Serving Puget Sound with PIE

1997 – 2003

Success Stories from the Puget Sound Action Team's Public Involvement and Education Program

PUGET SOUND ACTION TEAM

February 2004

PUGET SOUND
ACTION TEAM

(360) 725-5444
(800) 54-SOUND
www.psat.wa.gov
Publication #PSAT04-02

Credits:
Mary Knackstedt—research, writing
Harriet Beale, Mary Getchell and Toni Droscher—editing
Jill Williams—layout, design
Cover whale photo courtesy of
The Center for Whale Research

If you would like copies of this document in an alternative format, please call (800) 54-SOUND or for TDD, call (800) 833-6388.

Puget Sound Action Team Partners

The Puget Sound Action Team is the state's partnership for Puget Sound. The Action Team Partnership defines, coordinates, and puts into action the state's environmental and sustainability agenda for the Sound. Representatives from the following groups serve on the Action Team:

Local Government
City of Burien,
representing Puget Sound cities
Whatcom County,
representing Puget Sound counties

Washington State Government, directors of the following agencies
Community, Trade, and Economic Development
Conservation Commission
Department of Agriculture
Department of Ecology
Department of Fish & Wildlife
Department of Health
Department of Natural Resources
Department of Transportation
Interagency Committee for Outdoor Recreation
Parks and Recreation Commission

Tribal Government
Tulalip Tribes,
representing Puget Sound Tribes

Federal Government (Ex-officio)
NOAA Fisheries
U.S. Environmental Protection Agency
U.S. Fish and Wildlife Service

Chair: Director of Puget Sound Action Team

Monitoring and Restoration

Monitoring and Restoration

Youth Education

Youth Education

Introduction

Hundreds of thousands, if not a million people who live and work in Puget Sound have enjoyed a piece of PIE through the Puget Sound Action Team's Public Involvement and Education program. They've participated in hands-on actions to keep horses and cows out of streams, helped school children plant trees and shrubs to restore salmon habitat, and monitored the movements of orcas in Puget Sound. All these activities were made possible with PIE.

In 1987, the Puget Sound Water Quality Authority launched the Public Involvement and Education program to protect Puget Sound by funding projects that help fulfill the Puget Sound Water Quality Work Plan. Since that time, the Authority, and its successor, the Puget Sound Action Team, have provided almost $6 million for more than 300 projects located in every county in Puget Sound. Most of that money has gone directly to communities, because at the heart of PIE is the belief that support for local education is the best investment the State can make for Puget Sound.

Middle school students learn about Puget Sound marine life aboard a research vessel while participating in the Port Townsend's Marine Science Center's Menzies project, see page 48.

While appreciating the value of community-based education, PIE also recognizes that Puget Sound and the Georgia Strait, with their marine and fresh waterways in Washington and British Columbia, comprise a regional ecosystem that transcends local boundaries. Seven million people in two countries and countless species of marine animals and plants depend upon a clean, healthy ecosystem. It is in everyone's best interest to care for their local piece of this bioregion. Protecting the whole system requires collaboration across political, social, and philosophical boundaries. Partnerships that work across boundaries are an essential part of PIE.

The Action Team views the successes of PIE through this telescoping lens between local and the regional efforts. Almost all projects start locally, but many grow beyond their original borders. The Action Team tries to recognize model projects when they are still local fledglings and help them take wing around the Sound. An Action Team goal is to build capacity in organizations so that they have the stamina and flexibility to assimilate research, policies, and innovative new approaches into their communities.

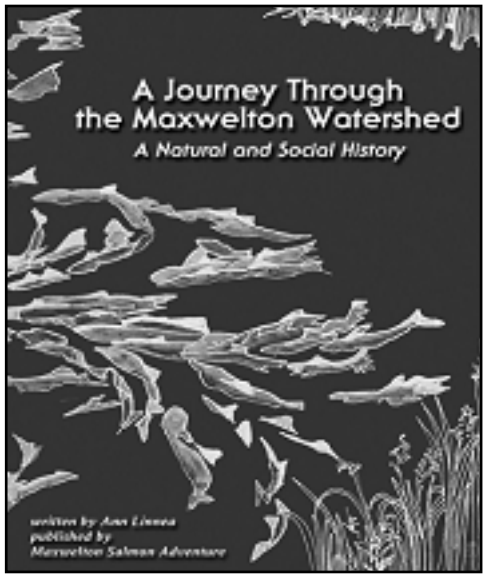
The purpose of PIE Success Stories is to create a legacy of PIE success stories. The project descriptions include lessons learned from about one-third of PIE's history, from six years of projects spanning 1997 through 2003 and encompassing three rounds or funding cycles of PIE.

The source of the information in this publication comes from archived reports in which PIE contractors documented the successes and challenges encountered during the course of their work and reflected on how reality measured up to their vision.

The Action Team is always looking for ways to encourage the continued use of model programs in new settings. *Serving Puget Sound With PIE* is a way to share the creative work of PIE contractors. Because PIE projects are publicly funded and owned, they are fulfilling their best use when freely shared. The Puget Sound Action Team hopes that people will use the project ideas, insights, and products offered in these pages. Project descriptions include contact information with links to products and Web sites.

Watershed Education and Stewardship

PUGET SOUND
ACTION TEAM



Envision the Future, Remember the Past: A Journey through the Maxwelton Watershed

Maxwelton Salmon Adventure helped the community plan for the future by exploring the natural and cultural history of the watershed.

Description

The vision of a community attains depth when it is looked at through the lens of time. Maxwelton Salmon Adventure educated landowners about the rich cultural and natural history of the watershed before inviting them to help craft a salmon recovery plan for the watershed. The group interviewed landowners, researched, wrote, and published a book on the history of the watershed and distributed it to every landowner in the community. They worked with teachers at a local elementary school to develop a comprehensive watershed curriculum that included activities, speakers, and field trips for students. Students created a mural to illustrate their knowledge and vision for the watershed. Firmly grounded in history, neighbors came together to plan for a future that includes the legacy of wild fish in a thriving human community.

Results

The project reached and engaged watershed landowners that had previously not been engaged in the community watershed project. One hundred students participated in the project and the watershed unit of study will continue as part of the 5th grade geology curriculum. The "booklet" described in the original scope of work expanded into a full-scale 100-page book with photos and maps. Maxwelton Salmon Adventure distributed it to 600 landowners in the watershed. The coordinator wrote in her final report "The history book has wide appeal. It bridges divisions in the watershed. (We'll) use it in future events as an illustration of decades of concern for community and place."

Products

- *A Journey Through the Maxwelton Watershed:* www.salmonadventure.org/history.html
- 5th Grade Curriculum, Student Mural

Sponsor:
Maxwelton Salmon Adventure
Coordinator:
Nancy Waddell
Partners:
South Whidbey Historical Society, South Whidbey Intermediate School, Island County Public Works Watershed Program
Audience:
Maxwelton Watershed residents and landowners, students, teachers
Community:
Maxwelton Watershed-Whidbey Island
Award:
$37,800
Timeline:
2001-2003
Website:
www.salmonadventure.org

Exploring the Watershed: Building Community-based Partnerships

Seminars enhanced local residents' awareness, appreciation and stewardship of a stream basin originating in Olympic National Park and flowing to the Strait of Juan de Fuca.

Description

Pacific Woodrush educated and mobilized Siebert Creek residents through a series of seminars and field trips led by experts who shared knowledge about the ecosystem, encouraged sustainable living practices and promoted the protection of private property through conservation. Seminar topics included stormwater, salmon, riparian and stream habitat, nearshore habitat and land-use decisions.

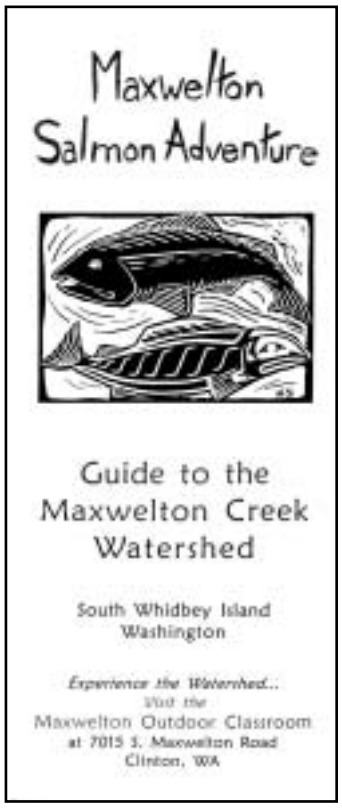
Results

Over 300 people attended the seminars and 67 attended the field trips. One goal of the project was to lead people beyond the awareness fostered by the seminars and motivate them to participate in on-the-ground projects and become active and knowledgeable advocates for watershed health. As a result of the seminars, participants removed non-native vegetation, built water bars along a trail, and a group formed to advocate for stormwater management in the community.

Products

- Seminar list with topics and speakers
- Presentations and handouts

Sponsor:
Pacific Woodrush
Coordinator:
Mary Peck
Partners:
Streamkeepers of Clallam County, Clallam Conservation District, North Olympic Land Trust
Audience:
Residents of the Siebert Creek Watershed
Community:
Clallam County
Award:
$26,400
Timeline:
2001-2003



Landowner Education and Involvement

Maxwelton Salmon Adventure engaged Whidbey Island landowners in restoring and protecting salmon habitat on their property.

Description

Maxwelton provided an opportunity for landowners to take a proactive approach to salmon habitat protection and restoration on their own terms. The group held three forums to listen to landowners' concerns and used the information to make their program more responsive to the needs of local landowners. They distributed information and resources on salmon habitat. Landowners received individualized "kitchen table" consultations to help them assess the stream habitat on their property and understand their options for improvement. They also held a training workshop to provide hands-on skills on creek restoration techniques.

Results

Maxwelton achieved a better understanding of landowner's concerns and needs as a result of the forums. Landowners initiated restoration work on their property and planted nearly 1,000 trees to enhance salmon habitat. Neighboring landowners, instructors, and partner agencies became acquainted forming a greater spirit of community in the watershed.

Products

- Landowner Consultation Guide
- Maxwelton Landowner Information Packet

Sponsor:
Maxwelton Salmon Adventure
Coordinator:
Laura Fox
Partners:
Whidbey Island Conservation District, Island County Watershed Program, Whidbey Camano Land Trust, Island County WSU Cooperative Extension
Audience:
Landowners with stream habitat
Community:
Maxwelton Watershed
Award:
$30,000
Timeline:
1999-2001
Website:
www.salmonadventure.org/

Puyallup River Watershed Education Program

Teachers and citizens received extensive training focused on the Puyallup Watershed to prepare for participation in education, monitoring and restoration projects in the basin.

Description

This program produced a core group of volunteers knowledgeable about the Puyallup River watershed from Mount Rainier to Commencement Bay who put their training to use as they became active in service projects. Citizens received 60 hours of training in 12 weeks with field trips, local speakers who presented scientific, cultural and economic information about the watershed, and training in restoration, monitoring, community development and leadership skills. Each volunteer agreed to perform a minimum of 60 hours of community service in exchange for the training, and teachers completed a five-lesson interdisciplinary teaching unit on the watershed.

Results

Fifteen teachers and 16 volunteers completed the workshop series. Working with the Puyallup River Watershed Council, the project coordinator developed a list of projects for volunteers to complete. The volunteers donated hundreds of hours of work to benefit the watershed. Five of the teachers from the workshop were attempting to tie Puyallup Watershed education to the district's science, math, social studies, language arts, and fine arts curriculum at the completion of the project.

Products

- Notebooks for Volunteer Training and Teacher Workshop
- Workshop Information: speakers, sites to visit, activities to include in future sessions

Sponsor:
Citizens for a Healthy Bay
Coordinator:
Karen Dinicola
Partners:
Puyallup River Watershed Council, University of Washington/Tacoma, Puyallup Tribe, Pierce Conservation District
Audience:
Citizens, teachers
Community:
Puyallup Watershed
Award:
$20,000
Timeline:
1997 - 1999

Photo courtesy of The Whale Museum, Tim Ransom

Stewardship for the San Juans

This project established a stewardship network across the San Juan archipelago.

