

# Still More **Great Grants**

Environmental Education Success Stories of EPA Region 10, Book 3





# Introduction

## What is Environmental Education?

Environmental education has helped people around the world understand that to ensure a good quality of life for ourselves and our children; we must act as responsible stewards of our air, water, and land. Environmental education has encouraged communities to harness the creativity, imagination, and tenacity of their neighbors and put that energy to work in the service of public health and our environment.

*Environmental education is a learning process that increases people's knowledge and awareness about the environment and associated challenges, develops the necessary skills and expertise to address the challenges, and fosters attitudes, motivations, and commitments to make informed decisions and take responsible action (UNESCO, Tbilisi Declaration, 1978).*

Environmental education does not advocate a particular viewpoint or course of action. Rather, environmental education teaches individuals how to weigh various sides of an issue through critical thinking, enhancing their own problem-solving and decision-making skills.

The components of environmental education are:

1. Awareness and sensitivity to the environment and environmental challenges.
2. Knowledge and understanding of the environment and environmental challenges.
3. Attitudes of concern for the environment and motivation to improve or maintain environmental quality.
4. Skills to identify and help resolve environmental challenges.
5. Participation in activities that lead to the resolution of environmental challenges (UNESCO, 1978).

Although our nation has made tremendous progress in protecting our environment, much more remains to be done. According to Roper Starch Worldwide and the National Environmental Education and Training Foundation, two out of three adult Americans fail a simple multiple choice quiz testing knowledge about basic environmental principles like the main causes of water pollution and the difference between ozone depletion and global warming. If we are to meet the challenges of the next 30 years, we must deepen environmental awareness in our communities by engaging more people in protecting the health of the world we live in.

Environmental education improves our everyday lives by:

- Protecting Human Health
- Advancing Quality Education
- Encouraging Careers in the Environmental Field
- Promoting Sustainable Development
- Encouraging Stewardship of Natural Resources

# Introduction

## EPA's Role in Environmental Education

The National Environmental Education Act of 1990 charged EPA with the responsibility for coordinating federal environmental education initiatives and for providing leadership to the public and private sectors. The Act also mandated the creation of an Office of Environmental Education within EPA and the operation of a number of environmental education programs and projects. The vision of the Office of Environmental Education is to increase the public's knowledge of environmental issues and sense of responsibility to ensure environmental stewardship. The Office of Environmental Education strives to ensure that environmental education is a recognized and appropriately utilized tool for protecting human health and the environment and improving student academic achievement. The office has the following goals:

1. Supporting Teachers, Students, and K-16 Education: Link to the goals and objectives of education reform to increase the quality and quantity of environmental education in the formal education system.
2. Supporting States: Support state-level capacity building programs and activities that ensure long-term effectiveness and sustainability of environmental education programs.
3. Supporting Research: Catalyze research that assesses the effectiveness of environmental education in environmental protection and student achievement.
4. Supporting Improvement: Improve communication and the quality, access, and coordination of environmental education information, resources, and programs within and external to EPA.

In order to fulfill its goals, The National Environmental Education Act established several primary programs and partnerships, including the Environmental Education Grants Program. EPA awards environmental education grants to promote excellence and innovation in environmental education at the grassroots level. Each year eligible organizations across the nation receive approximately three million dollars to support local initiatives. Any local or tribal education agency, state education or environmental agency, college or university, not-for-profit organization, or non-commercial education broadcasting entity may submit a proposal.

## The Grant Selection Process

EPA provides financial support for projects that design, demonstrate, or disseminate environmental education practices, methods, or techniques and address one or more of EPA's environmental education priorities. More information on the grant program can be found on EPA's environmental education Web site at <http://www.epa.gov/enviroed/grants.html>.

# Introduction

Nationally, approximately 250 environmental education grants are awarded each year, with much of the funding directed into small grants of \$10,000 each. Each EPA regional office awards around \$190,000 per year. The environmental education grants provided by EPA ensure that a large number of organizations receive seed money to implement projects that close gaps in environmental education.

Region 10 includes the states of Alaska, Idaho, Oregon, and Washington. All proposals submitted to EPA Region 10 undergo an initial and final review process. After an internal review, the top applications are sent out for external review by experts in the field. The final regional selection process takes place at the EPA Region 10 office in Seattle, Washington. EPA makes its final grant selection after proposals have been evaluated and scored by reviewers and takes the following criteria into consideration: the effectiveness of collaborative activities and partnerships, the environmental and educational importance of the activity or product, the effectiveness of the delivery mechanism (i.e. workshop, conference, etc.), the cost effectiveness of the proposal, and the geographic distribution of projects.

## About this Booklet

This booklet summarizes success stories that have resulted from Region 10 EPA Environmental Education grants implemented in the fiscal years 1999 to 2004. Also included in the booklet are larger grant awards that EPA Headquarters awarded to organizations in Region 10. All completed projects have been included. The goals of this booklet are to link similar projects and programs, reduce duplication, improve the quality of future projects, and provide lessons learned from completed projects.

Thank you to Joanne Brendle, of the regional Grants Unit, Ellie Crandall and Beth Sweeney of the Community Involvement and Public Information Unit, and EPA Region 10 Graphic Office for their work on designing the format and compiling, preparing, and editing the information for this grant booklet.

The booklet is organized by state, and within each section the completed grants for fiscal years 1999 through 2004 are listed in alphabetical order by the title of the project. Where information was available, each project write-up includes the following sections:

<b>Grant Number</b>	<b>Focus</b>	<b>Products/Results</b>
<b>Sponsor</b>	<b>Target Audience</b>	<b>Challenges</b>
<b>Project Coordinator</b>	<b>Purpose</b>	<b>Successes/Strengths</b>
<b>EPA Funding</b>	<b>Goals</b>	<b>Number of People Affected</b>
<b>Match Funding</b>	<b>Methods</b>	<b>Tips From the Grantee</b>



# Introduction

The following indexes are also provided:

**Alphabetical listing of project title by state**  
**Listing by project target audience**  
**Listing by project focus**

These grant projects have reached over 43,000 students, 7,000 teachers, 1,600 parents, and 7,500 community members. EPA's funding has been supplemented with an estimate of more than one million dollars in match funding.

We found some recurring themes in these grants' successes and challenges:

## **Successes:**

- Schools, environmental education organizations, and experts have developed excellent partnerships.
- Projects invoked teachers' and students' enthusiasm.
- Combining environmental education, particularly field trips, with current lesson planning enhanced student learning in several subjects.
- Existing curriculum could be used for projects with only some adaptation required.
- Some projects have become models for other schools or organizations.
- Coordinators met with the teachers individually or organized teacher workshops to meet their schedules. Some workshops were scheduled after school, on a Saturday, on an in-service day, or during the summer.

## **Challenges:**

- Teachers were too busy to devote much class time or free time to extra training and developing new projects.
- Many of the projects involved field trips, which were often cancelled because of high transportation costs.
- Lack of communication with the participants led to a lack of enthusiasm.

If you have any questions or would like more information, contact Sally Hanft ([hanft.sally@epa.gov](mailto:hanft.sally@epa.gov)), the Environmental Education Grants Coordinator for Region 10, at (206) 553-1207 or call the toll free Region 10 hotline at 1-800-424-4372.

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# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **A Capacity Building Grant to Develop Environmental Education Leadership and Capacity in Alaska**

**Grant Number:**

NE-97073701

**Sponsor:**

Alaska Natural Resource and  
Outdoor Education Association

**Project Coordinator:**

Courtney Sullivan  
Alaska Natural Resource and  
Outdoor Education Association  
(ANROE)  
200 W. 34<sup>th</sup> Street, Suite 1007  
Anchorage, AK 99503  
(907) 292-1772

**EPA Funding:**

\$10,530  
FY 2004

**Match Funding:**

\$3,675

**Focus:**

General Environmental Education

**Target Audience:**

Formal and Informal Environmental  
Educators in Alaska

**Purpose:**

To increase the effectiveness of  
environmental education efforts  
across the state through collaborative  
partnerships

**Goals:**

- Partner with other state  
education providers to offer  
professional development  
trainings for educators and

practitioners of environmental  
education at regional  
conferences

- Increase membership in and  
awareness of Alaska's  
environmental education  
association to enhance  
opportunities for networking,  
training, and leadership  
development
- Update and expand their Guide  
to Alaska Natural Resource  
Education Materials and make it  
into a web-based, searchable  
database to provide more access  
for Alaska environmental  
educators
- Establish a statewide interagency  
environmental education  
advisory committee to provide  
leadership and direction for  
environmental education  
practitioners in Alaska

**Methods:**

- Increase partnerships
- Develop and participate in the  
regional conferences
- Conduct workshops and  
trainings at the regional  
conferences
- Increase opportunities for  
networking, training, and  
leadership through increased  
membership
- Expand and reformat the  
resource guide to create a  
searchable database
- Establish the interagency  
environmental education  
advisory committee

# Alaska

**1999 - 2004**

## **Environmental Education Grant Summaries**

### **A Capacity Building Grant to Develop Environmental Education Leadership and Capacity in Alaska**

#### **Products/Results:**

- Developed and implemented an environmental conference, which was held in March 2006
- Provided educators with skills, knowledge, and tools to instill in their students and audiences awareness, appreciation, knowledge, skills, and desire to address and resolve environmental issues in their communities
- Welcomed 82 conference participants who represented a wide variety of participants from across Alaska
- Expanded networking and membership service by increasing attendance at environmental education conferences and training
- Updated the Guide to Alaska Natural Resource Education Materials

- Created and updated the ANROE membership program
- Updated website to make it more user-friendly

#### **Challenges:**

- Had fewer participants than planned take part in the conference because of conflicting activities in the region

#### **Successes/Strengths:**

Participants of the conference were:

- Impressed with the quality of the sessions and variety of topics at the conference
- Appreciated the small class size

#### **Number of People Affected:**

Directly – 82 educators attended the conference

Indirectly – many educators have access to the website

### **Academy of Elders/ Science Camp/Academy of Elders Camp Environmental Education Documentary (2 grants)**

#### **Grant Number:**

NE-97030401

NE-97064901

#### **Sponsor:**

Dig Afognak Academy/Native  
Village of Afognak

#### **Project Coordinator:**

Alisha Drabek/John Larson  
Native Village of Afognak  
204 E. Rezanof Drive, Suite 100  
Kodiak, AK 99615  
(907) 486-6357

#### **EPA Funding:**

\$24,425

FY 2002

\$20,000

FY 2003

#### **Match Funding:**

\$34,504

FY 2002

\$39,249

FY 2003

#### **Focus:**

General Environmental Education



# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **Academy of Elders/ Science Camp/Academy of Elders Camp Environmental Education Documentary (2 grants)**

#### **Target Audience:**

Alaskan Native Students, Educators, Community Members, and Elders

#### **Purpose:**

To blend traditional and scientific knowledge into public science education

#### **Goals:**

- Strengthen critical thinking and confidence in math, science and technology fields
- Train teachers in methods for implementing environmental education
- Study and communicate environmental threats to the community and its resources
- Demonstrate how the environment is a launching ground for academic learning and teaching
- Learn first-hand from Alutiiq Elders
- Explore projects relevant to rural survival/lifestyles and Native ingenuity
- Include an environmental documentary component in the second grant

#### **Methods:**

- Hold two one-week field camp work sessions
- Participate in Kodiak Island Borough School District Rural Science Fair
- Publicize data reports on a Web page to promote public awareness
- Prepare a documentary made to

educate those unable to attend camp (second grant)

#### **Products/Results:**

- Exposed teachers to new instruction methods as they observed Elders teach youth
- Were able to have the students receive science, math, and technology instruction in a way that grounded the lessons in the realities of their unique environment
- Participated in the Kodiak Island Borough School District Rural Science Fair
- Collected environmental data that is shared with a national monitoring program
- Received support from the Kodiak Island Borough School District for the teaching method integration
- Made documentary to educate a larger audience about rural environmental concerns and how Alutiiq Elders address those concerns (second grant)

#### **Challenges:**

- Unable to document the effectiveness of the Native Ways of Knowing pedagogy
- Did not consistently disseminate and collect attitudinal surveys

#### **Successes/Strengths:**

- Advanced the culturally-oriented Native Ways of Knowing and Teaching approach to integrate Alutiiq knowledge into the western-oriented educational system

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **Academy of Elders/ Science Camp/Academy of Elders Camp Environmental Education Documentary (2 grants)**

- Strengthened students' critical thinking by collecting environmental data to apply lessons in math, science and technology
- Earned the right for two Academy of Elders/Science Camp students to participate in the American Indian Science and Engineering Science Fair
- Was able to have the Project Coordinator support teaching method integration during the academic year
- Posted report on the Alaska Rural Systemic Initiative Web site about the camp and efforts to implement Native Ways of Knowing and Teaching Methods in the school district
- Created presentation entitled "Education Indigenous to Place" at the 32<sup>nd</sup> Annual Conference of

- the North American Association for Environmental Education
- Filmed the documentary, "Discovering Science Through Our Culture," showing how environmental issues are approached when traditional and western scientific knowledge are blended (second grant)
- Welcomed 50 community members to the screening of the documentary
- Provided the documentary to teachers and the community

### **Number of People Affected:**

Directly – 64 students, teachers, and Elders

Indirectly – 2,000 Kodiak students for the first grant

Directly – 40 students, teachers, Elders, and community members for the second grant

### **Adapting Anchorage Middle School Curricula with Alaska Stream Team Methods**

#### **Grant Number:**

NE-83057601

#### **Sponsor:**

University of Alaska Anchorage  
Environmental Natural Resources  
Institute

#### **Project Coordinator:**

Daniel Bogan  
University of Alaska Anchorage  
Environmental Natural Resources  
Institute  
707 A Street  
P.O. Box 92596  
Anchorage, AK 99501  
(907) 257-2731

#### **EPA Funding:**

\$35,973

FY 2002

#### **Match Funding:**

\$12,168

#### **Focus:**

Ecosystem/Habitat

#### **Target Audience:**

Elementary and Middle School  
Students and Teachers

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **Adapting Anchorage Middle School Curricula with Alaska Stream Team Methods**

#### **Purpose:**

To increase awareness of the connections between human activities and watershed health

#### **Goals:**

- Provide broad-based hands-on environmental education opportunities to teachers and students in the Anchorage school system
- Incorporate science-based environmental monitoring tools into existing middle school curricula for math and science
- Teach 6<sup>th</sup>-8<sup>th</sup> grade educators and students how systems are interconnected, how human activities affect watersheds, and how behavior changes can positively affect water quality
- Hold a two-day teachers' workshop featuring lessons on watershed and general ecosystem concepts and aquatic ecology principles
- Use a newly developed Internet database that encourages continued participation by providing a place to store, share, and view data collected by classrooms across the state
- Increase teacher awareness and use of these easy and effective scientific methods for environmental education
- Involve classrooms in relevant local issues
- Improve Anchorage School District's science content understanding using practical science applications

#### **Methods:**

- Hold a two-day workshop covering both the relevant science concepts and the database used to view, store, and share the data collected
- Use hands-on applications of the concepts to ensure the teachers understand the approach to fully involve the students
- Establish a teacher advisory committee and listserv to provide feedback, facilitate communication, and support long-term coordination efforts

#### **Products/Results:**

- Made additions and revisions to the curriculum
- Held the three teacher workshops
- Provided teachers with a copy of the StreamKeeper's Field Guide, curriculum materials, and training on how to use the curriculum for assessing water quality with students
- Trained in using D-frame nets and other collection materials, field guides, and water quality test kits consistent with the Educational Level Methods for Biological Assessment developed by the Environment and Natural Resources Institute
- Introduced supplemental materials developed for classroom use and strategies for incorporating biological assessment techniques into their existing science curriculum

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **Adapting Anchorage Middle School Curricula with Alaska Stream Team Methods**

- Scheduled follow-up sessions where teachers were able to show how they used the materials, strategies that worked well with their students, and problems they encountered
- Held taxonomy review during open lab nights for teachers to brush up on their invertebrate taxonomy and gain confidence in their skills before conducting sampling events with their students

#### **Challenges:**

- Change in project manager at the beginning of the grant
- Struggled with getting teachers to sign up for the training
- Cancelled two workshops scheduled for June 2004 and 2005 due to under-enrollment-learned that it is better to schedule workshops in September

#### **Successes/Strengths:**

- Held additional Alaska Stream Team workshops throughout

- south coastal Alaska employing many of the curricular materials developed as part of the grant
- Will hold another workshop in September 2005 after the grant has ended; 13 educators have signed for this training
- Forming a formal advisory committee of teachers, government agencies, and local non-profit organizations to assist in reviewing and directing educational water quality monitoring initiatives
- Will serve as a support group for teachers that need help in resolving problems as they plan and implement their water quality monitoring units
- Will identify teachers and students who will present findings from their water quality monitoring efforts at the Alaska Forum on the Environment in February 2006 and possibly the North American Benthological Society Meeting in June 2006

#### **Number of People Affected:**

Directly – 43 educators

### **Calypso's Youth Farm and Ecology Program/ Calypso's Youth Farm and Ecology Program – Expansion into Low Income Schools (2 grants)**

#### **Grant Number:**

NE-98080001  
NE-97028101

#### **Sponsor:**

Calypso Farm and Ecology Center

#### **Project Coordinator:**

Susan Willsrud  
Calypso Farm and Ecology Center  
P.O. Box 106  
Ester, AK 99725  
(907) 451-0691

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **Calypso's Youth Farm and Ecology Program/ Calypso's Youth Farm and Ecology Program – Expansion into Low Income Schools (2 grants)**

#### **EPA Funding:**

\$5,000  
FY 2000  
\$5,000  
FY 2002

#### **Match Funding:**

\$5,774  
FY 2000  
\$5,272  
FY 2002

#### **Focus:**

Agriculture

#### **Target Audience:**

Elementary School Students and  
Teachers

#### **Purpose:**

To implement the youth farm and  
ecology program/To expand youth  
farm and ecology program to reach  
low-income classrooms

#### **Goals:**

- Provide experiential education in agriculture, ecology, and nutrition to school-age children
- Involve youth and teachers in hands-on educational activities both in the classroom and on-site at Calypso
- Teach students and teachers the basic skills necessary for home and/or community gardening

#### **Methods:**

- Work with six classrooms the first year and eight classrooms the second year

- Involve students in nine hands-on, in-class units and two all-day field trips to Calypso
- Have staff work closely with program teachers to augment existing curricula and involve students in the interactive program
- Cover the following ecological topics in class: water dynamics, life in the soil, parallels between forest and garden ecosystems, diversity of seeds

#### **Products/Results:**

- Provided experiential education in ecology and agriculture to over 150 students the first year and 200 students the second year in the Fairbanks North Star Borough School District
- Complemented school district's science curricula
- Introduced students to ecological and agricultural issues not part of their regular curricula
- Had six (first grant) and eight (second grant) classrooms participate in the program
- Reached several classes serving predominantly low-income students

#### **Challenges:**

First Grant

- Revised program for grades 1-6 instead of K-12 – able to use more cohesive curricula materials
- Modified order and topics of units slightly
- Held group feedback session at

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **Calypso's Youth Farm and Ecology Program/ Calypso's Youth Farm and Ecology Program – Expansion into Low Income Schools (2 grants)**

the end of the program rather than individual feedback meetings with each teacher

- Had lack of sufficient follow-up time for each monthly lesson

#### **Second Grant**

- Provided students with the knowledge and skills necessary for home or community gardening but did not help them practice the skills and interests generated; will revise the program to correct this
- Had trouble finding financial support to continue the program, so it is being revised to create organic gardens at the schools

#### **Successes/Strengths:**

- Is the first program of its kind in Alaska
- Incorporated hands-on science activities with sustainable agriculture concepts, which gives students a meaningful and practical science application
- Link to local food production and home gardening techniques gave students the tools to take action in their own lives
- Received positive evaluations; students and teachers really enjoyed the program

#### **Number of People Affected:**

6 teachers, 150 students, and 30 parent and teacher assistants – first grant  
8 teachers, 200 students and 50 parent and teacher assistants – second grant

#### **Tips From the Grantee:**

##### **DO:**

- Let kids get dirty – provide as much hands-on material as possible.
- Integrate art and creative writing into science programs – encourage creative journal writing.
- Incorporate images into presentations – the agriculture slideshow was a hit.
- Encourage individual research projects.
- Allow time for student presentations.
- Get them outside and exploring.
- Work with students in small groups whenever possible.
- Have fun.

##### **DON'T:**

- Do all the talking.
- Get frustrated.

### **Caretakers of the Beach**

#### **Grant Number:**

NE-98076301

#### **Sponsor:**

Center for Alaskan Coastal Studies, Inc.

#### **Project Coordinator:**

Marilyn Sigman  
Center for Alaskan Coastal Studies, Inc.  
P.O. Box 2225  
Homer, AK 99603  
(907) 235-6667

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Caretakers of the Beach

#### EPA Funding:

\$4,450  
FY 2000

Match Funding:  
\$3,600

#### Focus:

Ecosystem/Habitat

#### Target Audience:

Teachers and School Groups Who Participate in Field Trips on Kachemak Bay Beaches and the Community of Seldovia

#### Purpose:

To address the growing problems of environmental damage from trampling and improper handling and illegal collections of marine invertebrates

#### Goals:

- Address an emerging environmental issue through education by linking three distinct audiences with diverse values and involvement with the issues: teachers and other interested adults, middle and high school students, and the community

#### Methods:

- Train and distribute existing curriculum materials about beach "etiquette" to teachers and group leaders planning field trips to Kachemak Bay
- Develop and implement a model beach stewardship program

involving adult volunteers and middle and high school students in Seldovia, Alaska

#### Products/Results:

- Trained 45 teachers
- Distributed curriculum to 100 teachers and other types of materials to increase their knowledge of the problem and provide guidance about "best practices"
- Trained 10 adult volunteers to assist middle and high school students and their teachers in a series of classroom and field activities
- Created teacher in-service training materials and packets and intertidal monitoring data forms

#### Challenges:

- Received limited on-site naturalist support to visiting school groups so this resource was provided by the Community Coordinator
- Had fewer school groups than planned visit Seldovia
- Time spent working with Seldovia students was not enough to overcome significant cultural and social barriers to interacting with visitors
- Unable to complete the school display due to time and logistics; funding was instead used to purchase field guides for students, teachers, and volunteers



# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Caretakers of the Beach

#### Successes/Strengths:

- Addressed an emerging environmental issue through education by targeting three distinct audiences: teachers and other interested adults who used the beach areas and had moderate-to-high issue awareness and ecological knowledge were linked with middle and high school students whose primary use was rarely educational and whose ecological knowledge and issue awareness was generally low
- Linked community with visiting groups whose primary use was educational and whose issue awareness and ecological knowledge were mixed
- Addressed “low-impact” practices for beach field trips in the context of a community where intertidal species are important and often provide traditional Native food resources

#### Number of People Affected:

Directly – 152  
Indirectly – 4,375

#### Tips From the Grantee:

##### DO:

- Plan logistics carefully.
- Recognize that teachers in small schools have many demands on their time.
- Tap into adults who have experience in the environment. In Alaskan communities, this can include fishermen, eco-tour operators, natural resource agency employees, Native elders and artists.
- Use personal contact as much as possible, rather than mass mailings or email.
- Stay focused on building relationships.
- Undertake a long-term commitment and plan a long-term effort.

##### DON'T:

- Impose expectations on social interactions that may be difficult to undertake.
- Dominate meetings and provide rigid structured training programs.
- Focus solely on results and schedules.

### Employing Alaskan Teens in Gardening

#### Grant Number:

NE-97077101

#### Sponsor:

Calypso Farm and Ecology Center

#### Project Coordinator:

Susan Willsrud, Farm Director  
Calypso Farm and Ecology Center  
P.O. Box 106  
Ester, AK 99725  
(907) 451-0691

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Employing Alaskan Teens in Gardening

#### EPA Funding:

\$20,000  
FY 2004

#### Match Funding:

\$27,205

#### Focus:

Agriculture

#### Target Audience:

High School Students and Teachers

#### Purpose:

To provide hands-on education in environmental careers (sustainable agriculture) in an on-the-job education format for at-risk students

#### Goals:

- Educate a culturally diverse population of students in sustainable agriculture
- Offer low-income teens environmental career options
- Develop a network of gardens in Fairbanks schools where teens are paid to grow food and operate community shared agriculture programs
- Teach a wide audience of Alaskan students

#### Methods:

- Provide hands-on education in environmental careers
- Provide garden-based lessons in and out of the classroom
- Employ students during the summer months to maintain organic school gardens while

producing food for the local community

- Provide job skills training, an opportunity for hands-on learning, and more options for locally grown food in Fairbanks
- Create a second garden at University Park Elementary (U Park)

#### Products/Results:

- Provided on the job training for two at-risk students
- Supervised by a college student intern, the at-risk students provided 10 weeks of harvest shares for 18 families
- Broke ground at the pilot elementary school garden at University Park Elementary
- Preparing the first draft of the Living Classroom Manual with the guidance of a ten member Teacher Advisory Group
- Developing a long-term sustainability plan with the guidance of an Education Advisory Committee

#### Challenges:

- Handled some student employment issues using the "Straight Talk" model designed by the Food Project
- Had problems with moose getting through the rustic fence system; were able to string several lines of electricity around the fence that kept the moose out

#### Successes/Strengths:

- Combined school gardens with

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Employing Alaskan Teens in Gardening

- sustainable local food production, hands-on environmental education, and employment for at-risk teens
- Presented information about the project at the 9<sup>th</sup> Annual Community Food Security Coalition Conference and the statewide Alaska Natural Resource and Outdoor Education Conference
  - Will also give presentations in California and at a Fairbanks-region Organic Farming Conference

### Number of People Affected:

Directly – 4 student employees; 80 people whose families received the food; 25 parent, teacher, and community volunteers assisting with the garden construction at U-Park Elementary School; 30 students involved in a U-Park garden design project; 25 students involved in a “stepping stones” garden fundraising effort; 1 youth garden supervisor; 35 visitors at the program Open House  
Indirectly – 3,000 Calypso members through newsletter; 320 vegetable shareholders; 35,000 people who read the Fairbanks News Miner articles; 500 who learned about the project through Calypso Farm Tours

### Environmental Activities, Kits, and Teacher Training

**Grant Number:**  
NE-98048901

**Sponsor:**  
University of Alaska SE-Sitka

**Project Coordinator:**  
Dr. John Carnegie  
University of Alaska SE-Sitka  
1332 Seward Avenue  
Sitka, AK 99835  
(907) 747-7755

**EPA Funding:**  
\$25,000  
FY 1999

**Match Funding:**  
\$8,649

**Focus:**  
Water Quality

**Target Audience:**  
Students in Five Rural Alaskan School Districts

**Purpose:**  
To help students appreciate the value of well operated and maintained water and wastewater facilities, as well as a greater awareness of how personal hygiene, drinking water, and human-waste handling practices affect human health

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Environmental Activities, Kits, and Teacher Training

#### Goals:

- Create 10 instructional kits based on the Rural Alaska Sanitation Education program (RASE) developed by the University
- Provide kits with activity-based units on stream and lake water quality, water pollution, solid waste disposal, water and wastewater treatment techniques, waterborne disease transmission, and the relationships between these topics
- Train village teachers in the proper and effective use of the curricular materials in the kit

#### Methods:

- Develop and distribute activity kits and training sessions for school teachers in rural areas
- Provide kits with activity-based units (topics listed under Goals)

#### Products/Results:

- Developed, equipped, and distributed 10 kits
- Conducted four in-service training sessions
- Used kits in 17 schools

#### Challenges:

- Conducted only four in-service training sessions because four, rather than the planned five, school districts were already involved with the program
- Had only one to three hours allocated for the training during the in-service days, and the trainers felt rushed and disjointed

- Was difficult to get feedback from participating teachers

#### Successes/Strengths:

- Gained student appreciation for the value of well operated and maintained water and wastewater facilities
- Increased students' awareness of how personal hygiene, drinking water, and human waste handling practices affect human health

#### Number of People Affected:

50 teachers participated and an average of 10 students were exposed to the kits at each school

#### Tips From the Grantee:

- District in-service sessions should not be used for this type of training. The districts cannot give up enough time to adequately introduce the materials. Recommendations include holding special summer institutes or individual instruction.
- For experienced teachers, used to the village environment, the training sessions are probably not critical.

