed one dairy nutrient management plan update, one non-dairy commercial nutrient management plan and 3 small farm conservation plans. Projects implemented included the following:

- 2 solar powered water pump systems
- 2,800 feet of riparian fencing
- 4 roof runoff management projects
- 3 heavy use area protection projects
- 1 subsurface drain project
- 2 waste storage structures
- 1 hedgerow project

### **Engaging the Community**

As individuals, we can all take steps to protect the creeks, rivers and lakes that are near us. We can take specific actions to reduce pollution and harm such as keeping litter and debris out of the water, avoiding over-fertilizing our lawns, picking up after pets, being responsible for septic system maintenance and repair, planting or preserving native trees, fencing livestock away from streams, and taking many other common-sense actions daily. Conservation education helps people of all ages understand and appreciate our county's natural resources – and to learn how to conserve those resources for future generations. Throughout the year, Skagit Conservation District offered structured educational experiences and activities targeted to varying age groups and populations to engage local residents and inspire local stewardship.

Storm Water Education Program: A major contributor of toxic pollutants entering Puget Sound is the storm water that runs off our highways, roads, driveways, roofs, parking lots, disturbed soils, and other developed surfaces. The SCD works in partnership with Skagit County and the Cities of Mount Vernon, Burlington, Sedro-Woolley, and Anacortes to raise awareness of the



6th Grade Tour - 2012



2012 Return of the Salmon Field Tour

impacts of storm water pollution and to promote environmentally friendly business and residential practices that minimize storm water impacts. In 2012, a variety of outreach efforts were conducted to engage local support:

- 2 Maintenance Techniques & Practices for Subdivision Storm Water Drainage Systems Workshops & 1 Rain Garden Tour
- 507 storm markers installed on storm drain inlets & 525 educational doorknob hangars posted by volunteers
- 48 storm water education presentations provided to over 1,100 Skagit County elementary school students and hosted youth Storm Water Poster Contest
- 8 Low Impact Development presentations provided to 238 residents
- New “Puget Sound Starts Here” display created and hosted at the Skagit County Fair and other local events
- Created “Puget Sound Starts Here” education ad which was shown at local theaters for 13 weeks
- Promoted “Clean and Green” car wash kits and more.

Volunteer Programs: Citizen involvement is crucial to water resource protection in Skagit County and SCD values the opportunity to engage and work with our community residents. Over the last year over 140 local residents participated in the District’s Watershed Masters, Skagit Stream Team and Storm Team, Marine Biotoxin Monitoring, Backyard Conservation and Community Wildlife Habitat programs, contributing over 4,900 reported volunteer hours.

Youth Education: Connecting our youth with the natural world, giving them a time and place to freely interact with nature, and introducing

them to good environmental habits at a young age, are important key factors in our journey to a more sustainable community. In addition to providing storm water presentations in the classroom, the SCD continues to host the Annual 6th Grade Conservation Tour (800+



Native Plant Workshop April 26, 2012

students), Annual Soil & Water Stewardship Week poster contest (190 entries this year) and support the Annual Regional, State, and National Envirothon competitions for high school students.

### Clean Samish Initiative

As a local Clean Water Program partner, SCD serves on the Clean Samish Initiative Executive and Education Committees, providing technical assistance and cost-share funding for Samish residents, coordinating numerous education events and activities, and working one-on-one with community volunteers and neighbors to help improve water quality in the Samish basin. Key accomplishments in 2012 included:

- Providing farm planning and technical assistance to 31 landowners and completing farm plans for 3 landowners in the watershed.
- Providing assistance in the implementation of 17 structural BMP’s.
- Providing cost-share in the amount of \$13,500.69 for the implementation of the 17 structural BMP’s.
- Publishing and distributing Clean Samish News to over 6,000 watershed residents.
- Hosting 7 educational workshops for a variety of audiences – 286 attendees.
- Hosting educational displays at 9 educational events.
- Supporting the Silver Creek stream enhancement project at the Alger Hall
- Providing one-on-one support to the Friday Creek Habitat Stewards and numerous community residents



Hillier Solar Panel and Trough

**For information about Skagit Conservation District’s programs, phone (360) 428-4313 or visit our website: [www.skagitcd.org](http://www.skagitcd.org).**