Description

Lack of coordination is a common pitfall that can undermine the effectiveness of environmental work. To address this issue in their community, Friends of the San Juans convened a committee of government agencies, organizations, local businesses and citizens involved in stewardship work. They created a directory listing nearly 100 groups who play key roles in the stewardship of the San Juan Islands and the Northwest Straits. Over 130 educators, elected officials, directors and staff from key agencies from each island and from surrounding counties attended a stewardship fair held to encourage networking and collaboration

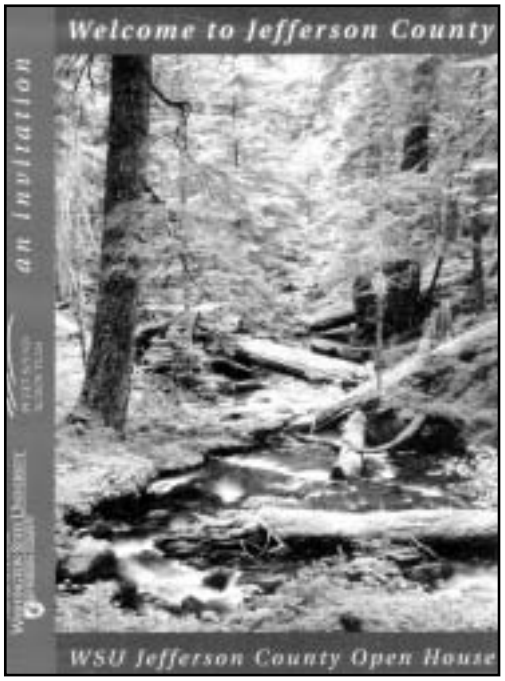
Results

The networking resulted in a cooperative speakers bureau and joint participation in a shoreline monitoring project. Two hundred fifty copies of the stewardship directory were created and distributed. The coordinator noted challenges during the course of the project "Collaboration is an ideal won only after a lot of processing. It requires a willingness to work outside the box and let go of territoriality." and "Mixing people who want strong activists or preservationist movement with governmental or educational organizations has inherent conflicts." They made some progress in overcoming these differences by working towards a common goal--meeting the challenges of population growth by preventing degradation of habitat and loss of biodiversity in the San Juans.

Products

- *San Juan County Stewardship Resource Directory*
- 1999 San Juan County Stewardship Fair Summary Report

Sponsor:
Friends of the San Juans
Coordinator:
Kevin Ranker
Partners:
San Juan County Marine Resources Committee, San Juan County Planning Department, San Juan County School District, The Whale Museum, San Juan Nature Institute, San Juan County Land Bank, Islands' Oil Spill Association
Audience:
San Juan Island residents
Community:
San Juan County
Award:
$39,400
Timeline:
1997 - 1999
Website:
www.sanjuans.org/index.html



Watershed Neighbors: Reinventing the Welcome Wagon for Water Quality Education

Real estate professionals and watershed stewards educated new residents about watershed issues and stewardship opportunities.

Description

Washington State University Cooperative Extension of Jefferson County helped coordinate a network of realtors, mortgage bankers, and volunteer watershed stewards to provide guidance materials to people who bought or planned to build or modify property in the watershed. New residents received "Welcome to the Watershed" materials and attended open houses designed to increase their understanding and appreciation of the watershed.

Results

Of the 500 households that received information on local water quality issues, about 60 actually attended the open houses, 20 attended field trips, and 27 reported that they signed up for volunteer activities or joined a local environmental organization. Six real estate offices, two banks, and one of the two title companies in the community offered to be distribution sites for the “Welcome to the Watershed” materials. Three real estate offices designated agents to serve on the advisory committee for the project.

Products

- Post card promotion for open house
- Web site of project photos
- Evaluation report, survey forms, press releases, focus group notes

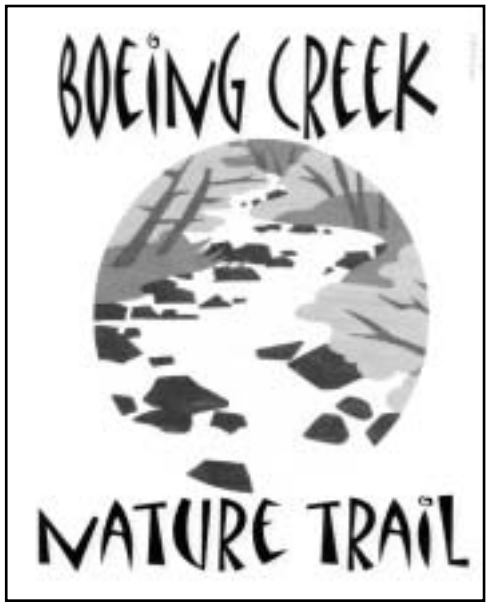
Sponsor:
Washington State University Cooperative Extension-Jefferson County
Coordinator:
Katherine Baril
Partners:
Jefferson County Board of Realtors, Olympic Peninsula Water Watchers
Audience:
New residents
Community:
Jefferson County
Award:
$20,700
Timeline:
2001-2003
Website:
http://jefferson.wsu.edu/

"Support from the real estate community was so high that the membership voted to move their monthly association meeting to WSU on condition that we offer them regular educational updates to share with their clients."

Katherine Baril
Final Report

Habitat Protection

Puget Sound
Action Team



Boeing Creek Education Initiative and Shoreview Park Master Trail Plan

This project created a base of educators and volunteers skilled in providing restoration work and educational programs for an urban creek in the Shoreline community.

Description

In the city of Shoreline, roads, parking lots, roofs, and other impervious surface areas cover 45 percent of the 1,600-acre watershed, which drains to Boeing Creek. These surfaces create stormwater runoff that can pollute water and harm stream habitat. Shoreline and its partners launched an education initiative to enhance appreciation of Boeing Creek and to educate people about what they can do to reduce damage to the creek caused by stormwater. The group trained docents to educate the community and developed a water quality curriculum for students. They created a trail plan and built a kiosk with signs flanking the trail in Shoreview Park. They also removed invasive plants and replaced them with native species. Students from Shoreline Community College helped create the data sets for a Geographical Information Systems (GIS) library with environmental information about the trail site.

Results

Twenty-five volunteers completed the Watershed Keeper training and donated more than 240 hours to the project. Twenty-one presentations reached approximately 270 people with information about water quality, salmon, native plants, habitat, and watershed planning.

Products

- Geographical Information Systems database
- Master trail plan
- *Testing the Water Quality of Our Watersheds,* curriculum for third through sixth grade
- Nature trail map brochure
- Boeing Creek Park kiosk signs

Sponsor:
City of Shoreline
Coordinator:
Kristen Stouffer
Partners:
Shoreline Community College, Ecosystems Database Development and Research Organization, University of Washington, Washington Trails Association
Audience:
Residents, Shoreline Park visitors, students
Community:
Shoreline
Award:
$21,700
Timeline:
1997 – 1999

Conservation Tools Education Program

WSU Cooperative Extension of King County protected habitat from development by educating landowners about conservation options.

Description

Recognizing the role of conservation for protecting valuable habitat in the Puget Sound basin, WSU Cooperative Extension of King County identified prime fish and wildlife habitat in King and Pierce counties and invited property owners who owned the parcels to workshops to learn about the various conservation options available. Extension staff and volunteers worked closely with landowners during follow-up site visits to help them understand conservation easements, land donations and the Public Benefit Rating System, a program in some counties which assesses parcels to determine if they qualify for tax reduction.

Results

A number of landowners enrolled riparian and forested land parcels in conservation programs as a result of attending the workshop, visiting sites, and reading a brochure that outlined conservation options that was sent to each property owner in the targeted area. Nearly 60 watershed stewards received conservation tools training and 14 became knowledgeable advocates for land conservation in their communities. At the conclusion of the project, landowners had protected or were undergoing application to protect 116.6 acres. The Washington Department of Ecology subsequently provided funding to the organizers to replicate the project in other communities in the Puget Sound basin.

Products:

- *Summary of Land Conservation Options for Landowners in the Puget Sound Area*
- Workshop agenda

Sponsor:
WSU Cooperative Extension King County
Coordinator:
Paul Racette
Partners:
WSU Cooperative Extension Pierce County, Audubon WetNet, Tahoma Audubon, Cascade Land Conservancy, King County
Audience:
Landowners
Community:
King and Pierce counties
Award:
$42,100
Timeline:
2001-2003

Estuarine Education and Outreach

The Nature Center worked with interns and volunteers to enhance environmental education and research opportunities in southern Puget Sound.

Description

The Nisqually Reach Nature Center located on the least-developed river delta in Puget Sound, offers education, research, and recreational opportunities focused on estuarine ecology. On a shoe-string budget, center staff mentored interns and docents who, in turn, provided environmental education presentations for school and youth groups, ran an environmental summer camp, and encouraged the use of the site for research projects and internship opportunities.

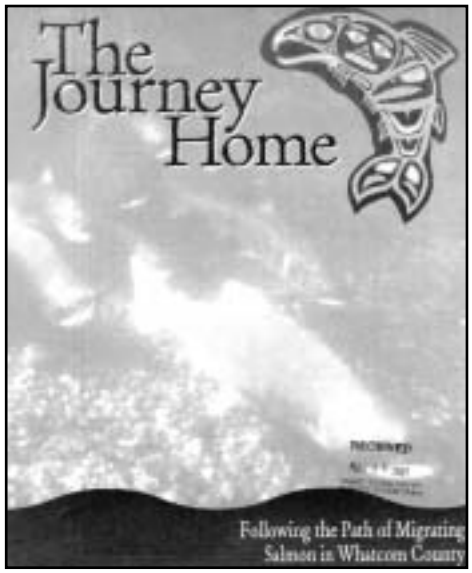
Results

Twenty groups of students participated in environmental education programs and 66 campers attended the summer camp, exposing a total of more than 1,000 people to Puget Sound ecology and yielding much appreciated revenue for Nature Center programs. The Nature Center updated a bibliography of research conducted within the Nisqually basin, and established new research partnerships with the Nisqually Tribe, institutes of higher education, and local schools.

Product

Bibliography of Research and Management Projects: Nisqually Reach, Nisqually Delta, and Nisqually River Basin

Sponsor:
Nisqually Reach Nature Center
Coordinator:
Douglas Canning
Partners:
Nisqually Tribe Natural Resource Department, University of Puget Sound, Olympia Community School
Audience:
Adults and students
Community:
Southern Puget Sound
Award:
$3,000
Timeline:
2001 - 2002



The Journey Home: Exploring Salmon Habitats in Whatcom County

RE Sources educated the community about challenges to protecting salmon habitat in Whatcom County.

Description

When the National Marine Fisheries Service (now known as NOAA Fisheries) listed spring Chinook salmon as threatened in western Washington, RE Sources stepped forward to educate decision-makers and citizens about methods to protect salmon habitat through land development, agriculture, and forestry. They arranged tours from the foothills to the delta to help people identify obstacles to salmon migration and spawning areas. RE Sources produced a video of the tour for the city of Bellingham's public access television station. They trained local teachers about habitat and water quality issues and modeled hands-on activities for students. An illustrated booklet presented readers with general and local information about salmon.

Results

Thirty-four people attended the salmon habitat tours. Several tour participants were engaged in watershed, shoreline, and marine planning. RE Sources distributed 750 copies of *The Journey Home* booklet to community members.

Product

The Journey Home
http://www.re-sources.org/pdf/journey_home_screen.pdf

Sponsor:
RE Sources for Sustainable Communities
Coordinator:
Robin du Pré
Partners:
Whatcom Conservation District, Whatcom County, City of Bellingham, River Farm Community Land Trust/Evergreen Ecoforestry
Target Audience:
Members of watershed planning groups, marine resource committees, general public, teachers
Community:
Whatcom County
Award:
$16,100
Timeline:
1999 - 2001
Web site:
www.re-sources.org

Interpretive Station #5 - An overlook that is accessible to disabled persons looks over the small tributary stream to Kennedy Creek. This is an area that was heavily impacted by ATV's and re-planted in March.

Kennedy Creek Salmon Trail

A local fish restoration group worked to preserve a thriving salmon stream and make the most of its educational value in the community.

Description

Kennedy Creek and its wetlands are home to one of the healthiest and most abundant runs of native chum salmon in the state. The South Puget Sound Salmon Enhancement Group is determined to protect this jewel and use it as an outdoor classroom for the community. The group formed a management committee to oversee protection of fish habitat, pursued a conservation agreement, and coordinated restoration and education efforts on the site.

Results

The high point of this project was the successful negotiation of a 20-year conservation agreement with a creek front property owner. More than 35 volunteers helped repair and revegetate riparian areas adjacent to the creek. Students designed interpretive signs for a trail with viewing platforms to enhance public appreciation of the ecosystem.

Product

Interpretive signs

Sponsor:
South Puget Sound Salmon Enhancement Group
Coordinator:
Brian Abbott
Partners:
Taylor Shellfish, Squaxin Tribe, Mason Conservation District, Trout Unlimited, The Evergreen State College, Shelton School District, South Sound GREEN
Audience:
Kindergarten through college students
Community:
Mason and Thurston counties
Award:
$8,000
Timeline:
1997 – 1999

Save Our Stream

Vashon-Maury Land Trust led an education campaign to protect property, which included salmon habitat.

Description

Shinglemill Creek and its estuary at Fern Cove on Vashon Island comprise some of the best remaining salmon habitat in King County. The Vashon Park District purchased Fern Cove for preservation and education, but the ecosystem remained vulnerable to upstream development. To protect the resource, the Vashon-Maury Land Trust developed a volunteer monitoring program, educated the community about lifestyle choices, identified undeveloped parcels with good habitat, informed land owners about conservation options, and worked with watershed residents to raise funds to purchase key properties.