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Frosty Feathers of the Far North

**Grant Number:**  
NE-97061501

**Sponsor:**  
Alaska Bird Observatory

**Project Coordinator:**  
Andrea Swingley  
Alaska Bird Observatory  
P.O. Box 80505  
Fairbanks, AK 99708  
(907) 451-7159

**EPA Funding:**  
\$5,000  
FY 2003

**Match Funding:**  
\$13,433

**Focus:**  
Ecosystems/Habitat

**Target Audience:**  
Teachers and 4<sup>th</sup>-8<sup>th</sup> Grade Students

**Purpose:**  
To promote environmental awareness in northern ecosystems through classroom-based investigations

**Goals:**

- Enhance teachers' skills in teaching environmental education and scientific inquiry in their classrooms
- Educate students about environmental careers, ecology of a common Alaska-resident bird specified in Alaska,

potential environmental threats to birds

- Conduct scientific inquiries
- Develop Web site to provide resources and facilitate communication among participants

#### **Methods:**

- Conduct teacher training workshops
- Visit classrooms
- Develop activities and investigations for classes to use
- Assist with student research projects
- Create project Web site

#### **Products/Results:**

- Participated in an initial presentation for 11 pilot classes to introduce them to black-capped chickadee ecology, adaptations, and behavior
- Established a bird feeding station consisting of a least two different feeder types, offering seed and suet to attract the birds by each of the classes
- Had seven of the classes participate in a second classroom visit focused on designing research projects and data collection and in a third visit learned how to analyze data and draw conclusions
- Prepared and displayed posters at the school
- Developed classroom materials for the teachers to use
- Created a project Web site([www.alaskabird.org/](http://www.alaskabird.org/))

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Frosty Feathers of the Far North

ABOFrostyFeathers) which includes a comprehensive teacher's guide, information on the project, chickadee ecology, and the epidemic of bill deformities in Alaskan chickadees

- Had six teachers participate in two training sessions, and had three participate in an additional session, which focused on addressing teachers' questions and concerns about data collection, analysis, and presentation of student projects

#### Challenges:

- Encountered difficulties trapping and banding birds
- Unexpected reassignment of participating teachers to different grade levels and classrooms
- Unpredictable bird activity

#### Successes/Strengths:

- Maintained a successful bird feeding station, and 64% of the

- classes completed the project
- Reported by the teachers: an increase in their students' awareness of or attention to their environment
- Engaged Alaskan students and educators in outdoor environmental research in the winter when temperatures are consistently below freezing and daylight is severely limited
- Addressed ubiquitous Alaskan bird species, local climatic conditions, and a statewide environmental issue
- Correlated with the Alaska Content Standards
- Used as an Internet-based learning opportunity; it provides an important resource for Alaska's home-schooled students and for educators and students in rural villages

#### Number of People Affected:

6 teachers, about 323 students, and 3 community volunteers

### Groundwater Detectives

#### Grant Number:

NE-98080501

#### Sponsor:

Matanuska Susitna Borough School District/Wasilla High School

#### Project Coordinator:

Cheryl McDowell  
Wasilla High School  
25 W. Evergreen Avenue  
Palmer, AK 99654  
(907) 376-5341

#### EPA Funding:

\$5,000  
FY 2000

#### Match Funding:

\$2,750

#### Focus:

Drinking Water/Groundwater

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Groundwater Detectives

#### Target Audience:

High School Students in the  
Matanuska Susitna Borough

#### Purpose:

To raise awareness of ground-water  
issues in the school and community

#### Goals:

- Encourage high school students to think critically about current ground-water conditions
- Help students find solutions to future problems
- Make decisions about what can be done now to protect groundwater

#### Methods:

- Develop and teach high school students a unit on groundwater and drinking water
- Bring in guest speakers from various agencies, organizations and businesses
- Create individual computer-based presentations by students
- Complete student outreach projects to educate the community
- Compile all resources into notebooks as a resource for other teachers

#### Products/Results:

- Allowed students to test and research their own well water and share the information in the community

- Used technology in students' projects, which allowed them to become more comfortable with additional software and hardware

#### Challenges:

- Had to be delayed about two months to allow the project to be completed in one semester
- Could not have all of the guest speakers and field trips because of scheduling conflicts or lack of time

#### Successes/Strengths:

- Had a successful project because many experts were able to contribute
- Enabled the students to have a real life application for the chemistry and math they learned, and were able to integrate new science knowledge
- Purchased equipment that would allow the project to be repeated in future years

#### Number of People Affected:

Directly – about 20 students and 20 adults who presented or assisted with the project

Indirectly – 2,000 community members through student presentations, newspaper articles, and Web sites



# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Kachemak Bay Coastweeks 2001

**Grant Number:**

NE-97006001

**Sponsor:**

Center for Alaskan Coastal Studies,  
Inc.

**Project Coordinator:**

Marilyn Sigman  
Center for Alaskan Coastal Studies,  
Inc.  
P.O. Box 2225  
Homer, AK 99603  
(907) 235-6667

**EPA Funding:**

\$5,000  
FY 2001

**Match Funding:**

\$3,000

**Focus:**

Ecosystem/Habitat

**Target Audience:**

Teachers, Tribal Environmental  
Specialists, and Students

**Purpose:**

To develop and coordinate an  
integrated Coastweeks program of  
coastal environmental education for  
Kachemak Bay communities

**Goals:**

- Focus on monitoring  
environmental changes in  
beaches and intertidal  
communities on a baywide basis
- Increase understanding about the

impacts of marine litter and  
intertidal habitat degradation  
from trampling, vehicle traffic,  
and other uses

- Serve as a model for other  
Alaskan coastal communities,  
particularly in the North Pacific  
where the interaction of climate  
change and human impacts has  
serious implications for natural  
resource-dependent communities

**Methods:**

- Extend two outreach programs,  
Kachemak Bay Coastwalk and  
Caretakers of the Beach, to all  
Kachemak Bay schools and  
communities in an integrated  
manner with the Alaska Coastal  
Climate Change Program
- Train educators, co-teach an  
integrated classroom, and field  
teach a unit in the local  
environment
- Hold a conference with  
interactive workshops uniting  
students and educators with  
environmental scientists and  
managers

**Products/Results:**

- Held Kachemak Bay Science  
Conference in April 2003, which  
focused on patterns and  
significance of environmental  
change in Kachemak Bay and  
the North Pacific Ocean
- Integrated Kachemak Bay  
Coastwalk and Caretakers of the  
Beach programs with student  
and citizen monitoring of local  
beaches and intertidal

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **Kachemak Bay Coastweeks 2001**

communities into a broader understanding of large-scale natural ecosystem patterns and human impacts on ecosystems

#### **Challenges:**

- The science conference and other kick-off activities (planned for September 2001) were postponed

#### **Successes/Strengths:**

- Involved approximately 200 people in the Kachemak Bay Coastwalk 2001, the highest number since 1991
- Collected monitoring data in 28 of 32 beach zones, the highest number covered in the 17 years that the event has been held
- Conducted Coastwalks by schools and youth groups in Homer and three Native villages (all three Native Villages had not participated before)
- Revised Coastwalk monitoring form and developed an expanded educational packet for

participants

- Integrated environmental education with efforts to apply and integrate the results of both scientific research and Traditional Ecological Knowledge to understand the significance of environmental change on a variety of spatial and temporal scales
- Expanded a long-term “hands-on” beach environmental monitoring program geographically and developed it into a broader series of educational events and opportunities to learn about marine and estuarine ecosystem function and issues related to human impacts and choices
- Formed additional partnerships and raised additional funding because the grant was extended

#### **Number of People Affected:**

1,052 people – volunteers, presenters, teachers, students, scientists and natural resource managers, citizens

### **Kasaan School Composting Project with Red Worms**

**Grant Number:**  
NE-97009201

**Sponsor:**  
Southeast Island School District

**Project Coordinator:**  
Barry Stewart  
Southeast Island School District  
P.O. Box 19569

Thorne Bay, AK 99919  
(907) 542-2217

**EPA Funding:**  
\$4,600  
FY 2001

**Match Funding:**  
\$3,375

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **Kasaan School Composting Project with Red Worms**

**Focus:**

Waste Management

**Target Audience:**

School-Age Children, Kindergarten  
Through 11<sup>th</sup> Grade

**Purpose:**

To educate Kasaan School children  
on solid waste issues following the  
closure of the Kasaan Sanitary  
Landfill

**Goals:**

- Teach all children to start recycling
- Teach children the principles of composting

**Methods:**

- Collect kitchen vegetable waste from homes to feed the worms
- Learn to create a composting environment

**Products/Results:**

- Demonstrated projects at the 2001 Earth Day Fair in Craig, Alaska
- Built and decorated flower pots that the students filled with compost and used to beautify the community
- Created quarterly newsletters to distribute to the community

**Challenges:**

- Moved the composting bin to a warmer place at one point when the temperature was too low

**Successes/Strengths:**

- Will continue to make red worm compost even after the grant ends
- Plan to share student project experience with other students on Prince of Wales Island

**Number of People Affected:**

50 people of the Organized Village of Kasaan, including 13 students

### **Living Planet Club**

**Grant Number:**

NE-97031601

**Sponsor:**

World Wildlife Fund Inc.

**Project Coordinator:**

Margaret Williams  
World Wildlife Fund Inc.  
1250 24<sup>th</sup> Street, NW  
Washington, DC 20037  
(202) 778-9573

**EPA Funding:**

\$11,224

FY 2002

**Match Funding:**

\$3,741

**Focus:**

Ecosystem/Habitat

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Living Planet Club

#### Target Audience:

Junior High and High School Students, Educators, and Elders

#### Purpose:

To build a network of educators and students engaged in learning about, addressing, and managing conservation issues related to the Bering Sea

#### Goals:

- Teach students scientific methods and how to apply them, document traditional knowledge, and improve writing and observation skills
- Foster student interest in environmental skills
- Have educators work side-by-side with scientists to broaden their own knowledge of scientific methods and to improve their skills

#### Methods:

- Teach students and educators to use data collection methods, journaling techniques, mapping skills, and core ecological concepts
- Conduct a rapid bioassessment and apply the skills students learned
- Use data to prepare an exhibit for students to share their findings with their community
- Use data to serve as baseline information for monitoring long-term change in the area

#### Products/Results:

- Conducted a young scientists program in three Bering Sea coastal communities
- Built partnerships with local schools and a local teacher
- Engaged groups of students in each community with one educator and one scientist in learning new skills and methods and improving existing skills and abilities
- Involved a local elder in one community, which added traditional knowledge about the environment
- Provided technical assistance and necessary supplies and equipment for three educators in the remote coastal communities

#### Challenges:

- Underwent scheduling and personnel changes
- Changed a summer field trip to a fall camp; allowed teachers to integrate some of the camp's lessons and activities with their school curriculum

#### Successes/Strengths:

- Created solutions for scheduled delays and personnel changes
- Tied the field studies to the natural environment the youth interacted with on a daily basis
- Incorporated the project into the school curriculum in Unalakleet and Elim
- Joined forces with a U.S. Fish and Wildlife Service (USFWS) biologist in Mekoryuk because

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Living Planet Club

of a challenge grant received from the USFWS

- Involved elders in the project
- Created solid partnerships with teachers very committed to

integrating Living Planet Club activities into their programs

### Number of People Affected:

60 students, parents, and teachers

### Northern Forests Project

#### Grant Number:

NE-98045901

#### Sponsor:

University of Alaska, Fairbanks

#### Project Coordinator:

Terry Dickey  
University of Alaska  
Box 757880  
Fairbanks, AK 99775-7880  
(907) 474-6950

#### EPA Funding:

\$20,717  
FY 1999

#### Match Funding:

\$20,742

#### Focus:

Ecosystem/Habitat

#### Target Audience:

Middle School Students in Fairbanks and Interior Rural Villages

#### Purpose:

To supplement the Alaska middle school science curriculum with boreal forest field studies

#### Goals:

- Help middle school students expand their knowledge of the forest and better appreciate its contributions to their lives

#### Methods:

- Teach in the classroom and lead hands-on tours of the museum's exhibits and collections
- Conduct case-study activities in the arboretum by Alaska Native elders
- Conduct in-service teacher workshop to facilitate the integration of Northern Forests curriculum into the classroom curricula

#### Products/Results:

The students:

- Analyzed their data to understand the relationship between the plants, animals and environmental conditions at their study site in the boreal forest
- Made presentations of their study site to further their understanding of the boreal forest ecosystem
- Gained a new understanding of the ecosystem, through the teachers' development of the curriculum

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Northern Forests Project

#### Challenges:

- Found out that the museum collection was an inappropriate setting for a middle school class- as an alternative, the students developed their own plant collections for each study site and used the museum to study materials that had already been analyzed
- Experienced problems with equipment management, including breakage and logistics
- Learned that certain investigation kits were too complex
- Difficult for the students to understand some of the field directions
- Faced challenges with the field study logistics because the six study sites were spread over a 2.5 square mile area

- Managing the middle school “teams” was difficult due to the sheer number of students
- Had light to moderate rain and temperatures near freezing during both field days; Alaskan climate creates a very short season for field studies

#### Successes/Strengths:

- Helped build a relationship with local, university, and school entities
- Built cooperation between teachers and volunteers
- Created a method to integrate hands-on experiences in environmental education for middle school students
- Presented ecosystem analysis for middle school students as a method to help those students become more familiar with their local environment

#### Number of People Affected:

260 students and 10 volunteers

### Power Up! Alternative Energy Works – Even in the Frozen North

#### Grant Number:

NE-97028501

#### Sponsor:

Fairbanks North Star Borough  
School District

#### Project Coordinator:

Doug Crevensten  
Fairbanks North Star Borough  
School District  
520 5<sup>th</sup> Avenue  
Fairbanks, AK 99701  
(907) 452-2000 ext. 464

#### EPA Funding:

\$24,986  
FY 2002

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **Power Up! Alternative Energy Works – Even in the Frozen North**

#### **Match Funding:**

\$20,656

#### **Focus:**

Alternative Energy

#### **Target Audience:**

Middle School Students and  
Teachers

#### **Purpose:**

To teach students about alternative  
energy and its use in Alaska

#### **Goals:**

- Develop three alternative energy study sites in the Tanana Valley watershed where automated and manual data are gathered
- Show teachers and students how to access this information and use it as a basis for learning about wind and solar energy design, application, and environmental issues
- Adapt alternative energy class lesson plans and conduct training workshops for other middle school teachers

#### **Methods:**

- Show teachers how to use existing, exemplary alternative energy materials in their classrooms through workshops, model teaching by project teachers and visits to project classrooms
- Create a partnership with renewable energy businesses and use their expertise to teach the students

- Apply students' knowledge of alternative energy to a local environmental situation by a combination of environmental education lessons using the solar and wind remote-sensor information, guest speakers, and field trips

#### **Products/Results:**

- Developed three alternative energy study sites in the Tanana Valley watershed where automated and manual data are gathered
- Set up remote-sensing wind and solar power stations
- Created a Web page that features collected data -[http://www.rusg.com/educational/epa\\_fnsb02a/stations/stations.html](http://www.rusg.com/educational/epa_fnsb02a/stations/stations.html)
- Created new renewable energy lesson plans for middle school students and adapted existing alternative energy educational resources for middle school to include remote-sensing data
- Developed renewable energy kits
- Trained teachers in the use of all the resources
- Communicated with parents about the project

#### **Challenges:**

- Access to the data by the students was delayed due to interfacing issues between the computer and one sensor instrument, which had to be replaced



# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **Power Up! Alternative Energy Works – Even in the Frozen North**

#### **Successes/Strengths:**

- Conducted renewable energy experiments and analyzed “real-time” data
- Increased student interest because the data were tied to the local environment
- Had renewable energy experts, practicing technicians, and scientists give the project presentations

- Discussed the practical, real-world applications of the technology and demonstrated to students the usefulness of math

#### **Number of People Affected:**

Business and industry technicians and scientists: 8  
Elementary school teachers: 1  
Elementary school children: 23  
Middle school teachers: 10  
Middle school students: 260  
General Public: not known, but Web site is publicly available

### **SAGA's Serve Alaska Youth Corps**

#### **Grant Number:**

NE-97028601

#### **Sponsor:**

SE Alaska Guidance Association  
(SAGA)

#### **Project Coordinator:**

Kristy Falcon  
SE Alaska Guidance Association  
P.O. Box 33037  
Juneau, AK 99801  
(907) 789-6172

#### **EPA Funding:**

\$4,900  
FY 2002

#### **Match Funding:**

\$7,800

#### **Focus:**

Environmental Careers

#### **Target Audience:**

At-Risk Alaskan Youth Over 16  
Years Old

#### **Purpose:**

To improve the environmental career placement component of the Youth Corps Comprehensive Training Program

#### **Goals:**

- Improve overall understanding of environmental career opportunities and the training needed to successfully compete for these positions
- Focus on environmental careers available to Alaskan youth
- Encourage Youth Corps graduates to pursue environmental careers

#### **Methods:**

- Complete Individual Development Plans for the

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### **SAGA's Serve Alaska Youth Corps**

Youth Corps members that outline the goals they hope to accomplish during their terms of service

- Improve access to environmental and natural resource management career information to encourage members to consider these opportunities
- Help Youth Corps complete conservation projects that provide on-the-job training for environmental and resource management careers
- Arrange for environmental and resource management professionals to speak to the youth about career opportunities and explain the process of attaining these jobs

#### **Products/Results:**

- Developed formal curriculum to stimulate interest in the environment and environmental careers
- Added an Environmental Impact Statement activity at the start of each project and a "professional interview" for the crews

- Shared a previously untapped wealth of knowledge with the youth; future crews will benefit from these resource professionals
- Worked on conservation projects that provided real-world work experience for the crews
- Compiled information about further training and educational opportunities to help the youth transition from the program

#### **Challenges:**

- Experienced delays in the reporting grant requirements because of the Grant Administrator's departure

#### **Successes/Strengths:**

- Capitalized on the natural opportunities presented when young people work outdoors with field professionals
- Learned about a variety of resource management jobs available to the youth
- Worked on projects that enhanced the environment and helped them develop skills to enter such fields

#### **Number of People Affected:**

130 Youth Corps members

### **Stream Ecology for Educators**

**Grant Number:**  
NE-98095701

**Sponsor:**  
Kenai Watershed Forum

**Project Coordinator**  
Robert Ruffner  
Kenai Watershed Forum  
44539 Sterling Highway, #202  
Soldotna, AK 99669  
(907) 260-5449

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Stream Ecology for Educators

#### EPA Funding:

\$5,000  
FY 2000

#### Match Funding:

\$4,300

#### Focus:

Ecosystem/Habitat

#### Target Audience:

K-12 Educators

#### Purpose:

- To conduct a professional development course to provide K-12 educators with the background, expertise, and materials needed to incorporate stream ecology into their classroom curriculum

#### Goals:

- Provide direct environmental education support to 20 K-12 teachers and two faculty members at the University of Alaska's Kenai Peninsula College

#### Methods:

- Work with the local community college to develop a course called "Stream Ecology for Educators"
- Design course to help the teachers understand and apply Stream Ecology principles in their classrooms

- Covers hydrology, basic stream ecology, energy sources, riparian vegetation, and water chemistry with an emphasis on how to teach this material to students

#### Products/Results:

- Offered teachers the opportunity to fulfill their continuing education requirements while demonstrating how to incorporate environmental education into their classrooms
- Led to the development of a model program
- Provided the opportunity for these professional educators to incorporate state-of-the-art water quality monitoring equipment in their classrooms
- Purchased the Hydrolab Multiprobe to use in future courses

#### Challenges:

- Underestimated the time necessary to work with the K-12 teachers outside the college course

#### Successes/Strengths:

- Can offer the course on a yearly basis now that the curriculum is developed and equipment purchased
- Had unforeseen staff expenses covered by area businesses and industry

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Stream Ecology for Educators

#### Number of People Affected:

Directly – 20 K-12 teachers and 2 faculty members from Kenai Peninsula College  
Indirectly – their students, as the equipment will be used for environmental education in the future

#### Tips From the Grantee:

- Identify a desire and/or need among local K-12 teachers.
- Teachers need to be involved in the development of the program.

### Training Teachers to “Tap into Spring”

#### Grant Number:

NE-97029001

#### Sponsor:

Alaskan Boreal Forest Council, Inc.

#### Project Coordinator:

Janice Dawe  
Alaskan Boreal Forest Council, Inc.  
P.O. Box 84530  
Fairbanks, AK 99708  
(907) 457-8453

#### EPA Funding:

\$4,986  
FY 2002

#### Match Funding:

\$21,500

#### Focus:

Ecosystem/Habitat

#### Target Audience:

4<sup>th</sup>-8<sup>th</sup> Grade Teachers and Students

#### Purpose:

To train teachers to implement the “Tap into Spring” curriculum

#### Goals:

- Encourage quality science education in the local schools
- Enhance awareness of the value of the boreal forest to Interior Alaska residents
- Train teachers to lead inquiry-based learning, tap birch trees to make birch syrup, and write lessons that contribute to the “Tap into Spring” “seed” curriculum
- Encourage a strong sense of connection with, and stewardship of, the boreal forest
- Empower teachers and students to ask questions in a scientifically valid fashion

#### Methods:

- Offer two half-day “Tap into Spring” workshops to 4<sup>th</sup>-8<sup>th</sup> grade teachers
  - Workshop I – train teachers to implement the curriculum
  - Workshop II – allow the teachers to share their experiences with the curriculum and gain skills needed to write inquiry-based lessons for the “seed” curriculum

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Training Teachers to "Tap into Spring"

#### Products/Results:

- Partnered with Fairbanks North Star Borough School District and University of Alaska Fairbanks School of Education to create training course
- Trained 10 4<sup>th</sup>-8th grade teachers
- Field-tested and edited the curriculum
- Rewrote lesson plans to meet new state standards and developed new lesson plans to explore students' specific questions and input
- Developed 10 teacher toolkits

#### Challenges:

- Gave \$50 stipends to the teachers before their lesson plans had been evaluated and approved; two teachers did not

produce lesson plans to state standards

#### Successes/Strengths:

- Had great attendance at the training; teachers invested time and energy in the program's success even before introducing it into their classrooms
- Modeled team teaching and best practices in education, science, and service education
- Had to write a new lesson plan in order for the teachers to pass the training course
- Had lesson plans evaluated by an educational consultant

#### Number of People Affected:

Directly – 400 face-to-face  
Indirectly – 50 by word of mouth

### Using Local Nature for Environmental Educators

#### Grant Number:

NE-98080801

#### Sponsor:

Alaska Discovery Foundation, Inc./  
Discovery Southeast

#### Project Coordinator:

Jono McKinney  
Alaska Discovery Foundation  
P.O. Box 21867  
Juneau, AK 99802  
(907) 463-1500

#### EPA Funding:

\$4,975  
FY 2000

#### Match Funding:

\$14,096

#### Focus:

Ecosystem/Habitat

#### Target Audience:

Middle School Students and  
Teachers

#### Purpose:

To help middle school teachers use the local nature near their schools for environmental education

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Using Local Nature for Environmental Educators

#### Goals:

- Increase middle school teachers' knowledge of local environments
- Provide teachers with skills, materials, methods, and the confidence to involve students in outdoor, nature-based, environmental education

#### Methods:

- Conduct a series of workshops
- Prepare for one-on-one consultations

#### Products/Results:

- Held four 3 ½ hour workshops after school
- Held consultations with teachers
- Conducted the Natural History of Southeast Alaska Summer Workshop

#### Challenges:

- Access to teachers' time was limited so the workshops were switched to after school hours instead of on the weekend

- Not able to secure time during the designated Juneau School District in-service days for the follow-up seminars
- Needed time to mull over the new information and teaching methods before the teachers were able to incorporate the material into their curriculum
- Limited time for the consultations offered to the teachers

#### Successes/Strengths:

- Provided a foundation for new partnerships and activities that use local nature for environmental education

#### Teachers:

- felt the program was quite successful
- were excited and interested in the materials

#### Number of People Affected:

Directly – 13 middle school teachers took part in the program

Indirectly – all their current students and future students will be affected

### Youth Area Watch Teacher Training Workshop

#### Grant Number:

NE-97058201

#### Sponsor:

Center for Alaskan Coastal Studies

#### Project Coordinator:

Marilyn Sigman  
Center for Alaskan Coastal Studies  
P.O. Box 2225  
Homer, AK 99603  
(907) 235-6667

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Youth Area Watch Teacher Training Workshop

#### EPA Funding:

\$5,000  
FY 2003

#### Match Funding:

\$7,850

#### Focus:

Water Quality

#### Target Audience:

Youth Area Watch Teachers/Site  
Advisors for Students ages 12-18 in  
11 South Central Alaska  
Communities

#### Purpose:

- To develop and coordinate an environmental monitoring training workshop for teachers involved in the Youth Area Watch (YAW) Program (an environmental science and education program)

#### Goals:

- Foster teacher-scientist partnerships
- Provide training in implementation of standards-based environmental education teaching activities related to student participation in "real science" ecosystem- scale environmental monitoring and research projects

#### Methods:

- Provide teacher training workshop, including hands-on experience and presentations by scientists

- Provide hands-on experience with online shoreline mapping and GIS tools and intertidal monitoring data collection protocols to detect changes in the physical and biological aspects of beaches, as well as changes resulting from human activities
- Demonstrate the use of the shoreline mapping and habitat inventory in oil spill response, monitoring killer-whale populations, and the effects of subsistence harvest on chiton populations and intertidal community dynamics

#### Products/Results:

- Increased the teachers' understanding of standards and standards-based education
- Helped teachers understand the environmental issues and the role of research and monitoring at the ecosystem scale
- Improved skills in environmental education activities and teaching practices aligned with state and national science standards
- Prepared students for working with partner environmental scientists

# Alaska

## 1999 - 2004 Environmental Education Grant Summaries

### Youth Area Watch Teacher Training Workshop

#### Challenges:

- Did not get to have all of the target YAW teachers to attend the workshop, so additional environmental educators were recruited from Alaskan coastal communities and tribal natural resource professionals who work directly with Native community schools

#### Successes/Strengths:

- Submitted lesson plans to receive one college credit for professional development
- Featured presentations given by scientists currently conducting research and monitoring activities
- Combined presentations by scientists with hands-on and field experiences

#### Number of People Affected:

Directly – 14 face-to-face interactions

Indirectly – 100 by direct mail or email and 500 from email listservs

#### Tips From the Grantee:

##### DO:

- Choose projects with sufficient information or support to sustain teacher and student involvement and interest.
- Choose projects with a computer component to access maps and data for sampling sites or online data entry.
- Begin with teacher environmental education training as a logical first step to provide

the academic structure and support for student involvement.

- Include in the training solid science content, the purpose of the environmental monitoring, environmental issues relevant to where data will be collected, hands-on experience with the data collection protocols, and information on where to send the data and how it will be used.
- Employ hands-on field experience as an effective teaching strategy.
- Delineate how the monitoring activities, classroom preparation, and follow-up activities are aligned with state and national education standards.
- Seek scientists who have interest and skills in working with teachers and/or students of the target age group.

##### DON'T:

- Assume that computer technology is available to teachers and students.
- Rely solely on science outreach staff – personal contact with the scientist is important.
- Select scientists who lack the communication skills to translate technical information to non-scientists or to convey their own interest and enthusiasm in their work.





# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### **A Model School Network for Achieving New Standards and Coaches for Kids Using their Environment as an Integrating Context for Learning (2 grants)**

#### **Grant Number:**

NE-97028301  
NE-97059001

#### **Sponsor:**

Idaho Environmental Education  
Association

#### **Project Coordinator:**

Donny Roush  
Idaho Environmental Education  
Association  
2211 S. 2<sup>nd</sup> Avenue  
Pocatello, ID 83201  
(208) 232-5674

#### **EPA Funding:**

\$24,186  
FY 2002  
\$4,950  
FY 2003

#### **Match Funding:**

\$36,303  
FY 2002  
\$31,590  
FY 2003

#### **Focus:**

General Environmental Education

#### **Target Audience:**

Teachers, Administrators, and  
Students

#### **Purpose:**

- To establish and operate statewide K-12<sup>th</sup> grade schools network for achieving new standards for kids using their Environment as an Integrating

#### **Context for Learning**

- To expand project by providing coaches for the eight school-based teams

#### **Goals:**

- First grant: introduce highly successful method of meeting and exceeding environmental education standards to the state of Idaho
- Set in place a model school network administered by the state's environmental education association
- Provide professional development activities for teachers and administrators
- Second grant: provide stipends for coaches from each school's community who are non-formal educators but have technical knowledge as well as planning and facilitation skills

#### **Methods:**

- First grant: provide face-to-face, hands-on professional development for teachers and administrators: three-day in-state workshops, three-day national conferences, and quarterly visits
- Teach with teams
- Target marketing communications
- Create Internet discussion groups
- E-mail administrative communications
- Second grant: provide coaches for community liaison, technical assistance, planning and

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### **A Model School Network for Achieving New Standards and Coaches for Kids Using their Environment as an Integrating Context for Learning (2 grants)**

facilitation skills, and curriculum resources for the rest of the teams

#### **Products/Results:**

- First grant: marketed the Environment as an Integrating Context (EIC) school reform model to the state's 814 schools
- Recruited teams of educators at eight selected schools
- Formed teams consisting of at least three teachers, an administrator, and a community member
- Conducted needs assessment/ orientation at each school
- Held the Idaho EIC Institute from June 9-12, 2003
- Mapped each team's curriculum at the Institute and designed a standards-based investigation
- Prepared curriculum to be used during the 2003-2004 school year
- Second grant: involved coaches with the eight schools
- Gave stipends to coaches to acquire additional educational resources, and awarded travel funds to two coaches to attend professional development training

#### **Challenges:**

- Recruiting took longer than expected
- Due to lack of state funding, funding has to be a continuing function
- Postponed EIC Institute originally planned for 2002 until 2003 so educators could have time to study the curriculum and come better prepared to the conference
- Replaced original coach at some schools

#### **Successes/Strengths:**

- Had the State Department of Education, the State Education and Environment Roundtable, and the Idaho Environmental Education Association work together to bring EIC to Idaho
- Addressed education reform by demonstrating a research-based method of meeting and exceeding standards
- Relied on community-based investigations and the incorporation of a community member into each teaching team
- Became the only state to have the EIC Model run by a non-governmental organization
- Selected eight schools to represent the diversity in the state's education system

#### **Number of People Affected:**

44 teachers, administrators, and coaches, and 2,086 students

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### **Clearwater GLOBE (Global Learning and Observation to Benefit the Environment) Initiative**

**Grant Number:**

NE-98077801

**Sponsor:**

Communities Creating  
Connections, Inc.