# Skagit Fisheries En

The Skagit Fisheries Enhancement Group (SFEG) is a proud partner of Skagit County's Clean Water Program. As a nonprofit organization dedicated to restoring wild salmon for future generations, ensuring our local rivers and streams have clean, cool and consistent water is essential. Funding from Skagit County's Clean Water program enables us to offer educational programs to area students and take them on field outings that they wouldn't be able to afford otherwise. Clean water funds also help us reach out to new landowners and work with them to develop new salmon restoration projects such as fish passage improvement, knotweed removal, and riparian revegetation. Funds also allow us to train volunteers to monitor habitat restoration sites once projects are implemented to ensure restoration goals are met.

Salmon in the Classroom teaches students about the amazing journey of salmon by raising salmon eggs from the Marblemount Hatchery and releasing them into neighborhood streams. During the school year, 50 fourth-graders from Madison and Lincoln Elementary schools visited the Marblemount Hatchery and learned the salmon life cycle and habitat needs by raising coho salmon eggs to fry stage as part of the Salmon in the Classroom program.

Junior Stream Stewards takes middle school students out of the classroom and into the field to learn all about watersheds and salmon. SFEG staff and volunteers visit each month for classroom and field activities, including a service project in the spring. During the 2011-12 school year SFEG engaged 560 students at five schools throughout Skagit County. In the 2012-13 school year the number has grown to 610 middle school students.



*Young salmon fry raised as part of the Salmon in the Classroom program are released by Lincoln Elementary School students in Mount Vernon.*



*Volunteers young and old plant native trees along the Samish River to restore habitat and improve water quality.*



**SKAGIT FISHERIES  
ENHANCEMENT GROUP**



# hancement Group

Kids in Creeks is offered to students in K-12 and includes a tailor made classroom presentation and a service project at one of many restoration sites in Skagit County. In 2012 SFEG worked with 193 students from Emerson Alternative High School, Immaculate Conception Regional School, Anacortes High School, and Mount Vernon High School, teaching youth about stream ecology and how to plant native riparian plants to improve habitat for salmon and many other animals.

The Samish Watershed Riparian Restoration project is one example of how SFEG utilized Clean Water funds to successfully apply for a grant from the Washington Department of Ecology. This \$250,000 grant is funding an SFEG and Samish Indian Nation partnership to battle the extensive and devastating knotweed infestations along the Samish River. The Tribe's role is to survey and treat the knotweed with herbicide and also conduct water quality monitoring. While SFEG is working with landowners to revegetate riparian areas once the invasive knotweed has been treated. Currently SFEG is working with 9 landowners to replant over 22 acres which will lead to healthier habitat for salmon and improved water quality for the Samish watershed.

In addition to these main activities, SFEG has involved volunteers of all ages planting trees, counting salmon and collecting valuable monitoring data throughout our watersheds.

For more information about how you can help keep water clean for future generations, please visit [www.skagitfisheries.org](http://www.skagitfisheries.org) or call 360-336-0172.



*Above: Volunteers with the Skagit Fisheries Enhancement Group monitoring habitat restoration efforts on Nookachamps Creek.*



*Left: Middle school students from Allen School test water quality at Friday Creek as part of the Junior Stream Stewards program.*

*Below & Background: Concrete Middle School students learn about the Cascade River during a watershed tour through the Junior Stream Stewards program.*





# Clean Samish Initiative

The Clean Samish Initiative (CSI) was established in 2009 by the Washington Department of Ecology in response to poor water quality in the 123-square mile Samish River Watershed and concerns over fecal coliform pollution. Skagit County became the CSI lead and was awarded grant funds from the USEPA in 2010 to implement a Pollution Identification and Correction (PIC) program in the Samish basin.

Goals of the Clean Samish Initiative include developing a program to comprehensively address, reduce and eliminate pollution sources; enhancing community awareness of, and participation in, water quality issues; and developing a process that can be used to address pollution issues in other watersheds. Several years into the program, the majority of properties have been assessed for fecal coliform pollution contributions including both an evaluation of livestock management practices and on-site sewage status. A number of properties have been referred to the Skagit Conservation District for technical assistance,

subsequent laboratory analysis of river water show that fecal coliform concentrations are above safe levels. The bay remains closed until laboratory analysis indicates that pollution has dropped to safe levels. While the total number of confirmed closures increased last year from 2011, the percent of confirmed closures decreased. In 2011, nine of eleven closures were confirmed (82%) while in 2012; fourteen out of 31 were confirmed (45%). The Washington Department of Health has identified a critical period from March through June during which there can be no more than one closure in order for Samish Bay to be upgraded. In 2011 there were six closures during this time period, as compared to nine closures during the same period in 2012.