Results

Of the 60 landowners who attended a presentation on land conservation, 18 signed up to receive follow-up information and assistance from the land trust and four landowners subsequently enrolled in a class to develop forest management plans to apply for King County's current use taxation program. Thirteen landowners signed letters of intent to donate conservation easements to the Land Trust and two other landowners enrolled in other conservation programs. With the help of grant funds, the Land Trust raised $460,000 and received the property with the headwaters of Shinglemill Creek as a donation.

Products

- Monitoring plan
- Monitoring report

Sponsor:
Vashon-Maury Land Trust
Coordinator:
David Warren
Partners:
King County Land and Water Resources, Friends of Fern Cove, Vashon Park District, King County Department of Development and Environmental Services
Audience:
Residents
Community:
Shinglemill watershed
Award:
$18,400
Timeline:
1997 – 1999

Ship Harbor Interpretive Preserve (SHIP) Wetland Trail

A core group of organizations and volunteers in Anacortes designed a wetland trail to provide public access, protect wildlife habitat, and educate visitors and local citizens.

Description

Many of the two million people who annually funnel through the Anacortes Ferry Terminal on their way to the San Juan Islands or beyond must wait before they catch a ferry. Taking advantage of this captive audience, citizens from Anacortes formed a working group to design a trail through the wetland located near the terminal that would serve the local community as well as the tourists passing through town. The group obtained public input and mapped and inventoried the 30-acre site to prepare a trail plan designed to maximize the value of the site while minimizing the impacts. They worked with local schools to design an education plan, produced a brochure to solicit participation in the project, and completed design alternatives for the trail.

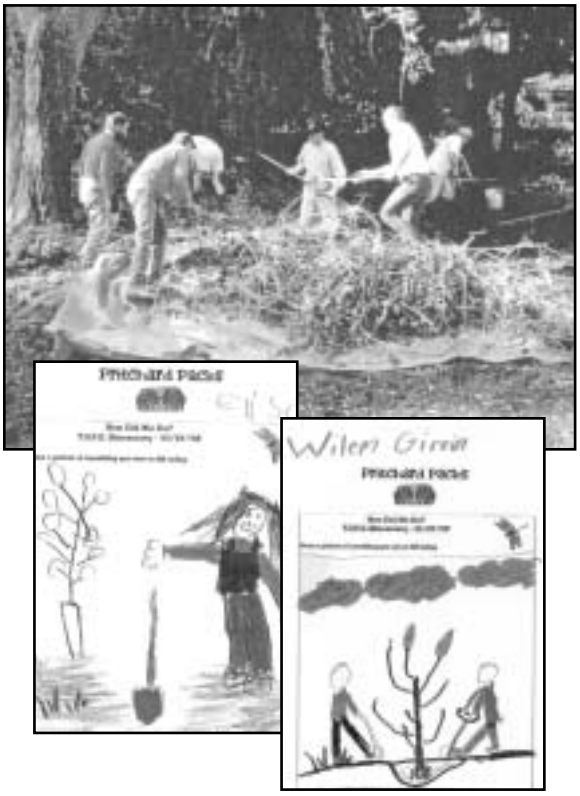
Results

The final trail plan included broad-based input from the community. The graphic arts instructor and students from the local high school helped create materials for the project. Volunteers helped conduct the baseline inventory of the plants, animals and habitat of the site and agreed to monitor the site for a year to document seasonal changes. Throughout the project, the group struggled with juggling the competing obligations of planning a wildlife preserve that also accommodated public access to one of the most important public beach resources in Skagit County.

Products

- Trail design
- Brochure
- Educators' plan

Sponsor:
Anacortes Park Foundation
Coordinator:
Jim Falk
Partners:
Shannon Point Marine Center, Samish Tribe, Anacortes School District, Evergreen Islands, Port of Anacortes, Anacortes Community Forest Lands, Anacortes Parks Department
Audience:
Volunteers, K-12 students, ferry passengers
Community:
Anacortes
Award:
$22,500
Timeline:
1997 - 1999
Web site:
www.ac.wwu.edu/~ship/



Wetland to Sound Workshops

Workshops raised community awareness of the natural assets in an urban park in southeast Seattle and encouraged people to adopt lifestyle changes to protect the environment.

Description

Pritchard Beach Park on Lake Washington was an unrecognized treasure in the heart of Seattle's diverse Rainier Beach community. A volunteer group trained leaders who organized workshops and created educational materials to introduce neighbors and students to this special ecosystem and invite them to help take care of the site. They coordinated with the Seattle Aquarium Mobile Learning Lab to conduct water quality tests with students and organized planting parties at the Pritchard wetland.

Results

The contractor held eight introductory workshops that reached 208 people and four monitoring workshops for 225 people. At the conclusion of the project, the group continued to meet and had scheduled several more workshops for schools. Years later, it continues to be a valuable environmental resource for the community.

Product

Pritchard Packs—Hands-on Education and Exploration at the Reserve at Pritchard Beach

Sponsor:
Friends of Pritchard Beach Park
Coordinator:
Ruth Bell
Partners:
Seattle Parks, Starflower Foundation, Seattle Schools, Robert S. Merki Contractor
Audience:
Students and adults
Community:
Southeast Seattle
Award:
$10,000
Timeline:
1997 – 1999
Web site:
www.scn.org/neighbors/pritchardpark/

Managing Stormwater Runoff

PUGET SOUND
ACTION TEAM

Reining in the Rain

The city of Bellingham educated staff, development professionals, and citizens about stormwater runoff, low impact development, and green building.

Description

To meet the challenges of growth, the city of Bellingham educated its staff and the development community about low impact development (LID). The city hosted a workshop and created a video to showcase LID and green building practices. They retrofitted two parking lots with rain gardens designed to treat and infiltrate stormwater and installed educational signs. The parking lots then became demonstration sites to promote LID technology. They created the content for a booklet on how to construct a parking lot rain garden.

Results

In a written survey, 89 percent of the workshop participants indicated that they would be "definitely" or "very likely" to implement LID techniques. As a result of the workshop, the planning department received inquiries from developers and builders interested in incorporating LID into their projects. Planning department employees know more about LID and encourage the use of LID in projects as they review building permits. Staff discuss LID techniques with almost all new applicants, and the city estimates that about 50 percent of new projects (excluding single family development) incorporate LID techniques. Because of the city's leadership in the field, American Public Works Association asked the city to host an LID workshop at the its annual meeting.

Products

- Workshop agenda and presentations
- Rain garden book
- Video

Sponsor:
City of Bellingham
Coordinator:
Renee La Croix
Partners:
Exxel Pacific, Port of Bellingham, Whatcom Transportation Choice
Audience:
City staff, development community, citizens
Community:
Bellingham
Award:
$42,000
Timeline:
2001-2003

SeaTac Stream Stewards Program

The city of SeaTac provided guidance for teachers, students, and residents in their monitoring of a highly urbanized creek that drains to Puget Sound and worked with businesses to reduce toxic pollutants in stormwater runoff.

Description

Roads, parking lots and buildings cover nearly 40 percent of the Des Moines Creek Watershed near SeaTac Airport. As a result, large amounts of stormwater runoff with toxic pollutants have harmed the environmental health of the creek and Puget Sound. The city of SeaTac worked with carwashes, Park & Fly parking lots, auto repair shops and businesses with large impervious surfaces to install pollution filters in catch basins and to distribute spill control kits. They encouraged businesses to adopt simple pollution prevention methods such as sweeping instead of hosing or pressure washing pavement. Students from nearby schools and local residents helped install and replace filters in catch basins to reduce pollutants. To track pollution in the watershed, students monitored water quality in streams.

Results

Twenty businesses attended workshops and worked with the city to reduce stormwater pollution during the course of the project. Replacing filters in the catch basins and tracking water quality data in streams provided students with the opportunity to witness first hand the amount of trash and pollution entering their neighborhood waterways. Drought conditions curtailed monitoring.

Product

Recommended stormwater best management practices template for businesses

Sponsor:
City of SeaTac
Coordinator:
Desmond Machuca
Partners:
Cascadia Consulting, King County Water and Land Resources, Tyee High School
Audience:
Businesses, students, residents
Community:
SeaTac
Award:
$34,100
Timeline:
1998 – 2000

"The partnerships that are being developed by bringing together students, volunteers, businesses, and city government to protect our environment are key in educating the public, cleaning up our watersheds, and keeping pollution out of Des Moines Creek."

Desmond Machuca
City of SeaTac Water Quality Program

Stormwater Outreach to Homeowners and Homeowner Associations

The city of Lacey trained homeowners to maintain their neighborhood stormwater ponds.

Description

Because many privately owned stormwater ponds are not maintained, they often don't adequately filter pollutants or prevent excess stormwater from reaching streams and other bodies of water. Most homeowners don't realize their responsibility for maintaining stormwater facilities in their neighborhoods. To address these problems, the city of Lacey educated, trained and motivated homeowners to maintain their ponds and organized work parties to clean, plant and spruce up ponds in the community.

Results

One hundred twenty-five homeowners participated in the program. Work parties removed tons of trash and yard debris and improved flows into and out of eight ponds. Board members of homeowner associations were the most interested and motivated participants and many became aware of the need to set aside homeowner association funds for long-term maintenance. Homeowners said they were very motivated to stop dumping yard waste in ponds.

Products

- Workshop agenda
- List of handouts

Sponsor:
City of Lacey
Coordinator:
Lisa Dennis-Perez
Partners:
Thurston County
Target Audience:
Homeowners
Community:
Lacey and North Thurston County residents
Award:
$12,000
Timeline:
1998 – 2000

Stormwater Strategies: Soil Protection and Restoration Training

Sound-wide workshops demonstrated the role of healthy soil in managing stormwater runoff.

Description

Healthy soil increases infiltration, reduces toxic matter from stormwater runoff, and encourages vigorous plant growth. The Washington Organic Recycling Council (WORC) conducted seven workshops around the Puget Sound basin to educate local government staffs and the development community about the value of preserving native soils or restoring degraded soils with compost amendments to manage stormwater runoff and protect surface and ground water. The workshops provided information, specifications, and techniques for soil guidelines in the Washington Department of Ecology's stormwater manual.

Results

Surveys from the workshops showed that 77 percent of attendees planned to incorporate what they learned into their projects. Some municipal employees intended to submit reports that recommended the soil best management practices and planned to propose the use of techniques such as compost berms, socks, and blankets to manage runoff from construction sites. Landscapers indicated that they would recommend the soil practices to clients. WORC discovered they needed to address barriers that included lack of tax incentives for developers and the absence of models that show cost and benefit analysis of the practices. Despite good promotion, fewer developers than expected attended the workshops.

Product

CD with workshop materials may be obtained from WORC

Sponsor:
Washington Organic Recycling Council
Coordinator:
Michael Broili
Partners:
Snohomish, King, Thurston, Kitsap, Island, and Pierce counties, Cities of Seattle and Monroe
Audience:
Government staff and construction and development professionals
Communities:
Sound-wide
Award:
$44,400
Timeline:
2001-2003
Web site:
www.compostwashington.org

Sustainable Choices

PUGET SOUND
ACTION TEAM

Commencement Bay Clean Marina and Boating Program

Citizens for a Healthy Bay educated the boating community about clean boating practices.

Description

Recognizing that Puget Sound has 280 marinas and over 200,000 power boats, sailboats, canoes and kayaks, Citizens for a Health Bay focused on working with boaters and marinas in an effort to reduce pollution from boating activities. The group brought EnviroStar, a program that rates and recognizes businesses for exemplary environmental practices, to Commencement Bay marinas. They conducted workshops for marina owners and managers and held training sessions on pollution detection for citizens. During big boating events and on high volume boating days they talked to boaters about clean boating practices and handed out free kits with materials designed to educate boaters and reduce fuel spills.

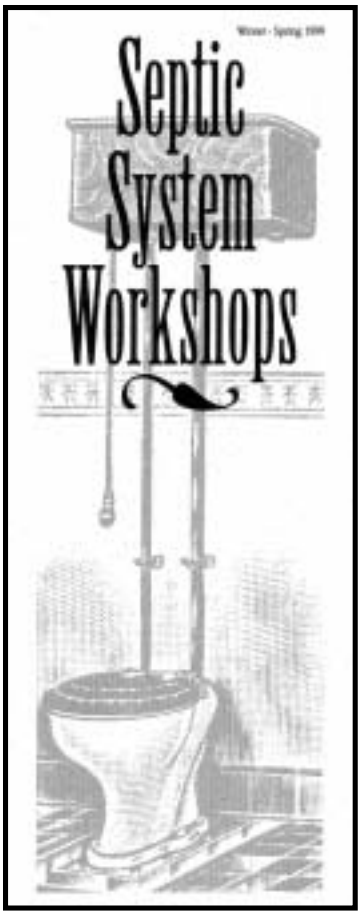
Results

In a phone survey, 98 percent of the people who attended workshops and received boating kits voiced a commitment to reduce pollution. The Foss Waterway Marina received the highest category of EnviroStar rating.