**Project Coordinator:**

Gregory Fizzell  
Communities Creating  
Connections, Inc.  
P.O. Box 400  
Kooskia, ID 83539  
(208) 935-2171

**EPA Funding:**

\$13,963  
FY 2000

**Match Funding:**

\$7,513

**Focus:**

General Environmental Education

**Target Audience:**

Teachers from the Clearwater  
Valley Schools and the Elk City  
School

**Purpose:**

To advance community school  
reform in Kooskia and Elk City  
using an existing environmental  
education program known as  
GLOBE (Global Learning and  
Observations to Benefit the  
Environment)

**Goals**

- Increase teacher capacity to deliver a place-based, experimental, environmental education curriculum that utilizes technology and an inquiry-based approach to learning
- Increase student and community awareness and knowledge of local natural processes and systems, their connections to global systems, and the issues surrounding those interactions
- Develop student skills necessary to collect, compile, and analyze local atmospheric, hydrologic, soils, and land cover data using appropriate scientific instruments and techniques

**Methods:**

- Train teachers in GLOBE protocols and associated learning activities at three workshops
- Distribute GLOBE curriculum materials

**Products/Results:**

- Have five schools in the Joint School District now participating in the GLOBE program on a regular basis
- Have collected, district wide by the students and teachers, 3,896 GLOBE data measurements using atmosphere and hydrology protocols

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### **Clearwater GLOBE (Global Learning and Observation to Benefit the Environment) Initiative**

#### **Challenges:**

- Required more support and follow-up for the teachers than first expected
- Trained several high school science teachers in the GLOBE curriculum, but none implemented the program consistently in their classrooms

#### **Successes/Strengths:**

- Reached a much larger audience than expected—it extended beyond Kooskia and Elk City to the entire Joint School District 241 at no extra cost
- Impressed that teachers and students from all over rural Idaho County are now studying their local ecosystems with rigorous scientific protocols
- Developed partnerships with the University of Idaho and others to establish a year-round residential GLOBE Science School

#### **Number of People Affected:**

Directly – served 40 teachers and 508 students in the Kooskia and Elk

#### **City Schools**

Indirectly – through the media coverage of the project, even more people were reached

#### **Tips From the Grantee:**

##### **DO:**

- Involve school administrators, teachers, and staff at every phase of the project.
- Make as many networking contacts as possible through local universities, state and federal agencies, and other non-profits.
- Follow up with your clients often.
- Dream big but take small steps.

##### **DON'T:**

- Make any assumptions when developing the plan and proposal. Passing over the smallest detail has the potential to cause major headaches during implementation.
- Get discouraged. Setbacks are an expected part of the program implementation process.
- Lose sight of the Big Picture.

### **Correlation of Projects Learning Tree, WET, and WILD to Idaho Education Standards**

#### **Grant Number:**

NE-97006101

#### **Sponsor:**

Idaho Forest Products Commission

#### **Project Coordinator:**

Michelle Youngquist, Education  
Coordinator  
Idaho Forest Products Commission  
Project Learning Tree  
350 N 9<sup>th</sup> St., #304  
Boise, ID 83702  
(208) 334-4061

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### Correlation of Projects Learning Tree, WET, and WILD to Idaho Education Standards

#### EPA Funding:

\$12,649  
FY 2001

#### Match Funding:

\$10,937

#### Focus:

General Environmental Education

#### Target Audience:

Teachers

#### Purpose:

- To correlate Project Learning Tree, WET, and WILD to Idaho's new state education standards using environmental education curriculums
- To present the information to educators throughout the state

#### Goals:

- Serve as a model for other environmental education providers throughout the state who will be encouraged to add their programs' correlatives to compile a comprehensive integrated correlations document

#### Methods:

- Provide a copy of the integrated correlations to every public, private, and tribal school in Idaho
- Request a copy from the programs' state offices if an educator has already been trained
- Provide access to the

correlations for new educators after they take the basic Project workshops

- Make the correlations available for download on the state program's Web site

#### Products/Results:

- Correlated all instructional activities of Project Learning Tree, Project WET, and Project WILD to Idaho's education achievement standards
- Compiled the information into a searchable database that is available online to all schools and educators throughout the state and across the nation
- Shared process with other environmental educators through the Idaho Environmental Education Summit

#### Challenges:

- Having teachers attend the correlations review session was difficult, due to lack of funding for substitutes and reimbursement for travel expenses
- Envisioned the final product to be a hard copy or a CD-Rom, but wanted it to be accessible to educators and easy to update
- Lacked knowledge in establishing a searchable on-line database and lacked funds to pay market price for these services
- Underestimated the amount of time the project would require from the three state coordinators of PLT, WET, and WILD

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### **Correlation of Projects Learning Tree, WET, and WILD to Idaho Education Standards**

#### **Successes/Strengths:**

- Worked together to provide a comprehensive resource for Idaho educators
- Developed a very productive relationship with the Bureau of Technology Services at the Idaho Department of Education
- Became one of only three states providing a searchable on-line database of correlations between

the three projects and state standards

- Continue to work with the Department of Education on the resulting environmental education correlations website

#### **Number of People Affected:**

Directly – 200 people, but it should expand into the thousands as teachers use Project Learning Tree, WILD, or WET activities to meet Idaho Achievement Standards

### **Idaho Wetlands Environmental Education for the Seventh Grade**

#### **Grant Number:**

NE-97027601

#### **Sponsor:**

Idaho Botanical Gardens, Inc.

#### **Project Coordinator:**

Elizabeth Dickey  
Idaho Botanical Gardens  
2355 N. Penitentiary Road  
Boise, ID 83712  
(208) 343-8649

#### **EPA Funding:**

\$1,920  
FY 2002

#### **Match Funding:**

\$883

#### **Focus:**

Wetlands

#### **Target Audience:**

Seventh Grade Life Science Teachers  
and Students

#### **Purpose:**

To develop a Wetland Environmental Education Program for 7th grade students in the greater Boise area

#### **Goals:**

- Help students fulfill Idaho's newly revised science achievement standards
- Help students learn about water quality improvement, environmental stewardship, and the benefits of a constructed wetland in an urban setting

#### **Methods:**

- Provide a college credit in-service class for teachers
- Create a classroom kit
- Include a field trip

#### **Products/Results:**

- Adapted the "Idaho Wetlands Education Program" from Washington State's "Discover

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### Idaho Wetlands Environmental Education for the Seventh Grade

Wetlands Curriculum” to fit the Boise River ecosystem and included a classroom kit that is used before field trips

- Pilot tested a portion of this curriculum
- Sent out publicity about the curriculum and the kit
- Purchased materials for two classroom kits

#### Successes/Strengths:

- Used the program before field trips

#### Challenges:

- Did not need teacher in-service classes – each school had developed its own

#### Number of People Affected:

2 teachers and more than 200 students

### Meeting Idaho Comprehensive Literacy and Reading Directives Using Environmental Education Literature

#### Grant Number:

NE-97006201

#### Sponsor:

Boise State University Department of Biology

#### Project Coordinator:

Richard J. McCloskey, Ph.D.  
Boise State University Department of Biology  
Boise, ID 83725  
(208) 426-3490

#### EPA Funding:

\$5,000  
FY 2001

#### Match Funding:

\$3,162

#### Focus:

General Environmental Education

#### Target Audience:

Teachers

#### Purpose:

To demonstrate how science can be integrated into the expanded reading curriculum being developed by Idaho schools as part of the state’s education reform movement

#### Goals:

- Develop an environmental literature-based Comprehensive Literacy Course to train teachers
- Demonstrate an alternative approach to teaching environmental education in light of more contemporary definitions of both reading and science
- Provide a safe environmental for teachers to practice their newly acquired skills

#### Methods:

- Involve participants in two 15-hour workshops in environmental education literature and activities



# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### Meeting Idaho Comprehensive Literacy and Reading Directives Using Environmental Education Literature

- Participate in Personal Trait and Multiple Intelligence Tests to determine how to meet needs of students with different traits and intelligences and how to evaluate and assess the science literacy of their students

#### Products/Results:

- Developed the Comprehensive Literacy Course outline
- Held two workshops
- Made plans to submit presentation abstracts about integrating EE/Science into Your Literacy Curriculum Workshop to professional meetings in 2003, including the North American Association for Environmental Education, Idaho Science Teachers Association, and Idaho Academy of Sciences

#### Challenges:

- Had a variety of strengths and backgrounds of the workshop participants, for example, some knew phonics and some did not

#### Successes/Strengths:

- Filled the workshops within four days of sending out notices to the teachers in the area
- Put 82 additional teachers on a waiting list for future workshops
- The teachers involved in the workshops:
  - Listed the content presented in the Questioning Strategies, Journaling and Trade Book Resource sessions as being the most useful in their classrooms
  - Rated the workshops an average of 8.4 on a scale of 10

#### Number of People Affected:

61 teachers from 14 school districts and two private schools

### Nez Perce Tribal Foundation Two-World Environmental Education Project

**Grant Number:**  
NE-82679601

**Sponsor:**  
Nez Perce Tribal Foundation

**Project Coordinator:**  
Solo Greene  
Nez Perce Environmental  
Restoration and Waste Management  
P.O. Box 365  
Lapwai, ID 83540-0365

(208) 843-7375

**EPA Funding:**  
\$144,520  
FY 1999

**Match Funding:**  
\$117,400

**Focus:**  
General Environmental Education

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### Nez Perce Tribal Foundation Two-World Environmental Education Project

#### Target Audience:

Students and Future Educators

#### Purpose:

To develop and improve critical-thinking, problem-solving, and effective decision-making skills of students and future educators by providing learning experiences that have a practical application in the real world and cultural components of environmental issues in the community

#### Goals:

- Gain a better understanding and respect for natural resources and the Nez Perce People
- Develop and deliver environmental education curriculum (K-12) reflecting the two-world view to reservation schools
- Ensure sustainability for a minimum of five years

#### Methods:

- Create a 10-day summer training course
- Hold a college semester course
- Distribute the Nez Perce Tribe Two-World View Curriculum

#### Products/Results:

- Developed, distributed, and implemented the curriculum into the local school districts and educational system

#### Challenges:

- Took longer than planned because of turnover and changes in job duties

#### Number of People Affected:

3,725 students and 824 American Indian students  
8 students in the college course  
7 enrolled in the Summer Teacher's Workshop

### Residential Environmental Science Education Center and Teaching

#### Grant Number:

NE-83141501

#### Sponsor:

University of Idaho

#### Project Coordinator:

Steve Hollenhorst  
University of Idaho  
P.O. Box 443020  
Moscow, ID 8344-3020  
(208) 885-7911

#### EPA Funding:

\$74,188  
FY 2003

#### Match Funding:

\$199,561

#### Focus:

General Environmental Education

#### Target Audience:

5<sup>th</sup>-8<sup>th</sup> Grade Educators and Students  
and University Students

# Idaho

1999 - 2004

## Environmental Education Grant Summaries

### Residential Environmental Science Education Center and Teaching

#### Purpose:

To create a residential environmental science school for Idaho school children that serves as a model program in math, science, and technology education

#### Goals:

- Increase the capability of the University and its project partners to design and deliver coordinated and comprehensive environmental education programs to Idaho school systems
- Increase the capacity of Idaho schools to meet science, math, and technology standards
- Increase student awareness and knowledge of environmental issues and skill in using scientific inquiry to understand and address these issues

#### Methods:

- Hold a two-week training for the graduate students in GLOBE program protocols (Global Learning and Observations to Benefit the Environment), first aid, outdoor leadership, and team building
- Serve subsequently as environmental education field instructors in a 10-week teaching residency at the proposed residential environmental education field campus
- Participate in a five-day ecosystem monitoring study using GLOBE scientific protocols for students in grades

5-8

- Spend six hours per day in the field collecting data and two hours in a lab setting analyzing, comparing, and synthesizing data across several different ecosystem types
- Achieve active teacher participation in all aspects of the field and laboratory studies

#### Products/Results:

- Finalized residential program curriculum
- Held the two-week training for eight graduate students field instructors in 2003 and 13 graduate students attended in 2004
- Recruited graduate students from throughout the United States
- Held the residential environmental education program at the McCall Outdoor Science School for a ten week period with 426 students from grades 5-8, 93 adult chaperones, and 24 Idaho teachers in 2003; and 413 students in grades 5-8, 88 adult chaperones, and 22 Idaho teachers in 2004

#### Successes/Strengths:

- Submitted article for the Winter 2004 issue of "Here We Have Idaho" alumni magazine
- Developed exciting partnerships with the Idaho Forest Products Commission, the Idaho Rangeland Resource Commission, and the Nez Perce National Historical Park

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

- Gave a presentation at the 2003 Idaho Environmental Education Association Conference
- Gave presentations at the annual Idaho Science Teacher's Association Conference in October 2004 focusing on outcome research being conducted since the program

inception in 2001

- Increased the students' science knowledge by 70 percent

### **Number of People Affected:**

21 graduate students, 839 5<sup>th</sup>-8<sup>th</sup> grade students, 181 adult chaperones, and 46 Idaho teachers

## **Teton River Watershed Education Program**

### **Grant Number:**

NE-97077301

### **Sponsor:**

Friends of the Teton River

### **Project Coordinator:**

Lyn Benjamin  
Friends of the Teton River (FTR)  
P.O. Box 768  
Driggs, ID 768  
(208) 354-3871

### **EPA Funding:**

\$6,200  
FY 2004

### **Match Funding:**

\$26,450

### **Focus:**

Ecosystem/Habitat

### **Target Audience:**

Teachers, Students, and the General Public

### **Purpose:**

To establish and implement the Teton River Watershed curriculum to increase elementary, middle, and high school students' awareness about the Teton Watershed and enhance their critical thinking about environmental issues

### **Goals:**

- Establish and implement a model curriculum that will be included in classroom teaching, field trips, and local watershed hikes
- Teach local educators about watershed curriculum options and data collection to enhance teaching skills
- Educate high school students to advance environmental career development

### **Methods:**

- Use existing resources including EPA education materials, Project WET, and Big Wood and Silver Creek Watershed curriculum
- Expand working relationships with teachers and classrooms in the Teton Valley School District

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### Teton River Watershed Education Program

- Establish a summer internship program and select students to work with FTR on field projects throughout the summer
- Lead educational river and hiking trips for the local Teton Valley community to help the public understand watershed issues and become involved in watershed protection

#### Products/Results:

- Created an “all inclusive” curriculum that includes background information, lesson plans, transparencies, state standards matching, student worksheets and workbooks, and field trip activities
- Allowed teachers to access the necessary materials in an organized and accessible PDF format
- Increased participation to six faculty and approximately 70 students
- Supported a high school internship program by hiring two local high school students to work on field trips throughout the summer
- Led three watershed education river and hiking trips for the local community

#### Challenges:

- Difficult to organize field trips for early September because of a staffing change

#### Successes/Strengths:

- Promoted “placed-based”

learning about the local watershed

- Provided all necessary equipment and interpretative resources used for field and in-class work
- Collaborated with other non-profits, organizations, state and federal agencies

#### Number of People Affected:

Directly – 500 students and 12 teachers; 20 peers and 100 kids from non-profits, other organizations and federal agencies; 150 members of the general public through public forums; and 60 individuals during interpretative hikes and floats  
Indirectly – 50 teachers and 600 people receive quarterly newsletter “Water Lines”

#### Tips From the Grantee for Creating a Local Watershed Curriculum

##### DO:

- Network with local teachers to discuss needs, goals, and expectations.
- Cultivate teacher relationships through multiple meetings.
- Meet with school district curriculum directors.
- Review existing state standards and rubrics.
- Review existing curriculum.
- Network with educational non-profits and organizations.
- Test out lesson plans and field trips with actual classes.

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

- Attend conferences and workshops (e.g. Project WET, Project Wild).
- Check your facts and resources.

### **DON'T:**

- Forget to keep track of all resources used.
- Assume a lesson will work without testing it first.

### **Web-Based Geographic Information Systems to Enhance Community Watershed Education**

#### **Grant Number:**

NE-97058901

#### **Sponsor:**

Palouse-Clearwater Environmental Institute

#### **Project Coordinator:**

Greg Fizzell  
Palouse-Clearwater Environmental Institute (PCEI)  
University of Idaho McCall Outdoor Science School  
P.O. Box 8596  
112 West 4<sup>th</sup> Street, Suite #1  
Moscow, ID 83843  
(208) 882-1444

#### **EPA Funding:**

\$17,255  
FY 2003

#### **Match Funding:**

\$21,560

#### **Focus:**

Water Quality

#### **Target Audience:**

Teachers, Citizens, and 5<sup>th</sup>-12<sup>th</sup> Grade Students

#### **Purpose:**

To design and implement a web-based Geographic Information System (GIS) interface

#### **Goals:**

- Increase teacher, student, and citizen awareness and knowledge of issues important to their watershed
- Highlight the use of GIS as a classroom tool that exhibits best educational practices while concurrently increasing watershed understanding
- Increase skill in using a web-based information system to answer questions and make decisions relevant to the local watershed
- Increase the use of the PCEI website as an educational tool

#### **Methods:**

- Provide users with easy point-and-click access to Paradise Creek Watershed information that highlights EPA 319 restoration sites, water quality data, weather data, soils, geology, land use, etc.
- Design and publish a K-12 training guide specific to the system for teachers and students

# Idaho

## 1999 - 2004 Environmental Education Grant Summaries

### Web-Based Geographic Information Systems to Enhance Community Watershed Education

- Host the GIS interface on the PCEI website ([www.pcei.org/gis](http://www.pcei.org/gis))
- Exhibit the new system to the adult community at a half-day teacher and a half-day citizen workshop
- Introduce students to GIS technology and its utility for visually understanding the world through student outreach programs

#### Products/Results:

- Developed a training manual and lesson plans
- Designed a web-based and in-house GIS system
- Trained teachers in the use of the GIS system
- Conducted education programs for K-12 students

#### Challenges:

- Did not hold a citizen workshop in web-based system for the Palouse community, since technological design of the system took longer than anticipated

#### Successes/Strengths:

- Utilized cutting-edge technology to teach watershed science to 6<sup>th</sup>-12<sup>th</sup> grade students
- Used the hands-on nature of computer technology to captivate the students as they explored their home watershed with interactive color maps and analysis tools

- Can be used for years to teach watershed science to students, teachers, and citizens

#### Number of People Affected:

Directly – 187 students and 13 teachers

Indirectly – 900 people through PCEI's newsletter and a large number through the website

#### Tips from the Grantee:

##### DO:

- Involve school administrators, teachers, and staff in every phase of the project planning and proposal development process
- Network with local universities, colleges, state and federal agencies, and other nonprofits.
- Follow up with your "clients" often, keeping the lines of communication clear and open.
- Dream big but take small steps.

##### DON'T:

- Make any assumptions when developing the project plan and proposal. Passing over the smallest detail has the potential to cause major headaches during implementation.
- Get discouraged easily. Setbacks should be an expected part of the program implementation process.
- Expect everything written in the proposal to happen as exactly as written. There is often more than one way to achieve the same goals and objectives.
- Lose sight of the BIG PICTURE.







# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Bear Creek Watershed Community Service Project**

**Grant Number:**

NE-98046401

**Sponsor:**

Rogue Valley Council of  
Governments

**Project Coordinator:**

David Jacob  
Rogue Valley Council of  
Governments  
155 South Second Street  
Central Point, OR 97502  
(541) 664-6676 ext. 212

**EPA Funding:**

\$14,600  
FY 1999

**Match Funding:**

\$13,562

**Focus:**

Ecosystem/Habitat

**Target Audience:**

2<sup>nd</sup>-12<sup>th</sup> Grade Students, Teachers,  
and Interested Community Members

**Purpose:**

To provide students, educators, and  
partnering natural resource agencies  
with opportunities to work together  
to develop and implement watershed  
enhancement and education projects

**Goals:**

- Build local capacity to develop  
and deliver high quality  
education programs
- Educate teachers, students, and

parents about the human health  
threats from environmental  
pollution

- Improve teachers skills in  
environmental education

**Methods:**

- Conduct two Watershed  
Community Service Project  
Forums
- Sponsor two educator training  
sessions
- Coordinates a student watershed  
congress to bring together high  
school students from throughout  
the Rogue River Basin for  
student-directed discussion of  
water quality issues

**Products/Results:**

- Used the two forums to bring  
together educators, agency  
personnel, and interested parties  
to discuss the Bear Creek  
riparian corridor, which is a  
major environmental resource  
for the Bear Creek Watershed
- Conducted two educator training  
sessions
- Coordinated student watershed  
congress

**Challenges:**

- Had scheduling problems arise  
because educators and students  
had little time for activities  
outside of the classroom
- Had students who were  
interested and enthusiastic, but  
were involved in other  
extracurricular activities

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Bear Creek Watershed Community Service Project**

- Inconsistent attendance made planning projects difficult
- Encountered problems finding times when educators were available for workshops
- Tying outdoor education to the requirements took additional teacher time, which is already very limited

#### **Successes/Strengths:**

- Brought together a wide variety of partners and interests to increase opportunities for local students

#### **Number of People Affected:**

Directly – nearly 1,000 students and educators

Indirectly – several thousand citizens became aware of the student efforts through project activities and media coverage

### **Building Capacity Through Leadership and Strategic Planning**

**Grant Number:**  
NE-97059801

**Sponsor:**  
Environmental Education  
Association of Oregon

**Project Coordinator:**  
Linda L. Rhoads  
Environmental Education  
Association of Oregon (EEAO)  
P.O. Box 15192  
Portland, OR 97293-5192  
(503) 234-3326

**EPA Funding:**  
\$21,857  
FY 2003

**Match Funding:**  
\$27,003

**Focus:**  
General Environmental Education

#### **Target Audience:**

Teachers and Non-Formal Educators,  
Natural Resource Agencies,  
Nonprofits, and Industry  
Representatives (all potential  
volunteers) throughout Oregon

#### **Purpose:**

To continue capacity-building initiatives and address current and future needs for sustainable success as EEAO makes the transition from an all-volunteer organization to a full-service nonprofit with paid staff

#### **Goals:**

- Facilitate three sequential strategic planning sessions
- Provide leadership development training for board members
- Develop an EEAO volunteer opportunity booklet
- Provide ongoing organizational development initiatives carried out and led by the executive director

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Building Capacity Through Leadership and Strategic Planning**

#### **Methods:**

- Facilitate an all-day strategic planning session for the EEAO board
- Facilitate two strategic planning sessions for EEAO members
- Conduct a seminar designed to address the leadership development needs of the EEAO board
- Integrate the above with the EEAO website, list server, and systematic outreach activities to distribute information about EEAO volunteer opportunities

#### **Products/Results:**

- Worked with a consultant to develop activities to involve all members and establish a vision, direction, goals, and actions at the three sequential strategic planning sessions
- Held leadership development training for board members
- Developed an EEAO volunteer opportunities booklet
- Carried out on going organizational development initiatives led by the executive director

#### **Challenges:**

- Underestimated project printing costs; EEAO would raise additional funds

#### **Successes/Strengths:**

- Integrated innovative approach to leadership development activities and strategic planning processes
- Applied leadership skills, behaviors, and decision-making processes to tasks and group interactions
- Invited facilitator/consultant to participate in board meetings to coach and reinforce effective leadership activities, which helped maintain process momentum
- Created a structure for EEAO to assess needs, set priorities, implement a strategic plan, facilitate networking, and sponsor leadership seminars

#### **Number of People Affected:**

About 130 people participated in face-to-face activities  
Some 300-500 were kept up-to-date via e-mail  
The strategic plan drafts were circulated among many list servers to solicit feedback

### **Building Environmental Education Capacity in Oregon**

**Grant Number:**  
NE-97007301

**Sponsor:**  
Environmental Education  
Association of Oregon (EEAO)

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Building Environmental Education Capacity in Oregon

#### Project Coordinator:

Elaine Jane Cole  
Environmental Education  
Association of Oregon  
P.O. Box 15192  
Portland, OR 97293-5192  
(503) 725-8294

#### EPA Funding:

\$20,000  
FY 2001

#### Match Funding:

\$43,568

#### Focus:

General Environmental Education

#### Target Audience:

Environmental Educators

#### Purpose:

- To provide leadership for educators committed to environmental education
- To provide support and resources for environmental education programs
- To bolster and improve the organizational structure to be easily accessible for all educators around the state
- To create a self-sustaining, continued base of funding that supports all aspects of EEAO operations

#### Goals:

- Heighten awareness and opportunities for citizens to be engaged in environmental education
- Increase membership in EEAO
- Create a sustainable, value-added environmental education organization in Oregon

#### Methods:

- Develop an EEAO Web site
- Facilitate four "Dig and Delve" workshops
- Host an annual statewide conference
- Facilitate the process of hiring and establishing an Executive Director position

#### Products/Results:

- Hired web designers to create a professional Web site
- Had former EEAO President, Lynn Wilson-Dean, facilitate four successful teacher-focused workshops
- Held a statewide conference
- Hired an Executive Director for the EEAO

#### Challenges:

- Was more work than the board anticipated to finish the Web site by July
- Had a low turnout at the annual statewide conference and did not generate a big revenue; however, it was productive and fun
- Did not reach membership goal of 300

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Building Environmental Education Capacity in Oregon

#### Successes/Strengths:

- Hiring an Executive Director for the organization was demanding, but very successful

#### Number of People Affected:

Directly – 80 people through the workshop; 40 through the conference  
Indirectly – 500

### Community Action and Problem Solving

#### Grant Number:

NE-97008101

#### Sponsor:

Cascade Earth Force, Portland State University

#### Project Coordinator:

Julie Magers  
Cascade Earth Force  
P.O. Box 751  
Portland, OR 97207-0751  
(503) 725-8288

#### EPA Funding:

\$19,999  
FY 2001

#### Match Funding:

\$15,635

#### Focus:

General Environmental Education

#### Target Audience:

5<sup>th</sup>-9<sup>th</sup> Grade Students and Teachers

#### Purpose:

To identify local environmental issues and work to create sustainable solutions

#### Goals:

- Provide a balanced, structured, age-appropriate framework for young people to create meaningful projects that benefit their environment and their communities through changes in local policies or community practices

#### Methods:

- Participate in a series of skill-building professional development workshops
- Identify environmental issues
- Research projects
- Create action plans

#### Products/Results:

- Helped teachers and students explore their communities
- Identified environmental issues
- Researched the issues from multiple viewpoints
- Created action projects to create sustainable improvements
- Incorporated community experts into the process

#### Challenges:

- Had varied outcomes
- Discouraged when students classes could not find an environmental problem to solve

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Community Action and Problem Solving

- Resigning of the Cascade Earth Force director in the spring, meant many tasks and responsibilities had to be shifted, and project, funding, and media opportunities were missed

#### Successes/Strengths:

- Offered an innovative set of tools, training, and support to the participating teachers and their classes

- Benefited from having to have a resource partner to help work with the class and make referrals for community assistance
- Involved community to help the students and teachers in a mutually beneficial manner
- Brought together teachers with varying backgrounds and years of experience and schools with a wide array of different learning environments

#### Number of People Affected:

39 educators, 500 students, 15 community partner organizations

### Crooked River Watershed Council Monitoring Education and Involvement Project

#### Grant Number:

NE-98077701

#### Sponsor:

Crook County Soil and Water Conservation District

#### Project Coordinator:

Tina Whitman  
Crook County Soil and Water Conservation District  
498 SE Lynn Boulevard  
Prineville, OR 97754  
(541) 447-3548

#### EPA Funding:

\$1,784  
FY 2000

#### Match Funding:

\$5,650

#### Focus:

Ecosystem/Habitat

#### Target Audience:

Educators, Interested Community Members, and Landowners

#### Purpose:

To improve community knowledge of the condition of resources and involvement in watershed stewardship

#### Goals:

- Coordinate training and field opportunities in watershed monitoring for area educators, students, and landowners

#### Methods:

- Conduct two workshops in photo and water quality monitoring methods and data interpretation

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Crooked River Watershed Council Monitoring Education and Involvement Project**

#### **Products/Results:**

- Had 27 landowners and six agency representatives participate in the monitoring workshops and receive resource notebooks
- Supported monitoring training for local teachers by sponsoring a high school teacher's participation in a week-long workshop
- Coordinated the delivery of a teacher training with a monitoring emphasis in Prineville

#### **Challenges:**

- Had a change in the project timeline
- Took longer than originally planned for the landowner's workshop and implementation of some monitoring components
- Had limited available time of the council's staff to dedicate to this project

#### **Successes/Strengths:**

- Had high interest by landowners and educators in the monitoring workshops
- Helped build support among agency staff interested in connecting with landowners or educators to achieve monitoring goals
- Strengthened community involvement by training landowners to conduct their own monitoring activities and design their own objectives
- Focused monitoring training specifically to the needs of the watershed
- Provided training opportunities, equipment, and technical support to schools and private landowners

#### **Number of People Affected:**

Directly – 27 landowners in the workshop received training and resource notebooks;  
145 other landowners, educators and students participated in monitoring and/or training  
Indirectly – 500 fliers were mailed out to landowners, organizations, and agencies

### **Crossing Boundaries Watershed Education Project**

**Grant Number:**  
NE-97030501

**Sponsor:**  
Lower Columbia River Estuary  
Partnership

#### **Project Coordinator:**

Tammy Sanders  
Lower Columbia Estuary Partnership  
811 SW Naito Pkwy, Suite 120  
Portland, OR 97204  
(503) 226-1565



# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Crossing Boundaries Watershed Education Project**

#### **EPA Funding:**

\$9,148  
FY 2002

#### **Match Funding:**

\$5,500

#### **Focus:**

Water Quality

#### **Target Audience:**

Upper Elementary and Lower Middle  
School Teachers and Students

#### **Purpose:**

To support a network of teachers  
participating in hands-on active,  
outdoor education along the lower  
Columbia River

#### **Goals:**

- Increase capacity to develop and deliver coordinated environmental education across multiple states
- Integrate hands-on, outdoor educational activities into teachers' curriculum
- Establish adjacent field sites wherever possible to sustain the educational program over the long term
- Educate teachers about environmental issues through summer workshops
- Educate students on the many habitats and components that make up a watershed, and how these components are essential to the function and health of the lower river and estuary

- Help teachers and students to understand the whole system

#### **Methods:**

- Conduct teacher workshop in August to teach about the ecology of a watershed, restoration, stream ecology, and vegetation
- Conduct one-day school visits
- Identify materials and activities to help teachers teach environmental concepts
- Identify potential field trip sites
- Help plan field trips and provide equipment for learning

#### **Products/Results:**

- Held teacher workshop, and also worked with teachers who were unable to attend the workshop
- Identified materials and activities to help teachers teach environmental concepts, identified potential field trip sites, helped to plan field trips, and provided equipment for learning
- Held informal meetings with the teachers
- Showcased projects at local science fairs and an informal student exchange of information between classes at one school instead of organizing a large summit to highlight student work

#### **Challenges:**

- Coordinating projects with local watershed councils did not work out well because teachers were focused on setting up curriculum

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Crossing Boundaries Watershed Education Project**

- and seemed overwhelmed by taking on additional projects
- Scheduling large teacher meetings did not work out well because of geographical distance and lack of time; it worked better to meet with teachers individually or communicate by email
  - Was difficult to do the program presentations at large conferences due to timing of the conferences
  - Did not create a teacher information packet; instead met with teachers individually

#### **Successes/Strengths:**

- Had a great teacher response
- Worked with teachers to develop programs that tied into learning and concepts they were already working on with their students
- Found that using a park near the school worked well instead of a field trip to a stream
- Utilized a fieldwork approach so that it promoted teamwork, interdisciplinary thinking, and developed new areas of interest for students

#### **Number of People Affected:**

Approximately 1,205 students, 39 teachers, and 40 parent volunteers

#### **Tips From the Grantee:**

- The diverse project content and basic principles could be shared with other organizations or schools.