Skagit County personnel, with vital assistance from Storm Team Volunteers, continue to collect samples during every storm event to better characterize water quality throughout the basin. In addition to

working with landowners who have already identified necessary best management practices, Skagit County continues to make progress on efforts to evaluate every parcel in the watershed. Using grant funds from the Washington Department of Health, the County was able to temporarily bring a Water Quality Inspector on board to identify new areas that need to implement corrective measures.

*Watershed scale changes do not happen overnight, or even over the course of a couple of years, as we are seeing in the Samish Watershed.*



while others have enrolled in the County's Natural Resources Stewardship Program or come into compliance through their own voluntary measures. Enforcement is only used when attempts at voluntary compliance have been unsuccessful. Thus far, only a handful of property owners did not take voluntary measures to follow County and State laws that prohibit anyone from contributing contaminants into a watercourse and required enforcement action.

Another goal of the CSI is to upgrade Samish Bay from the current status of "conditionally approved" to "approved". The procedures under the "conditionally approved" classification require a precautionary closure of shellfish harvesting when flow in the Samish River rises above certain criteria and raises the potential for polluted runoff to enter the bay. The closure is considered "confirmed" if

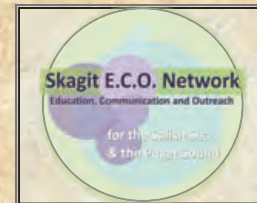
Watershed scale changes do not happen overnight, or even over the course of a couple of years, as we are seeing in the Samish Watershed. In the Samish, these changes require not only identifying where bacterial sources are, but also a shift in how people think about their connection to the landscape and how their actions affect water quality. With thousands of septic systems and hundreds of livestock operations and hobby farms, change requires the collective will of many individuals who make it a priority to have a properly working septic system, a well-managed pasture, and livestock fences appropriately set back from watercourses. It's important for us all to consider changes we can make to improve water quality in our own backyard.



Skagit Watershed  
Letterbox Trail  
21 Conservation Partners



**2012-2013**  
Info@skagitleanwater.org



Representing 26 Skagit  
Conservation Organizations

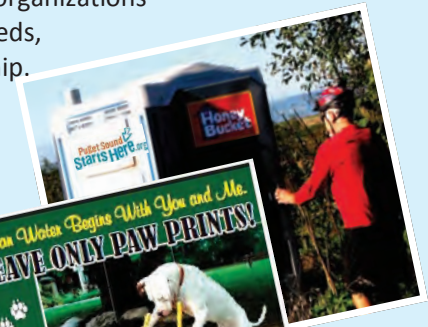
**Skagit Conservation Education Alliance** is a community based non-profit organization whose mission is to bring people together in the spirit of cooperation to protect, conserve and enhance the natural ecosystems of the Skagit Watersheds. By reaching out to our community partners, we were able to grow our programs in 2012 to offer expanded networking and learning opportunities. The **Skagit Watershed Letterbox Trail** continued to be popular with watershed treasure-hunters of all ages and the first **Art for Learning Watershed Science Week at Padilla Bay** that included the Letterbox Trail Kickoff at Padilla Bay National Estuarine Research Reserve was a great success. SCEA is delighted to be in partnership with the Padilla Bay Foundation, the Skagit County Clean Water Program and so many other partners and volunteers helping to continue and expand clean water education in 2013.

In 2012, SCEA coordinated an updated **Skagit ECO Network**. The Skagit ECO Network is a broad-base of education, communication and outreach professionals representing organizations working together to improve water and habitat health of the Skagit Watersheds, the Salish Sea and the Puget Sound, supported by the Puget Sound Partnership. SCEA will continue to coordinate the network in 2013.