Products

- Clean boater pamphlet
- Clean boater kit material list

Sponsor:
Citizens for a Healthy Bay
Coordinator:
Lisa Lawrence
Partners:
Foss Public Development Authority, Puget Soundkeeper Alliance
Audience:
Boaters and marina owners/operators/staff
Community:
Tacoma
Award:
$35,000
Web site:
www.angelfire.com/wa3/baykeeper/cleanboat.html



Cranberry Lake Demonstration Project

Homeowners learned how to maintain and monitor their on-site sewage systems in accordance with Mason County's operation and maintenance program and state law.

Description

Failing on-site sewage systems have contributed to the closure of thousands of acres of commercial and recreational shellfish beds in Puget Sound. A long-term maintenance and monitoring program is key to eliminating and preventing the high percentage of failures. In this project, the Washington Sea Grant Program and the Frank Family Foundation developed training materials and offered workshops to train homeowners on how to care for their on-site sewage systems.

Results

The contractor developed a training curriculum that focused on best management practices for maintenance and monitoring of on-site sewage systems. They also created five manuals for various types of systems, including pressure distribution, sand filter, mound, gravity and propriety device systems. Twenty-nine training sessions using the curriculum and manuals educated 85 homeowners.

Products

- On-site maintenance and monitoring manuals for five types of on-site sewage systems: http://www.wsg.washington.edu/outreach/mas/water_quality/septicsense/relatedinfo.html
- Curriculum for training sessions

Sponsor:
Frank Family Foundation
Coordinator:
Teri King
Partners:
Washington SeaGrant Program, R.G. Forestry, Southwest Puget Sound Watershed Council, Mason County Health Services Department, Mason County On-site Advisory Committee
Audience:
Homeowners with on-site sewage systems
Community:
Mason County
Award:
$30,000
Timeline:
1997 - 1999
Web site:
www.wsg.washington.edu/

Fish-friendly Construction Workshops

Puget Sound-area Master Builders associations sponsored workshops to educate building professionals about sustainable building techniques to prevent damage to salmon habitat and to protect water quality.

Description

The goal of this industry-initiated project was to protect and revive wild salmon populations, while supporting a vital building industry that provides affordable and quality construction. The Master Builders Association set out to equip industry professionals with tools to use sustainable building practices. They used case studies and hands-on exercises presented by credible experts and opinion leaders to convince builders that the techniques are practical and to demonstrate the value of taking a proactive role in the sustainable building movement. In addition to providing an overview on how the Endangered Species Act listing of salmon affects contractors, the workshops gave information on reducing demand for forest products and conserving water through use of energy-efficient appliances. They presented alternative methods for managing stormwater runoff on construction sites and provided other guidance for managing a fish-friendly job site.

Results

The one hundred thirty-five people that attended the workshops have significant potential impact on construction in the Puget Sound region. In King and Snohomish counties, workshop participants from the building industry had constructed 981 single-family residences and 522 rental units in 1999. The figure for single-family residences represents almost 11 percent of the permits released in King and Snohomish counties in 1999.

Products

- Workshop agenda
- PowerPoint workshop presentations:
- Running a Fish Friendly Job Site
- Tri-County 4(d) Rule Update
- Proposed Regulations to Help Begin Rebuilding Pacific Salmon

Sponsor:
Master Builders Associations of King and Snohomish counties
Coordinators:
Doug Lengel and Kathleen O'Brien
Partners:
Home Builders Association of Kitsap, Snohomish County Public Works, King County Department of Development and Environmental Services, Washington Organic Recycling Council, Pacific Northwest EcoBuilding Guild
Audience:
Building professionals
Community:
King, Snohomish, and Kitsap counties
Award:
$45,000
Timeline:
1999 – 2001
Web site:
www.mbaks.com/public/tmg_t1.cfm?SectionID=1

Horses for Clean Water

Horse owners learned environmentally sensitive horse keeping to reduce pollution from running off of their farms.

Description

A typical horse produces a ton of manure a year and, if poorly managed, the waste can be washed by rain into Puget Sound and other waterways. The Horses for Clean Water project conducted farm tours and workshops to teach pasture, manure, and mud management practices designed to reduce pollution from farms. The workshops were popular with horse owners because in addition to protecting water quality, better farm management also reduces unsightly muck and provides a healthier environment for horses. Organizers provided each workshop participant with a manual that reinforced the information in the workshop and included an extensive list of resources. The project coordinator published several articles in regional horse magazines on good horse keeping practices.

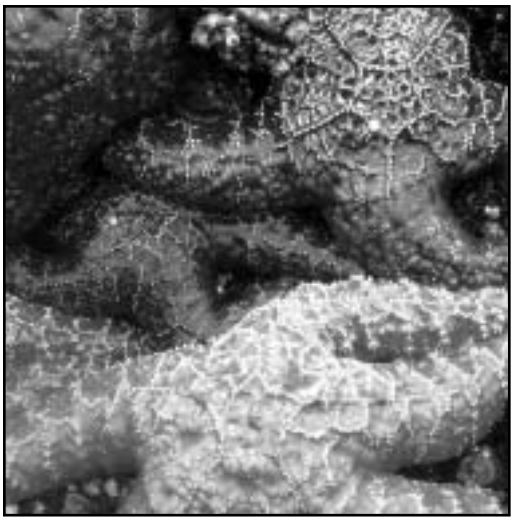
Results

More than 345 horse owners attended workshops or farm tours that promoted farm management practices such as installation of gutters and downspouts, a manure management program, and manure composting. A survey of participants showed that 94 percent of respondents made at least one of these changes; 85 percent made at least two changes and 74 percent made at least three changes to their property as a result of the training. Since the project's origin with PIE, this successful program has been replicated in communities around the Sound.

Products

- Horses for Clean Water manual
- Evaluation form

Sponsor:
Horses for Clean Water
Contact:
Alayne Blickle
Partners:
King County, Whatcom, Snohomish and Skagit Conservation districts, Horse Central, Northwest Horse Source, Skagit WSU Cooperative Extension
Target Audience:
Horse owners
Communities:
King, Skagit, Snohomish, Whatcom counties
Awards:
$30,000 round 11,
$45,000 round 12
Timeline:
1997 – 2001
Web site:
www.horsesforcleanwater.com



King County On-Site Sewage System Workshops

The King County Health Department educated homeowners and real estate professionals about proper care of on site sewage systems to protect water quality.

Description

On-site sewage systems serve more than 100,000 households in King County, and each system has the potential to pollute water with human waste if it is not properly maintained. The King County Health Department conducted several workshops throughout the County to educate homeowners about the various types of on-site sewage systems, present information on how the systems work, how to care for them, and to recommend lifestyle choices to keep them working efficiently. They produced two live call-in TV shows that aired on local government cable stations and developed a Web site that provided interactive video clips to answer the questions most frequently asked by homeowners.

Results

A survey conducted months after the workshop showed that 98 percent of the 88 people who attended the workshop and returned the survey changed at least one behavior that would enhance the treatment their system provides and improve the effluent discharged to local ground and surface waters. Thirty-seven percent of the people surveyed said that they had their system inspected, monitored or pumped. Several program participants recognized that their system had failed and initiated repairs or replacement. Many real estate professionals attended the workshop for clock-hour credit for their professional license. They helped spread the information to their clients and associates.

Products

- Twelve on-site question-and-answer interactive video clips for the Web site
- Two television programs produced for King County's cable channel
- Agenda for workshop—Septic Systems: A Homeowner's Guide

Sponsor:
Seattle/King County Department of Public Health
Coordinator:
Gordon Clemens
Partners:
Washington State University Cooperative Extension, advisory committee of on-site professionals
Audience:
Owners of on-site sewage systems
Community:
King County
Award:
$12,000
Timeline:
1999-2001
Web site:
http://www.metrokc.gov/health/wastewater/oss.htm

Living Green in the Piper's Creek Watershed

Workshops educated citizens about sustainable building, remodeling, and landscaping techniques in the Seattle watershed.

Description

Seattle Parks and Recreation created a comprehensive series of courses that educated homeowners on soil improvement, planting with watershed-wise and native plants, installing rain gardens and rain barrels, installing porous pavement, remodeling existing space instead of creating an addition, installing green roofs, improving insulation, and putting in energy efficient materials. They augmented the coursework with tours and hands-on demonstration projects.

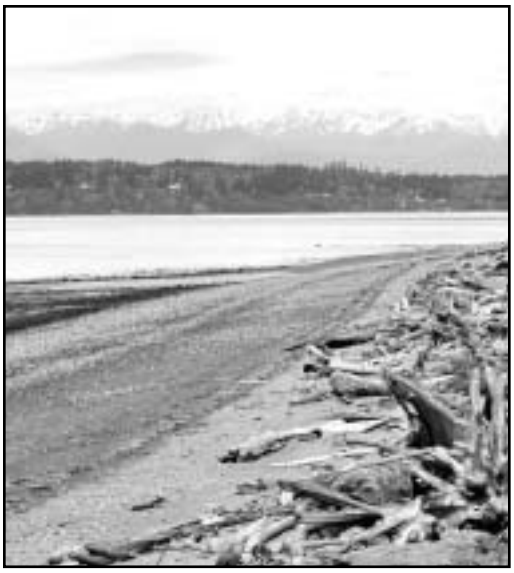
Results

More than 300 people attended the class and tour. Of the 325 attendees, 52 percent pledged to volunteer for stewardship activities in the watershed, 75 percent increased their knowledge of stormwater runoff and low impact development, 71.5 percent planned to adopt a landscaping practice, and 33 percent planned to adopt a green building practice as a result of the course. The city designed the Carkeek Park Environmental Learning Center to be a long-term model of low impact development and sustainable building and landscaping for the community.

Products

- Compact disk of the workshop PowerPoint presentations
- Living Green Sustainable Landscape Resource List
- Living Green and Green Building Tool Kit

Sponsor:
Seattle Parks and Recreation
Coordinator:
Caitlin Evans
Partners:
Seattle Public Utilities, Phinney Neighborhood Association
Target Audience:
Homeowners
Community:
Piper's Creek Watershed
Award:
$42,900
Timeline:
2001-2003
Web site:
www.cityofseattle.net/parks/environment/livinggreen



Living With the Coast Workshops

Workshops educated shoreline landowners about how to protect their homes while preserving healthy coastal ecosystem processes.

Description

The unusually wet winter of 1997 resulted in homes damaged by sliding, unstable hillsides. The timing was good for educating people living on the bluffs of Puget Sound about how to reduce erosion and manage their property in ways that work in harmony with the coastal processes that contribute to a healthy nearshore habitat. The workshops included presentations and field trips that covered geology, coastal processes, drainage and septic systems, slope stability, water quality, and vegetation management. The coordinator discussed soft shore protection, an erosion control technique that is being used as an alternative to bulkheads, which can destroy habitat for forage fish and other key marine species.

Results

The contractor provided eight workshops consisting of a two-hour presentation and a two-hour field trip in Whatcom, Skagit, San Juan, Island, Kitsap, Pierce, Thurston, and Mason counties. Shoreline property owners made up 90 percent of the 378 people who attended the workshops. The project coordinator noted, "A number of participants that attended were actively looking to buy waterfront property, perhaps the most important audience to reach since they were about to make decisions with major impacts to nearshore resources."

Products

- Washington Coastal Systems Overview
- Coastal Geology Reading List for Whatcom County
- Coastal Geology Reading List for San Juan County

Sponsor:
Coastal Geologic Services, Inc.
Coordinator:
Jim Johannessen
Partners:
Greenbelt Consulting, Lummi Nation Planning Department, Washington Department of Fisheries and Wildlife, Island County Beach Watchers, The Whale Museum, San Juan Preservation Trust, Padilla Bay Estuarine Reserve
Target Audience:
Present and aspiring shoreline landowners, professionals working on coastal properties
Award:
$20,400
Timeline:
1997 - 1999

Salmon-friendly Lawn Signs

Lawn signs showed citizens' commitment to protect salmon through responsible lawn and garden care.

Description

Social marketing research shows that people tend to honor the commitments they make. Project SeaWolf Coastal Protection helped Puget Sound residents make a visual commitment to protect salmon. They printed, promoted, and distributed signs for people to display in their front yard stating that their landscaping practices did not harm salmon by degrading water quality. Along with the signs, they provided information on how to reduce or eliminate the use of toxic yard chemicals, make and use compost, and conserve water. They conducted a survey to determine if the signs motivated people to change their gardening practices and to see if the signs sparked conversation in neighborhoods.

Results

In a two-year period, Project SeaWolf distributed approximately 27,500 signs in the Puget Sound basin. Project staff received inquiries from many cities and groups interested in becoming distribution partners.

