

**Environmental Education**

**FAST FACTS**

# Out & About



## Environmental Education Comes of Age

*Service programs support FWS and school goals*

BY JANET ADY



RYAN HAGGERTY/USFWS



NANCY STREETER/USFWS

*Above:* Students in Service environmental education programs gain skills in scientific methods which can improve test results.

*Left:* Students exposed to the Service through environmental education programs may choose a career in conservation.

Service employees who use environmental education to protect and conserve wildlife have a distinct and exciting window of opportunity. We have been invited, indeed directed, to step up our education efforts.

At the Conservation in Action Summit held at NCTC in 2004, environmental education was a top action item; many speakers emphasized the urgent and critical importance of education. Then, at the Conservation Education Summit in December 2004 which drew a landmark gathering of state wildlife agencies, state directors passed a resolution making conservation education a top priority.

These summits are defining moments for environmental education. Combined with other

actions, such as establishing a needs assessment to identify gaps in refuge education programming and refuge regional environmental education specialists, they challenge environmental education professionals and supporters to build on past successes and more fully integrate education into Fish and Wildlife Service work.

Education programs can, and should, support specific Service resource issues. In the Pacific Region, for example, effective environmental education programs have helped to restore endangered species. The Slow the Flow watershed education program at Don Edwards San Francisco Bay NWR focuses on water conservation in relation to the refuge salt marshes and their inhabitants, such as

the endangered California clapper rail. They also support major initiatives, such as the Lewis and Clark traveling exhibit.

Nationally, the Shorebird Sister Schools (SSSP) program uses shorebirds as the “hook” to pique students’ interest not only in the birds, but in wetlands conservation and restoration. The students are able to post field observations of shorebirds on the SSSP Web site and gauge their entries against others posted by working biologists.

Participation in “real” science and math and teacher workshops are ways FWS education programs address the current education crisis. American students test below their peers from other industrialized nations in math and science. Teachers are reluctant to teach science lessons because of lack of training and experience in science and science education. Service environmental education programs can help address these needs.

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**In 2004:**  
69 refuges had Environmental Education programs, either on or off site, or both

- 62 of these refuges had on-site EE programs
- 48 of these refuges had off-site EE programs

4 fisheries stations had Environmental Education programs

55 refuges had teacher workshops, either on or off site, or both

- 44 of these refuges had on-site teacher workshops
- 40 of these refuges had off-site teacher workshops

2 hatcheries had teacher workshops

5,416 teachers participated in on- and off-site programs

- 4,149 participated in on-site programs
- 1,267 participated in off-site programs

96,773 students participated in on- and off-site programs

- 63,609 were involved in on-site programs
- 33,164 were involved in off-site programs

50,000 students participated in fisheries Environmental Education programs

88,505 adults participated in on- and off-site programs

- 81,969 participated in on-site programs
- 6,636 participated in off-site programs

Dozens of refuge and hatcheries had an Environmental Education focus on their Web sites

UPCOMING THEMES

- SUMMER: Cooperative Conservation
- FALL: Volunteers

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Out&About

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- Outreach
- Accomplishments
- Trainings & Workshops
- Announcements
- Q & A
- Letters to the Editor
- Outreach Resources

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# Birding by Sound in Idaho

*Sound Safari a resounding success*

BY STEVE BOUFFARD

For those of us who can see and are used to walking outside whenever we like, it's hard to conceive what it is like to be blind. People with visual impairments are among the most sedentary groups of otherwise healthy individuals. Imagine how it would feel if you were confined indoors day after day, rarely having the opportunity to get out and enjoy nature. What would a few hours outdoors mean to these people who are often so restricted?

Sound Safari, which provides an outdoor experience crafted for the blind, has opened doors for many people with visual impairments. For many, Sound Safari is a treasured outing, something they eagerly anticipate each year. It's hard for me to describe my enthusiasm for this exciting educational program. Think about what would it mean to you, as a tour leader, to be able to share the wonder of nature with such a deprived group? After my first Sound Safari someone said, "Thank you so much. No one has ever done anything like this for us before." I quickly realized that they just need someone to open the door to nature.

We started Sound Safari at Minidoka NWR in 2002. The concept is simple: develop a guided walk in safe terrain that is interpreted with many auditory cues. "Listen, above you, to your right, you can hear a Bullock's oriole. He's telling other male orioles 'this is my territory—keep out.'"

From the moment I began to see the positive results, I've been trying to spread the word.