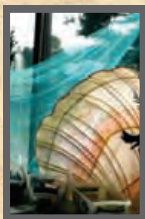
**SCEA continues to partner for the Clean Samish Initiative.**

Fecal coliform pollution from improperly disposed waste can be washed into waterways. SCEA helps in the effort to reduce fecal coliform pollution in the Samish Basin by providing educational information to the public, sharing ways we all can help to reduce impacts. Focusing on human waste SCEA helps to place portable toilets in recreational areas that do not have accessible restrooms. SCEA shares outreach materials and displays, including the popular Bi-valve Water Cleaning Demonstration at science fairs, workshops and water-oriented festivals in the region.

[info@skagitleanwater.org](mailto:info@skagitleanwater.org) or call (360) 428-1054



**Skagit Watershed Letterbox**



Kickoff June 30 Summer Trail June 31 - October TBD

End of the Trail Celebration October TBD

Look for SCEA in 2013 —

Mount Vernon Science Night, the Anacortes Waterfront Festival, Art for Learning Watershed Science, Concrete Youth Activities Day Shellfish-tival Family Day at Taylor Shellfish Farm, the Skagit River Salmon Festival, Fidalgo Bay Day, Festival of Family Farms and the End of the Trail Celebration.



Thank you!

info@skagitleanwater.org

# Water Quality Monitoring Program



*Skagit River above Hamilton*

Skagit County Public Works personnel completed the ninth year of monitoring in the Skagit County Water Quality Monitoring Program (SCMP) in September 2012. The SCMP was established in 2003 in conjunction with the County's Critical Areas for On-Going Agriculture program to track trends in water quality within the county's agricultural areas. The information generated is used to assess the effectiveness of the county's critical areas protections and determine which areas of the county need improvement in water quality.

The SCMP monitors 40 sites throughout Skagit County's agricultural areas, including some reference sites outside of the agricultural zones for comparison. The testing is used to determine each watercourse's status and track temporal trends in water quality. Each sample site is visited every two weeks to measure temperature, dissolved oxygen, fecal coliform and other parameters to develop a comprehensive view of the status and trends in water quality at each site. Nutrient analysis is conducted on a quarterly basis.

The data collected indicates that many streams, both within and outside of the agricultural areas, do not meet state water quality standards for dissolved oxygen, temperature, and/or fecal coliform. Streams in the Samish River basin and small tributaries to the Skagit River have the most water quality problems; the mainstem Skagit River meets the state standards on most occasions.

Trends Analysis statistics show a mixture of improving and declining trends on individual streams. There is not a clear pattern in the trends associated with agricultural activities.

Skagit County has built on this information to zero in on areas with particular water quality problems, especially in the Samish Basin. Other articles in this report will focus on the county's efforts to reduce fecal coliform pollution

through the Clean Samish Initiative. As the county moves forward in the Samish, we are also identifying other parts of the county that also need improvements in water quality.

From 2003-2008, the SCMP was largely funded by a Centennial Clean Water Grant from the Washington State Department of Ecology. Skagit County Clean Water Program money was used to augment the grant starting in 2008, and the CWP now fully funds the SCMP.

In December 2011, Skagit County joined 28 other Washington counties and enrolled in the state's Voluntary Stewardship Program (VSP). The VSP is a new approach for counties to participate in a watershed-based, collaborative stewardship planning process that uses incentives to promote agricultural and environmental stewardship in lieu of the more traditional process outlined in the state's Growth Management Act. Implementation of the VSP is contingent on appropriation of funds from the state. Skagit County plans to integrate the SCMP with the VSP. Additional information on this process will be forthcoming as the VSP unfolds.



*Collecting water samples*

# Pollution Identification and Correction (PIC) Program

## *Beyond the Samish Watershed*

In an effort to enhance current efforts in the Samish Watershed and expand similar efforts to other watersheds, Skagit County applied for, and was awarded, a grant from the Puget Sound Pathogen Prevention, Reduction, and Control Program in 2012. To date, these funds have been used to assess hundreds of properties throughout the Samish watershed for fecal coliform pollution. Many of these properties have been referred to the Skagit Conservation District for technical assistance and farm conservation plans, others have enrolled in the County's Natural Resource Stewardship Program, and many landowners have taken efforts on their own to fence livestock back from waterways, store manure in covered areas, and keep animals off of pastures long enough to allow vegetative re-growth.