#### **DO:**

- Be flexible in the program approach – realize each teacher and school has its own unique set of circumstances that will affect project implementation.
- Work with the teacher to develop a program that is interesting and help meet curriculum goals.
- Try to utilize local outdoor space for fieldwork.
- Try to involve parent volunteers to give teachers extra support.
- Match activities up with state benchmarks so that teachers can see how programming will help them meet those state standards.

#### **DON'T:**

- Develop a program that is a “one size fits all” approach.
- Underestimate the importance of local parks and natural areas for teaching, no matter what their size.

### **Fifth Grade Water Quality Monitoring and Results Presentation**

#### **Grant Number:**

NE-97058701

#### **Sponsor:**

Parkdale Elementary School

#### **Project Coordinator:**

Kim Bauer  
Parkdale Elementary School  
P.O. Box 69  
Parkdale, OR 97041  
(541) 352-6255

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Fifth Grade Water Quality Monitoring and Results Presentation**

#### **EPA Funding:**

\$3,800  
FY 2003

#### **Match Funding:**

\$2,439

#### **Focus:**

Water Quality

#### **Target Audience:**

Fifth Grade Students

#### **Purpose:**

To teach students to conduct comprehensive water quality monitoring on a stream near the school, analyze the data, and present the results as part of a larger river basin study being done by the State of Oregon

#### **Goals:**

- Expose students to the aquatic environment in their community and the role monitoring has in determining water quality and stream health
- Generate student interest in water quality and the environment as a career opportunity

#### **Methods:**

- Teach students to do "hands-on" water quality monitoring and analyze the data
- Teach students to prepare presentations for the community and their peers

#### **Products/Results:**

- Conducted comprehensive water quality monitoring in fall and spring
- Charted and analyzed the data
- Held a Water Assembly for all school grades
- Conducted a student field trip to the Oregon Coast Aquarium
- Hosted an evening for the parents and community to view the students' work
- Summarized the project with a PowerPoint presentation and demonstrated the use of water monitoring equipment

#### **Challenges:**

- Dictated adjustments in monitoring because of the lack of field experience
- Eliminated one monitoring item (caged fish exposure and analysis), after consultation with the state Department of Environmental Quality

#### **Successes/Strengths:**

- Hired a professional presenter for little cost so that students were able to monitor more water bodies
- Received specific water quality instruction and completed hands-on activities at the Oregon Coast Aquarium
- Shared PowerPoint presentation with other educators so they can understand the project from the students' perspective and see what students can achieve from implementing a similar project

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Fifth Grade Water Quality Monitoring and Results Presentation**

#### **Number of People Affected:**

35 fifth graders along with teachers,  
parents, and community members

### **Increasing the Ability of High School Science Teachers to Collect High Quality Biomonitoring Data With Their Students**

#### **Grant Number:**

NE-97081301

#### **Sponsor:**

Portland State University

#### **Project Coordinator:**

Patrick Edwards  
Portland State University  
P.O. Box 751  
Portland, OR 97207  
(503) 725-8303

#### **EPA Funding:**

\$6,284  
FY 2004

#### **Match Funding:**

\$3,834

#### **Focus:**

Ecosystem/Habitat

#### **Target Audience:**

High School Science Teachers

#### **Purpose:**

To conduct and evaluate an aquatic  
insect identification program for high  
school science teachers

#### **Goals:**

- Advance the ability of the teachers to identify aquatic insects collected through biomonitoring studies with their students
- Determine the accuracy of aquatic insect data collected in an educational setting

#### **Methods:**

- Hold a five-day aquatic insect identification workshop in the summer
- Continue throughout the academic year with data collection support and verification by a Portland State University faculty member

#### **Products/Results:**

- Held the summer workshop and eight teachers participated
- Increased teachers' insect identification skills at the workshop
- Gave participants opportunities to practice and refine data collection procedures
- Provided data collection equipment and identification books specifically designed for the education setting

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Increasing the Ability of High School Science Teachers to Collect High Quality Biomonitoring Data With Their Students**

- Collaborated through the school year with an experienced aquatic insect researcher and educator
- Provided opportunities to verify and ensure data

#### **Successes/Strengths:**

- Focused specifically on accurate biomonitoring techniques that are both sensitive to wildlife and appropriate for the educational setting

- Collaborated on designing sampling and identification techniques that reflect the reality of the educational setting
- Had ongoing dialogue and feedback about the proposed protocols
- Improved their ability to identify insects, which is a difficult aspect of biomonitoring
- Laid the foundation for collaboration between teachers and researchers

#### **Number of People Affected:**

8 teachers participated  
100 flyers were distributed

### **Keepers of the Creek**

**Grant Number:**  
NE-97059501

**Sponsor:**  
Corvallis School District

**Project Coordinator:**  
Kristin Erickson  
Corvallis School District  
1555 SW 35<sup>th</sup> Street  
Corvallis, OR 97330  
(541) 757-5951

**EPA Funding:**  
\$13,784  
FY 2003

**Match Funding:**  
\$5,520

**Focus:**  
Water Quality/Ecosystem/Habitat

**Target Audience:**  
Students, Teachers, and Community

**Purpose:**  
To restore a section of Dixon Creek with student and community education components

**Goals:**

- Teach students and adult volunteers the necessary steps and methods involved in restoring a stream
- Encourage community members to participate, learn, and apply new skills to other areas along Dixon and other creeks

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Keepers of the Creek

#### Methods:

- Complete stream restoration work conducted by teachers, elementary and high school students, volunteers, and community partners
- Teach high school students to monitor water quality and mentor elementary students doing the research
- Teach elementary students to work with volunteers to inventory, plan, and complete work on the site
- Hold community forums to inform landowners about project progress, volunteer opportunities, and practical applications for their own portions of the creek
- Create multi-media presentation to share the learning with other educators, students, and organizations

#### Products/Results:

- Developed, implemented, and maintained a stream restoration project with the school and community members
- Completed one or more units related to the Keepers of the Creek project per classroom
- Purchased materials, curriculum, and supplies to support the curriculum
- Created a Wildlife Stewards library and supply area to make materials easily accessible to teachers
- Had the fifth grade students create a PowerPoint slideshow

- Improved high school students mentoring skills by testing water with a third grade class
- Assisted elementary students in learning more about topics related to the creek

#### Challenges:

- Used small local businesses because of difficulty in locating a minority-owned business to purchase necessary materials, supplies, and equipment
- Learned how to keep up with a fast-moving project
- Faced difficulties with getting additional creek side property owners involved
- Tried to ensure future maintenance of the site

#### Successes/Strengths:

- Helped leverage money from other sources to start restoration process
- Increased community interest and involvement
- Had enthusiasm of students working on the project
- Made the learning more interesting and meaningful for the students by having mentors
- Included actual fieldwork in the project to teach about riparian areas and stream restoration
- Had parent coordinator and many groups involved in the project
- Maintained oversight of the site during the summer through volunteers

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Keepers of the Creek

- Scheduled work parties throughout the following years to continue maintenance

#### Number of People Affected:

More than 1,000 including students, teachers, and community members

#### Tips From the Grantee:

##### DO:

- Spread this type of project over three years – first year for research, second year for planning and beginning restoration work, and the third year dedicated to the rest of the restoration work with a plan in place for continued maintenance and modifications as needed.

### Lane County Culvert Survey and Environmental Education Project

#### Grant Number:

NE-98095501

#### Sponsor:

Northwest Youth Corp

#### Project Coordinator:

Natalie Whitson  
Northwest Youth Corp  
2621 Augusta Street  
Eugene, OR 97403  
(541) 349-5055

#### EPA Funding:

\$5,000  
FY 2000

#### Match Funding:

\$33,122

#### Focus:

Water Quality

#### Target Audience:

Northwest Youth Corp Staff, Lane County Middle and High School Students, and Lane County Citizen and Agency Shareholders

#### Purpose:

To design a class for at-risk youth from the Northwest Youth Corp's OutDoor School and Youth Works

#### Goals:

- Gain academic credit
- Learn more about the connection between the physical environment, biology, and watersheds
- Prepare the youth to be stewards of the environment
- Collect needed information for the Oregon Department of Fish and Wildlife

#### Methods:

- Complete fish passability and culvert studies in Lane County, Oregon
- Train in proper protocols to carry out surveys and interpret data
- Design outreach materials to be placed in the lobby of the Oregon State Capitol Building

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Lane County Culvert Survey and Environmental Education Project

#### Products/Results:

- Learned more about the environment
- Gained the skills needed to increase public awareness of environmental issues by providing the public (including local government) with the knowledge to make informed decisions and take responsible action

#### Successes/Strengths:

- Collected data and interpreted it as part of the youths' education, job training, and community service and career development activities

- Enhanced low-income and at-risk youth work skills through the completion of intensive field studies
- Developed skills in citizenship and stewardship of the environment through public service

#### Number of People Affected:

Directly – 88 students

Indirectly – staff members from the City and Oregon Department of Fish and Wildlife who received information on the condition of the culverts, and the Northwest Youth Corp staff

### Lower Columbia Region Elementary School Teachers' Workshops

#### Grant Number:

NE-97059901

#### Sponsor:

Lower Columbia River Estuary

#### Project Coordinator:

Susan Elshire  
Lower Columbia River Estuary  
811 SW Naito Parkway, Suite 120  
Portland, OR 97204  
(503) 226-1565

#### EPA Funding:

\$9,537  
FY 2003

#### Match Funding:

\$10,672

#### Focus:

Water Quality

#### Target Audience:

Pre-Service Teachers and Elementary School Teachers

#### Purpose:

To hold a series of elementary school teacher workshops throughout the Lower Columbia River Region

#### Goals:

- Increase teacher confidence and ability to engage students in environmental activities both in the classroom and in the field
- Demonstrate how environmental education can help teachers reach state benchmarks



# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Lower Columbia Region Elementary School Teachers' Workshops

- Teach educators how to utilize their local resources and integrate these resources into their curriculum
- Provide teachers with knowledge and skills to conduct field studies on school grounds and in nearby streams and wetlands
- Teach how to develop interdisciplinary units
- Help teachers create new curricula following the loss of Outdoor School programs in Oregon

#### Methods:

- Hold eight workshops
- Focus on local habitats and plants, animals, and geology that make up the ecosystems
- Engage teachers in hand-on activities they can complete with their students
- Present concepts using the science inquiry approach

#### Products/Results:

- Held six elementary school teacher workshops
- Created a notebook containing curriculum for the workshop participants

#### Challenges:

- Recruited fewer teachers so held two fewer workshops than planned
- Combined two workshops and held them on a Saturday instead of the whole weekend
- Held summer workshop for two days instead of three

#### Successes/Strengths:

##### Teachers

- Focused on things to think about when working with students outside
- Left the training feeling more comfortable when taking their students out to do field work
- Created ideas for exploration-based lessons with relatively little set up and few pieces of equipment
- Had materials to take back to the their classrooms and were empowered to use these activities with their students
- Focused on using local natural resources, which cut down on transportation costs
- Can disseminate notebook to other environmental educators

#### Number of People Affected:

53 teachers and non-formal educators

#### Tips From the Grantee:

##### DO:

- Be flexible in the content of the workshop to meet as many teachers' needs as possible.
- Choose a field site and activities that can be replicated.
- Encourage teachers that even simple activities are very effective when taught outside.
- Encourage teachers that workshop activities will help them meet state standards and highlight what those standards are.

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Lower Columbia Region Elementary School Teachers' Workshops

- Hold workshops at the end of the school year.
- DON'T:**
- Spend more time completing activities rather than lecturing to participants.

- Avoid activities that are difficult to replicate or involve materials that are time-consuming to create.
- Avoid having workshops on the weekend during the school year.

### Macroinvertebrate Sampling with Local Middle Schools

**Grant Number:**  
NE-97017301

**Sponsor:**  
MidCoast Watersheds Council

**Project Coordinator:**  
Amy Bohnenstiehl  
MidCoast Watersheds Council  
157 NW 15<sup>th</sup> Street Unit 1  
Newport, OR 97365  
(541) 265-5438

**EPA Funding:**  
\$5,000  
FY 2001

**Match Funding:**  
\$7,000

**Focus:**  
Ecosystem/Habitat

**Target Audience:**  
Teachers, Students, and Adult  
Volunteers in the Newport Area

#### **Purpose:**

- To increase awareness of stream health in the local community and the importance of a healthy habitat for the threatened and endangered native salmon populations

#### **Goals:**

- Educate fifth and eighth grade teachers and their classes about watershed processes, the importance of water quality, and macroinvertebrate populations
- Give students from varying economic/demographic backgrounds the opportunity to use scientific data collection techniques to identify watershed and water quality conditions

#### **Methods:**

- Introduce students to the process of collecting baseline stream insect data and assigning a stream health index
- Create long-term monitoring plans for local streams

#### **Products/Results:**

- Conducted two classroom presentations per class prior to field trips

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Macroinvertebrate Sampling with Local Middle Schools

- Conducted field trips at stream sites within the school's watershed both in the fall and the spring
- Gave two class presentations to the Watershed Council

#### Challenges:

- Was difficult to plan all-day projects and field trips because of class schedules
- Could not have after-school and evening meetings with teachers because of contract negotiations that the teachers were involved in during the fall months
- Had difficulty scheduling events because teachers' spare time was filled with committee meetings

#### Successes/Strengths:

- Covered one specific group of indicator species to assess the health of the streams instead of trying to cover everything about watersheds
- Gained student interest and excitement in the local-scale project
- Found fifth grade to be an ideal grade level for the project because teachers' schedule were open for in-class presentations and all-day field trips

#### Number of People Affected:

225 students, 8 teachers, 48 parents/ adult volunteers

More than 40 other adults were audience members at council meetings to see the student-led presentations

Article in the Newport News Times that is distributed to more than six small cities within the county

### May Street Elementary Wild Bird Habitat and Outdoor Classroom

#### Grant Number:

NE-97028701

#### Sponsor:

Hood River County School District

#### Project Coordinator:

Shelley Hight  
Hood River County School District  
May Street Elementary School  
P.O. Box 920  
Hood River, OR 97031  
(541) 386-1015

#### EPA Funding:

\$5,000  
FY 2002

#### Match Funding:

\$5,660

#### Focus:

Ecosystem/Habitat

#### Target Audience:

4<sup>th</sup> and 5<sup>th</sup> Grade Students

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### May Street Elementary Wild Bird Habitat and Outdoor Classroom

#### Purpose:

To create a wild bird habitat and outdoor classroom at May Street Elementary School

#### Goals:

- Improve understanding of watershed health with a focus on native bird species
- Improve the opportunity for science inquiry
- Improve connections that students make in their local watersheds and contribute to restoration of urban habitat for native bird species
- Become a model for other schools in the district

#### Methods:

- Create a schoolyard habitat model through hands-on implementation, classroom lessons, and field studies with biologists and environmental specialists
- Use various media teams to track the development of the habitat by the student technology team
- Reach a broader audience at school events with the use of technology projects

#### Products/Results:

- Had fifth grade students participate in a fall After-School Science Series
- Held spring After-School Science mini-series that included students from kindergarten through fourth grade

- Studied and planted native trees, shrubs, and plants
- Created bioswales to capture and control the flow of the building's rainwater runoff to lessen the amount of sediment and chemicals flowing into the Columbia River
- Built and hung birdhouses and bird feeders
- Tracked the development of the habitat through still and video images captured by the student technology team
- Created a PowerPoint presentation of those images
- Worked with an artist-in-residence to create an animated file about the creation of the bird habitat

#### Challenges:

- Had difficulty scheduling activities during school time for some teachers
- Created scheduling problem because Cornell University Lab of Ornithology Classroom Feeder Watch curriculum was not utilized since school started late

#### Successes/Strengths:

- Has become a model for other schools in the district
- Created strong partnerships with public and private entities
- Saw great collaboration between experts and programs

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### May Street Elementary Wild Bird Habitat and Outdoor Classroom

- Created bioswales: \*landscaped depressions throughout the habitat captured and controlled the flow of the building's rainwater runoff and storm water
- Implemented project mainly during after-school hours
- Will use PowerPoint presentation and animated file to encourage other schools to create bird habitats

#### Number of People Affected:

420 elementary students, 25 high school students, 50 volunteers, 15 staff members, and 5 professionals from various fields of study

#### Tips From the Grantee:

##### DO:

- Purchase and follow the National Wildlife Federation Schoolyard Habitats Site Planning Guide to create a bird habitat.
- Form partnerships with professionals from the public and private sector to insure a high standard for every aspect of the project.

##### DON'T:

- Try to reinvent the wheel – the project has likely been done, and there are people who can provide invaluable knowledge.

### McCoy Meadows Ranch Spring 2000 Field Trips

#### Grant Number:

NE-98046501

#### Sponsor:

Think Link Discovery Museum

#### Project Coordinator:

Lani Schroeder  
Think Line Discovery Museum  
906 Washington Street  
LaGrande, OR 97850  
(541) 963-5452

#### EPA Funding:

\$5,000  
FY 1999

#### Match Funding:

\$3,500

#### Focus:

Ecosystem/Habitat

#### Target Audience:

4<sup>th</sup>-6<sup>th</sup> Grade Students from Three School Districts in Union County, Oregon

#### Purpose:

- To provide an opportunity to learn about resource management on privately held property

#### Goals:

- Educate students, teachers, and parents about the community issue of land-use management and its effects on water quality, wildlife habitat and sustainability
- Enhance students' studies of ecosystems and resource management

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### McCoy Meadows Ranch Spring 2000 Field Trips

#### Methods:

- Conduct five one-day field trips, each with a one-hour classroom preparatory session
- Hold field trips on private properties
- Involve property owners and several federal, state, and tribal agencies

#### Products/Results

- Gave approximately 240 students hands-on outdoor environmental education centered on resource management in an upland habitat
- Promoted outdoor education through an article in the local newspaper and by word of mouth

#### Challenges

- Needed more students to be involved in the pre-field trip activities so they would have been better prepared for the field trips
- Needed better management of the students
- Were overly burdened with bulky lunch boxes and cumbersome bags, tiring the students out during the half-mile walks

#### Successes/Strengths:

- Increased students' understanding of resource management of forests, grazing areas, and historical sites after participating

#### Number of People Affected:

Approximately 240 students, 10 teachers, 5 student teachers, and 17 parents

#### Tips From the Grantee:

##### DO:

- Pre-field trip classroom visits are a great way to get to know your audience before the big day.
- Prepare a notebook for students to use during the field trip.
- Have a dry run with the staff and, if possible, with the teachers.
- Use an air horn to alert to field station changes. The sound of bells or whistles does not carry far enough.
- Have the students wear name tags. This gives you an additional element of control over potentially rambunctious youngsters.
- Have the students bring some form of clipboard with their pencil attached with a long piece of string.
- Lunch early rather than late.
- Alternate each day of field trips with a day of rest. It is quite exhausting to do this type of thing day after day.

##### DON'T:

- Assume kids know what to bring. Even with a check-list, they tend to over pack. Show them by example.
- Assume teachers and parents will provide the necessary discipline for their students. Be prepared to take on the unruly yourself.

# Oregon

1999 - 2004

## Environmental Education Grant Summaries

### McCoy Meadows Ranch Spring 2000 Field Trips

- Give the students too much lunch time.

- Be discouraged if one day goes badly. Each classroom has its own culture and some are less gracious than others.

### Oregon NatureMapping

#### Grant Number:

NE-97006901

#### Sponsor:

Jackson Bottom Wetlands Preserve

#### Project Coordinator:

Patrick Willis

Jackson Bottom Wetlands Preserve

2600 SW Hillsboro Highway

Hillsboro, OR 97123

(503) 681-6206

#### EPA Funding:

\$18,500

FY 2001

#### Match Funding:

\$40,196

#### Focus:

Ecosystem/Habitat

#### Target Audience:

Teachers and Middle School

Students

#### Purpose:

To design an educational program to engage citizen scientists in monitoring terrestrial wildlife and share their observations with others through a web-based database that can be used to track biodiversity in Oregon

#### Goals:

Teachers learn how to:

- Read and interpret topographic maps and use GPS technology for establishing latitude and longitude
- Identify birds by ear, since most animal observations are audio aural
- Read and interpret wildlife tracks and sign
- Use the NatureMapping datasheets and protocols for collecting data
- Use NatureMapping to help student meet Science Benchmarks
- Set up NatureMapping “hubs”

#### Methods:

- Provide teacher workshops and programs for specific classrooms

#### Products/Results:

- Conducted three trainings
- Developed a field guide
- Added new accompanying activities
- Developed instructional materials

#### Challenges:

- Had workshops that were not as well attended as expected
- Cancelled several scheduled NatureMapping workshops

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Oregon NatureMapping

- Had to hire another company, since the one contracted to create the Web site defaulted

#### Successes/Strengths:

- Provided teachers, students, and others interested with online support through the development of the Web site

#### Number of People Affected:

About 130 adults (107 of them teachers), 120 middle school students, 40 college students, and 120 through the cyber tracking project

#### Tips From the Grantee:

##### DO:

- Plan for long-term mentoring for teachers and their students in the training of skills and technology needed for competence in data collection.
- Offer to serve directly in the classroom.
- Use college students' requirement for community service learning as an opportunity to expand program staff.
- Find community partners.

### Polk County Environmental Experience

#### Grant Number:

NE-97077001

#### Sponsor:

Polk Soil and Water Conservation District

#### Project Coordinator:

Heather Alvarez  
Polk Soil and Water Conservation District  
580 Main Street, Suite A  
Dallas, OR 97338  
(503) 623-9680, ext. 101

#### EPA Funding:

\$4,110  
FY 2004

#### Match Funding:

\$10,905

#### Focus:

Ecosystem/Habitat

#### Target Audience:

1<sup>st</sup>-8<sup>th</sup> Grade Students in Polk County

#### Purpose:

To offer a one-day outdoor classroom experience to students in Polk County

#### Goals:

- Give students an opportunity to learn about the environment through an educational experience that would not otherwise be available

#### Methods:

- Provide a combination of classroom work and one-day field trips



# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Polk County Environmental Experience

- Provide teachers with curriculum in natural resource areas of study
- Teach students the basics of water quality, aquatic insects, watershed health, and soils through hands-on experience
- Gather data about the site condition and develop reports on condition of the area
- Will be used by the District to include with their data collection

#### Products/Results:

- Taught five, one-day, outdoor classes to students from K-8<sup>th</sup> grade in Polk County
- Hosted two Outdoor School camps for 6<sup>th</sup> graders from three different schools

#### Successes/Strengths:

- Have the ability now to continue this project into future years
- Able to let the students “get their hands wet” with different activities at the different stations – some students had never had the chance to experience the outdoors
- Created an Outdoor School because of the success of the one-day classes

#### Number of People Affected:

523 students, 35 professional presenters, 15 teachers, 27 parent volunteers, and 6 Polk Soil and Water Conservation District staff and 7 Board Directors

### Project Wetland Education Support and Training (WEST)

#### Grant Number:

NE-97078101

#### Sponsor:

Willamette Resources and Educational Network

#### Project Coordinator:

Holly McRae  
Willamette Resources and Educational Network (WREN)  
751 South Danebo  
Eugene, OR 97402  
(541) 683-6494

#### EPA Funding:

\$24,922  
FY 2004

#### Match Funding:

\$8,915

#### Focus:

Wetlands

#### Target Audience:

3<sup>rd</sup>-8<sup>th</sup> Grade Formal and Informal Educators

#### Purpose:

To incorporate wetlands curricula into existing in-class curricula and opportunities for hands-on application of classroom lessons

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Project Wetland Education Support and Training (WEST)**

#### **Goals:**

- Improve educators' environmental teaching skills through a series of workshops, tools, printed and online materials, and support services
- Integrate Oregon state standards and benchmarks with the curricula
- Provide a collaborative model for other environmental education programs

#### **Methods:**

- Receive training via workshops, WREN-developed training tools, printed and online materials, class visits, field trips, and post-trip follow up

#### **Products/Results:**

- Conducted two teacher trainings partnering with Eugene Water and Electric Board; 57 teachers attended
- Held a weeklong Summer Educator Workshop for 10 educators
- Focused the education programs in both formal and classroom settings using the West Eugene Wetlands as a living laboratory and classroom – 89 field trips and classroom presentations
- Held three volunteer orientations; 15 people attended the sessions
- Performed an educator needs assessment
- Developed the on-line version of the "Educator's Guide to the West Eugene Wetlands"

#### **Challenges:**

- Had fewer teachers attend the summer workshop than anticipated, but the smaller number worked out well
- Experienced a delay in some anticipated funding
- Becoming apparent that some teachers prefer to have WREN staff and volunteers lead all field trips
- Could not afford buses for some classrooms to visit the wetlands
- Finding volunteers that are available during the needed times – will work with University of Oregon to create internships for students

#### **Successes/Strengths:**

- Built on a number of best practices and added new ones – curricula can easily be modified to address different habitat areas and different target audiences, is interdisciplinary, links each lesson with specific state education benchmarks for that discipline
- Having explicit links between lessons and benchmarks helps educators to integrate activities into their existing curricula, to assess their students learning needs, and to justify the benefits of hands-on activities and field trips to school administrators

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Project Wetland Education Support and Training (WEST)**

#### **Number of People Affected:**

2,237 students, 249 teachers/  
chaperones, 67 teachers, 19  
volunteers  
11,824 website visits

#### **Tips From the Grantee:**

- Engage the best presenters and make their roles clear.
- Teachers appreciate experts, especially if they have a passion for their work.
- Expectations should be clearly stated and received with some flexibility. Teachers can be creative, if given the chance.
- You can never have "too many handouts." Teachers like resources.
- Many teachers reported that the wetland program fit into some activity they were already running.
- Send follow-up emails to teachers asking them, a couple of weeks later, about any lasting

impacts on their students or any subsequent changes they made in their teaching.