Products

- Signs, background information, outreach materials (available on CD from Puget Sound Action Team)
- Survey

Sponsor:
Project SeaWolf Coastal Protection
Coordinator:
Michael Kundu
Partners:
Audubon, Snohomish County
Audience:
Residents
Community:
Puget Sound basin
Award:
$2,800
Timeline:
2002

Septic System Public Service Announcement

Public service announcements to encourage on-site sewage system maintenance were played on cable television stations in Skagit County.

Description

The Skagit County health department has an aggressive on-site sewage system education program that includes written materials, workshops, and media relations' activities. They and several other partners pooled resources to work with AT&T to design and air public service announcements (PSAs) to motivate people to protect water quality, public health, and their property's value by properly maintaining their on-site septic systems. The PSAs directed viewers to call the health department for more information.

Results

The 30-second PSAs aired on 15 networks between five and 11 times each day for about eight months. A total of 1,350 PSAs aired in Skagit County to about 23,800 subscribers. Have the PSAs made a difference? Though the county couldn't show a direct link, after the PSAs aired, 596 people signed up for the health department's "Septics 101 Clinic." Staff said they felt the PSAs helped fill the workshops.

Product

Public Service Announcements

Sponsor:
Skagit County Health Department
Coordinator:
Steve Olson
Partners:
Skagit Conservation District, Taylor Shellfish United, Acme Seafood Company, AT&T Media Services
Audience:
Owners of on-site septic systems
Community:
Non-sewered parts of Skagit County
Award:
$3,000
Timeline:
2000 – 2002

Sound Boater Program

Kitsap County's Sound Boater Program trained and mobilized boaters to teach other boaters about waste disposal and boat maintenance practices to help protect Puget Sound from pollution.

Description

Kitsap County's 190 miles of shoreline and 18 lakes make it a popular boating destination in Puget Sound. The Sound Boater Program trained volunteers to become stewards in the boater community. Boaters learned about environmental and water quality issues, geology, and tides. They also learned the best way to keep boat paint products, bilge waste, sand grit and marine sewage out of Puget Sound. Graduates from the first course served as mentors to the second session and also helped teach, set up displays, and led beach clean-ups. Volunteers distributed more than 200 resource packets, which included bilge pads and a waterproof boaters' guide with pumpout locations. Project coordinators posted signs with pumpout instructions and locations at marinas and boat ramps.

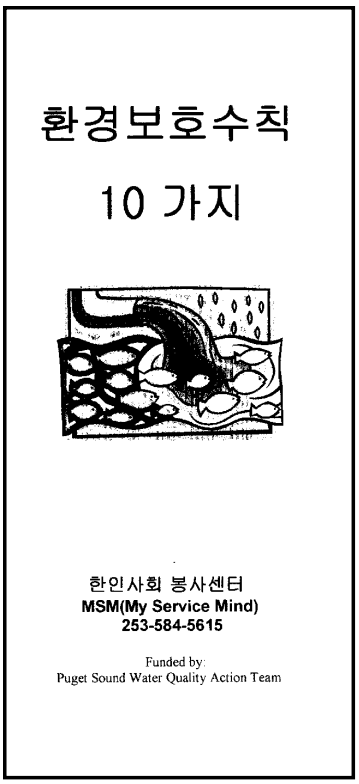
Results

Thirty-four people attended the first Sound Boater Stewardship Training. Ten volunteers donated a total of 42 hours to education activities. The county installed 87 signs at marinas and boat ramps.

Products

- Kitsap County boating guide
- Pumpout signs

Sponsor:
Bremerton – Kitsap County Health District
Coordinator:
Jim Zimny
Partners:
Washington Sea Grant
Target Audience:
Boaters
Community:
Kitsap County
Award:
$32,500
Timeline:
1999 - 2001



Stewards of Puget Sound

A Lakewood community organization educated members of the Korean population about ways to protect Puget Sound.

Description

My Service Mind is a community-based organization in Lakewood that provides services to disadvantaged, low-income, and minority people. A team of two staff and 10 volunteers researched materials available from a variety of sources and presented workshops in churches, in English classes and at the Young Korean Academy. They created a pamphlet with a stewardship pledge to encourage changes in lifestyle to reduce water pollution. My Service Mind translated into Korean the Puget Sound Action Team's list of 10 things citizens can do to protect Puget Sound and provided it with the pledge.

Results

The group held five workshops that reached 140 people. They found that some people did not like to fill out documents with personal information, making it challenging to evaluate the program. To remedy the problem, the project coordinator conducted verbal evaluations. Of the 97 people evaluated, all said they would use the information they learned. Older citizens suggested that My Service Mind staff do more outreach in Korean to people with limited English.

Products

- Ten Simple Things You Can Do! (Korean translation)
- Survey

Sponsor:
My Service Mind
Coordinator:
Mandy H. Ma
Partners:
Full Gospel Tacoma
First Church, Tacoma
Joong Ang Presbyterian Church, Young Korean Academy
Audience:
Korean residents
Community:
Pierce County
Award:
$3,000
Timeline:
2001 – 2003

Streamside Livin' Guidebook

Thurston County mailed a reader-friendly booklet to streamside property owners.

Description

Most of the 16 streams in North Thurston County are on private land, and it is not uncommon to see lawns planted down to the edge of the stream, bare eroding banks and cleared channels, pet waste, and lawn clippings. Thurston County Water and Waste Department provided tips for streamside living and used a focus group to develop just the right tone—not too technical and not too simple—for a property owners' manual that would present the dos and don'ts of living near salmon-bearing streams. It also organized a workshop to educate people about salmon and shellfish issues and provided guidance on how to live in harmony with wildlife.

Results

More than 900 owners of property on north county streams received the manual through the mail, and it appeared on the county's Web site for other local governments to use. Of the 90 property owners who returned a mail-in survey from the booklet, all but two stated that they learned something new. More than 75 percent said they intended to adopt one or more behaviors to protect the stream.

Products

- Streamside Livin' pamphlet
- Web site http://www.co.thurston.wa.us/wwm/stream/streamsidefirstpage.htm

Sponsor:
Thurston County Storm and Surface Water Programs
Coordinator:
Susie Vanderburg
Partners:
Sound Native Plants, Stream Team, North Thurston High School, South Sound GREEN, WSU Cooperative Extension
Audience:
Streamside property owners
Community:
North Thurston County
Award:
$12,800
Timeline:
1997 – 1999
Web site:
www.co.thurston.wa.us/wwm/stream/streamsidefirstpage.htm

Vashon Living

Workshops gave homeowners and businesses the tools to assess and maintain their on-site sewage systems.

Description

Nine months after the completion of her new home, a Vashon Island citizen's on-site sewage system failed. Instead of paying for repairs and forgetting the unpleasant episode, the citizen who jump-started the project investigated the cause of the problem and then worked with state and local representatives to improve certification standards for on-sites sewage system professionals. Sharon Nelson and a Washington State University Cooperative Extension educator used PIE funds to educate people about how on-site sewage systems work and demonstrated ways that homeowners and businesses affect the efficiency and longevity of their systems. A workshop for owners and staff of day care facilities, churches, bed and breakfasts, and restaurants gave guidance for managing the risks associated with food service and commercial strength wastewater.

Results

A total of 167 people attended seven workshops, and an additional 200 people received training materials. Ninety-six percent of the workshop participants changed one behavior as a result of the workshop, and 24 percent had their system inspected or pumped. The PIE contractor formed a partnership with another PIE recipient, the Seattle/King County Health Department, and worked together to develop an on-site manual. According to coordinators, the workshops "Provided a non-hostile platform for fostering the image of a pro-active health department willing to work with the citizens."

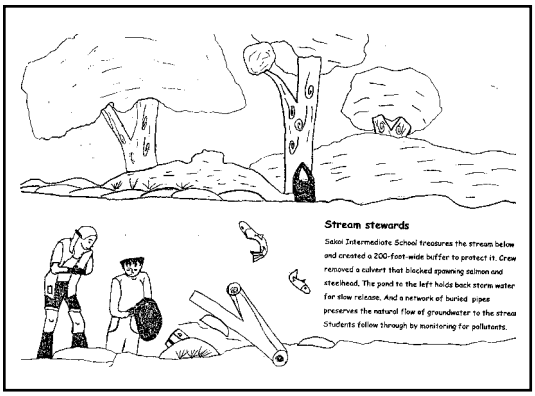
Product

Workshop outline

Sponsor:
Tech Assist Plus
Coordinators:
Richard Burleigh, Sharon Nelson
Partners:
Seattle/King County Health Department, Washington State University Cooperative Extension, King County Water and Land Resources, John L. Scott Real Estate, Vashon Sewer District
Audience:
Homeowners, businesses
Community:
Vashon and Maury Islands
Award:
$2,400
Timeline:
1997 - 1999

"My philosophy is 'effluent happens' and, if it happens to be in your front yard where mine erupted, you need to implement change."

-Sharon K. Nelson
Letter to editor of local paper



Watershed Education Project

Students, school staff, and the community became involved with sustainable building practices used during the construction of a new school on Bainbridge Island.

Description

When the Bainbridge Island School District set out to build a new school on property that had a wetland and salmon stream, they were determined to minimize harm to the environment by reducing sediments through careful site development and by using sustainable building materials. They designed a healthy indoor environment paying attention to lighting and using safe building materials. They also chose to maximize the educational opportunities presented during construction and used PIE funds to make sure that staff, students and the community played an active role in the project. Teachers included lessons on water quality monitoring, stream health, sustainable site development, integrated pest management, and resource efficient building techniques in the curriculum. The school honored the cultural history of the community by naming the school Sonoji Sakai after a long-term resident, one of the many Japanese Americans citizens from Bainbridge Island sent to internment camps during World War II.

Results

The Distict completed the school in January 2000. Students helped design signs for the site, wrote articles, and conducted tours to educate the community about their special school. The school has continued to protect the environment in its operating practices. The district uses integrated pest management to reduce toxic exposure to children and to nearby salmon habitat.

Stream stewards artwork:
Sakai Intermediate School treasures the stream pictured and created a 200-foot-wide buffer to protect it. Crews removed a culvert that blocked spawning salmon and steelhead. The pond to the left holds back stormwater for slow release. And a network of buried pipes preserves the natural flow of groundwater to the stream. Students follow through by monitoring for pollutants.

Products

- Water quality lesson plans for sixth graders
- Water quality lesson plans for fifth graders
- Integrated Pest Management lesson plans for fifth graders
- What's So Special About Our School articles (written by students)

Sponsor:
Bainbridge Island School District
Coordinator:
Richard Best
Partners:
Bainbridge Island Planning & Community Development, O'Brien and Associates, Suquamish Tribe Fisheries Department, Center for Urban Horticulture, Northwest Coalition for Alternatives to Pesticides
Audience:
Students, parents, faculty, school board, administrators, citizens
Community:
Bainbridge Island
Award:
$5,600
Timeline:
1997 – 1999
Web site about school:
www.pprc.org/pprc/pubs/topics/schools/doit.html
Web site for school:
www.bainbridge.wednet.edu/sakai/

Monitoring and Restoration

PUGET SOUND
ACTION TEAM

Dungeness Bay Watchers

Volunteers collected data about water quality data to reveal the sources and levels of contamination threatening shellfish beds in Dungeness Bay.

Description

Fecal bacteria from animal waste is a particularly serious pollutant in water because it indicates the presence of organisms that can make people sick. When areas in Dungeness Bay near commercial and recreational shellfish beds showed high fecal counts, the Clallam County Department of Community Development jumped to action. They trained a cadre of volunteers to collect water samples to help locate the sources of contaminants entering the bay and raised community awareness about the problem by mailing information to households close to the bay. The county modeled the program after another PIE contract—The Sequim Bay Watchers—but revised it with a shellfish focus for Dungeness Bay.

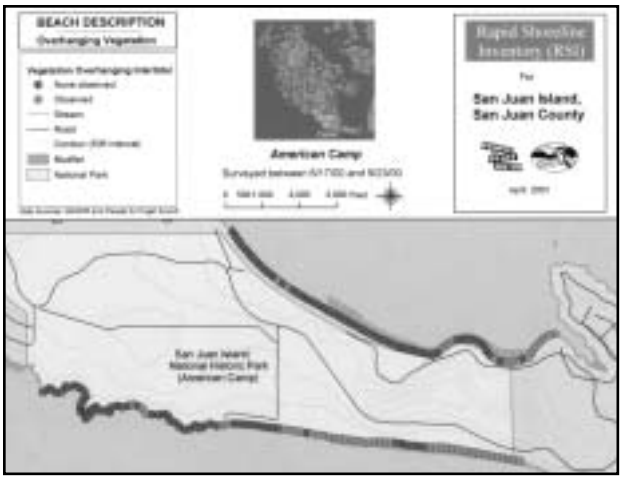
Results

The samples collected by the volunteers helped to fill important data gaps for state and local agencies. A booklet that described what people could do to protect water quality and reduce fecal pollution. The county mailed the booklet to more than 900 people living near the bay.