Alongside this PIC grant, the County was also awarded funds for implementing agricultural best management practices (BMPs). These funds are designed specifically for smaller landowners. Landowners may receive up to 75% of costs for qualifying projects.



*Turbid Discharge*

Project Description	Available Funding
<b>Fencing for off stream watering facilities</b> (requires 35 ft. minimum setback from waterway)	\$6,000-\$30,000, or 75%, whichever is less, per landowner. Based on miles of fence installed.
<b>Livestock feeding facilities</b>	
Heavy use area protection	Maximum \$7,500 per landowner
Waste storage facilities	Maximum \$12,500 per landowner
Windbreaks	Maximum \$1,000 per landowner

See details at: [www.ecy.wa.gov/puget\\_sound/docs/NEP\\_Ag\\_BMP\\_Funds\\_Guidance\\_2012.pdf](http://www.ecy.wa.gov/puget_sound/docs/NEP_Ag_BMP_Funds_Guidance_2012.pdf)

Agricultural BMPs approved for funding in 2012 included 2,300 feet of fencing, almost 2,000 native riparian plants, and a bridge installation project. Skagit County is making steps towards expanding the PIC program into Padilla Bay, where water quality has been documented as exceeding standards for fecal coliform bacteria. Water quality data collected from Stream Team volunteers will be used to guide initial efforts in Padilla Bay and Skagit County will begin conducting strategic storm sampling in the basin in 2013. As is the case in the Samish watershed, assessing pollution from livestock operations will only be part of the approach in Padilla Bay; Skagit County Public Health will also be conducting a

comprehensive on-site sewage program in the Padilla Bay watershed as well.

Skagit County is also working to sustain Samish and Padilla Bay PIC programs into the future and develop a system for moving the program into other impaired watersheds as well. The County is working to establish watershed assessment criteria which will be used to rank other watersheds within the Skagit County for future PIC implementation.

For more information about the PIC program, contact MarySutton Carruthers: [marysc@co.skagit.wa.us](mailto:marysc@co.skagit.wa.us)



# On-site Sewage (Septic) Systems Inspections and Marine Recovery Areas

Skagit County Public Health continues our work assuring all septic systems are inspected in Marine Recovery Areas (MRAs); areas where septic systems have the greatest impact on marine waters. Two new MRAs were added in May 2012. These are the Upper NE Samish and Willard Creek MRAs. Adding these to the five existing MRAs in the Samish Watershed encompasses all properties where there are likely to be septic systems. The MRAs in the Samish Watershed are:

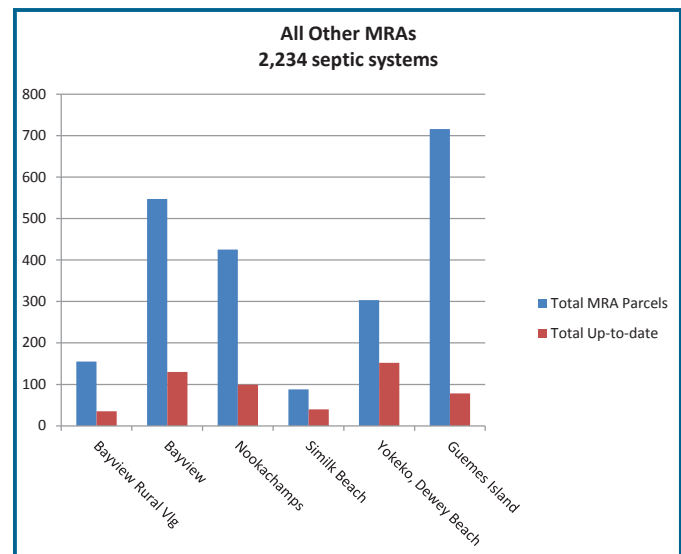
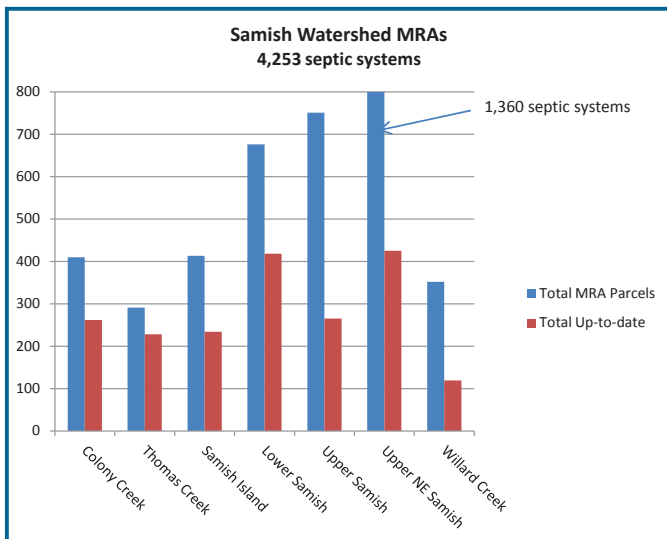
- Upper Samish
- Lower Samish
- Samish Island
- Colony Creek
- Thomas Creek
- Upper NE Samish
- Willard Creek