- Use the project to foster an Online Teaching Community where teachers share materials, collaborate, and set up cross-classroom projects.
- Hold special activities for principals and other school district administrators.
- Flyers sent out to teachers at the beginning of each school year were successful. Also sent out packets containing information on field trip programs, outreach programs, and registration forms to each teacher.
- Creating an outreach program to supplement the field trip program worked out well to increase the number of students and teachers reached.
- Outreach programs are more popular with teachers because they take less time and are less expensive than a field trip.

### **Riparian Restoration and Fish Passage Improvement Community Education Program**

#### **Grant Number:**

NE-97061801

#### **Sponsor:**

Umpqua Basin Watershed Council

#### **Project Coordinator:**

Nancy Geyer  
Umpqua Basin Watershed Council  
1758 NE Airport Road  
Roseburg, OR 97470  
(541) 673-5756

#### **EPA Funding:**

\$20,850  
FY 2003

#### **Match Funding:**

\$9,400

#### **Focus:**

Ecosystem/Habitat

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Riparian Restoration and Fish Passage Improvement Community Education Program**

#### **Target Audience:**

Landowners with Streamside Property in the South-Central, Central, North-Central, and Coastal Areas of the Umpqua Basin

#### **Purpose:**

To improve stream habitat conditions – specifically riparian and fish passage – for the threatened Coho salmon and other fish and aquatic life

#### **Goals:**

- Improve stream conditions and increase Coho salmon runs
- Educate landowners about the problems associated with poor riparian conditions and stream barriers
- Recruit landowner participation in on-the-ground restoration activities

#### **Methods:**

- Mail educational action sheets to 5,000 landowners in target areas
- Conduct five field trips to project sites with target landowners and community groups
- Develop and demonstrate an interactive display at six fairs/ events in the Umpqua Basin
- Write at least 20 educational articles for newspapers and community newsletters

#### **Products/Results:**

- Participated in seven shows and fairs with displays
- Conducted six field tours
- Gave presentations to 29 school and community groups

- Produced a newsletter, with updates on the fish passage program and the riparian restoration and outreach that was sent to 4,700 Douglas County residents
- Produced articles in five different newsletters and 10 newspaper articles
- Had 10 schools and five community groups visit the park to assist in restoration activities or to see both the practices and problems facing the park

#### **Challenges:**

- Did not do as many presentations as planned but did more newsletter articles, field tours, and displays at fairs than anticipated
- Required special planning for substitute teachers and transportation, because of teacher schedules and lack of funds

#### **Successes/Strengths:**

- Used an existing park that was a great natural resource learning center
- Received additional funding for culvert replacements, restoration of acres of oak woodland and riparian restoration, stream bank stabilization, and continuation of the natural resource education at the park

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Riparian Restoration and Fish Passage Improvement Community Education Program**

#### **Number of People Affected:**

Directly – 1,700 people saw the displays, community and education presentations, and field tours  
Indirectly – 40,000 with action sheets, newsletters, and newspaper articles

#### **Tips From the Grantee:**

- Prepare multiple presentations options – on-site streams, demonstration stream, in-class lecture and materials, PowerPoint presentations.
- Have materials for teachers so they can pre-teach your topic. Oregon State University Extension has many publications and videos applicable.
- Check with the counties' Education Service District for a list of available videos and publications.
- Have some literature on fish passage and riparian restoration material for online or email distribution to instructors.
- For in-class presentations, have varied materials – such as a short video, a handout or article, a PowerPoint presentation. In general, try to transition every 10 to 15 minutes. Having a model of a culvert, a salmon kiosk, or a display board with foam core photos will spark interest and set the stage for a successful guest speaker.

- Try to have your own laptop computer and viewer if possible.
- Try to be flexible, especially if you are planning an outdoor field trip. If your audience is cold and wet, they will not be receptive to your message regardless of your hours of preparation.
- Try to arrange community presentations for a regularly scheduled noon or evening monthly meeting. Attendance will be better if the group can announce your presentation in a newsletter one or two weeks before your visit.
- Be persistent with classroom contacts. Contact the teacher during his/her preparation period or try e-mailing them so they can respond at their convenience. Confirm your visits with the teacher/community group the day before or the morning of your scheduled presentation.
- Don't worry if a particular school or teacher is not interested in your project. A number of education programs are receptive to having a guest speaker or arranging a field trip.
- Private landowners may be encouraged to participate with on-the-ground projects by first contacting them at county fairs or livestock conventions with display booths and information, and then with a follow-up site visit to explain programs.

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Science Inquiry Through Environmental Health Science Education

**Grant Number:**  
NE-98080301

**Sponsor:**  
Oregon State University

**Project Coordinator:**  
Kendra Mingo  
Environmental Health Sciences  
Center  
Oregon State University  
101 ALS Building  
Corvallis, OR 97331-7302  
(541) 737-4374

**EPA Funding:**  
\$4,951  
FY 2000

**Match Funding:**  
\$3,869

**Focus:**  
Environmental Science

**Target Audience:**  
Elementary Classroom Teachers in  
the Lincoln County School District  
with Focus on Fifth Grade

**Purpose:**  
To train elementary classroom  
teachers in a environmental health  
science curriculum and teach them  
how to use the curriculum to meet  
the Oregon State Scientific Inquiry  
Benchmark for Fifth grade students

**Goals:**

- Improve teachers' environmental education teaching skills through a successful curriculum

- Incorporate environmental health science education into their curriculum to meet the state's science inquiry standards

#### Methods:

- Use an existing curriculum, ToxRap (Toxicology, Risk Assessment and Pollution) to teach the process of scientific inquiry using an environmental health science risk assessment framework
- Provide three follow-up trainings

#### Products/Results:

- Trained 17 elementary school teachers to incorporate environmental health science education and risk assessment into their classroom curriculum and meet Oregon's science inquiry standards
- Provided follow-up training to address teachers' questions and concerns using the curriculum in the classroom
- Trained the teachers to use the Oregon Science Inquiry Scoring Guide to grade student work samples
- Shared the hands-on student activities in the ToxRap curriculum with 450 fourth and fifth grade students
- Were able to apply the Oregon State Scientific Inquiry Scoring Guide to student work samples generated from the ToxRap curriculum

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Science Inquiry Through Environmental Health Science Education

#### Challenges:

- Resulted in changes in the dissemination of the curriculum because of changes in personnel
- Had teachers experience problems using the carboxyhemoglobin lesson with fourth grade students

#### Successes/Strengths:

- Developed partnerships between EPA and other scientific and educational organizations
- Used a set of innovative, K-9 curriculum that utilize concepts from toxicology and environmental health risk assessment to teach applied science
- Learned how to apply the risk assessment/risk management process of EPA to environmental health issues and their own lives
- Raised teacher awareness to issues surrounding children's environmental health

#### Number of People Affected:

Directly – 17 Lincoln county teachers and their 405 students, and several environmental scientists

#### Tips From the Grantee:

##### DO:

- Have carbon monoxide detectors and classroom materials available for teachers participating in workshops so that teachers can return to their classrooms and begin implementing the curriculum with little preparation.
- Provide indoor air quality kits from EPA to allow for real life application of the skills modeled in the curriculum.
- Encourage scientists to interact with teachers in workshops and to visit classrooms.

### Sustainable Business Practice Project

#### Grant Number:

NE-98049001

#### Sponsor:

Portland State University

#### Project Coordinator:

Alex Welsch  
Portland State University (PSU)  
P.O. Box 751  
Portland, OR 97207-0751  
(503) 363-0275

#### EPA Funding:

\$8,978  
FY 1999

#### Match Funding:

\$11,443

#### Focus:

Sustainable Business

#### Target Audience:

University Students and Community  
Business Practitioners

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Sustainable Business Practice Project**

#### **Purpose:**

To conduct a 10-week three credit course on product cycles, design assessment, production processes, sustainable human resource and investment practices, environmental accounting and corporate social responsibility

#### **Goals:**

- Conduct a class at Portland State University and the community around cooperative education and sustainability projects

#### **Methods:**

- Conduct a class
- Engage faculty and staff in dialogue about sustainable development and best business practices

#### **Products/Results:**

- Enrolled 17 students in the class from a variety of backgrounds
- Provided a forum for community groups and students to advocate the sustainable development programs at PSU

#### **Challenges:**

- Did not hold planned forum because the information did not get out to the community
- Did not receive commitment from partners

#### **Successes/Strengths:**

- Participated extensively in the creation of the newly formed Sustainable Practices Advisory Committee (SPAC)
- Advised university staff and the university vice president on both eco-efficiency and curriculum development projects
- Hosted an eight-week Sustainability and Environmental Governance Seminar Series that was open to the public
- Led directly to dialogue on sustainable food systems at PSU
- Formed a student group called "Food for Thought" which is advocating for the application of sustainable principles to PSU's food systems

#### **Number of People Affected:**

17 students enrolled in the class

### **The River Starts Here**

#### **Grant Number:**

NE-97007501

#### **Sponsor:**

Clean Water Services (Unified Sewerage Agency of Washington County)

#### **Project Coordinator:**

Sheri Wantland  
Clean Water Services (Unified Sewerage Agency)  
155 N First Avenue, Suite 270  
Hillsboro, OR 97124  
(503) 846-3619



# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### The River Starts Here

#### EPA Funding:

\$4,000  
FY 2001

#### Match Funding:

\$2,600

#### Focus:

Water Quality

#### Target Audience:

Spanish-Speaking Families in  
Hillsboro and Cornelius Area

#### Purpose:

To provide bilingual environmental education in the Tualatin River watershed-adapt popular and successful watershed education programs and make them available to Spanish-speaking families

#### Goals:

- Increase capacity of many agencies and schools in the area to deliver coordinated environmental education
- Provide instructional materials for Spanish-speaking communities

#### Methods:

- Translate existing English-language educational materials into Spanish and distribute them along with existing Spanish versions of environmental education materials
- Summarize translated Spanish materials for simplification, rather than verbatim translation
- Develop and distribute promotional materials

#### Products/Results:

- Adapted popular and successful watershed education programs for Spanish-speaking families
- Participated in the Water Festival – a half-day, hands-on event for children and adults to learn about their place in the watershed, water conservation, and pollution prevention
- Targeted Latino community through family workshops, media presentations, festivals and other nontraditional outreach efforts
- Held Naturescaping presentations in Spanish at three local libraries-25 people attended
- Focused two radio shows on watershed education
- Conducted the Spanish version of storm-drain stenciling with two elementary schools – 100 volunteers

#### Challenges:

- Replaced some proposed activities (tours of several sites and a canoe trip) with participation in a water festival, storm-drain stenciling, and naturescaping

#### Successes/Strengths:

- Increased the number of individuals who are informed about environmental issues so that they can take responsible action to protect themselves and the environment

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### The River Starts Here

- Increased the capacity of the agencies and schools in the area to deliver coordinated, bilingual environmental education by providing instructional material that can be used in other Spanish-speaking communities
- Translated the PowerPoint presentation on naturescaping into Spanish and translated and printed the "Protecting Your Watershed" brochure for distribution

#### Number of People Affected:

30 Hispanic families, 100 volunteers, 25 people who attended the Naturescaping event at the library

### Tips From the Grantee:

#### DO:

- Increase naturescaping and water quality practices among Spanish-speaking citizens.
- Keep the media supplied with news stories using both fact sheets and success stories.
- Provide the Hispanic community with easy-to-access and updated information, important contacts and news about promising initiatives, in both English and Spanish.

### Thurston High School Water Quality Monitoring Program

#### Grant Number:

NE-97067010

#### Sponsor:

Thurston High School Science Department

#### Project Coordinator:

Robert Green  
Thurston High School Science Department  
333 North 58<sup>th</sup> Street  
Springfield, OR 97478  
(541) 744-5000

#### EPA Funding:

\$10,000  
FY 2001

#### Match Funding:

\$18,382

#### Focus:

Water Quality

#### Target Audience:

High School Students

#### Purpose:

To develop a new water science curriculum to ensure that the students have an understanding of the issues and tools to make informed decisions to protect the community's water resources

#### Goals:

- Develop a comprehensive water science program that integrates classroom instruction and water testing labs in the biology and chemistry courses with a variety of community-based research projects

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Thurston High School Water Quality Monitoring Program**

- Develop four in-depth field experiences for the students

#### **Methods:**

- Conduct in-service training in the utilization of water quality testing equipment
- Reach students through water-related curricula materials that the school developed including community-based water-related topics, lab activities, specialized training on advance water testing equipment, and field experiences
- Present results of the students' water quality and macroinvertebrate studies of Cedar River to McKenzie Watershed Council, Eugene Water and Electric Board, and the City of Springfield officials

#### **Products/Results:**

- Reached students through water-related curricula materials that were developed including community-based water-related topics, lab activities, specialized training on advanced water testing equipment and field experiences

#### **Successes/Strengths:**

- Gave presentations at the National Science Teachers Association Regional Conference and the Groundwater Guardians National Conference
- Received compliments on the workshops
- Created a community-based water testing lab

#### **Number of People Affected:**

More than 600 students in Thurston and Springfield High School and community members who used the student-operated community water-testing lab

### **Tualatin Watershed Non-Point Source Pollution Education and Outreach**

**Grant Number:**  
NE-97030301

**Sponsor:**  
Washington County Soil and Water Conservation District

**Project Coordinator:**  
Pam Herinckx  
Washington County Soil and Water Conservation District

1080 SW Baseline, Bldg B, Ste B-2  
Hillsboro, OR 97123-3823  
(503) 648-3174 ext. 102

**EPA Funding:**  
\$4,950  
FY 2002

**Match Funding:**  
\$10,040

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Tualatin Watershed Non-Point Source Pollution Education and Outreach**

**Focus:**  
Water Quality

**Target Audience:**  
General Public, Teachers, and Kindergarten through Sixth Grade Students

**Purpose:**  
To provide education about watershed issues and the interrelated nature of industrial, agricultural, urban, forestry, and residential contributions

**Goals:**

- Educate students and community groups about non-point source pollution
- Help participants understand which watershed they live in and why watersheds are important
- Help participants understand critical water quality issues in the Tualatin and ways of keeping the school, home, and community clean

**Methods:**

- Provide 70 presentations of an interactive watershed display to elementary school classrooms, libraries, landowners, and community groups
- Provide teacher watershed workshops
- Pilot a parent volunteer program in the Hillsboro area

**Products/Results:**

- Conducted 35 classroom and eight community event presentations
- Learned what a watershed is, how they could affect it, and how they could protect it
- Recruited and trained two volunteers as well as staff from Jackson Bottom Wetlands Preserve, Raindrops to Refuge, Tualatin Riverkeepers, and Tualatin Wildlife Refuge to help with presentations
- Gave information and handouts to teachers to send home with the students, since the school year ended early

**Challenges:**

- Cancelled six presentations because the school year ended earlier than planned due to lack of funding for schools
- Difficult to recruit parent volunteers as parents were focused on trying to find funding for schools

**Successes/Strengths:**

- Demonstrated visually how agriculture, industry, forestry, and urban practices affect water quality with the use of the watershed display

**Number of People Affected:**  
Directly – 3,390  
Indirectly – 3,000

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Turnaround School Whitaker Pond Wetlands Project

**Grant Number:**  
NE-98048101

**Sponsor:**  
Multnomah School District

**Project Coordinator:**  
Rhonda Kjargaard  
Turnaround School  
5135 NE Columbia Boulevard  
Portland, OR 97218  
(503) 248-3577

**EPA Funding:**  
\$19,639  
FY 1999

**Match Funding:**  
\$16,120

**Focus:**  
Wetlands

**Target Audience:**  
Culturally Diverse 6<sup>th</sup>-12<sup>th</sup> Graders  
Who Have Been Expelled or Are  
Close to Being  
Expelled for Weapons, Violence, and  
Substance Abuse Issues

**Purpose:**  
To connect the at-risk students to  
their community and environment as  
they participate in cleanup,  
restoration, and maintenance of the  
Whitaker Ponds Wetlands Area  
located behind their school

**Goals:**

- Have students develop a  
personal stake in their  
environment

- Help students to have a positive  
experience in their community
- Offer opportunities for the  
students to demonstrate what  
they have learned

#### Methods:

- Provide training to teachers and  
staff with the Conservation/  
Environmental Project
- Provide students with an  
orientation to the ponds area by  
the staff
- Study ecological and habitat  
principles
- Remove debris from the area
- Prepare and plant trees
- Monitor the area

#### Products/Results:

- Removed invasive Himalayan  
Blackberries
- Planted 300 trees
- Removed several tons of solid  
waste from the aquatic and  
riparian habitat and monitored  
oxygen, temperature, and PH  
levels in the ponds
- Protected cottonwoods from an  
overabundant beaver population
- Studied the environment

#### Challenges:

- Moved the outdoor activity to  
Thursdays because when held on  
Fridays, students sometimes lost  
focus by Monday morning when  
they returned to the classroom
- Delayed hiring the Conservation/  
Environmental Project  
Developer

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Turnaround School Whitaker Pond Wetlands Project**

#### **Successes/Strengths:**

Students developed skills to:

- Make decisions
- Identify important community issues
- Identify solutions to problems
- Participate collaboratively in the team process
- Practice the rights and responsibilities of citizenship

In addition, they

- Developed an environmental consciousness
- Had a positive impact on a heavily polluted area
- Acquired teamwork skills
- Gave back to the community in a meaningful way

#### **Number of People Affected:**

500 students and 77 adult volunteers

### **Water Quality Monitoring and Stream Enhancement Partnership with a Middle School**

#### **Grant Number:**

NE-98016001

#### **Sponsor:**

Oregon Watersheds

#### **Project Coordinator:**

Al White, President  
Oregon Watersheds  
P.O. Box 97305  
Salem, OR 97305  
(503) 363-0275

#### **EPA Funding:**

\$1,828  
FY 1999

#### **Match Funding:**

\$6,455

Focus:

Water Quality

#### **Target Audience:**

Leslie Middle School Teachers,  
Students, and Community

#### **Purpose:**

To provide training for an education enhancement watershed project with urban middle school teachers and students

#### **Goals:**

- Provide learning experiences that have practical application in the real world
- Use technology in promoting learning
- Encourage critical thinking, problem solving, decision making and team skills in project based learning
- Advance education reform goals

#### **Methods:**

- Provide equipment, training and field support
- Conduct teacher training
- Provide monitoring procedure guidelines
- Use student portfolios for evaluation
- Share student projects with community

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Water Quality Monitoring and Stream Enhancement Partnership with a Middle School**

#### **Products/Results:**

- Provided teachers with equipment, supplies, and training
- Taught students how to do nine water quality monitoring parameters
- Did water quality monitoring "in their own back yard"
- Shared projects with the community

- Sent student data to STORET, the Oregon Department of Environmental Quality volunteer database

#### **Successes/Strengths:**

- Strong interest by the community in this project

#### **Number of People Affected:**

Leslie Middle School teachers, students, and community members

### **Weaving a WEB (Whole Systems in Balance)**

#### **Grant Number:**

NE-98080401

#### **Sponsor:**

Eastern Oregon University

#### **Project Coordinator:**

Donna Rainboth  
Eastern Oregon University  
School of Education and Business  
One University Blvd.  
LaGrande, OR 97850  
(541) 962-3720

#### **EPA Funding:**

\$20,061  
FY 2000

#### **Match Funding:**

\$18,864

#### **Focus:**

General Environmental Education

#### **Target Audience:**

Elementary and High School Teachers

#### **Purpose:**

To correlate the WEB Curriculum to Oregon and National Science Standards and provide teacher training

#### **Goals:**

- Revise portions of the curriculum to reflect current natural resource issues and to encompass additional environmental concepts
- Prepare a correlation guide that aligns WEB to Oregon and National Standards

#### **Methods:**

- Send correlation guide and revised lessons to schools using WEB curriculum
- Hold two three-day teacher workshops in the use of the WEB curriculum

#### **Products/Results:**

- Revised and updated lessons for the WEB fourth grade book

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### **Weaving a WEB (Whole Systems in Balance)**

- Field tested lessons with teachers and students
- Revised or replaced and tested many fifth and sixth grade lessons
- Correlated all lessons to the Oregon State Science Standards
- Prepared a matrix correlating the lessons to the standards
- Held four teacher workshops for 64 participants
- Presented the WEB curriculum at the Oregon Science Teachers Association Annual Conference in October 2001

#### **Challenges:**

- Received outside funding because of lack of funding to support workshop participants
- Had early difficulties with technology
- Purchased additional software because of compatibility issues between the WEB coordinator and the publisher's computers
- Had to have the teachers try out the lessons while at the training to ensure feedback was received

#### **Successes/Strengths:**

- Introduced educators to how environmental education can be used to meet the standards
- Was well received by workshop participants
- Provided training by natural resource professionals to the high school students, and then the students taught the field and classroom lessons to younger students
- Participated in the WEB program when in elementary school, so program was familiar to some of the high school students
- Had high school and elementary teachers work together on a project

#### **Number of People Affected:**

64 participants attended the training;  
5 resource specialists participated by teaching field lessons  
Potential – 5,000 students reached

### **Wolfree's Outdoor Ecology Program**

**Grant Number:**  
NE-97006601

**Sponsor:**  
Wolfree Inc,

#### **Project Coordinator:**

Jay Hopp  
Wolfree Inc.  
516 SE Morrison Street, Suite 710  
Portland, OR 97214  
(503) 239-1820



# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Wolftree's Outdoor Ecology Program

#### EPA Funding:

\$22,400  
FY 2001

#### Match Funding:

\$7,500

#### Focus:

Ecosystem/Habitat

#### Target Audience:

5<sup>th</sup>-12<sup>th</sup> Grade Students in Deschutes  
and Jefferson Counties

#### Purpose:

To study the diverse ecosystem of  
Central Oregon by providing a  
watershed ecology program

#### Goals:

- Enhance awareness and appreciation of Pacific Northwest forest and aquatic ecosystems
- Cultivate skills in science, math, and problem-solving
- Develop and maintain ecosystem monitoring programs
- Engage students in hands-on field studies with professional scientists

#### Methods:

- Train volunteer scientist mentors and new teachers
- Work with teachers on classroom preparation using the Ecology Field Guide and video
- Conduct field study days at an outdoor classroom
- Prepare follow-up activities

#### Products/Results:

- Distributed 24 copies of the enhanced Ecology Field Guide to teachers
- Provided training and in-class programming for all participating teachers
- Conducted science inquiry-based Watershed Ecology Field studies for 402 students
- Pilot tested a Winter Ecology Curriculum with the Deschutes National Forest

#### Challenges:

- Need more applications using math and added to the program in the fall

#### Successes/Strengths:

- Increased emphasis on inquiry-driven, student-led investigations
- Merged the aquatic and terrestrial field projects into a single Watershed Ecology Program
- Introduced ecosystems that are undergoing restoration activities to students, teachers, and mentors
- Combined enhancements to the curriculum and new ecological modules led to better volunteer management
- Added new safety protocols to the field operations
- Received high evaluations by the teachers, students, and mentors
- Asked by the Jefferson County School District to help write a new science curriculum

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### WolfTree's Outdoor Ecology Program

#### Number of People Affected:

402 students and 12 teachers from underserved communities, and 34 new mentors representing 18 public

and private organizations  
2,294 students and adults were impacted through the Winter Watershed Ecology Project

### Youth Tree Inventory

#### Grant Number:

NE-98078001

#### Sponsor:

Oregon Graduate Institute of Science and Technology/Saturday Academy Department

#### Project Coordinator:

Kim Wilson  
Saturday Academy  
20000 NW Walker Road  
Beaverton, OR 97006  
(503) 748-1341

#### EPA Funding:

\$5,000  
FY 2000

#### Match Funding:

\$16,129

#### Focus:

General Environmental Education

#### Target Audience:

Middle and High School Students

#### Purpose:

To introduce students to the basics of arboriculture, data collection techniques, and public policy as it relates to trees in urban areas

#### Goals:

- Benefit students educationally
- Benefit the community by creating an awareness of urban resources and encouraging stewardship of those resources

#### Methods:

- Have students work in the field for three months
- Collect data on tree locations, size, health, and species

#### Products/Results:

- Introduced students to community issues
- Worked with two teams of 57 students total at Portsmouth Middle School and Gregory Heights Middle School
- Involved six adult volunteers from the Neighborhood Tree Liaison program and the local PTA throughout the project
- Worked in the field for three months collecting data on tree locations, size, health, and species
- Surveyed 96 block faces during the season adding data collected in both neighborhoods in past seasons
- Educated the neighborhood communities one-on-one and through student presentations and displays

# Oregon

## 1999 - 2004 Environmental Education Grant Summaries

### Youth Tree Inventory

- Surveyed the residents for their values of the neighborhood forest and encouraged them to get involved in local Friends of Trees plantings

#### Challenges:

- Collecting data of increased intensity strained staff time and did not allow for as much instruction time – a change was made so as many trees as possible could be inventoried before the leaves dropped

#### Successes/Strengths:

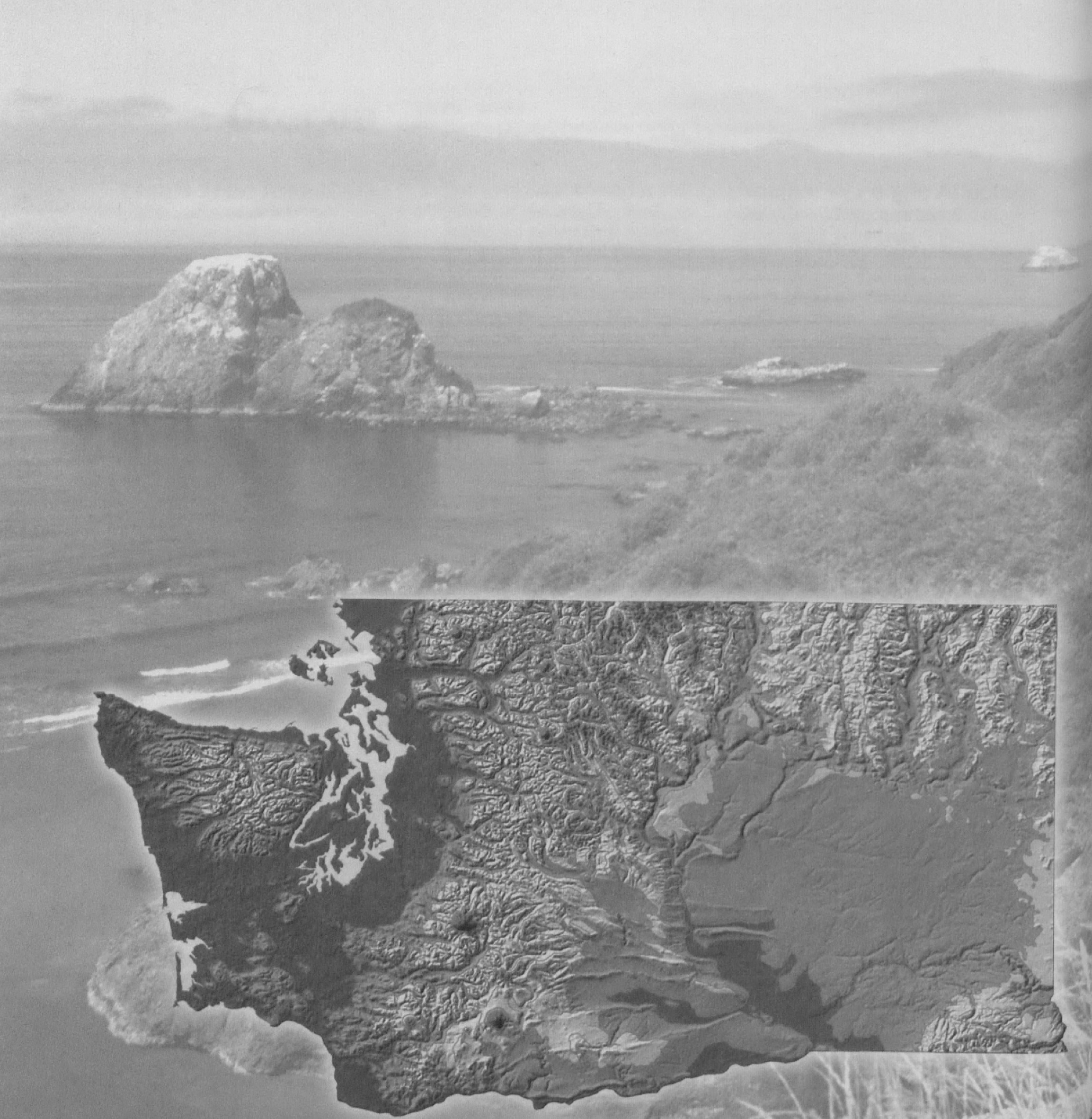
- Offered a non-traditional format that engaged students of many different learning styles
- Saw first-hand education outside of the classroom
- Had guest professional as instructors and community members as project partners
- Worked with small groups for hands-on application of learning
- Worked on a real-world problem with an unknown answer
- Provided access for all teachers to the techniques and community resources developed by the project in order to continue indefinitely without outside support

#### Number of People Affected:

Directly – 57 students and 6 community volunteers

Indirectly – both schools participated in community plantings, educating up to 30 people each; youth conferences and community members contacted





# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Best Management Practices in the Dayton Area: A Scientific Investigation Project**

**Grant Number:**

NE-97078301

**Sponsor:**

Dayton School District No. 2

**Project Coordinator:**

Doug Yenney  
Dayton School District No. 2  
609 S. Second Street  
Dayton, WA 99328  
(509) 382-2543

**EPA Funding:**

\$3,200  
FY 2004

**Match Funding:**

\$1,900

**Focus:**

Agriculture

**Target Audience:**

High School Students

**Purpose:**

To study the result of local farming conservation efforts

**Goals:**

- Improve Dayton's aggregate science score on Washington State's Assessment of Student Learning Exam
- Address the question, "How are local agricultural producers protecting soil, land, and water resources, and how can their effectiveness be measured?"