Product

Brochure: Protecting Water Quality in Dungeness Bay

Sponsor:
Clallam County Department of Community Development
Coordinator:
Nancy Zapotocki
Partners:
Washington Department of Natural Resources, Clallam Conservation District, WSU Cooperative Extension, Jamestown S'Klallam Tribe, Department of Health, Battelle Marine Science Lab, Washington Department of Ecology, Washington Department of Fish and Wildlife
Audience:
Volunteers, commercial shellfish growers, landowners
Community:
Dungeness Bay
Award:
$24,600
Timeline:
1997 - 1999



Expanding Volunteer Stewardship and Citizen Monitoring in Puget Sound

People for Puget Sound developed protocols for citizen monitoring of Puget Sound shorelines, adjacent land use, and key habitat.

Description

One of the principal problems facing Puget Sound is the loss of nearshore habitat through shoreline development, but data to establish baseline conditions or track the consequences of development are scarce. People for Puget Sound trained volunteers to quickly inventory large, continuous sections of shoreline, monitor restoration sites for salmon habitat, and survey habitat for forage fish. People for Puget Sound incorporated the data from these surveys into a Citizen Shoreline Atlas of Puget Sound that included interactive Geographical Information System (GIS) maps of key features.

Results

Monitoring of restoration sites in the Duwamish River resulted in the successful establishment of key reaches of marsh vegetation, providing important refuge for fish and wildlife. The inventory of marine shorelines provided important data for resource managers.

Products

- Protocols for the Rapid Shoreline Inventory and Volunteer Salmon Habitat Restoration and Monitoring Program.
- Data maps for the San Juan and Orcas Island Rapid Shoreline Inventories

Sponsor:
People for Puget Sound
Coordinator:
Jacques White
Partners:
Friends of the San Juans, Seattle Audubon, University of Washington, King County Water and Land Resources Division, Citizens for a Healthy Bay
Audience:
Citizens and Resource Managers
Community:
San Juan Island, Orcas Island, Duwamish River
Award:
$39,500
Timeline:
1999 - 2001
Web site:
www.pugetsound.org/habitat/default.html

Froggy Bottoms Wetland Restoration and Public Education

The city of Port Townsend educated residents, visitors, and real estate professionals about the historical, cultural, and ecological values of a local wetland system.

Description

Froggy Bottoms is one of several wetlands that connect Port Townsend Bay with the Strait of Juan de Fuca and once served as a portage route in earlier times. The city of Port Townsend excavated the site for stormwater retention and needed some help to restore the area's habitat potential. Project coordinators trained volunteers to complete the restoration of the wetland. The volunteers planted native plants, installed woody debris, and hung bat boxes to create more diverse habitat for wildlife. They monitored the progress of the revegetation efforts in the restored wetland. Realtors learned about the value of wetlands through a two-day continuing education course. Residents of a local youth rehabilitation program installed interpretive signs. The group completed a trail design for the site.

Results

Volunteers donated more than 500 hours to Froggy Bottoms and most said they wished to continue their work beyond the duration of the PIE contract. Volunteer time in planting and maintenance translated to a value of $7,000. The overall survival rate of the plantings was high for most species. Many of the volunteers brought the message to their home turf by landscaping with native plants in their own yards and sharing what they learned with friends and family.

Products

- Volunteer workshop agenda
- Planting plan for wetland
- Interpretive signs
- Trail design

Sponsor:
City of Port Townsend, Engineering Division
Coordinator:
Sam Gibboney
Partners:
Jefferson County Historical Society, Gray Wolf Ranch, Polaris Engineering and Surveying, Washington Native Plant Society Olympic Peninsula Chapter
Audience:
Residents, visitors, realtors
Community:
Port Townsend
Award:
$24,600
Timeline:
1997 – 1999

Guidelines for Involving the Disabled Community in Urban Riparian Restoration

People with disabilities learned about and restored salmon habitat along an urban stream in Tacoma.

Description

This project was the brainchild of a graduate student majoring in environmental studies in collaboration with the Tacoma Neighborhood Network Center, an organization that serves the needs of people with disabilities. Recognizing the untapped potential of people with physical and mental disabilities, the Network Center enlisted people with a variety of disabilities to participate in hands-on restoration activities on Puget Creek, a small urban stream in Tacoma. In addition to improving habitat for salmon, the center documented the lessons they learned and developed a manual with practical guidelines for involving people with disabilities in environmental restoration work.

Results

Sixty-seven people with mental, physiological, and sensory impairments were involved with the project, through watching a presentation on urban stream restoration, participating in a tour of the restoration site, or replanting sections of the creek. They restored 450 linear feet and an overall total of 3,750 square feet of riparian stream habitat along Puget Creek.

Product

Guidelines for Involving the Disabled Community in Urban Riparian Restoration

Sponsor:
Tacoma Neighborhood Network Center
Coordinator:
Scott Hansen
Partners:
Puget Creek Restoration Society
Audience:
People with sight, hearing, physiological, mobility, and mental impairments
Award:
$5,100
Timeline:
2001-2003

Manzanita Bay Watershed Restoration Project

Landowners and volunteers removed barriers to fish passage and restored buffers on a Bainbridge Island salmon stream.

Description

The Manzanita watershed has one of the largest fish runs on Bainbridge Island and the Puget Sound Restoration Fund was sure that with some work, this promising ecosystem could support even more. The group mobilized financial and volunteer resources to restore salmon habitat in the watershed. They installed fish ladders and cleared debris, built fences to keep livestock out of the creek, and revegetated stream banks to filter runoff and reduce sedimentation. A key element to the success of this project were the dozens of volunteers, businesses and schools who took an active role in restoring salmon habitat in their community.

Results

This project restored 2.8 acres of habitat and renewed fish access to 1.5 miles of stream habitat and .33 acres of pond habitat. Almost 150 people from 21 groups, organizations, and businesses donated time or resources. Three private landowners learned how to maintain salmon habitat on their property, and two landowners developed farm plans to reduce polluted runoff. Stream Team volunteers agreed to conduct ongoing monitoring and maintenance of the project area and contribute information to a database detailing changes in fish migration in the upper watershed.

Product

Stream signs

Sponsor:
Puget Sound Restoration Fund
Coordinator:
Betsy Peabody
Partners:
Daley Design, Dain Bosworth Investment, Trout Unlimited, Bainbridge Historical Society, City of Bainbridge Island, Kitsap Conservation District, U.S. Fish and Wildlife Service, Suquamish Tribe
Audience:
Residents and businesses
Community:
Bainbridge Island
Award:
$29,300
Timeline:
1997 – 1999

Menzies Research Cruises

Citizens, students, and visitors to Port Townsend collected data about Puget Sound aboard a research vessel.

Description

The Port Townsend Marine Science Center named this project after Archibald Menzies, the naturalist who accompanied Captain Vancouver in his explorations of the Pacific Northwest. The Science Center evoked a kindred sense of discovery by bringing citizens, students, and tourists aboard a research vessel to help gather scientific data from the nearshore waters of Puget Sound. An underwater video camera allowed participants to survey eelgrass, kelp, and sea pen beds. Citizens and students monitored water quality and assessed the abundance and composition of species in plankton throughout the year. The research data collected by the passengers was posted to the Menzies Web site. In the summer, the proceeds from paying passengers helped fund student monitoring during the remainder of the year, helping to make the program self-sufficient.

Results

Almost 800 passengers, including citizens, students, and area visitors, participated on Menzies Cruises. As a result of collaboration with the Washington Department of Fish and Wildlife, the Menzies Project provides data to improve resource management decisions on a species of prawn and Dungeness crab. The Menzies Project gave technical support to the Jefferson County Marine Resource Committee and its staff were contracted to supply information for the Port Townsend Shoreline Master Program.

Product

Research plan

Sponsor:
Port Townsend Marine Science Center
Coordinator:
Judy D'Amore
Partners:
Marine Resources Consultants and Sound Vessels, Inc.
Target Audience:
Tourists, citizens, students
Community:
Jefferson County
Award:
$45,000
Timeline:
2001-2003
Web site:
www.menziesproject.org

Puget Sound 2100

Members of Adopt a Beach trained citizens to monitor and care for stretches of Puget Sound shoreline.

Description

Adopt a Beach conducted training sessions around Puget Sound to prepare volunteers and local coordinators of volunteers to collect information about Puget Sound's nearshore environment. It geared sessions to accommodate citizens in both basic and more advanced monitoring. It used the volunteer data to create an online geographic information system to map the data and make it available to the public through their Web site.

Results

Adopt a Beach worked with seven local volunteer coordinators and recruited and trained more than 200 new volunteers to collect information about Puget Sound shorelines. They worked with People for Puget Sound to use data collected by volunteers to create the Citizen Shoreline Atlas. Volunteers working with Friends of the San Juans and People for Puget Sound provided data to the atlas in PIE projects described on pages 44 and 53.

Product

Citizen Shoreline Atlas

Sponsor:
Adopt a Beach
Coordinator:
Susan Melrose
Partners:
People for Puget Sound, City of Bainbridge Island, City of Edmonds, Citizens for a Healthy Bay, RE Sources
Target Audience:
Citizens
Community:
Various locations around the Sound
Award:
$28,600
Timeline:
1997 – 1999

Replanting Riparian Areas

To enhance the success of volunteer revegetation projects, Washington State University Cooperative Extension created a "how-to" planting guide and video.

Description

Riparian vegetation is essential to watershed health. It is a critical component of fish and wildlife habitat, helps maintain a balanced hydrology in watersheds, and intercepts and filters pollutants. Washington State University (WSU) Cooperative Extension observed that volunteers are carrying out an increasing number of riparian restoration projects and that the success of these projects depends on proper planting and maintenance. To increase the success of revegetation projects, WSU created a training video and a handy laminated guide that volunteers can take with them to project sites.

Results

At the conclusion of the project, WSU had distributed 372 videos and 4,900 fact sheets to organizations involved in projects to restore vegetation. The video and brochure are available for download on their Web site. They estimated that the distribution would reach more than 2,000 volunteers who participate in revegetation projects.

Products

- Plant it Right: Restoring Our Streams Video http://cru84.cahe.wsu.edu/cgi-bin/pubs/VT0113.html
- Plant it Right: Restoration Planting Techniques http://cru84.cahe.wsu.edu/cgi-bin/pubs/MISC0337.html

Sponsor:
Thurston County WSU Cooperative Extension
Coordinator:
Robert Simmons
Partners:
Olympia Stream Team, Tumwater Stream Team, Thurston County Storm & Surface Water Program, Thurston County Community Television
Target Audience:
Volunteers
Community:
Sound and state-wide
Award:
$17,500
Timeline:
1999 - 2001
Web site:
wawater.wsu.edu/

Restoration Radio

The Society for Ecological Restoration Northwest used radio to showcase restoration projects in the Puget Sound basin.

Description

Habitat restoration has increased dramatically in the Puget Sound region in the past decade. To inform people about the wealth and variety of restoration projects in the Puget Sound area, the Society for Ecological Restoration Northwest created radio stories for the KMTT-FM, "The Mountain" radio station. In addition to informing the public about restoration projects and local environmental issues, the radio spots recruited volunteers to help with litter pickup, trail maintenance, habitat surveys, invasive weed removal, and revegetation events.

Results

Forty stories aired twice daily and reached more than 65,000 people in eight weeks. Hits to the Restoration Radio Web site increased significantly during the radio broadcasts. Some environmental groups reported an increase in volunteer participation.

Product

Radio stories, which may be accessed through the Restoration Radio Web site

Sponsor:
Society for Ecological Restoration Northwest
Coordinator:
Nancy Hahn
Partners:
Entercom—KMTT-FM, Seattle Public Utilities
Target Audience:
Radio audience of Puget Sound citizens ages 25 to 49
Sound-wide
Award:
$17,000
Timeline:
2001-2002
Web site:
www.restorationradio.net

Salmon Habitat Restoration Citizens' Action Project

More than 1,000 volunteers worked on stream restoration and fish passage projects in Whatcom County streams.

Description

The Nooksack Salmon Enhancement Association's mission is to restore healthy salmon populations in the streams of Whatcom County. In this action-oriented project, the association led citizen work parties to restore stream habitat and improve fish passage. The group installed a fence to block off a creek site from all terrain vehicles (ATV) and local elementary school students produced signs to ask ATV owners to respect the restoration efforts. Interns from Western Washington University helped monitor the restoration sites

Results

The Association gave presentations on salmon habitat to 28 groups in the community and organized 49 work parties to do hands-on restoration work. Another 25 work parties helped gather plants and restock the nursery with new seedlings. More than 1,000 volunteers participated in the work parties. Citizens planted riparian vegetation along 6,500 feet of streams. Volunteers removed fish passage barriers in three creeks and built a temporary rock weir to facilitate fish passage in a creek.