All septic systems are required to have an inspection by a Skagit County Public Health certified operations and maintenance specialist. Conventional gravity systems need an inspection every three years and all other types of systems need annual inspections. The following shows the current status of septic systems in the Samish Watershed.

Nearly 1,300 notifications were sent to septic system owners in the Upper NE Samish and Willard Creek watersheds whose systems were out-of-date with an operations and maintenance inspection. As of this writing, almost half of those contacted have either had an operations and maintenance inspection completed or are taking Septics 101 and Septics 201 classes because they are eligible to inspect their own system. A septic system owner whose property is not on a shoreline and whose system is a conventional gravity system may be eligible to do their own inspection. There are other requirements so please check with Environmental Public Health at 360-336-9474 or send an e-mail to [EH@co.skagit.wa.us](mailto:EH@co.skagit.wa.us).

Other MRAs in Skagit County are:

- Similk Beach
- Bayview Rural Village
- Quiet Cove (YDQ)
- Yokeko Point, Dewey Beach
- Nookachamps
- Bayview



Septic tank inspection in progress



Septic tank baffle screen inspection in progress

In 2012, there were 2,407 septic systems in Skagit's 12 MRAs that had up-to-date operations and maintenance inspections, or 42% of all septic systems in the MRAs. Of those systems that are up-to-date with inspections, 24 were failures (1%) and 97 (4%) needed some type of correction. Most of the time spent was in the Samish watershed where 49% of the OSS systems are up-to-date, with the 1% of the inspections finding failures and 4% finding corrections needed.

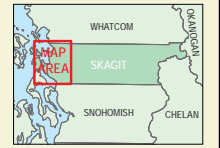
Check [www.skagitcounty.net](http://www.skagitcounty.net) and find your property on the Assessor's web-page where you will find a link to your septic system information.