**Methods:**

- Invite local agricultural producers to visit the science classes to give students background information about "Best Management Practices" (BMPs)
- Design a test of the effectiveness of BMPs in protecting soil, land, and water resources
- Visit local cooperative farms over a period of one school year to measure important soil and water quality parameters affected by BMPs
- Take water quality samples along the Touchet River
- Analyze the results and determine the effectiveness of BMPs in protecting soil, land, and water resources
- Summarize the experiment in written reports
- Present the findings to local growers through classroom presentations

**Products/Results:**

- Conducted an investigation of BMPs used by local agricultural producers that result in the protection of soil, air, and water resources
- Visited nine local farms in the area to see conventional farming practices and BMPs
- Conducted soil tests measuring "biological activity" of soil and other parameters of soil quality

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Best Management Practices in the Dayton Area: A Scientific Investigation Project**

- Conducted a water quality monitoring program of the Touchet River focusing on water quality parameters influenced by farming practices
- Conducted an experiment to test the decomposition of wheat stubble
- Gave oral presentations on project findings

#### **Challenges:**

- Did not observe river conditions during December through March because of extreme drought conditions

#### **Successes/Strengths:**

- Published grant activities in a state Office of Superintendent of Public Instruction newsletter, "Serviceline"
- Represented Dayton High School at state level conferences
- Provided relevant and meaningful instruction that addressed all three Essential Academic Learning Requirement areas
- Had a request from one farmer to have the students study his farm for wheat stubble decomposition – used a "no burn, no-till" management strategy

#### **Number of People Affected:**

120 students

### **Carpenter Creek Integrated Watershed Curriculum**

#### **Grant Number:**

NE-97030701

#### **Sponsor:**

Stillwaters Environmental Education Center

#### **Project Coordinator:**

Joleen Palmer  
Stillwaters Environmental Education Center  
26059 Barber Cut Off Road  
Kingston, WA 98346  
(360) 297-2876

#### **EPA Funding:**

\$15,852  
FY 2002

#### **Match Funding:**

\$10,600

#### **Focus:**

Water Quality

#### **Target Audience:**

6<sup>th</sup>-12<sup>th</sup> Grade Students and Home Schoolers, Teachers, and Community Volunteers

#### **Purpose:**

To develop Carpenter Creek integrated watershed curriculum and a supplemental activities guide for the existing junior high science curriculum

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Carpenter Creek Integrated Watershed Curriculum**

#### **Goals:**

- Improve environmental education teaching skills of local teachers
- Encourage students to consider environmental careers
- Foster collaboration between the community and the schools and involve students in the work of the community
- Create educated citizens who will understand and preserve our natural systems

#### **Methods:**

- Provide field-and classroom-based, project-oriented, localized curriculum for this watershed
- Provide teacher training
- Recruit and train volunteers to assist teachers in the field and the classroom
- Expose students to careers in natural systems by having environmental professionals work with them

#### **Products/Results:**

- Developed localized and integrated watershed curriculum to augment the existing junior high science curriculum
- Trained teachers, and recruited and trained volunteers as assistants in the field and classroom
- Invited environmental professionals to meet with students to discuss careers in the natural resource technology profession

- Held weekly field study sessions for students to learn about their watershed
- Created activity kits for classroom and field use

#### **Challenges:**

- Scheduling environmental professionals to meet with the students needed to be more closely coordinated with their ground field work
- Did not have some professionals available when students were going to be in the field at Stillwaters
- Had timing issues between this program and the March Science Fair projects at Kingston Junior High – timing was too tight for students to create a project with meaningful data for display
- Could not do displays for Stillwaters Annual Earth Day event and watershed education nights due to the time constraints associated with students doing field studies
- Coordinating the program's weekly schedule with the volunteer teachers and driver was difficult; became flexible and had a back-up driver
- Acquiring additional funding in order to accommodate the high interest level of the schools and community groups

#### **Successes/Strengths:**

- Generated stronger interest in other environmental study units being taught in the classroom



# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Carpenter Creek Integrated Watershed Curriculum**

- Became mentors for their classmates when they went on a water quality testing field trip
- Recognized that the students' field experience was important since they examined insects, plants, soils, and ecosystems indigenous to the watershed
- Received additional funding to expand the watershed curriculum to include estuary studies

#### **Number of People Affected:**

Directly – 20 students, 4 teachers, 2 staff members, 4 teaching assistants, 4 environmental professionals, 20 educators at workshop

Indirectly – 23,350 potential readers of Stillwaters' Newsletters, Kingston Community News, North Kitsap Herald

### **Coordination and Development of Five Schoolyard Habitat Sites in Western Washington**

#### **Grant Number:**

NE-97077601

#### **Sponsor:**

National Wildlife Federation

#### **Project Coordinator:**

Gretchen Muller  
National Wildlife Federation  
418 1<sup>st</sup> Avenue West  
Seattle, WA 98119  
(206) 285-8707 ext. 107

#### **EPA Funding:**

\$23,485  
FY 2004

#### **Match Funding:**

\$8,602

#### **Focus:**

Ecosystem/Habitat

#### **Target Audience:**

K-8<sup>th</sup> Grade Teachers and Students

#### **Purpose:**

To assist elementary schools in the communities of Alki, Camano Island, and Bellevue in the development of National Wildlife Federation (NWF) certified outdoor learning classrooms called Schoolyard Habitats

#### **Goals:**

- Provide students with a richer learning environment in which they can receive hands-on lessons, while connecting with nature in a way not usually possible within the walls of traditional classrooms

#### **Methods:**

- Offer educator workshops to help teachers learn how to best design, plant, and utilize their new outdoor classrooms
- Assist with habitat teams at each targeted school and habitat team meetings
- Develop the schoolyard habitat sites

# Washington

**1999 - 2004**

## **Environmental Education Grant Summaries**

### **Coordination and Development of Five Schoolyard Habitat Sites in Western Washington**

#### **Products/Results:**

- Supported the efforts of two schools in the Puget Sound region that were interested in developing their own school yard habitat
- Offered educator workshops
- Held up to four meetings at each of the four participating schools to coordinate the habitat teams working to design and implement the garden plantings
- Assisted with the preparation of the sites for planting, which included invasive species removal and soil remediation
- Applied and became official National Wildlife Federation Schoolyard Habitats
- Have been in constant contact with the school administrators and educators to answer any questions

#### **Challenges:**

- Change in administrative leadership at one school
- Scheduling of workshops

#### **Successes/Strengths:**

- Provided students with cross-curricular, hands-on learning opportunities that cannot be duplicated in the traditional classroom setting
- Will continue to provide students with fun and inspiring ways to connect with nature for years to come

#### **Number of People Affected:**

Directly – 96 educators, 32 community volunteers, 2,400 students

Indirectly – 5,000 people through community newspapers and parent newsletters

Does not include students who will benefit from the outdoor classrooms in the future

### **Creating a Sense of Place**

#### **Grant Number:**

NE-97007401

#### **Sponsor:**

West Sound Academy

#### **Project Coordinator:**

James A. Kolb  
West Sound Academy  
P.O. Box 807  
Poulsbo, WA 98370  
(360) 297-2839

#### **EPA Funding:**

\$9,840  
FY 2001

#### **Match Funding:**

\$4,824

#### **Focus:**

Ecosystem/Habitat

#### **Target Audience:**

West Sound Academy 6<sup>th</sup>-12<sup>th</sup> Grade Teachers

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Creating a Sense of Place

#### Purpose:

To create a model school watershed monitoring and community outreach program

#### Goals:

To plant the seeds for life-long personal stewardship of the environment in the students of West Sound Academy and dramatically expand community access to information critical for informed decision making

#### Methods:

- Train teachers to use existing, quality materials to develop an integrated environmental science course for grades 6 -12

#### Products/Results:

- Trained teachers to implement the curriculum
- Established a successful, on going watershed assessment program with the students
- Collected, interpreted, and presented watershed data

- Implemented an expanding community education and outreach program with the students and staff

#### Challenges:

- Had a very large scope
- Developing and implementing a course of study was a lot of work and stressful for the teachers

#### Successes/Strengths:

- Increased teacher skills, knowledge, and confidence
- Created an effective network of environmental professionals from agencies and educational institutions acting in support of environment education activities at West Sound Academy

#### Number of People Affected:

Directly – 22 teachers and 4 administrative staff, 284 students and their families, and 600 community members

Indirectly – 772 people were contacted by mail and 1,100 people through the Kitsap Regional Library LinkNet system and email

### Dungeness Bay W.A.T.C.H. (Watershed Activities to Change Habits)

#### Grant Number:

NE-97006301

#### Sponsor:

River Center Foundation (formally called Rainshadow Natural Science Foundation) and the Dungeness River Audubon Center

#### Project Coordinator:

Annette Hanson  
River Center Foundation  
P.O. Box 3007  
Sequim, WA 98382  
(360) 681-8060

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Dungeness Bay W.A.T.C.H. (Watershed Activities to Change Habits)**

#### **EPA Funding:**

\$4,991  
FY 2001

#### **Match Funding:**

\$6,150

#### **Focus:**

Ecosystem/Habitat

#### **Target Audience:**

7<sup>th</sup> Grade Students at Sequim Middle School and Their Families

#### **Purpose:**

To help students understand the watersheds near their homes and the environmental health of Dungeness Bay

#### **Goals:**

- Provide a variety of assignments and field experiences to help students understand the environmental health issue of bacterial contamination in the Dungeness watershed and Dungeness Bay
- Teach students about the watershed near their homes
- Help students understand how humans affect watersheds

#### **Methods:**

- Conduct an all-day field trip to five locations within local watersheds
- Complete "field trip journals" written by each student
- Require two weeks of class time

- Involve the families in watershed-friendly behavior by having students take home a questionnaire

#### **Products/Results:**

- Graphed and explained real data collected by professionals in the Sequim-Dungeness area
- Heard from local experts and saw how they view the problems
- Involved the families and inspired discussion by the take-home questionnaire
- Presented 17 students' project activities and experiences at the Dungeness River Audubon Center

#### **Challenges:**

- Had problems with some of the scenario questions, which may have been too difficult for some students to answer

#### **Successes/Strengths:**

- Gave the students a unique perspective on a local problem
- Helped with the project by having local professionals present complex ideas in a meaningful way for seventh graders
- Had good participation in the public workshop presented by the students

#### **Number of People Affected:**

333 including students, teachers, watershed experts, and final presentation audience members

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Dungeness River Studies: Student Hands- On Science Education and Career Development**

**Grant Number:**  
NE-97078601

**Sponsor:**  
River Center Foundation

**Project Coordinator:**  
Lyn Muench, President  
River Center Foundation  
P.O. Box 3007  
Sequim, WA 98382

**EPA Funding:**  
\$4,900  
FY 2004

**Match Funding:**  
\$5,380

**Focus:**  
Water Quality

**Target Audience:**  
Elementary Students

**Purpose:**  
To provide hands-on field experiences in science for elementary school children on the north Olympic Peninsula

**Goals:**

- Instill an interest in science as a career
- Educate children and the public about protection of at-risk watershed resources

**Methods:**

- Sponsor field trips during the school year for local 4<sup>th</sup>-5<sup>th</sup> grade classes and home school groups

- Monitor specific physical and chemical characteristics of the Dungeness River
- Stress the importance of consistent monitoring and accurate, reliable data collection
- Compile all classes' data to show comparisons throughout the year and distribute these data to classes and the general public
- Disseminate the data through displays at the River Center, a student public presentation, newsletter, and Web site

#### **Products/Results:**

- Provided water monitoring field trips for 28 different classes from 11 schools
- Provided a pre-field trip classroom visit and a two-hour field trip at the Dungeness River in Railroad Bridge Park
- Funded buses and material used during the field trips

#### **Challenges:**

- Did not spread the field trips out through the school year as planned; most trips occurred during the fall and spring, partly due to weather but also because teachers had other activities planned during the winter
- Experienced rain and occasional flooding

#### **Successes/Strengths:**

- Became part of a scientific study of the river, which rarely occurs in elementary classes

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Dungeness River Studies: Student Hands- On Science Education and Career Development**

- Provided a total hands-on experience for the children in which they did the work and became intimately involved with collecting data
- Knew that their data contributed to a year-long study of the river, so the students took special care and accuracy with the collection
- Compiled and graphed the data for the entire year and sent it to the classroom teachers for their classes – students saw results of their work as part of the larger whole
- Had very successful classroom visits and field trips
- Received feedback that these were the best field trips some teachers had ever experienced

#### **Number of People Affected:**

Directly – 601 students, 151 teachers and parents

Indirectly – 259 who received the Foundation's newsletter

#### **Tips From the Grantee:**

For River Monitoring Projects:

##### **DO:**

- Pre-field trip classroom visits to prepare the students.
- Have a work sheet that helps introduce macroinvertebrates to the students.
- Let students know that macroinvertebrates will not bite or sting, so you can encourage students to touch the organisms.
- Provide simple analogies to explain complex things.
- Have jobs and a job title for all students.
- Make students feel like they are being scientists, telling them that their data will be used by others.
- Remind students about careers available like river rangers and fisheries biologists.
- Have extra materials available in case something breaks.
- Divide the classes into small groups for most activities.
- Give a quick, concise review session of the items covered during the pre-field trip classroom visit when students arrive for the field trip.
- Be flexible – if a different learning opportunity arises, like finding a dead salmon, take time to talk about it with the students.
- Use simple acronyms.
- Be prepared for difficulties, such as weather and flooding; have alternative plan if necessary.
- During the pre-classroom visit, remind students to dress for the field trips in layers.
- Discuss bus costs with the school districts at the beginning of the project.
- Be very familiar with the river where you are going to sample.

# Washington

**1999 - 2004**

## **Environmental Education Grant Summaries**

### **Environmental Education at Bryant Elementary, IslandWood Residency, and Water Quality Survey**

**Grant Number:**

NE-97077701

**Sponsor:**

Bryant Elementary School Parent-  
Teacher Association

**Project Coordinator:**

Julia Jones  
Bryant Elementary School Parent-  
Teacher Association  
3311 NE 60<sup>th</sup> Street  
Seattle, WA 9815  
(206) 525-6977

**EPA Funding:**

\$5,000  
FY 2004

**Match Funding:**

\$14,000

**Focus:**

Water Quality

**Target Audience:**

Fifth Grade Students, Teachers,  
Parents, and Members of the Larger  
Northeast Seattle Community

**Purpose:**

To provide all fifth grade students at  
Bryant Elementary School with a  
hands-on environmental education  
experience that integrates with and  
supports the inquiry-based science  
curriculum taught in the classroom

**Goals:**

- Gain a deeper understanding of the importance of the health of the city water systems
- Learn what makes a stream healthy and what environmental pollutants can endanger the health of a watershed system
- Link classroom curriculum to a hands-on environmental learning experience that supports Washington State's essential academic learning requirements
- Gain confidence through acquiring presentation skills

**Methods:**

- Provide a four-day residential camp experience at IslandWood followed by a year-long community service project in which students monitor the water quality of Ravenna Creek
- Post results of the water quality survey on the school Web site
- Participate in a water quality summit at IslandWood
- Present their findings at a forum at Bryant School, as well as to the City of Seattle

**Products/Results:**

- Had all Bryant fifth grade students participate in a hands-on environmental education experience
- Held the four-day residential stay at IslandWood environmental education learning center
- Completed the year-long project monitoring the water quality and stream health of the Ravenna Creek

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Environmental Education at Bryant Elementary, IslandWood Residency, and Water Quality Survey**

- Prepared and delivered a presentation at an IslandWood environmental summit with participants from schools around western Washington
- Shared results with the extended Bryant community
- Submitted copy of students' video and PowerPoint slideshow to the City of Seattle
- Posted slideshow on Bryant's Web site
- Submitted stream health data to the World Water Monitoring Day database

#### **Successes/Strengths:**

- Educated students, teacher, parents, and community members about community environmental issues, specifically the water quality of a local stream
- Had the fifth grade students introduce kindergarten students on site to scientific data collecting methods used in the field
- Prepared fourth grade students and parents for environmental opportunities they will be experiencing the next year

- Provided a successful, enriching environmental education experience at IslandWood that was reflected in the students' enthusiasm, knowledge, and skill they applied to their service projects and in their sharing of information to the community

#### **Number of People Affected:**

Directly – 80 students, 12 adults, and 100 students, educators, and other environmentalists at the environmental education summit  
Indirectly – information shared through presentations and posting on the school's Web site

#### **Tips From the Grantee:**

- Ensure that teachers understand what product is being promised with the grant.
- Set up regular liaisons with the teachers and grant coordinator.
- Stay on top of product collection during the grant period.
- Offer support and resources to the teachers to help them accomplish the tasks.
- Keep in mind that writing and obtaining the grant is only a fraction of the effort expended.

### **Finn Hill Watershed Education Project**

**Grant Number:**  
NE-98079601

**Sponsor:**  
Lake Washington School District/  
Environmental and Adventure  
School

**Project Coordinator:**  
Eileen McMackin  
Environmental and Adventure  
School  
P.O. Box 97039  
Redmond, WA 98073  
(425) 825-1411



# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Finn Hill Watershed Education Project

#### EPA Funding:

\$3,880  
FY 2000

#### Match Funding:

\$5,849

#### Focus:

Ecosystem/Habitat

#### Target Audience:

Students in Lake Washington and Northshore Schools in the Finn Hill Community

#### Purpose:

To provide community-based environmental education to elementary and middle school students and to contribute relevant data to the King County Amphibian Monitoring Program

#### Goals:

- Enhance local capacity to develop and deliver environmental education programs while meeting state and district learning goals

#### Methods:

- Have middle school students learn the subject matter, create lesson plans, and then teach elementary school students

#### Products/Results:

The middle school students:

- Provided training for elementary students and teachers

- Collected valuable information for the King County Amphibian Monitoring Program
- Gained leadership skills and knowledge of the environment
- Provided beneficial mentoring to the younger students

#### Challenges:

- Limited time was available to learn the material, develop and conduct lessons for the elementary students, and prepare a final presentation
- Did not attain complete participation because of conflicting schedules for two of the fourth grade classes

#### Successes/Strengths:

- Provided experiences that allowed middle school students to learn through teaching
- Served more students than originally planned
- Taught confidence and leadership skills through the creation and implementation of the teaching activities
- Provided hands-on, fun learning experiences for elementary students in the classroom as well as in garden, forest, and wetland settings

#### Number of People Affected:

Directly – 10 teachers, 45 middle school students, and 245 elementary students

Indirectly – parents, other students, and community members

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Finn Hill Watershed Education Project

#### Tips From the Grantee:

- Keep the middle school students together in the same room.
- Allow at least an hour to an hour and a half for instruction, hands-on activity, questions and review.
- Revisit the concept of a watershed to ensure a clear understanding and avoid confusion related to reservoirs and water supply systems for homes.

- Provide an opportunity for teachers to share information, ideas, and methods related to their individual curriculum.
- Take time to talk about the issues of habitat loss.
- Students must dress appropriately. Make sure they wear boots or shoes that can get muddy and wet, and waterproof, warm clothing.

### Fish Tales

#### Grant Number:

NE-97078201

#### Sponsor:

East Valley School District #361

#### Project Coordinator:

Georgianne Delgadillo  
East Valley School District #361  
12325 East Grace Avenue  
Spokane, WA 99216  
(509) 924-1830

#### EPA Funding:

\$4,453  
FY 2004

#### Match Funding:

\$3,917

#### Focus:

Ecosystem/Habitat

#### Target Audience:

Middle School Students and Teachers

#### Purpose:

To increase the importance of the health of the Spokane River and its role in the local ecosystem by studying a key inhabitant of the river, the rainbow trout

#### Goals:

- Learn about the life cycle of the rainbow trout
- Evaluate the Spokane River's capability to sustain the trout population
- Use hands-on, inquiry based, and constructivist learning approaches as students evaluate the habitat of the rainbow trout

#### Methods:

- Conduct teacher training in the use of the sampling equipment and the curriculum
- Provide classroom activities
- Visit a fish hatchery to see and handle rainbow trout

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Fish Tales**

- Offer extensive field activities to study the Spokane River habitat
- Present findings using a variety of methods

#### **Products/Results:**

- Taught students about the use of water quality testing and other observations in order to understand an ecosystem and how human health can affect the trout's habitat
- Changed the curriculum to match the Washington State Essential Academic Learning Requirements
- Have radically changed the eighth grade science curriculum

#### **Challenges:**

- Became apparent that there was a lack of background knowledge by the teachers on water quality testing, why the different tests are important in understanding the health of an ecosystem, and how to conduct a field study
- Had to research new testing kits to see which kind would work best for the students
- Needed to integrate the field study into the existing curriculum
- Delayed field study dates because of high river water and bad weather

#### **Successes/Strengths:**

- Built a water quality unit that is fully integrated into the eighth grade curriculum and meets the Washington State Essential Academic Learning Requirements
- Acted as a catalyst for many district changes
- Presented information on the project at the Washington Science Teacher Association Convention

#### **Number of People Affected:**

Directly – 185 students, 5 teachers, 1 school administrator

Indirectly – 160 students, 4 teachers, 2 school administrators, 1 community member

#### **Tips From the Grantee Regarding Water Quality Monitoring:**

- Practice using the graphing calculator and sensor probes extensively with the students.
- When working in a fast flowing river, find an adult to get into the water to use the kick net, water clarity test, etc.
- Have a summary form completed for the culmination of all the data; use this form in the field if at all possible.

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Gateway Communities Initiative

**Grant Number:**  
NE-97059401

**Sponsor:**  
Olympic Park Institute

**Project Coordinator:**  
Scott Schaffer  
Olympic Park Institute  
111 Barnes Point Road  
Port Angeles, WA 98363  
(360) 928-3720, ext. 19

**EPA Funding:**  
\$12,903  
FY 2003

**Match Funding:**  
\$8,280

**Focus:**  
General Environmental Education

**Target Audience:**  
Middle School Students and  
Teachers

**Purpose:**  
To develop a community outreach  
program based on the Olympic Park  
Institute's field science curriculum

**Goals:**

- Introduce rural and tribal students to the national park in their backyard
- Teach science that students can apply to their own communities
- Expand the reach of school-based programs

- Give young people a broad and informed base of options for resolving environmental issues in their communities
- Promote environmentally responsible behavior among program participants

#### **Methods:**

- Conduct school visits and outdoor inquiry-based learning experiences for students
- Create a different curriculum for each school because each situation is unique

#### **Products/Results:**

- Provided environmental science education for students outside the mainstream science education
- Conducted 25 days of outreach in low-income and/or culturally diverse communities including Neah Bay on the Makah Reservation, Forks, and Port Angeles

#### **Challenges:**

- Encountered behavioral issues with some of the students
- Experienced difficulties convincing some teachers that a field science program would be a positive experience

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Gateway Communities Initiative

#### Successes/Strengths:

- Made participating in field science activities fun
- Received teacher requests to continue the program next year
- Built a sense of community in the students' classroom through the group challenges
- Prepared students for the science Washington Assessment of Student Learning (WASL) test

#### Number of People Affected:

200 students and teachers

#### Tips From the Grantee:

##### DO:

- Stay flexible with program expectations – changes can occur.
- Meet with teachers before the program begins to discuss the program goals.
- Develop clear schedules for educators to follow on new and different programs.
- Arrive at new sites early so staff can make plans for where activities will take place.

##### DON'T:

- Expect to use the same schedule/layout year after year.
- Plan to do more than you can realistically accomplish.
- Try to get everything ready by yourself.

### Girls on the Sound Program

#### Grant Number:

NE-97061601

#### Sponsor:

Salish Sea Expeditions

#### Project Coordinator:

Ellie Linen Low  
Salish Sea Expeditions  
647 Horizon View Place, NW  
Bainbridge Island, WA 98110  
(206) 780-7848

#### EPA Funding:

\$5,000  
FY 2003

#### Match Funding:

\$5,000

#### Focus:

Water Quality

#### Target Audience:

Sixth Grade Girls from Cedar Way  
Elementary School in South  
Snohomish County

#### Purpose:

To provide an intensive marine  
science education experience for  
sixth grade girls

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Girls on the Sound Program**

#### **Goals:**

- Provide hands-on, inquiry-based marine science instruction that complements classroom learning
- Provide students with a unique opportunity to directly experience and explore the Puget Sound watershed and the scientific process
- Foster an understanding of and appreciation for the vital ecological role that Puget Sound plays in our region and the nature of human interaction with this environment
- Increase self-confidence and encourage leadership development
- Impart analytical and problem-solving skills to participants

#### **Methods:**

- Involve students in all aspects of designing and conducting their three-day marine research experience on Puget Sound
- Use inquiry-based method of teaching

- Focus on personal development of girls
- Include guest lectures, field trips, and research projects on environmental science topics in the program

#### **Products/Results:**

- Conducted the three-day expedition on Puget Sound
- Completed in-depth marine research projects centering around water depth and its effects on temperature, plankton abundance, and salinity

#### **Successes/Strengths:**

- Functioned as a team on the vessel
- Focused on personal development with the marine science educators and nautical staff

#### **Number of People Affected:**

15 sixth grade girls, 1 teacher, and 1 chaperone

### **High School Advanced Field Science Program Scholarships**

#### **Grant Number:**

NE-97077201

#### **Sponsor:**

Olympic Park Institute

#### **Project Coordinator:**

Scott Schaffer  
Olympic Park Institute  
111 Barres Point Road  
Port Angeles, WA 98363  
(360) 928-3720

#### **EPA Funding:**

\$5,000  
FY 2004

#### **Match Funding:**

\$4,800

#### **Focus:**

General Environmental Education

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### High School Advanced Field Science Program Scholarships

#### Target Audience:

10<sup>th</sup>-12<sup>th</sup> Grade Students

#### Purpose:

To give high school students research-focused experiences in a real outdoor setting

#### Goals:

- Design project for students who are seriously considering careers in environmental issues and environmental science
- Gain hands-on experience with research methods in field science

#### Methods:

- Offer an eight-day program for students who are academically disposed toward science
- Provide access to professional field researchers from Olympic National Park and the University of Washington through lectures and demonstrations in the field
- Complete a simple scientific investigation
- Write a research paper that will be reviewed and critiqued by Olympia Park Institute educational staff

#### Products/Results:

- Met National Park Service and University of Washington researchers and spent time in the field with them
- Exposed the students to scientific methods and tools

- Carried out inquiry-based projects on the Olympia Park Institute campus and in the Olympic National Park
- Rated by the students and teachers as excellent

#### Challenges:

- Had fewer students participate than had been anticipated; so one high school teacher did not accompany the group

#### Successes/Strengths:

- Was the first program of its kind run by the Olympic Park Institute
- Is the only program in the Pacific Northwest based on a summer model with students and researchers
- Were able to provide this opportunity because of the relationship with the Olympic National Park and the University of Washington's Olympic Natural Resources Center

#### Number of People Affected:

Directly – 10 students that participated in the program  
Indirectly – families, teachers, classmates, and communities

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Hispanic Orchardist Integrated Pest Management Education Program**

**Grant Number:**  
NE-97077801

**Sponsor:**  
Center for Agricultural Partnerships

**Project Coordinator:**  
Heather Cavanaugh  
Center for Agricultural Partnerships  
1 West Pack Sq, Suite 401  
Asheville, NC 28801  
(828) 285-9340

**EPA Funding:**  
\$23,500  
FY 2004

**Match Funding:**  
\$7,900

**Focus:**  
Pesticides

**Target Audience:**  
Hispanic Orchard Owners in  
Washington State

**Purpose:**  
To adopt practices that reduce the  
use of pesticides, to manage farms  
more effectively, and to better  
protect families and the environment

**Goals:**

- Learn how to implement  
Integrated Pest Management  
(IPM) in orchards

**Methods:**

- Conduct hands-on field training  
and group learning sessions in  
Spanish

- Provide orchard sessions to  
become familiar with  
identification and scouting
- Cover the use of mating  
disruption technology and other  
newly available low-risk  
insecticides and fungicides