Products

- Portable display to recruit volunteers.
- Slide presentation about restoring salmon habitat

Sponsor:
Nooksack Salmon Enhancement Association
Coordinator:
Darrell Gray
Partners:
Washington Department of Ecology, Washington Department of Fish and Wildlife, City of Bellingham, Western Washington University
Target Audience:
People living and working in the Nooksack Watershed
Community:
Whatcom County
Award:
$20,000
Timeline:
1997 - 1999

Shoreline Preservation Project

Friends of the San Juans trained volunteers to collect shoreline data and used it to compile a citizen shoreline atlas and create a display to educate people about the need to preserve Puget Sound habitat.

Description

The San Juan Archipelago is one of the more diverse and exquisite marine ecosystems still intact in the nation, but development pressures are taking their toll. Friends of the San Juans and partners launched an effort to train adult and student volunteers to secure a baseline of shoreline data against which to measure changes and to identify sensitive or key habitat areas to protect or restore. They produced curricula to train middle and high school teachers about nearshore habitat and to guide student participation in the shoreline inventory. Volunteers helped inventory the entire 6.1 miles of shoreline in the San Juan National Historic Park.

Results

More than 60 adult and student volunteers collected data at sites throughout the San Juan Islands. The data were included in a Citizens Shoreline Atlas, created with funding from a previous PIE project (see page 44). Friends of the San Juans used the data in an online interactive computer display, using a Geographic Information System (GIS) for a shoreline exhibit at the Whale Museum.

Products

- Shoreline Curricula: Nearshore Teacher's Toolkit
- Shoreline Exhibit: located at the Whale Museum in Friday Harbor http://whale-museum.org/

Sponsor:
Friends of the San Juans
Coordinator:
Kevin Ranker
Partners:
People for Puget Sound, Whale Museum, Wolf Hollow Wildlife Rehabilitation Center, San Juan Island National Historical Park, San Juan County Planning Department
Target Audience:
Adults and students who live in the San Juans
Community:
San Juan Islands
Award:
$31,500
Timeline:
1999 – 2001
Web site:
www.sanjuans.org

Photo courtesy of Steve Schroder

Spawning Gravel Monitoring Project

Grays Harbor College developed resources and training to help groups assess the potential of stream gravel for supporting spawning salmon.

Description

Because salmon lay their eggs in gravel nests, clean gravel is essential for the reproductive success of salmon in the Puget Sound basin. Sediment from logging and other development can destroy spawning beds by reducing the supply of oxygen and nutrients to eggs and by preventing fry from emerging after they hatch. The goal of this project was to improve fish habitat by providing resources and training to support the protocol for gravel surveys developed by the Northwest Indian Fisheries Commission (NWIFC). The coordinator made the materials available to educational institutions, community and environmental groups, local government, Indian tribes, timber companies and state agencies interested in improving fish habitat.

Results

The contractor developed a training video and instructional booklet to visually demonstrate proper techniques for conducting gravel surveys in the Timber Fish and Wildlife manual. Two training workshops introduced the training materials to groups involved with stream habitat monitoring. In addition, the contractor loaned monitoring equipment necessary for conducting the surveys to groups, acquired commitments from groups willing to monitor streams, and posted the data collected in the statewide database kept by NWIFC.

Products

Salmon Spawning Gravel Sampling Video and Instruction Booklet

Sponsor:
Grays Harbor College
Coordinator:
Claire Denise
Partners:
Northwest Natural Resource Technologies Consortium, Northwest Indian Fisheries Commission, TV News Service, Timber, Fish and Wildlife Monitoring Program, Point No Point Treaty Council
Target Audience:
Teachers/instructors at the high school and community college levels, environmental groups, conservation districts
Community:
Puget Sound basin
Award:
$35,000
Timeline:
1997 – 1999

Photo courtesy of The Center for Whale Research

Whale-Sighting Network and Education Program

A sighting network allows people to learn about whales as they travel through Puget Sound.

Description

The decline in orca populations is one of the many symptoms emerging in the greater Puget Sound ecosystem that signals problems caused by rapid population growth and development. Volunteers from a whale-sighting network collect observations of the southern resident orca community and distribute them to researchers and interested citizens. Daily e-mail reports, education presentations, and a dynamic Web site with updated sightings give insight into the behavior, range, and habitat needs of whales in Puget Sound. The network also provides information on how people can make lifestyle changes to protect whales, and posts opportunities for people to become advocates for whales.

Results

The Orca Network gave whale presentations on ferries and at many public events. In the spring and summer of 2002, they sent out e-mail notices of 321 sightings reports and received up to 358 user sessions per day on the Web site.

The Orca Network coordinator reported that a big challenge was "Walking the fine line between getting the whale-sighting locations out fast enough for researchers and for citizens hoping to see the whales from the shore, while at the same time ensuring that we aren't increasing boater pressure on the whales." To address this challenge, the Orca Network does a lot of work to educate people about proper whale-watching etiquette.

Product

Orca Network Web site

Sponsor:
Orca Network
Coordinator:
Susan Berta
Partners:
Whale Museum, Center for Whale Research, Foss Maritime, International Whale Watch Operators Association, Washington State Ferries
Audience:
Puget Sound residents and visitors
Community:
Sound-wide
Award:
$2,400
Timeline:
2001 - 2003
Web site:
www.orcanetwork.org

Youth Education

PUGET SOUND
ACTION TEAM

Application of a Shellfish Science Club Model

Coordinators mentored schools interested in forming a shellfish farming club, an entrepreneurial project pioneered by Quilcene-Brinnon schools.

Description

Shellfish provide jobs for residents in rural communities of Puget Sound, contribute to the quality of life enjoyed by many residents, and make up a large percentage of west coast shellfish sales in the nation. Shellfish are also very sensitive indicators of the quality of marine water and clean water is essential for shellfish production in Washington. The project coordinators used the Quilcene-Brinnon School Shellfish Club program as a model to educate high school students about how to farm shellfish, maintain water quality, and practice scientifically sound resource conservation.

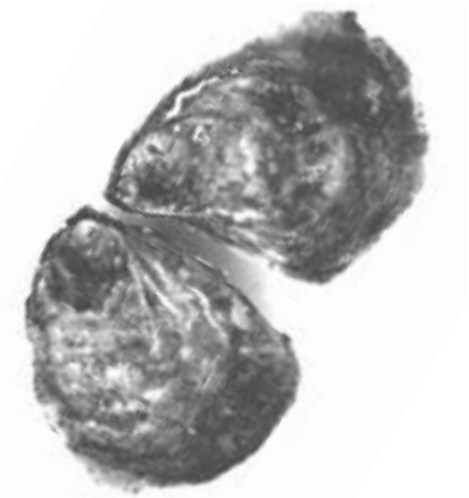
Results

The contractor mentored two schools interested in setting up clubs. They worked with schools to identify shellfish beds for cultivation, conducted water quality testing and shellfish surveys, and purchased farm supplies. The project exposed students to water quality and shellfish issues, the links between shellfish resources and the watershed, the connection between declines in natural resources and the resulting loss of Northwest history and traditions, and students also learned about career opportunities in this natural resource field.

Product

The Development of a School Shellfish Science Club

Sponsor:
Pacific Shellfish Institute
Coordinator:
Daniel Cheney
Partners:
Pacific Coast Shellfish Growers Association, North Canal Shellfish Coalition, Quilcene School District, Washington Department of Natural Resources, U.S. Environmental Protection Agency
Audience:
Students
Community:
Belfair, Olympia
Award:
$18,000
Timeline:
1997 – 1999



Asian Pacific Islander Youth's Shellfish Harvesting Outreach Project

Young people educated their community about safe and sustainable shellfish and seaweed harvesting.

Description

In 2000, people became ill from eating shellfish tainted with paralytic shellfish poisoning. The Asian Pacific Islander community worked with state and local agencies to alert their communities about safe and responsible harvesting from beaches. Teens from the Asian Pacific Islander community learned about shellfish and water quality issues and monitoring techniques in preparation for educating their communities. They worked with elders from the Samoan, Korean, Filipino, Vietnamese, and Cambodian communities and conducted field trips to beaches to model sustainable harvest methods. The young people collected clam samples for a biotoxin sampling project led by the local health department. They helped create a video and a public service announcement on safe and sustainable shellfish harvest that they translated into six languages and ran on local stations. They provided outreach to Asian Pacific Islander-owned businesses in the community to provide information on safe and sustainable purchase of shellfish.

Results

The young people reached over 400 adults at community meetings and during beach walks. The young people provided outreach to 10 local businesses. Marine Resources for Future Generations, the advisory group for the project, produced a guidance document on how to work with diverse communities and presented the information at a national conference. They have pioneered collaborative working relationships between the Asian community and government agencies.

Products

- Video: *Good Food From the Sea*, in English, Korean, Cambodian, Vietnamese, Samoan, and Filipino languages. Contact the Korean Women's Association at (253) 535-4202 to obtain copies of the videos. The Puget Sound Action Team has copies available for loan.
- Public Service Announcements in six languages
- Report: *A Community Centered Approach to Working with Diverse Communities*

Sponsor:
Korean Women's Association
Coordinator:
Faaluaina Pritchard
Partners:
Indo Chinese Cultural Service Center, Tacoma-Pierce County Health Department, Washington Department of Fish and Wildlife
Audience:
Asian Pacific Islander adults and students
Community:
Pierce County
Award:
$45,000
Timeline:
1999 - 2001
Web site:
kwaonline.org/Programs/youth.html

EnviroChallenger

The Tacoma Public Works Department brought environmental science lessons to Tacoma students.

Description

The city of Tacoma brought hands-on, interactive lessons on water quality, watersheds, salmon, household hazardous waste, recycling, and worm composting to students in the beautifully painted EnviroChallenger. The van is painted to show people, salmon, and other animals living together amidst familiar Tacoma landmarks. The lesson plans were designed to meet the state's academic standards. Educators from the Public Works Department also provided teacher workshops on water quality, habitat and monitoring and presented a mini lesson on earth-friendly lawn care at community events.

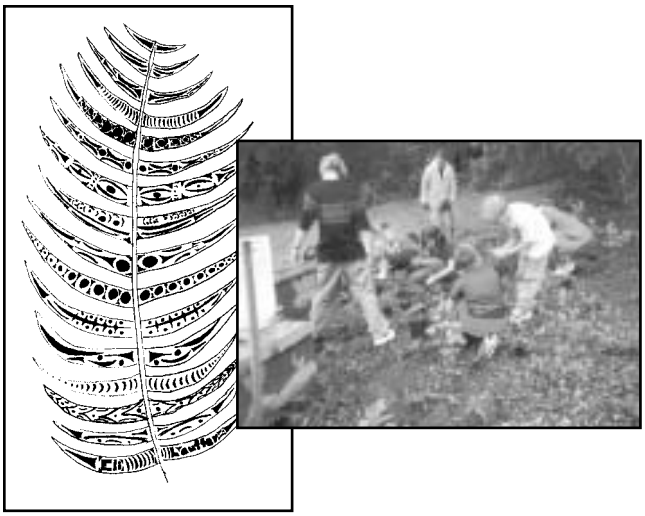
Results

Tacoma's public and private schools took full advantage of the education provided by the EnviroChallenger program. About 5,000 students participated in the interactive lessons during the PIE contract. The city of Tacoma has chosen to continue funding the program, which currently serves several thousand students each year.

Product

EnvironChallenger lesson plans

Sponsor:
City of Tacoma Sewer Utility, Stormwater Utility & Solid Waste Utility
Coordinator:
Chris Gleason
Partners:
Tacoma School District
Audience:
K-5th grade students
Community:
Tacoma
Award:
$30,600
Timeline:
1999 - 2001
Web site:
www.envirochallenger.com



Expedition Mee Kwa Mooks

Pathfinder Elementary School students worked with the community to improve wildlife habitat and reduce pollution from stormwater runoff at a West Seattle park.

Description

Pathfinder Elementary School used Mee Kwa Mooks Park near Alki Point as an exciting extension of their classroom environmental studies. In addition to learning about the plants and animals in the park, students studied the Duwamish tribe and interviewed a descendent of an early Alki settler. Building on their research into the environmental, historical and cultural history of the park, students participated in monthly work parties to pull invasive weeds and restore natural vegetation in the park. They installed signs at the park and held a community celebration to educate residents about choices people can make to reduce pollution and protect wildlife habitat.

Results

The curriculum invested students with a strong sense of place. Sixty students cleared 2,000 square feet of non-native plants and replaced them with 500 native plants. Of the 240 people that attended the community celebration, several were inspired to sign up to help the students care for the park.

Products

- Interpretive signs
- Web site
- Script for play written by students: Attack of the Evil Pollution

Sponsor:
Pathfinder Elementary
Coordinator:
J. Bryan Street
Partners:
Seattle Parks, Doug Rice, Landscape architect, Pathfinder tutors
Audience:
Students, residents, businesses
Community:
West Seattle
Award:
$9,800
Timeline:
1997 – 1999

Knowledge and Restoration

Students learned about and restored salmon and wildlife habitat along the North Fork of the Samish River.