# Skagit County Marine Recovery Areas



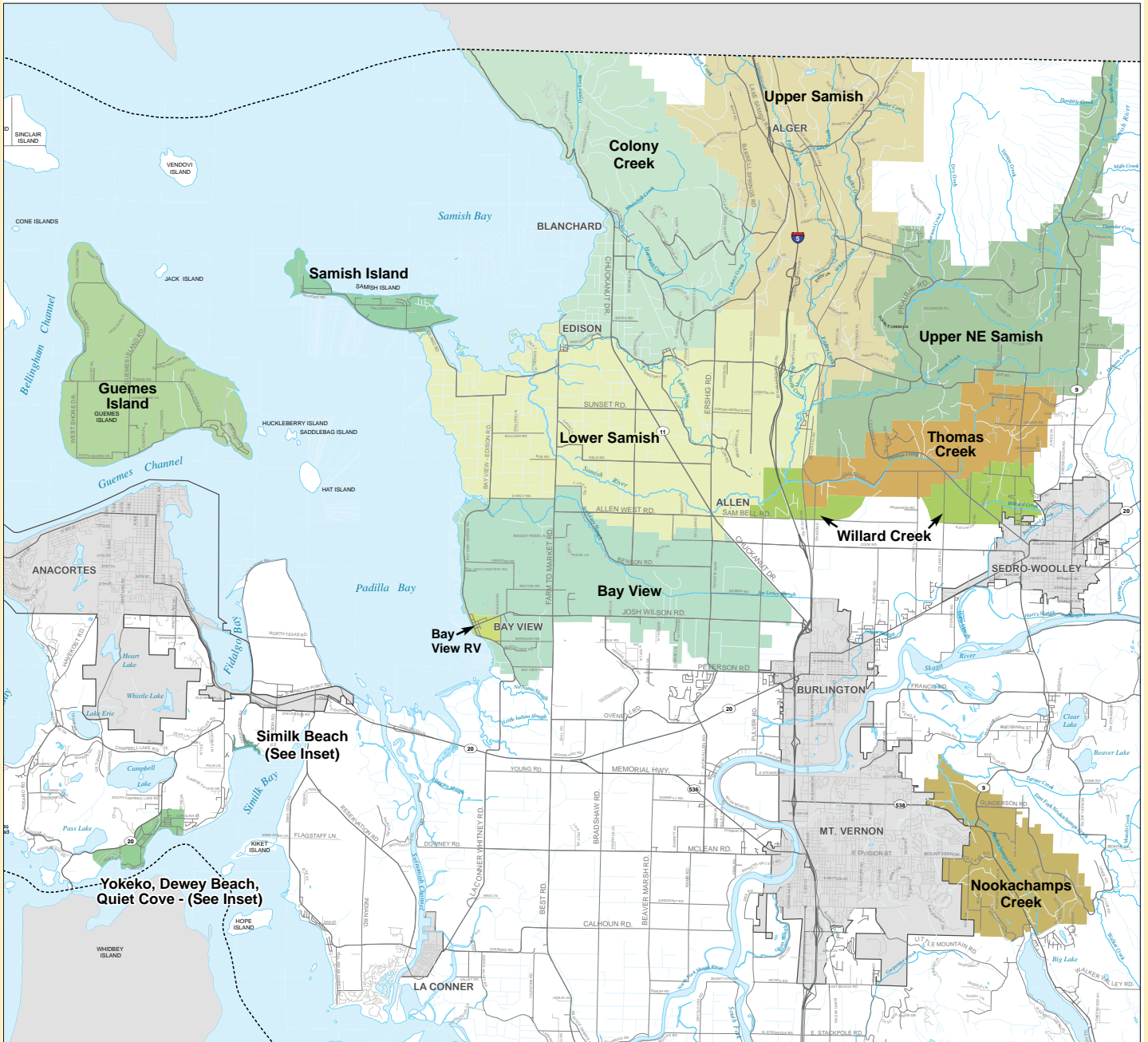
## Marine Recovery Areas (MRA)

- Bay View Rural Village
- Guemes Island
- Samish Island
- Yokeko Point, Dewey Beach, Quiet Cove
- Bay View
- Lower Samish
- Similk Beach
- Nookachamps Creek
- Colony Creek
- Upper NE Samish
- Willard Creek
- Upper Samish
- Thomas Creek