### **Products/Results:**

- Conducted a series of classes in  
Spanish both in classrooms and  
in the orchards
- Used the manual, "Orchard  
Monitoring Manual for Pests,  
Natural Enemies and Diseases of  
Apple, Pear, and Cherry" in the  
classroom
- Distributed the manual at grower  
meetings and through  
Cooperative Extension offices
- Provided the manual on the Web  
site

### **Successes/Strengths:**

- Is the only IPM education  
program conducted in Spanish  
for Hispanic orchardists
- Combined in-field classes with  
individual assistance
- Facilitated the entry of  
orchardists into Spanish-  
language pesticide license  
training courses with two local  
instructors
- Had guest speakers and  
consultants donate their time to  
provide instruction to growers
- Was a success in that the  
growers kept coming to the  
meetings despite busy schedules



# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Hispanic Orchardist Integrated Pest Management Education Program**

- Saw most growers change their practices; used lower-risk pesticides
- Revealed through focus groups that growers are changing practices due to increased knowledge about the pest and beneficial organisms in their orchards

### **Number of People Affected:**

Directly – 40 Hispanic growers  
Copies of the monitoring manual distributed widely  
Indirectly – growers, service providers, and policy makers

### **Integrating Telecommunication and Computer Technologies into Environmental Education**

**Grant Number:**  
NE-98046001

**Sponsor:**  
St. Martin's College

**Project Coordinator:**  
Huabin Chen  
St. Martin's College  
5300 Pacific Avenue Southeast  
Lacey, WA 98503  
(360) 438-4344

**EPA Funding:**  
\$5,000  
FY 1999

**Match Funding:**  
\$3,000

**Focus:**  
General Environmental Education

**Target Audience:**  
Kindergarten through Eighth Grade  
Teachers and Students

**Purpose:**  
To apply technology to  
environmental education

### **Goals**

- Develop a core of teacher leaders to support a rural school district's use of telecommunications and other technologies for environmental education at the kindergarten through eighth grade level
- Educate teachers on the importance of telecommunications and computer technologies in fostering global awareness of and international collaboration on environmental issues
- Educate teachers on the impact of air and water pollution on human health
- Train teachers to use information sources available on the Internet
- Train teachers to use computer-based tools (e.g. probeware) in environmental education

### **Methods:**

- Conduct a one-day workshop for teachers
- Include the following topics in the training: environmental education issues (focused on

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

local water quality), Internet (focused on local environmental education sites), basic environmental science concepts, hands-on experience in setting up and conducting mini-science experiments using probeware, developing lesson plans for classrooms, and project evaluation

### Products/Results:

- Held the one day workshop for the teachers and discussed the subjects listed above under "Methods"
- Created an environmental education Web portal as a disseminating tool after discussing the environmental issues and sharing environmental education Web pages

- Had participating teachers set up and conduct mini-science experiments
- Distributed about \$600 worth of scientific probeware to three school districts

### Challenges:

- Encountered difficulty getting participation from some of the local school districts

### Successes/Strengths:

- Experienced enthusiastic participation in the workshop activities
- Received positive project evaluations

### Number of People Affected:

7 teachers representing 4 school districts

## Kids in the Creek

### Grant Number:

NE-97028201

### Sponsor:

Quillayute Valley School District

### Project Coordinator:

Sheryl Schaaf  
Quillayute Valley School District  
P.O. Box 60  
411 S. Spartan Avenue  
Forks, WA 98331  
(360) 374-6262, ext. 177

### EPA Funding:

\$5,000  
FY 2002

### Match Funding:

\$10,508

### Focus:

Water Quality

### Target Audience:

3<sup>rd</sup> Grade Students, 7<sup>th</sup>-8<sup>th</sup> Grade Students, and Teachers

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Kids in the Creek

#### Purpose:

To monitor the health of a local creek and raise salmon in the classroom

#### Goals:

- Understand basic scientific concepts and principles
- Apply skills and processes of science and technology
- Communicate scientific procedures, investigations, and explanations orally, in writing, with computer-based technology, and mathematically

#### Methods:

- Teach students and teachers how to conduct water quality testing and analyze their results in order to better understand the parameters affecting their environment
- Assist teachers in using the inquiry method
- Teach students to interpret changes in the field to understand the factors at work in the ecosystem under investigation
- Educate students and teachers on the use of technology as a tool to understand basic scientific concepts
- Deliver teacher presentations at conferences

#### Products/Results:

- Recorded water quality testing over time for Mill Creek
- Analyzed data to determine stream health

- Developed action plan to help remedy problems or keep stream health at its optimum level
- Increased knowledge of hand-held computers and video-conferencing technology to record, analyze, and share information
- Received appreciation from students, especially girls, of how science can be a positive part of their life
- Raised salmon successfully in the classroom to be placed and monitored in Mill Creek over time
- Increased teachers' knowledge of Inquiry Based Science in the classroom

#### Successes/Strengths:

- Acted as a catalyst that led to additional funding for further studies and to continue the project
- Received a "School Mate Award," given to school projects that make a visible difference in a community and show students the importance of being involved in community issues
- Developed a book by the students on their project – a compilation of science, writing, math, and learning

#### Number of People Affected:

33 3<sup>rd</sup> grade students, 100 7<sup>th</sup>-8<sup>th</sup> grade students, and 8 teachers

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### King County's Wheels to Water Program

**Grant Number:**  
NE-99022701

**Sponsor:**  
King County Water and Land  
Resources Division

**Project Coordinator:**  
Lexi Taylor  
King County Water and Land  
Resources Division  
201 South Jackson Street, Suite 703  
Seattle, WA 98104  
(206) 296-6519

**EPA Funding:**  
\$18,134  
FY 2003

**Match Funding:**  
\$30,000

**Focus:**  
Water Quality

**Target Audience:**  
Kindergarten Through Twelfth  
Grade Students, Teachers, and  
Administrators

**Purpose:**  
To expand King County's Wheels to  
Water Program

**Goals:**

- Promote water quality education by providing free transportation for schools to on-site environmental education programs
- Provide promotional materials

- Increase awareness of water quality and related environmental topics
- Increase skills and capacity to analyze environmental issues
- Increase understanding of the connections between natural systems and between the natural world and society
- Provide these opportunities to King County students underserved by environmental programs

#### Methods:

- Increase the number of bus trips available
- Target and conduct outreach to schools with the highest proportion of low-income and culturally diverse students
- Increase the number of sites that the program serves
- Increase participation of students from rural areas
- Advertise and promote in conjunction with King County's environmental education programs
- Expand outreach efforts through personal contacts, phone calls, and presentations to teachers and administrators in targeted schools

#### Products/Results:

- Provided 23 bus trips; included 34 classes
- Reached 11 school districts out of 19
- Reached low-income and rural students

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### King County's Wheels to Water Program

#### Challenges:

- Had fewer schools than expected respond to phone calls about program presentations for staff
- Found some schools to be unwilling to take time for program presentations

#### Successes/Strengths:

- Increased percentage of rural and low-income schools using Wheels to Water program to 44 percent

- Had 82 percent of teachers who filled out program evaluations say that they could not have taken their students on a field trip without the Wheels to Water bus
- Received an overwhelming number of requests for the program
- Minimized administrative costs and added the funds to cover more bus trips

#### Number of People Affected:

Directly – 936 students (13 percent rural and 87 percent low income)

### Lake Washington Watershed Internship Program at Mercer Slough Environmental Education Center

#### Grant Number:

NE-97028901

#### Sponsor:

Pacific Science Center

#### Project Coordinator:

Paula Williams  
Pacific Science Center  
Mercer Slough Environmental Education Program  
200 Second Avenue North  
Seattle, WA 98109  
(206) 443-3636

#### EPA Funding:

\$21,423  
FY 2002

#### Match Funding:

\$44,135

#### Focus:

Wetlands and Ecosystem/Habitat

#### Target Audience:

Elementary and High School Students

#### Purpose:

To expand Lake Washington watershed internship program to Mercer Slough Environmental Education Center

#### Goals:

- Increase awareness of environmental science careers for females, low income and culturally diverse populations
- Change the knowledge, perceptions, and attitudes of the participants by providing opportunities to explore a

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Lake Washington Watershed Internship Program at Mercer Slough Environmental Education Center**

- wetlands environment first hand in a fun and motivating setting
- Provide opportunities for participants to develop critical thinking, problem solving, and decision-making skills to weigh various sides of an environmental issue in order to make informed and responsible decisions
  - Educate the community about local watershed issues through community projects and celebrations

#### **Methods:**

- Mentor high school students through internships
- Have high school students work with elementary school classes
- Conduct a water quality monitoring program
- Participate in ecosystem restoration projects
- Hold a community watershed celebration

#### **Products/Results:**

- Hired 17 interns from six South Seattle and Bellevue high schools; 16 stayed with the program for 12 months
- Trained interns to conduct water quality tests and accurately report and interpret data
- Reached 243 elementary students through the six-month watershed awareness program
- Completed four community events, with a restoration component and/or community education about watersheds and water quality issues

#### **Challenges:**

- Had trouble recruiting high school students; will begin recruitment earlier
- Experienced transportation and scheduling barriers; did not complete all restoration projects

#### **Successes/Strengths:**

- Increased interest in environmental science careers by providing hands-on learning opportunities for student participants through a project-based watershed monitoring program
- Provided opportunities for high students to develop job skills, to investigate environmental science as a career option and to encourage them to pursue their interest in environmental science in college and vocational programs or a career in the field
- Enhanced the high school interns' science-process skills of observing, predicting, experimenting, collecting and interpreting data, and applying knowledge
- Increased interest in environmental science careers among the elementary school students who interacted with the high school students

#### **Number of People Affected:**

Directly – 259 students  
Indirectly – 450 people

# Washington

**1999 - 2004**

## Environmental Education Grant Summaries

### **Mason County Environmental Education Initiative**

**Grant Number:**

NE-98095801

**Sponsor:**

Mason Conservation District

**Project Coordinator:**

Jeanene Campbell  
Mason Conservation District  
1050 SE Highway 3, Suite G  
Shelton, WA 98584  
(360) 427-9346

**EPA Funding:**

\$15,000  
FY 2000

**Match Funding:**

\$5,000

**Focus:**

General Environmental Education

**Target Audience:**

School Teachers and District  
Administrators

**Purpose:**

To educate teachers and district  
administrators about the benefits of  
using inter-disciplinary environmental  
education activities in the classroom

**Goals:**

- Integrate environmental education into existing curriculum to meet the new essential academic learning requirements

**Methods:**

- Provide training to teachers in the Shelton School District
- Train teachers on how to use various EE activity guides
- Encourage teachers to assimilate these lessons into their regular curriculum

**Products/Results:**

- Developed a curriculum
- Conducted training
- Completed an evaluation of the training program and curriculum integration

**Challenges:**

- Had a slow start to the project because of personnel changes in the Shelton School District
- Difficult for some teachers to adjust their lesson plans since they were only two years into their new curriculum; elementary teachers in particular were overwhelmed and some saw this as just "one more thing to do"

**Successes/Strengths:**

- Worked well with the Mason County Environmental Education Team
- Made progress quickly because many teachers and administrators were on board
- Developed an invaluable partnership with the Washington Forest Protection Association and Simpson Timber Company because they provided the expertise to train and educate the teachers about environmental education and the use of the educational materials

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Mason County Environmental Education Initiative**

#### **Number of People Affected:**

26 teachers, 600 students, and 1 district administrator  
Information from this program will

continue to be used by teachers that were involved, and they will pass their knowledge and resources on to other teachers in the future

### **Mid-Columbia Basin Shrub-Steppe Study**

#### **Grant Number:**

NE-97004301

#### **Sponsor:**

Washington Native Plant Society

#### **Project Coordinator:**

Mike Marsh  
Washington Native Plant Society  
7400 Sand Point Way, NE  
Seattle, WA 98115  
(206) 281-8976

#### **EPA Funding:**

\$3,815  
FY 2000

#### **Match Funding:**

\$2,145

#### **Focus:**

Ecosystem/Habitat

#### **Target Audience:**

Columbia Basin College and Washington State University Students, Local Instructors, and Concerned Citizens

#### **Purpose:**

To teach how to monitor and assess the impact of human activity and development on the health of the Mid-Columbia Basin Shrub-Steppe Ecosystem

#### **Goals:**

- Expand teaching component of an existing research project that monitors change in the shrub-steppe ecosystem at various locations
- Develop a working knowledge of the tools of environmental science and botanical study
- Assess the impact human activity, including grazing, setting fires, recreational activity, conversion to agriculture, and fragmentation by the above activities or by development, has on the health of the shrub-steppe ecosystem in the Mid-Columbia Basin

#### **Methods:**

- Conduct a nine-week educational program
- Teach the basic tools of environmental science and research through classroom lectures given by the project leader and guest speakers and through practice in the field
- Apply knowledge learned to a specific research project in the field that monitors the 30 pairs of transects located in Benton and Yakima counties
- Purchase supplies needed to facilitate the hands-on teaching component of this course



# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Mid-Columbia Basin Shrub-Steppe Study

#### Products/Results:

- Conducted three evenings of training for 22 participants
- Trained in plant identification, vegetation measurement methods, and map reading and orientation in the field
- Distributed training guides, plant keying aids, and other information
- Carried out study for eight weekends on both Saturday and Sunday
- Made observations at seven field sites each weekend by teams of four observers
- Measured each site a second time, four weeks after its first measurement

- Made two independent measures of cover (three of the sites were only measured once because of a misunderstanding or because of time constraints)

#### Successes/Strengths:

- Recruiting by The Nature Conservancy helped involve a large number of people
- Completed data from the observations was of assistance to the Nature Conservancy and the U.S. Fish and Wildlife Service in their investigation of the effects of the July 2000 fire at the Hanford Site on the spread of exotic weeds

#### Number of People Affected:

31 people involved in the program

### Onshore-Offshore Marine Ecology Teachers' Training Program

#### Grant Number:

NE-97078801

#### Sponsor:

Port Townsend Marine Science Society

#### Project Coordinator:

Anne Murphy, Executive Director  
Port Townsend Marine Science Society  
532 Battery Way  
Port Townsend, WA 98368  
(360) 385-5582

#### EPA Funding:

\$13,735  
FY 2004

#### Match Funding:

\$10,700

#### Focus:

Water Quality

#### Target Audience:

K-12<sup>th</sup> Grade Teachers

#### Purpose:

To provide a week-long residential workshop as a professional development program for teachers

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Onshore-Offshore Marine Ecology Teachers' Training Program**

#### **Goals:**

- Offer teachers hands-on, inquiry-based science education skills transferable to their classrooms
- Linked to practical in-school lessons appropriate for K-12 students drawn from outstanding national curricula and consistent with National Science Education standards
- Allow teachers to acquire new skills, resources, and enthusiasm for teaching science

#### **Methods:**

- Work alongside research scientists both on shore, and at sea
- Formulate research questions
- Design and conduct their own mini-research projects
- Provide teachers the opportunity to work alongside University of Washington scientists conducting research
- Evaluate the results of their data gathering under the direction of scientists and educators who provide teachers with examples of curricula suitable for classroom use

#### **Products/Results:**

- Planned, organized, and held the workshop for 20 Pacific Northwest teachers in June 2005
- Held classes onshore at the Port Townsend Marine Science Center site and facilities and offshore aboard a sailing schooner
- Worked alongside university

scientists conducting research abroad a research vessel owned by the University of Washington Friday Harbor Laboratories

- Received positive evaluations from the teachers, who enjoyed the range of hands-on and inquiry based activities, the applicability to their teaching, and the connections drawn to broader and regional and environmental topics

#### **Challenges:**

- Had a scheduling miscommunication; four teachers were not able to change their schedules
- Used a compressed workshop schedule in order to balance contract-hour requirements for offering a five credit college class with the need to keep the program short enough to be affordable to teacher participants
- Meeting the widely-ranging needs of participating teachers, which included kindergarten through high school, pre-service teachers, non-science teachers, and teachers working in non-school settings

#### **Successes/Strengths:**

- Offered teachers experiences in helping deploy scientific instruments on a research vessel, sail-training on a 101-ft schooner, sampling fish and invertebrates in an eelgrass bed, and articulating marine mammal skeletons and labs with live

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Onshore-Offshore Marine Ecology Teachers' Training Program**

- marine invertebrates
- Partnering with the Friday Harbor Laboratories brought scientists, graduate students, and teachers together on board the research vessel and enabled them to use scientific instruments and engage researchers in discussion of how oceanographic studies intersect with conservation efforts in Puget Sound

- Gave teachers practice applying these ideas while carrying out a survey of intertidal biodiversity of Fort Warden State Park and designing a hypothetical deepwater study using high-tech oceanographic equipment

**Number of People Affected:**  
20 participants

### **Percival Creek: Habitat Education, Restoration, and Stewardship**

**Grant Number:**  
NE-98079901

**Sponsor:**  
City of Tumwater

**Project Coordinator:**  
Kathleen Callison  
City of Tumwater  
555 Israel Road SW  
Tumwater, WA 98501  
(360) 754-4140

**EPA Funding:**  
\$19,020  
FY 2000

**Match Funding:**  
\$30,281

**Focus:**  
Ecosystem/Habitat

#### **Target Audience:**

Students and Teachers in the Tumwater School District within the Percival Creek Watershed and Other Local Watersheds, Homeowners in the Percival Creek Basin and other Thurston County Residents, and City of Tumwater Staff Involved in the Maintenance of Sensitive Watershed Habitats on City-Owned Properties

#### **Purpose:**

To involve teachers, students, homeowners, and city personnel in restoration and long-term stewardship of the local watershed and salmon habitat

#### **Goals:**

- Provide education on the value of salmon, salmon habitat and stream ecology
- Offer training on how to use biological assessment as an education and action tool for determining the health of salmon habitat in South Puget Sound

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Percival Creek: Habitat Education, Restoration, and Stewardship**

- Teach habitat restoration skills to teachers, students, and homeowners
- Provide teachers, students, and homeowners with an opportunity to apply the knowledge and skills they have learned to a habitat restoration project
- Train city personnel in long-term maintenance of habitat restoration sites

#### **Methods:**

- Conduct workshops, field experiences, and hands-on activities throughout a one-year period
- Develop informational brochures

#### **Products/Results:**

- Planted native plants, shrubs, and trees along Percival Creek to provide shade and cooler creek temperatures during the summer months
- Conducted teacher training workshops
- Held student training and field studies
- Developed and delivered two homeowner workshops
- Coordinated four habitat restoration events
- Developed, printed, and distributed materials for the habitat restoration projects
- Conducted additional community education and outreach

#### **Challenges:**

- Had to reschedule two of the teacher workshops due to teacher vacations, mandatory school and district meetings, and full workloads at the beginning of the school year

#### **Successes/Strengths:**

- Received major community support for the restoration project at the Percival Creek site, with the planting of more than 2,200 native trees and shrubs
- Have better-educated citizens and city staff who are more conscious of their own impacts on the environment

#### **Number of People Affected:**

Over 65 teachers, 120 students, and 150 residents participated in the many events

#### **Tips From the Grantee:**

- Give project background and information ahead of time to save time in the field.
- Discuss tool safety.
- Have teachers divide their classes into small groups before the project.
- Secure the necessary permission/permits before beginning work.
- Plants should be set at their "spot" ready for the students and volunteers to plant.
- Order a "port-a-potty" in advance and have it in place when students and volunteers arrive.

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Percival Creek: Habitat Education, Restoration, and Stewardship**

- Get photo documentation before, during, and after the project.
- Keep student groups small, no more than five or six per group leader.
- Have the crew leaders demonstrate the correct planting technique.
- Schedule regular follow-up maintenance.
- After the students finish, have the crew check for trash or leftover supplies.

### **Pioneer School District Environmental Education Program**

**Grant Number:**  
NE-97003601

**Sponsor:**  
Mason County Conservation District

**Project Coordinator:**  
Jeanene Campbell  
Mason County Conservation District  
1051 SE Highway 3, Suite G  
Shelton, WA 98584-9195  
(360) 427-9436

**EPA Funding:**  
\$15,746  
FY 2001

**Match Funding:**  
\$7,094

**Focus:**  
Ecosystem/Habitat

**Target Audience:**  
Students in the Pioneer School District

**Purpose:**  
To connect environmental education activities with the current curriculum

#### **Goals:**

- Create an environment-based program to reach every student in the school district

#### **Methods:**

- Integrate environmental education into existing curricula
- Conduct field trips
- Purchase field equipment
- Establish an outdoor learning site

#### **Products/Results:**

- Used the school's campus as an outdoor classroom
- Used neighboring landowners' properties to observe native salmon and take water quality tests
- Had students explore their community's environment through field trips and restoration projects

#### **Challenges:**

- Had a slow start due to a change in personnel
- Experienced low teacher participation, but the ones that did take part were very enthusiastic

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Pioneer School District Environmental Education Program**

#### **Successes/Strengths:**

- Excited teachers about the concept of using the environment as an integrating context
- Provided hands-on, practical education that went above and beyond the elements required for the students by the state and the school district
- Developed the environmental study sites

- Equipped teachers with the knowledge, skills, and resources necessary to provide an integrated environment-based program for their students

#### **Number of People Affected:**

Directly – 9 teachers, 200 students, 3 school district administrators, and approximately 30 community members

Indirectly – 30 additional teachers in the district, 600 more students, and 1,500 to 2,000 parents and community members

### **Port Gamble S’Klallam Tribe Environmental Day 1999**

#### **Grant Number:**

NE-98046301

#### **Sponsor:**

Port Gamble S’Klallam Tribe

#### **Project Coordinator:**

Sharon Purser  
Port Gamble S’Klallam Tribe  
Headstart Program  
31912 Little Boston Road NE  
Kingston, WA 98346  
(360) 297-6237

#### **EPA Funding:**

\$3,000  
FY 1999

#### **Match Funding:**

\$2,290

#### **Focus:**

Waste Management

#### **Target Audience:**

Tribal Family Members, Non-Indian Residents of the Reservation and Surrounding Communities, and Local School Teachers

#### **Purpose:**

To host a forum for tribal members and residents from the surrounding community and provide an opportunity to gather together to learn more about environmental concerns facing the reservation, northern Kitsap Peninsula, and the county

#### **Goals:**

- Address health issues connected to solid waste management affecting children and families
- Include the benefits of recycling and composting in relation to the environmental health of the community

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Port Gamble S'Klallam Tribe Environmental Day 1999

#### Methods:

- Offer education a one-day educational event to educate community adults and children of all ages on methods of reducing, reusing, and recycling refuse
- Offer education through a variety of mediums, including information booths, guest speakers, small group discussions, and experiential demonstrations
- Help people learn how to compost, and facilitate the beginning of a composting program
- Discuss the importance of reducing trash and increasing trash management to keep community areas, including the beach, clean and healthy

#### Products/Results:

- Incorporated solid waste information into the Tribe's Environmental Day
- Distributed information at the event
- Had demonstrations, guest speakers, small group discussions, and community mobilization
- Sponsored annual Environmental Day awards – presented to a youth and an adult who worked over the previous year to help the local environment

#### Successes/Strengths:

- Felt like the community was committed to making lifestyle changes in order to reduce the need for garbage collection and to start recycling and composting

#### Number of People Affected:

Over 100 people from the reservation and the surrounding community

### "River of Words": Catalyst for Watershed Education and Action

#### Grant Number:

NE-97064601

#### Sponsor:

Education Service District #113

#### Project Coordinator:

Kathy Jacobson  
Education Service District #113  
601 McPhee Road SW  
Olympia, WA 98502  
(360) 586-3538

#### EPA Funding:

\$20,672  
FY 2003

#### Match Funding:

\$22,900

#### Focus:

Water Quality

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **“River of Words”: Catalyst for Watershed Education and Action**

#### **Target Audience:**

4<sup>th</sup>-12<sup>th</sup> Grade Teachers and Students from Chehalis and Shelton Watersheds

#### **Purpose:**

To connect students with their place in the watershed through a year-long project involving teachers and students in the “River of Words” Art and Literacy Program

#### **Goals:**

- Educate teachers about the Chehalis watershed and how to use watershed studies to better connect with essential learning requirements
- Help teachers become familiar with the Chehalis Surge Plain, Panhandle Lake, and Millersylvania State Park and learn how to use these environments as inspiration for art and poetry and involvement in the “River of Words” program
- Educate teachers to use art, science, and poetry to promote environmental literacy and environmental action
- Link Washington’s learning goals and standards to environmental issues that are part of the watershed
- Encourage students to participate in an action project at the Chehalis Surge Plain
- Show teachers how their students can connect with their communities through their poetry, art, and action projects

#### **Methods:**

- Have teachers participate in a two-day “River of Words Teachers’ Institute” with a one-day follow-up training
- Instruct students in the classroom
- Incorporate water quality monitoring, art, and writing activities in students’ field studies
- Help students engage in action projects
- Hold a Student Congress at the end of the project for students to lead workshops in “River of Words” and display their work

#### **Products/Results:**

- Participated in a three-day “River of Words” teacher training
- Trained students, parents, and other volunteers in water quality monitoring and other field skills
- Monitored water quality at over 20 sites
- Studied chemistry, biology, and natural history
- Wrote in field books and journals, learned sketching, water color, and photography
- Composed essays, stories, and poetry
- Participated in the basin-wide Student Congress



# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **“River of Words”: Catalyst for Watershed Education and Action**

#### **Successes/Strengths:**

- Engaged students in civic activities and action projects
- Helped the students, teachers, administrators, and community members obtain a greater appreciation of the Chehalis watershed

#### **Number of People Affected:**

30 teachers and area resource professionals and 150 students

### **Salmon in the Classroom Program**

#### **Grant Number:**

NE-97079301

#### **Sponsor:**

Franklin Conservation District

#### **Project Coordinator:**

Heather Wendt  
Franklin Conservation District  
1620 Road 44 N  
Pasco, WA 99301  
(509) 545-8546, x 3

#### **EPA Funding:**

\$22,645  
FY 2004

#### **Match Funding:**

\$16,351

#### **Focus:**

Water Quality

#### **Target Audience:**

4<sup>th</sup>–12<sup>th</sup> Grade Students

#### **Purpose:**

To educate students and the public about local water quality issues and their effects on salmon

#### **Goals:**

- Provide Salmon in the Classroom to local schools not currently participating in the program

#### **Methods:**

- Provide hands-on learning opportunity for students
- Receive eggs from a local hatchery to rear in aquariums that will be set up in each classroom
- Visit participating classes to present the Enviroscape watershed model and to assist schools with water quality testing
- Attend the release of the salmon fry into the Yakima and Columbia Rivers

#### **Products/Results:**

- Ordered and set up tanks and equipment for Salmon in the Classroom
- Compiled educational information for teachers
- Obtained salmon eggs from a local hatchery

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Salmon in the Classroom Program**

- Organized field trips to the hatcheries
- Presented the Enviroscope to participating schools
- Provided salmon feeding calculations
- Arranged for each county to have a salmon release day where all participating classes released their salmon
- Solicited teachers to participate in the program again

#### **Successes/Strengths:**

- Went from five schools participating to nine schools in the Franklin Conservation District area and from 18 schools to 26 schools in the Benton Conservation District

#### **Number of People Affected:**

Directly – 330 students and also partner agencies and conservation groups that participated in the salmon release days  
Indirectly – newspaper articles and interagency publications

#### **Tips From the Grantee:**

A detailed tip sheet and timeline, several pages in length, were provided in the grant, and are available upon request from EPA or the grantee.