Description

The Edison community takes pride in their school, which has been a central part of the community for more than 75 years. When a teacher obtained PIE funds to study and restore habitat on a watercourse that ran through school property, however, he reported that there was some skepticism about the value of the "Edison slough" which in most people's minds translated to the "Edison sewer." Few knew that the degraded slough was the north fork of the Samish River. Students sampled the water and compiled a database of water quality monitoring results to provide information to the local community, Health Department, and other agencies to promote better understanding of the condition of the North Fork and how it affects the shellfish industry in Samish Bay. They cleaned up trash, removed blackberries, and planted native species along the river. Their activities enhanced the value of the ecosystem for wildlife and managed to raise it a few notches in the community estimation as well.

Results

According to pre-and post-project tests that measured increases in student knowledge about watershed, water quality and habitat issues, average scores improved from 59 percent to 87 percent and 54 percent to 83 percent for the two groups tested. The coordinator established a database to track water quality. Almost 100 students participated in cleanup and replanting activities. Science instruction in the seventh and eighth grades became more project-oriented and incorporated the project site as an outdoor laboratory for environmental studies.

Products

- Curriculum
- Pre- and post-project tests
- Monitoring plan
- Water quality database

Sponsor:
Edison Elementary School
Coordinator:
Rob Matthews
Partners:
Upper Skagit Indian Tribe, Skagit Conservation District, Washington Department of Fish and Wildlife, Skagit Fisheries Enhancement Group, Skagit Public Works Department
Audience:
4th-8th grade students, parents, community
Community:
Northwest coastal region of Skagit County, town of Edison
Award:
$5,500
Timeline:
1997 - 1999

Seabeck Alki Salmon Team

A group of elementary and middle school children formed a team to teach the community how to protect salmon habitat.

Description

Under the leadership of a dedicated parent and a group of enthusiastic children, the Seabeck Alki Salmon Team made a commitment to learn about salmon and their habitat in order to educate the community about what people can do to protect and preserve wild fish. Their passion for fish led them to learn about and teach their community about the harm that people can do to salmon populations by nonpoint pollution, on-site sewage systems, bulkheads on marine shorelines, and fish passage barriers. To help them convey their message, the team produced a slide show, a salmon book and a guidance document on how to start a salmon team.

Results

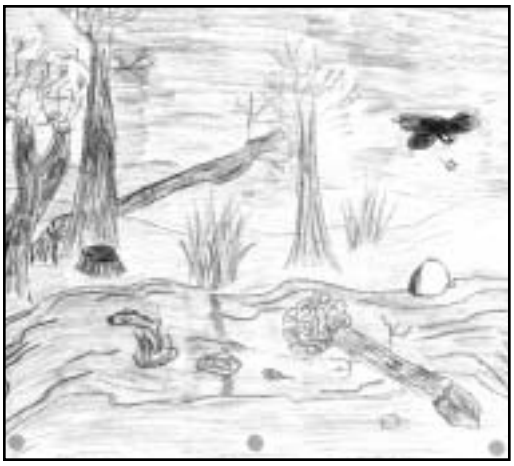
Students presented the slide show to eight elementary schools and five community groups. They created and distributed 100 salmon books through the schools. They provided advice on how to start a salmon team and received interest from two schools. One of their biggest challenges was persuading schools to dedicate time for the program and obtaining evaluation from participating teachers. Salmon can be controversial and one of the most positive aspects of this project was the community's reception of the enthusiastic and apolitical voice the children brought to the issue.

After the conclusion of the PIE contract, the Seabeck Alki Salmon Team has gone on to achieve some noteworthy successes. They spearheaded efforts to acquire funds for a 35-acre parcel on Seabeck Bay with prime fresh and marine salmon habitat that was slated for development and have created an environmental learning center on the site.

Products

- Salmon Team Guide
- The Salmon Book (produced by students)
- Slide Show (produced by students)

Sponsor:
Seabeck Alki Salmon Team
Coordinator:
Jerry Zumdieck
Partners:
Ron Hirschi (biologist), several other community members
Audience:
K-6th grade students in Central Kitsap schools, community clubs, environmental groups
Community:
Seabeck & Kitsap schools
Award:
$13,700
Timeline:
2001 - 2003
Web site:
http://salmon.home.donobi.net/news.htm



South Sound GREEN: Salmon Come Home

Teachers and students learned about threats to local salmon populations and participated in habitat protection and restoration activities.

Description

South Sound GREEN held a summer teachers institute to train teachers about the issues surrounding the 4H's that threaten wild salmon stocks: habitat destruction, hydroelectric dams, over-harvest, and competition with hatchery fish. The teachers visited sites where salmon habitat had been restored, a hatchery, and a dam. Teachers used the knowledge and skills they gained from the institute and teamed up with GREEN coordinators and other resource specialists to involve their students in salmon habitat protection and restoration during the school year.

Results

More than 20 teachers who attended the summer institute committed to involve their students in an action project and a watershed related field trip. Seven hundred students, parents and community members participated in storm drain stenciling and restoration work on Woodard and Percival Creeks in Thurston County.

Product

- Summer teacher institute agenda
- Curriculum

Sponsor:
South Sound GREEN
Coordinator:
Kathy Jacobsen
Partners:
South Sound Salmon Enhancement, Kennedy Creek Management Committee, Thurston Conservation District, Olympia Rotary, Earth Savers Stencils, Natural Resource Conservation Service, WSU Cooperative Extension
Audience:
4th-12th grade students, teachers, parents, community members
Community:
Thurston County
Award:
$18,800
Timeline:
1997 - 1999

Student Environmental Enhancement Project

Students from a rural community put their knowledge about the watershed to work with restoration, monitoring, and trail building activities.

Description

Many of the students from the Hood Canal School have a cultural heritage descended from the Twana, the earliest inhabitants of the Hood Canal who are the predecessors of today's Skokomish Tribe. The tribal community has a deep cultural connection to the Skokomish River and its watershed located on the southern end of Hood Canal. In this project, middle school students learned about the ecology of the watershed in the classroom and reinforced the lesson with field studies. They planted riparian areas, placed salmon carcasses to replenish nutrients in streams, built a trail around a wetland near the school to allow access for wetland studies, removed barriers to fish habitat, snorkeled to inventory bull trout, and measured survival and growth rates of reintroduced native Olympia oyster populations. To share their watershed lore, they put on an Earth Day, Every Day Fair for elementary students with games, activities and presentations. They created a field guide to show species in the watershed, some of which the tribe has nurtured and used since time immemorial.

Results

Fifty Hood Canal seventh and eighth grade students were actively involved in hands-on field work. Ninety students participated in class activities each month throughout the school year and 10 students continued to participate during the summer. The students continue to monitor and maintain the upkeep of the wetland trail.

Product

Skokomish Watershed Youth Field Guide

Sponsor:
Hood Canal School
Coordinator:
Laurie Byrd
Partners:
Skokomish Tribe Department of Fisheries, U.S. Forest Service, Mason Conservation District
Audience:
Students
Community:
Skokomish Watershed
Award:
$28,000
Timeline:
1999 – 2001

Swan Creek Watershed Citizen/Youth Partnership Project

Citizens and youth of the Puyallup Tribe and Tacoma's Salishan and Eastside communities became caretakers of the Swan Creek Natural Area.

Description

Swan Creek, a tributary to the Puyallup River, is an urban stream impacted by excessive stormwater runoff, fish passage problems, and garbage dumping. This project recruited and trained low-income, minority students and citizens to work with youth to encourage community ownership and stewardship of Swan Creek. The group removed invasive plants and replaced them with native species, picked up trash, monitored to assess the stream's health, and educated the community. Student leaders provided environmental education activities during day camp sessions and provided education to the community.

Results

More than 150 students from Chief Leschi School toured the Swan Creek Watershed. Twenty-two teachers from Chief Leschi attended an inservice teachers day to learn about Swan Creek macroinvertebrates and how to conduct simple water quality tests. Citizens and students planted 500 cedar and hemlock trees along the stream.

Products

- Swan Creek Color Book: Produced by the Eastside 4-H club
- Swan Creek Trail Guides: produced by Gault Middle School students
- Water Quality Display: produced by McIlvaigh Middle School students

Sponsor:
Metro Parks Tacoma Nature Center
Coordinator:
Carly Gelarden
Partners:
Eastside 4-H Ecology Club, Chief Leschi School, McIlvaigh and Gault Middle Schools, Puyallup Tribe Fisheries Department, Youth Outdoor Adventures Program, Portland Avenue Center
Target Audience:
Adults and children in 3rd-8th grades
Community:
Salishan and Eastside Tacoma Communities
Award:
$12,500
Timeline:
1999 - 2001

Taylor Creek Watershed Internship Project

The Pacific Science Center mentored teen interns as they evolved into knowledgeable watershed educators in the Rainier Valley community.

Description

This project brought teens, elementary school students, teachers, families, the city of Seattle, and citizen groups together to learn about, monitor, and protect the health of Taylor Creek, an urban stream in south Seattle. The high school interns designed and presented lessons about Puget Sound, watersheds, and salmon to elementary students. Translations of take-home materials helped spread the message to non-English speakers in the community.

Results

The sponsors had difficulty recruiting interns and recommended starting early in the school year and targeting students interested in science. Each of the six interns who completed the program demonstrated an increase in teaching skills; most were confident in their ability to relay concepts about the water cycle and watersheds; and each reported attitude and behavior changes. Half expressed a desire to pursue a career in education or science. Of the 123 elementary students who participated, 80 percent had never visited a stream and 31 percent had not visited a park prior to the Taylor Creek project.

Products

- Lesson plans
- Water quality data for Taylor Creek (2001 – 2003)

Sponsor:
Pacific Science Center
Coordinator:
Apryl Brinkley
Partners:
Elementary School Teachers, Friends of Deadhorse Canyon, Seattle Public Utilities
Audience:
Taylor Creek Watershed Residents
Community:
Southeast Seattle
Award:
$37,600
Timeline:
2001-2003
Web site:
www.pacificsciencecenter.org

WaterWeb Intertidal Studies and Monitoring Project

Students shared knowledge about the intertidal ecology of the Salish Sea through the Internet.

Description

RE Sources in Bellingham modified a teachers guide from British Columbia and led field trips to introduce middle and high school students to the natural and cultural history of the Puget Sound/Georgia Basin estuary, which Washington shares with Canada. Workshops trained teachers on two beach monitoring methods. In addition to learning how to collect information about the plants and animals found on the beach, some classes learned to conduct detailed surveys of the shoreline using the Citizen Shoreline Inventory. Data from the studies were posted on RE Source's Web site.

Results

RE Sources modified a nearshore curriculum and distributed it to 13 teachers and eight community organizations. They trained 10 teachers how to use the curriculum, inventory beach organisms, and collect data for the Citizen Shoreline Inventory. Subsequently, six teachers involved their students in beach monitoring. RE Sources directly trained 61 students to monitor beaches. They provided guidance for 13 classes on posting beach monitoring data to the WaterWeb site.

Product

Living on the Edge: A Teacher's Guide to WaterWeb.

Sponsor:
RE Sources
Coordinator:
Robyn Du Pré
Partners:
Georgia Strait Alliance, People for Puget Sound, Adopt a Beach, Beach Watchers, Whatcom Middle School, Shuksan Middle School, Sehome High School, Squalicum High School, Wellspring Community School, Western Washington University
Audience:
Middle and high school students, teachers
Community:
Whatcom, Island and Skagit counties
Award:
$19,900
Timeline:
1997 - 1999

Watershed Education and Restoration Program

A dynamic partnership involved middle school students in monitoring and restoration activities in the Newaukum Watershed.

Description

The Mid-Sound Fisheries Enhancement Group partnered with the Seattle Aquarium and Muckleshoot Tribe to provide meaningful on-the-ground stewardship opportunities in the Newaukum Watershed for students and teachers from schools located in King County. The students conducted chemical and biological monitoring, placed woody debris in the stream, planted trees and shrubs, and installed fences to keep farm animals away from the stream.

Results

During the course of this project, 294 volunteers planted 1,035 native trees, shrubs, and cuttings, constructed 460 feet of fencing, and revegetated nearly a half-mile of riparian habitat. The African American Academy and Washington Middle School modeled a smaller scale project within the Seattle area. The project helped develop a contact with the Emerald City Rotary Club.

Products

- Water quality monitoring protocol
- Teacher workshop agenda and materials
- Training materials
- Outcome evaluation

Sponsors:
Mid-Sound Fisheries Enhancement Group & Seattle Aquarium
Coordinator:
Craig Carson, Belinda Chin
Partners:
Muckleshoot Tribal School, African American Academy, Cascade Middle School, Sequoia Junior High School, Washington Middle School
Target Audience:
Middle school students and teachers
Community:
Newaukum Creek, Green-Duwamish Watershed
Award:
$15,800
Timeline:
1997 - 1999

February 2004

PUGET SOUND
ACTION TEAM

(360) 725-5444
(800) 54-SOUND
Publication #PSAT04-02

www.psat.wa.gov