I began spreading the word with my Winter 2003 article in *Out & About*. Since then, I've gotten more proactive. I've spoken at the Watchable Wildlife Conference, to the International Crane Foundation (ICF), and to the Outreach Education Department at NCTC. I contacted Roy Rodriguez from Pharr, Texas, who independently started a similar program in the Rio Grande Valley called "Outa Sight." A group from ICF wants to start the program in Siberia at Muraviovski Nature Reserve. Several participants in the Watchable Wildlife Conference indicated that they were going to initiate the program. The Outreach Director from the Fairbanks Morse Museum of Natural History in Vermont found my ARS (Refuge Accomplishment Reporting System) report on a Web search and is also going to start the program.

Closer to home we're looking to spread Sound Safari to several more refuges and towns in Idaho this spring. We are going to try a night expedition for owls, frogs, crickets, and bats this summer. Idaho may be the first state to incorporate listening sites, as well as viewing sites, in the upcoming Idaho Bird Trails.



KATHI STOPHER, USFWS

Refuge Manager Steve Bouffard leads a typical group on a Sound Safari at Minidoka NWR.

If you're looking for a new outreach activity for your station, this is it. It's easy to do, takes little or no extra funding, and you probably already have everything you need on site. You'll need about .25 to .5 mile of smooth walkway in bird habitat with benches for rest stops. It's easy to lead; even if you don't know the bird calls you can still appreciate their beauty. Start by finding some local partners who deal with people with visual impairments. We depend on them to find participants and transport them to the site. We deal with a few independent living groups, but commissions for the blind and schools for the blind are other options to explore. We've developed some program guidelines we can share with you; just contact me. A fringe benefit to the Service is the positive media attention it attracts. "We've been covered by National Public Radio, had live and taped TV reports, and several print articles, and with ARS, it's on the Web, too."

Sound Safari brings a whole new group of visitors to the refuge. And they bring their families. It inspires participants and creates a whole new group of nature lovers. And nature lovers grow into nature protectors. ●

Steve Bouffard is the refuge manager at Minidoka NWR.

Female Bullock's oriole.

# Outreach to the Old World

*Russian teaching sabbatical an enriching outreach opportunity*

BY WILLIAM BECKON

Outreach in Russia is a humbling experience; they are so smart and you have to be very quick to meet them at their level! That is the main impression I brought back as I returned to my work as an environmental contaminants specialist with the Fish and Wildlife Service in Sacramento. I had



Log cathedrals on Kizhi Island, across Lake Onego from Petrozavodsk.

just spent an extraordinary sabbatical year as a Fulbright Scholar, teaching biology at St. Petersburg State University in the great aristocratic capital of old imperial Russia. Learning about and probing foreign biology students' attitudes regarding local and global environmental challenges offered me some rewarding opportunities to learn about conservation outreach in Russia and share some of our own successes and failures.

I concluded that, although resources have been scarce, Russians have created rich learning environments with impressive results. Most of my students in Russia ranged from very good to genius-level compared to university students I have taught elsewhere. This was challenging

as well as gratifying: struggling to keep ahead of my students, I found I had to prepare especially diligently for my classes. Contrary to stories I had heard from other Americans, I found Russian students to be very knowledgeable, inquisitive, assertive, intellectually creative, and eager to generate discussion in class. For example, in my toxicology class, when I started to lecture about Paracelsus and his assertion that "the dose makes the poison," I was startled to find that all the students already knew more than I did about Paracelsus and his many contributions to science.

Volunteering to participate in a State Department outreach program (known as "American Corners") gave me an opportunity to get out of the big city and meet face to face with representatives of government and conservation agencies in outlying regions. After delivering the keynote address at an environmental conference in the medieval kremlin of the ancient city of Novgorod, I had the rare privilege of participating in a lively televised debate between Russian environmental and government representatives. Rare privilege, I thought, until I found myself in the uncomfortable position of trying to explain why the U.S. has not signed the Kyoto global warming treaty, which has now been signed by Russia.

I found a very engaged and interactive audience when I gave a presentation on U.S. environmental law amid the log buildings of Petrozavodsk on the shores of beautiful Lake Onego in the Republic of Karelia, once part of Finland. I learned that the environmental problems of Russia lie not so

much in the laws but in the gap between the words and the implementation of the laws, a discrepancy that is certainly not confined to Russia.

One of the foundations of good outreach is effective communication. My efforts to teach myself Russian from CDs proved woefully inadequate to the demands of teaching university-level classes in Russian. My endeavor was saved by two favorable circumstances. First, many young Russian academics have a good grasp of English. Second, I have the extraordinary good fortune to be married to a Russian professor of linguistics, specializing in Russian-English interpretation. My wife, Dr. Anna Beckon, interpreted for my outreach presentations and for the classes I taught that were required parts of the Russian curricula.