### **Schoolyard Habitat Network**

**Grant Number:**  
NE-97028401

**Sponsor:**  
City of Edmonds

**Project Coordinator:**  
Sally Lider  
City of Edmonds  
Parks, Recreation and Cultural Services  
700 Main Street  
Edmonds, WA 98020  
(425) 771-0227

**EPA Funding:**  
\$5,000  
FY 2002

**Match Funding:**  
\$4,450

**Focus:**  
Ecosystem/Habitat

**Target Audience:**  
Teachers and Students from Edmonds School District

**Purpose:**

- To provide educational opportunities to study nature on the school grounds
- To improve environmental education skills for teachers

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Schoolyard Habitat Network

#### Goals:

- Promote and facilitate the creation of schoolyard habitats in Edmonds and the surrounding community
- Engage students in meaningful scientific activities to increase their understanding of flora and fauna in the region
- Provide teachers and students the opportunity to connect with nature while achieving academic goals

#### Methods:

- Increase teacher awareness about national schoolyard habitat programs
- Help individual schools assess their schoolyards for habitat enhancement potential
- Offer at least one educator workshop on schoolyard habitats
- Facilitate networking among local schools engaged in schoolyard habitat projects
- Assess schoolyards to find out what plants and animals are living there, compared with the natural community before the area was developed

#### Products/Results:

- Provided teachers with National Wildlife Federation Schoolyard Habitat information
- Provided workshop for teachers, parents, and students from the three participating projects
- Had the Native Plant Stewards and schoolyard habitat wildlife consultant spend time at each

- school to help them map their sites and inventory the wildlife
- Facilitated networking among the three schools
- Held the "Summit Meeting" in May 2003 to have the three schools showcase their accomplishments, compare habitat assessments, and review habitat improvement plans
- Encouraged the teachers to join the National Wildlife Federation list server
- Completed for each school, a National Wildlife Federation schoolyard habitat certification application

#### Challenges:

- Changed the grant workplan to gain the support of the Edmonds School District Science Coordinator; schools were required to submit applications to be included in the program
- Did not need to use the formed Selections Committee since only three schools applied
- Did not want to have activities in their schoolyard habitats over the summer; planted in the fall so weeding and watering were not needed in the summer
- Challenging to monitor each school's progress and keep everybody on schedule; using email helped
- Mapping the projects was challenging and time consuming; Native Plant Stewards volunteers (new partnership) assisted with the work

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Schoolyard Habitat Network**

#### **Successes/Strengths:**

- Formed school habitat teams and submitted applications to be included in the program
- Wanted to integrate more hands-on environmental education into the teachers' curriculum, and were ready to work as a team

with students and parents to design a schoolyard habitat

#### **Number of People Affected:**

325 school administrators, teachers, maintenance staff, parents and students, school district staff and community members

### **Shopping Smarter for Our Home – An Environmental Workshop**

#### **Grant Number:**

NE-98048801

#### **Sponsor:**

City of Richland

#### **Project Coordinator:**

Gail Baasch  
City of Richland  
P.O. Box 190  
Richland, WA 99352  
(509) 942-7730

#### **EPA Funding:**

\$5,000  
FY 1999

#### **Match Funding:**

\$11,000

#### **Focus:**

General Environmental Education

#### **Target Audience:**

Youth and Adults in Richland and Kennewick, Washington

#### **Purpose:**

To increase consumer awareness of packaging alternatives, durable products, bulk purchases, buying recycled goods, and reusing grocery bags

#### **Goals:**

- Reduce, reuse, recycle, save money, avoid packaging, and reduce chemical use in the home

#### **Methods:**

- Hold two workshops with discussions, demonstrations, and a video tour of a local grocery store
- Develop a logo, visual presentation, handouts, and surveys
- Hold civic/community presentations
- Present youth/student programs in a classroom setting

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Shopping Smarter for Our Home – An Environmental Workshop**

#### **Products/Results:**

- Had youth and adults attend programs or workshops for eight months
- Included in the workshops local environmental facts, actual garbage that had been buried in a landfill for 20 years, a “Hazardous Wastes in the Home” segment that included chemical awareness and toxicity, a ground-water demonstration, a free recipe book for making non-toxic cleaning products, and free canvas shopping bags for attendees
- Created a video for cable television and a public service announcement
- Held three civic/community presentations
- Presented 10 youth/student programs in the classroom

#### **Challenges:**

- Had contradictory survey responses by the middle school participants; some students thought it was not “cool” to take a canvas shopping bag, but came back later when their friends were not around

#### **Successes/Strengths:**

- Established a waiting list because of the high demand for the program
- Received positive comments from the survey; all ages enjoyed the video
- Continued program even after the give-aways ran out because the basic elements remained the same
- Lent to other groups the video, overhead transparencies, and handouts so that they will be able to teach the program

#### **Number of People Affected:**

Directly – 945 people

Indirectly – through repeated cable airing and word of mouth, the program reached about 5,000

#### **Tips From the Grantee:**

- Since time is valuable to people, it is crucial to find a creative method to convince them to attend your program.
- The reusable shopping bag was a good reward for attending.

### **STUFF: The Secret Life of Everyday Things**

#### **Grant Number:**

NE-97028801

#### **Sponsor:**

911 Media Arts Center

#### **Project Coordinator:**

Mallory Graham  
911 Media Arts Center  
117 Yale Avenue North  
Seattle, WA 98109  
(206) 682-6552 x 18

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **STUFF: The Secret Life of Everyday Things**

#### **EPA Funding:**

\$22,500  
FY 2002

#### **Match Funding:**

\$9,500

#### **Focus:**

Waste Management

#### **Target Audience:**

High School Students

#### **Purpose:**

To explore what goes into making and transporting of the ordinary things we use in our daily lives

#### **Goals:**

- Educate high school youth about conservation issues in an engaging, hands-on manner
- Explore their own consumption habits and share what they have learned
- Increase the capacity of organizations involved to develop a strategic model for producing and delivering environmental education video projects on a county level
- Reach low-income and culturally diverse students

#### **Methods:**

- Mentor students to create a ten-minute video that takes a behind-the-scenes look at the production, distribution, and consumption of everyday household objects with assistance from professional media producers

- Broadcast and screen the student environmental video

#### **Products/Results:**

- Created a comprehensive curriculum on media literacy and conservation issues
- Used a thorough competitive application process; 15 students were selected to take part in the intensive video training program
- Created three short videos about consumerism: "Sole of Sale," "Food for Thought," and "Think Twice"

#### **Challenges:**

- Extended the grant by a month due to the ambitious nature of the selected video projects
- Had three students drop the class due to other time commitments/personal issues

#### **Successes/Strengths:**

- Had 90 students complete classes in media literacy, conservation and waste reduction, photography and dark room film developing, and printing
- Had 15 students complete classes in storyboarding, audio and lighting design, video editing, and camera operation
- Reached great collaboration between students and professional filmmakers, sound engineers, lighting designers, and editors

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **STUFF: The Secret Life of Everyday Things**

- Worked with highly motivated students on the project who committed some of their own time to complete it
- Developed study guide to go along with the video
- Will have impact on middle and high school students who see the videos through school programs and through the King County Solid Waste Division's touring workshop "Natural Connections – The Material World"
- Distributed nationally through "The Video Project" distribution organization

### **Number of People Affected:**

15 high school students and others who see the video  
90 took classes in conservation, waste reduction, and related subjects

### **Tips From the Grantee:**

- Build partnerships.
- Find "relevancy," especially in teaching environmental education to a savvy and jaded teenage population.

### **Tapteal Greenway Watershed Education**

#### **Grant Number:**

NE-97006501

#### **Sponsor:**

Tapteal Greenway

#### **Project Coordinator:**

Ginger Wireman, Education Director  
Tapteal Greenway  
P.O. Box 3007  
Richland, WA 99352  
(509) 946-9692

#### **EPA Funding:**

\$4,995  
FY 2001

#### **Match Funding:**

\$4,886

#### **Focus:**

Ecosystem/Habitat

#### **Target Audience:**

Pre-Kindergarten - Twelfth Grade Students, Plus Child Care Workers, Teachers, and Parents

#### **Purpose:**

To address water and habitat education needs in Benton and Franklin Counties in southeastern Washington State

#### **Goals:**

- Conduct field and classroom outreach relating to watersheds and native habitat in the Yakima River environs within Benton County

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Tapteal Greenway Watershed Education

#### Methods:

- Create interactive, formal and informal classroom and field experiences to teach about the water cycle, watersheds, water pollution and habitat
- Hold hands-on workshops at day care centers and preschools
- Set up Hikes for Tykes to help young children develop an appreciation of nature

#### Products/Results:

- Held successful field and classroom outreach
- Set up a water quality monitoring program run by the adult volunteers
- Conducted secondary and tertiary outreach through teachers, parent chaperones, and the media

#### Challenges:

- Did not reach as broad an audience as originally hoped

#### Successes/Strengths:

- Was the first community program to support local teachers wanting to integrate watershed education into their curriculum
- Was the first to engage adults in local stewardship activities or teaching

#### Number of People Affected:

About 1,775 pre-kindergarten through twelfth grade students and 195 day care workers, teachers, and parents

#### Tips From the Grantee:

- Contact preschools and home day care providers. Children benefit highly from the outreach and caregivers are always looking for ideas to teach and entertain their kids.
- Put registration requirements on the back side of the publicity flyer. Getting the names and ages of kids ahead of time allows you to make name tags.
- Go to the day care if they cannot come to you.
- Work with libraries - children's librarians and story times can be a great place to spread the word or conduct programs.
- Offer to visit classrooms or campuses so field trip dollars will not have to be spent.
- Do not forget to include information about safety; for instance, children should wear close-toed shoes and hats and bring water.
- Do not forget the adult audience, especially parents of young children.
- Ask people to volunteer.



# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Teacher Training Using Biological Assessment

**Grant Number:**  
NE-98046201

**Sponsor:**  
Thurston Conservation District

**Project Coordinator:**  
Kathy Jacobson  
Thurston Conservation District  
2400 Bristol Court Southwest, Suite  
100  
Olympia, WA 98502  
(360) 754-4253

**EPA Funding:**  
\$25,000  
FY 1999

**Match Funding:**  
\$14,800

**Focus:**  
Ecosystem/Habitat

**Target Audience:**  
Teachers and Students

**Purpose:**  
To provide both training and support to teachers and students to learn about biological assessment methods

**Goals**

- Provide education on the value of salmon, salmon habitat, and stream ecology
- Provide training on how to use biological assessment as an education and action tool

- Teach skills and provide coordination with community members to research and develop relevant community projects
- Have students apply their knowledge of the needs of salmon to habitat restoration projects

#### Methods:

- Provide trainings for teachers
- Conduct student leadership training
- Conduct actual biological assessment monitoring
- Complete action projects to benefit salmon and streams

#### Products/Results

- Developed and distributed curriculum and monitoring/teaching kits
- Trained teachers
- Designed and demonstrated field practices and techniques
- Completed student action projects

#### Successes/Strengths:

- Made science “real” for students because it went beyond abstract concepts and allowed students to learn by doing and experiencing
- Allowed teachers to use the themes to teach other subjects, such as art, geography, history, math, and language arts

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Teacher Training Using Biological Assessment

#### Number of People Affected:

Directly – 1,200 people, including students, teachers, parents, volunteers, and community members  
Indirectly – more than 5,000 people may have heard about the program through the media

#### Tips From the Grantee:

##### DO:

- Define the technical terms you use.
- See who is interested: find teachers and/or community members who are interested in monitoring.
- Train monitors on proper techniques to obtain quality data.
- Research your resources to find out which experts, speakers, and lab services are available.

- Make your data useful by asking other monitoring groups which sites they need monitored. Monitor streams and rivers that have historically had problems or are close to a stream restoration effort.
- Set realistic goals and expectations and make sure participants are aware of the time commitments required.

##### DON'T:

- Duplicate efforts: check with other groups to see if and where they are monitoring.
- Hide your data. Make sure it gets out to interested parties.
- Forget the education component. Make sure everyone knows why the monitoring is important.

### Transportation Workshops in Olympia Schools

#### Grant Number:

NE-97008401

#### Sponsor:

Earth Island Institute, Climate Solutions

#### Project Coordinator:

Chris Hawkins, Smart Moves/  
Transportation Programs Coordinator  
Climate Solutions  
610 4<sup>th</sup> Avenue East  
Olympia, WA 98501  
(360) 352-1763

#### EPA Funding:

\$12,518  
FY 2001

#### Match Funding:

\$6,250

#### Focus:

Transportation

#### Target Audience:

Parents, Teachers, Students, and School Administrators in the Olympia School District

#### Purpose:

To organize workshops to discuss and develop school-based solutions for transportation as an environmental, economic, and health concern

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Transportation Workshops in Olympia Schools

#### Goals:

- Educate parents, students, administrators, and teachers about school-based solutions for transportation
- Encourage students to organize their own projects building on information provided
- Encourage parents to support alternative modes of transportation and work to bring facilities such bike lanes, sidewalks, and bike lockers to their children's schools
- Provide teacher workshops to focus on the broader set of issues surrounding transportation and engage teachers to guide the development of classroom-ready materials that they can test and use in their own classrooms
- Provide teachers with materials that are needed to effectively teach the concepts in their classrooms
- Post program's elements on the Internet to be used as a model for other communities wishing to explore similar programs

#### Methods:

- Conduct community workshops for all grade levels
- Create community based projects
- Hold teacher workshops at all grade levels
- Create an advisory committee to develop a marketing strategy for the workshops and revise and distribute educational materials on school transportation issues,

global warming, and how communities can make a difference

#### Products/Results:

- Had successful involvement of more than a dozen people to the advisory team, including parents, teachers, students and members of the community
- Held workshops at four different elementary schools, two middle schools and three high schools
- Completed community-based projects, including the Capital High School student bike locker project and a Walk to School Day event

#### Challenges:

- Lack of response and interest on the part of elementary school parents and principals
- Lack of interest for planned workshops for teachers, so teachers were invited to become involved in the community workshops

#### Successes/Strengths:

- Received positive comments on the materials presented
- Implemented transportation activities in 12 classrooms

#### Number of people affected:

Approximately 1,300 students, 63 teachers, 130 community members

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Transportation Workshops in Olympia Schools**

#### **Tips From the Grantee:**

- Approach schools early, often and persistently.
- Reach a variety of school audiences: administrators, teachers, parents, and students.

- Utilize Web resources.
- Collaborate to bring in other resources, such as the city.

### **Turning Middle School Students into “Real” Marine Scientists: An Integrated, Hands-on Approach to Science Education**

#### **Grant Number:**

NE-98077901

#### **Sponsor:**

Salish Sea Expeditions

#### **Project Coordinator:**

Ellie Linen Low  
Salish Sea Expeditions  
647 Horizon View Place, NW  
Bainbridge Island, WA 98110  
(206) 780-7848

#### **EPA Funding:**

\$5,000  
FY 2000

#### **Match Funding:**

\$2,588

#### **Focus:**

General Environmental Education

#### **Target Audience:**

Middle School Students

#### **Purpose:**

To determine the compatibility of Salish Sea Expeditions (SSE) programs and the Truth about Science (TAS) curriculum by integrating the two complementary environmental education programs

#### **Goals:**

- To unite and strengthen the two “inquiry based” learning programs, providing an intensive and cohesive education experience both in the classroom and in the field
- To reinforce critical thinking and problem-solving skills and fulfill both Washington State’s Essential Academic Learning Requirements and the National Science Education Standards

#### **Methods:**

- Introduce SSE to teachers using TAS through training sessions via a slide presentation
- Offer additional training if interested in collaborating
- Have students in Seattle middle schools who are completing TAS curriculum to participate in a SSE program

#### **Products/Results:**

- Trained middle school teachers participating in the Seattle School District TAS curriculum in how to conduct their classes’ long-term research projects using the SSE boat, science equipment, and instructors

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Turning Middle School Students into “Real” Marine Scientists: An Integrated, Hands-on Approach to Science Education**

- Achieved a good understanding of scientific methods
- Demonstrated two parallel methods of inquiry-based learning for the teachers: one that was largely classroom based and one that was mostly field based
- Did student presentations at their schools
- Sent out information about the project in a newsletter

#### **Challenges:**

- Did not hold a program in the fall and one in the spring; both were held in the spring because of the timing of the funding notification and inability to find teachers

#### **Successes/Strengths:**

- Found that the two programs are compatible
- Achieved a solid understanding of the scientific method and experience by the students designing their own research projects through the TAS program
- Had the skills enforced and expanded upon when the students did the SSE programs

#### **Number of People Affected:**

Directly – 60

Indirectly – parents, colleagues of teachers and peers of students, 1500 people on the Salish Newsletter’s mailing list, and 60 teachers who receive information from Truth about Science

### **Wake Robin Virtual Visitation Project**

**Grant Number:**  
NE-97058801

**Sponsor:**  
Longview School District

**Project Coordinator:**  
Ann Cavanaugh  
Executive Director, Student Learning  
Support Department  
Longview School District  
2715 Lilac Street  
Longview, WA 98632  
(360) 575-7007

**EPA Funding:**  
\$9,935  
FY 2003

**Match Funding:**  
\$5,000

**Focus:**  
General Environmental Education

**Target Audience:**  
Students and Teachers

**Purpose:**  
To purchase equipment and train teachers to connect classroom learning to the local environment

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Wake Robin Virtual Visitation Project

#### Goals:

- Provide access to the Wake Robin Outdoor Learning Center for every classroom in the district through the purchase and installation of scientific monitoring devices
- Train teachers in using inquiry to connect classroom lessons to real data
- Develop critical thinking and problem solving as students study stream conditions, plant and animal life, and the impact of human development on the site over time
- Connect students to the natural world regardless of weather conditions or field trip funding

#### Methods:

- Train project staff to emphasize inquiry, analysis, and problem solving strategies
- Help project staff use the strategies in their classrooms
- Conduct a workshop for all district science and math teachers
- Encourage project staff to share experiences and lesson plans from the pilot phase

#### Products/Results:

- Used technology that allowed any classroom access to the site from anywhere at anytime
- Installed a weather station
- Purchased and installed a camera
- Posted data to the Web site
- Collected, monitored, and analyzed the data after school to

make sure systems were workable

- Visited the site and used equipment as part of the experience
- Completed preparations for offering a two-period advanced Environmental Science class
- Planned an Inquiry Institute for administrators and teachers
- Used site during the summer

#### Challenges:

- Had difficulties in getting the right technology
- Had formal teacher training occur at a slower pace because of other priorities

#### Successes/Strengths:

- Allows any classroom individual to virtually access an 82-acre watershed area in Southwest Washington at any time
- Generated data and information became essential components of meaningful learning through inquiry and investigation
- Included students in every aspect of the project

#### Number of People Affected:

More than 1,000, including students, teachers, principals, parents, and school board members

#### Tips From the Grantee:

##### DO:

- Careful research for any technology that is planned to be used.

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Wake Robin Virtual Visitation Project

- Choose the right people – empower teacher leaders to implement the project.
- Use partnerships.
- Keep the school board informed, engaged and wanting more.
- Be sensitive to system stresses – use existing requirements to promote training and use.
- Link to research and essential academic requirements – answer the “why.”
- Be true to the integrity of the project – do it right, do it well, and do it to institutionalize and sustain.
- Use students to develop and improve the project, pilot, and material.
- Have a central office champion to navigate and support through district systems and to identify linkages and additional resources.

#### **DON'T:**

- Push through activities just to meet deadlines.

### Washington State University Spokane CityLab After-School Environmental Science Camps

**Grant Number:**  
NE-98046101

**Sponsor:**  
Washington State University

**Project Coordinator:**  
Dr. Sylvia Adams Oliver  
Washington State University  
601 W. First Avenue  
Spokane, WA 99201  
(509) 358-7635

**EPA Funding:**  
\$6,238  
FY 1999

**Match Funding:**  
\$5,262

**Focus:**  
General Environmental Education

**Target Audience:**  
Middle School Students and  
Teachers

**Purpose:**  
To provide students and teachers at Shaw and Glover Middle Schools in Spokane with the technology and resources required for hands-on experience in science

**Goals:**

- Increase student access to science and math academic enrichment activities leading to a better understanding of environmental health issues within their communities
- Provide inquiry-based environmental instructional materials to be disseminated for use in other after school science camps and regular classrooms

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Washington State University Spokane CityLab After-School Environmental Science Camps

- Train teachers in inquiry and problem-solving instructional strategies to facilitate incorporation of the environmental instructional materials into science class curriculum

#### Methods:

- Coordinate a one-day intensive training workshop for teachers to receive instruction
- Hold six-week after school science camps
- Disseminate findings by students to community members through posters, letters, and local media coverage

#### Products/Results:

- Created a totally interactive curriculum where students and teachers used inquiry methods to learn about environmental issues
- Had students participating in the science camps keep data notebooks, produce posters, and give presentations to family and friends
- Used real scientific equipment to learn about water and soil quality and the effects of lead on people and the environment
- Learned instructional strategies for teaching environmental studies in their classrooms

#### Challenges:

- Recruiting students for the environmental camps and for most of the after school science camps was difficult
- Had only eight students start out the first camp and ended up with four
- Discovered that there was a mix-up in communications about the program purposes; students had been referred for academic remediation and they lacked some of the skills needed to fully participate in the camp

#### Successes/Strengths:

- Held family night at the end of the camps
- Were a big success and allowed students to demonstrate different labs they worked on and present posters prepared for presentation to the public
- Had students indicate they enjoyed the camps
- Held successful teacher-training workshop
- Received comments from teachers that they especially appreciated working on an environmental theme, and the materials and laboratory methods could be used in their classrooms

#### Number of People Affected:

Directly – 12 students and 40 teachers

Indirectly – the teachers will impact thousands of students in the future



# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Washington's Wacky Wildlife Web Quest

**Grant Number:**  
NE-82853401

**Sponsor:**  
State of Washington Department of  
Fish and Wildlife

**Project Coordinator:**  
Michelle Tirhi  
State of Washington Department of  
Fish and Wildlife  
600 Capitol Way North  
Olympia, WA 98501-1091  
(360) 902-2200

**EPA Funding:**  
\$29,500  
FY 2000

**Match Funding:**  
\$13,040

**Focus:**  
Ecosystem/Habitat

**Target Audience:**  
Students

**Purpose:**  
To educate students about  
Washington's diverse wildlife and  
potential impacts of humans on  
wildlife habitat (the environment)

**Goals:**

- Foster students who are more informed and have critical thinking skills necessary to make better environmental decisions as adults

- Produce individuals who are more knowledgeable of the wildlife and wild lands in Washington and understand human interactions with the environment

### Methods:

- Develop an interactive, animated educational game to be accessed through the Internet

### Products/Results:

- Created a total of 470 Web pages for the game
- Received input from volunteers, Washington Department of Fish and Wildlife employees, and the project lead
- Made the game fully functional on the Web at <http://wdfw.wa.gov/quiz> (instructions - <http://wdfw.wa.gov/quiz/help.html>)
- Prepared a flyer to promote the Web game
- Distributed promotional items such as sports bottles, buttons, key chains and mouse pads

### Challenges:

- Encountered some graphical or functional errors that had to be corrected
- Was delayed in posting the Web game to the Washington Department of Fish and Wildlife Web server

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Washington's Wacky Wildlife Web Quest

**Number of People Affected:**  
Indirectly – undetermined number of

students and teachers accessing the game on the Washington Department of Fish and Wildlife web server

### Wenatchee School District First Grade Science Field Experience

**Grant Number:**  
NE-97978701

**Sponsor:**  
Wenatchee School District

**Project Coordinator:**  
Dr. Jeanine Butler  
Wenatchee School District  
235 Sunset Avenue  
Wenatchee, WA 98801  
(509) 663-8161

**EPA Funding:**  
\$10,146  
FY 2004

**Match Funding:**  
\$34,566

**Focus:**  
Ecosystem/Habitat

**Target Audience:**  
First Grade Teachers and Students in  
the Wenatchee School District

**Purpose:**  
To develop and produce curriculum  
for integrated classroom lessons and  
field activities, to provide teacher  
training to use the curriculum, and to  
purchase supplies needed

### Goals:

- Use existing environmental education curriculum to develop a region-specific science field experience for all district first grade students
- Address the need to conserve and protect remaining shrub-steppe habitat in eastern Washington
- Provide in-service training to first grade teachers to increase both their knowledge of botany and curriculum instruction skills, through the use of examples from local shrub-steppe native plant communities
- Provide instruction to first grade students using district botany curriculum, supported with a field experience

### Methods:

- Create the district-wide first grade science field experience as a permanent curriculum component
- Produce and/or purchase audiovisual materials
- Conduct all-day training for the teachers
- Provide a two-month botany unit of classroom pre-work and field experience at a shrub-steppe preserve

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### **Wenatchee School District First Grade Science Field Experience**

#### **Products/Results:**

- Researched and developed classroom lessons and supplemental audiovisuals for classroom, library, and music teachers
- Held all-day training for the teachers that included adult-level learning about shrub-steppe botany and an introduction to the new lessons and materials
- Learned, before going on the student field experience, about common native plants in the shrub-steppe eco-region through a series of classroom lessons linked to the "New Plants" botany used district-wide in first grade
- Researched and developed field lessons, coordinated with partners, arranged transportation, scheduled, and implemented the three-day experience
- Led students from nine schools on a 4 ½ hour Shrub Steppe Hill Hike

#### **Challenges:**

- Will create a 'rainout' plan

#### **Successes/Strengths:**

- Embraced a vision to connect classroom science curriculum to the local landscape of the watershed and cultural community
- Built an interdisciplinary, science field experience curriculum, using visual art, music, reading, and writing to teach science concepts

- Taught complementary lessons as part of the pre-work with the library and music specialists
- Received excellent evaluations from the teachers
- Wrote an article that was published in the winter/spring "Clearing" online journal, sharing the K-5<sup>th</sup> grade case history and concept of Science Field Experiences – <http://www.clearingmagazine.org/home.html>

#### **Number of People Affected:**

Directly – 625 1<sup>st</sup> grade students from seven public schools and two private schools  
26 classroom teachers  
7 library specialists  
7 music specialists  
2 Science Resource Center staff  
1 Project Director, Assistant Superintendent  
9 principals  
16 office staff  
24 nurses, truck drivers, substitute teachers, and bus drivers  
12 community or private school volunteers  
60 classroom volunteers  
10 high school student helper volunteers  
34 Wenatchee Valley College students and teachers  
3 partner organization staff  
Indirectly – 20,000 subscribers of the Wenatchee World newspaper  
20 Wenatchee School District administration and school board members  
15 neighborhood families who live

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Wenatchee School District First Grade Science Field Experience

near the field experience site  
150 attendees of the Chelan-Douglas  
Land Trust Spring Social –  
presentation given  
400 members of the Chelan-Douglas  
Land Trust who received the April  
newsletter

### WILD WISE

**Grant Number:**  
NE-97061701

**Sponsor:**  
Woodland Park Zoo

**Project Coordinator:**  
David Hill  
Woodland Park Zoo  
601 North 59<sup>th</sup> Street  
Seattle, WA 98103  
(206) 233-2671

**EPA Funding:**  
\$10,000  
FY 2003

**Match Funding:**  
\$3,334

**Focus:**  
Ecosystem/Habitat

**Target Audience:**  
4<sup>th</sup>-7<sup>th</sup> Grade Teachers and Students

**Purpose:**  
To support WILD WISE Program for  
middle school students

### Goals:

- Teach and inspire middle school students and others about Washington's native wildlife and habitats
- Provide middle school students with the skills needed to transform their observation into data
- Expand students' exposure to, and interest in, potential wildlife career choices
- Facilitate involvement of students and teachers in field studies

### Methods:

- Provide teachers with a comprehensive WILD WISE curriculum packet on Washington's wildlife heritage
- Present programs to students and adults across Washington State
- Distribute programs at venues such as festivals, community centers, and nursing homes
- Provide maps and descriptions for local natural areas customized for each school visited
- Conduct teacher trainings at workshops and conferences

# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### WILD WISE

#### Products/Results:

- Gave 250 presentations in 21 Washington State counties by WILD WISE educators
- Reached 93 schools and 24 community groups
- Presented at three teacher workshops and one conference
- Led 18 field experiences in a variety of natural areas

#### Challenges:

- Presented fewer teacher workshop than planned
- Reaching Tribes was more difficult than planned; time was needed to build relationships

#### Successes/Strengths:

- Reached children who cannot come to the zoo; reached schools in all 39 Washington State counties every two years
- Reached underserved students by offering discounted fees for the program
- Had a zoo outreach program that does not use live animals

- Focusing on native species and inspiring action is a unique approach for a zoo outreach program
- Reached one Native American tribal school, one "All-Tribes" group, and coordinated with one Tribe that has no tribal school
- Reached children through day camps and other groups that serve youth
- Believed WILD WISE presentation fosters a connection between students and the natural world around them
- Agreed that the presentation enhances students' understanding of Washington wildlife, habitats, field observation skills, and conservation practices
- Agreed that WILD WISE lessons in the free teacher curriculum packet helped them integrate the teaching of several subjects such as writing, art, science, and geography

#### Number of People Affected:

Indirectly – 11,148 students, teachers, and community members

### Youth Agricultural Conservation Training Project

#### Grant Number:

NE-97006401

#### Sponsor:

Sound Farmers Education  
Foundation

#### Project Coordinator:

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Sound Farmers Education  
Foundation  
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# Washington

## 1999 - 2004 Environmental Education Grant Summaries

### Youth Agricultural Conservation Training Project

#### EPA Funding:

\$15,800  
FY 2001

#### Match Funding:

\$12,240

#### Focus:

Agriculture

#### Target Audience:

Future Farmers of America and 4-H Youth

#### Purpose:

To increase public awareness and knowledge of pollution from small scale agriculture

#### Goals:

- Educate youth working on livestock projects about non-point pollution coming from agriculture
- Learn about Best Management Practices and natural resource protection for use on youth's own family farms

#### Methods:

- Hold classes
- Conduct demonstrations
- Take youth on field trips
- Hold regional training days

#### Products/Results:

- Developed a Resource Conservation Plan for the South Kitsap High School FFA school farm

- Conducted a tour of farms and creeks
- Held a Mega Monday 4-H event to train youth
- Developed a mailing list of participants and interested individuals
- Held training seminar for youth and parents participating in 4-H projects

#### Challenges:

- Had disappointing turnout in trying to develop a youth advisory committee due to lack of time and interest

#### Successes/Strengths:

- Having students trained brought information home to family farms
- Received feedback that the "Mega Monday" 4-H event and the "Ag in the Classroom" events were well received
- Have seen the benefit from the ag-science training days which has resulted in students having first hand experience in correcting known water quality issues on the FFA school farm
- Have begun work on a plan to fund a school farm Best Management Practices program

#### Number of People Affected:

Directly – 646  
Indirectly – 6,750