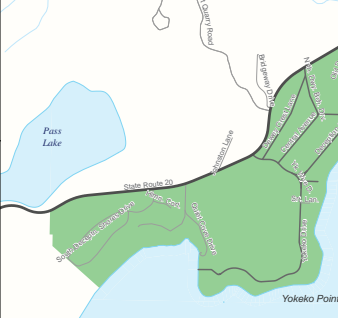


Date: February 20, 2013  
Geographic Information Services

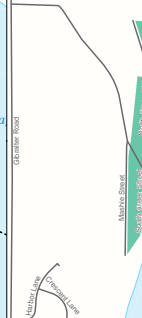
Map Scale: 0 1 2 Miles



**Yokeko, Dewey Beach, Quiet Cove**



**Similk Beach**





# CLEAN WATER

## 2012 ANNUAL REPORT

Clean Water Budget Summary	2012			2013		
	Actual Expenses and Revenue			Budgeted Expenses and Revenue		
	Expenses	Revenues		Expenses	Revenues	
Programs	Expenditures	Grants	Assessment Distribution	Expenditures	Grants	Assessment Distribution
<b>Pollution Identification &amp; Correction Program</b>						
Skagit Conservation District	\$ 191,220	\$ 86,468	\$ 104,752			
Samish Nation	\$ 6,950	\$ 6,950		\$ 4,830	\$ 4,830	
Skagit Conservation Education Alliance	\$ 22,485	\$ 18,511	\$ 3,974	\$ 5,158	\$ 5,158	
Skagit Fisheries Enhancement Group	\$ 9,800	\$ 4,053	\$ 5,747	\$ 2,869	\$ 2,869	
Western Washington Agricultural Association	\$ 8,650	\$ 4,350	\$ 4,300	\$ 3,150	\$ 3,150	
WSU-Cooperative Extension	\$ 5,487	\$ 5,487		\$ 3,654	\$ 3,654	
Skagit County Planning & Development Services Department	\$ 22,585	\$ 15,019	\$ 7,566	\$ 18,956	\$ 18,956	
Skagit County Public Health Department	\$ 57,719	\$ 42,701	\$ 15,019	\$ 35,584	\$ 35,584	
Skagit County Public Works Department	\$ 166,373	\$ 150,759	\$ 15,614	\$ 346,322	\$ 346,322	
Laboratory Charges & Other Expenses	\$ 40,181	\$ 37,857	\$ 2,324	\$ 54,860	\$ 54,860	
<b>Critical Areas Ordinance</b>						
Adaptive Management	\$ 8,314		\$ 8,314	\$ 16,856	\$ 16,856	
Fish Habitat Monitoring	\$ 24,928		\$ 24,928	\$ 52,788		\$ 52,788
Surface Water Quality Monitoring	\$ 117,304		\$ 117,304	\$ 84,186		\$ 84,186
<b>Fish Habitat and Restoration</b>						
Habitat and Restoration	\$ 206,301	\$ 79,893	\$ 126,408	\$ 314,212	\$ 122,150	\$ 192,062
Natural Resources Stewardship Program	\$ 219,331	\$ 140,859	\$ 78,472	\$ 147,324	\$ 94,391	\$ 52,933
<b>Marine Resources</b>						
Marine Resources Committee and Action Items	\$ 70,643	\$ 54,082	\$ 16,561	\$ 83,307	\$ 30,000	\$ 53,307
<b>Lake Management</b>						
District and Non District Lakes	\$ 16,586		\$ 16,586	\$ 56,384		\$ 56,384
<b>Hydrogeology/Instream Flow</b>						
Instream Flow Implementation	\$ 58,546	\$ 58,546		\$ 76,597	\$ 76,597	
Hydrogeology	\$ 15,586	\$ 5,990	\$ 9,596	\$ 21,985	\$ 4,116	\$ 17,869
<b>Clean Water Program Partner Agencies/Organizations</b>						
Skagit Conservation District	\$ 146,350		\$ 146,350	\$ 243,000		\$ 243,000
Skagit Conservation Education Alliance	\$ 8,026		\$ 8,026	\$ 17,000		\$ 17,000
Skagit Fisheries Enhancement Group	\$ 24,253		\$ 24,253	\$ 30,000		\$ 30,000
Skagit Watershed Council	\$ 30,000		\$ 30,000	\$ 30,000		\$ 30,000
Western Washington Agricultural Association	\$ 15,700		\$ 15,700	\$ 20,000		\$ 20,000
Skagit County Public Health Department	\$ 175,000		\$ 175,000	\$ 175,000		\$ 175,000
<b>Administration</b>						
General Administration	\$ 280,091	\$ 1,682	\$ 278,409	\$ 245,389		\$ 245,389
Information Services	\$ 23,239		\$ 23,239	\$ 20,900		\$ 20,900
Geographic Information Services	\$ 2,015		\$ 2,015	\$ 12,000		\$ 12,000
Training	\$ 10,410		\$ 10,410	\$ 29,433		\$ 29,433
<b>Total</b>	<b>\$ 1,984,071</b>	<b>\$ 713,206</b>	<b>\$ 1,270,866</b>	<b>\$ 2,151,744</b>	<b>\$ 819,493</b>	<b>\$ 1,332,251</b>

### 2012 Grant/Supplemental Funding Sources

(1) Instream flow implementation costs paid by General Fund; Hydrogeology costs paid by Skagit County Public Health Department Drinking Water Program

(2) Revenue consists of interest

Clean Samish Initiative: Pollution Identification and Correction: US Environmental Protection Agency, Washington Department of Health

Habitat and Restoration: Salmon Recovery Funding Board, US Department of Agriculture: Conservation Reserve Enhancement Program payments

Natural Resources Stewardship Program: Washington Department of Ecology

Marine Resources Committee: Northwest Straits Commission