Russia is experiencing a difficult period of experimentation and transition and the Russian system seems to remain inadequately responsive to environmental problems. However, Russia is evolving, and I have optimism for its future, born of my observation that the Russian people I met are much more intelligent and environmentally concerned than their system appears to be. As somewhat of an educational "ambassador," I discovered that we have much to learn from them. ●

*Dr. William Beckon is an environmental contaminants specialist in the Sacramento Fish and Wildlife Office.*



W. BECKON/USFWS

The St. Petersburg State University Biology Department building was constructed in 1726, originally to house the government of Peter the Great.



W. BECKON/USFWS

Top: An albatross scrutinizes Beckon's toxicology class at St. Petersburg State University. Above: Beckon's students often talk about environmental issues. This student is taking his first written examination.



# Environmental Education Program Roundup

Region and CNO offer diverse programs

BY JEAN HARRISON



USFWS

Students participating in the Kids in the Creek program learn about stream ecosystems.



Horned grebe.

J & K HOLLINGSWORTH

**T**alk with employees around the region and you'll find them using a variety of environmental education (EE) programs—from small, local efforts to those that are national. Several people have also adapted their programs to fit specific field station needs. Take a look at this roundup of regional and CNO efforts for inspiration. Note that local contacts are provided to answer your questions.

If you have a special interest in environmental education programs, you'll be pleased to know that a draft environmental education charter for a new Promises team will be presented for

to a broader audience, the team would recommend methods for conducting non-formal environmental education with youth groups, community-based service organizations, elder hostel groups, and other organizations. The group would also work with NCTC to analyze and develop teacher training through workshops and continuing education credits. *For more information, contact Jean Harrison/Region 1 Visitor Services at 503/872-2700.*

### Kids in the Creek

The Kids in the Creek curriculum is the culmination of several years' work by a group of partners including the Forest Service, Natural Resources Conservation Service, Chelan County Conservation District, Future Farmers of America, teachers from several high schools, and staff from the Leavenworth National Fish Hatchery.

The program is a hands-on, interactive experience for high school students that meets the Washington state academic learning requirements. Students don waders to spend a day in a stream investigating its ecosystem. Working in small groups led by resource specialists, students spend about one hour at each of the five learning stations: Invert Investigator, What's in that H<sub>2</sub>O?, Riparian Rx, Habitat Sense, and Watershed Wonders.

Teachers apply to participate in the program and, upon being selected, receive training. In addition to field worksheets, the curriculum includes pre- and post-work activities. *For more information, contact Susan Faw Faw at 509/548-7641.*



Students study barn owls and pellets as part of the Earth Stewards program.

USFWS

approval to the Leadership Development Council in June 2005. Although not a separate recommendation in *Fulfilling the Promise*, this proposed team is part of the P9 and P10 recommendations.

Upon approval, the charter would empower the team to focus on developing a national environmental education program that integrates curriculum-based programs and focuses on long-term partnerships with schools and other organizations. The team would develop a handbook with policy, standards, goals, and objectives of the Refuge System's environmental education program, as well as recommendations, case studies, resources, and references. To reach out

### Rhythms of the Refuge

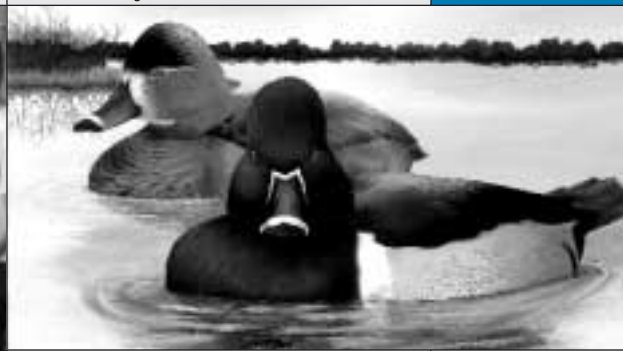
A guidebook rather than a curriculum, *Rhythms of the Refuge* can be used by refuges and hatchery field stations. The program includes two books; the first is a guide for developing an EE plan, programs, and products. It begins by having the user look at the station's mission and resources to develop goals and objectives for the program. Then it guides the user through the process of defining the target audiences and crafting themes and activities for them. The second book is a toolbox that includes examples of activities that can be used or adapted for individual sites. Developed by Dee Emmons (R6) as part of her masters project, the product has been field tested and reviewed, and is being finalized. *For more information, contact Dee Emmons/Region 6 at 303/236-4392.*

### Shorebird Sister School Program (SSSP)

Good news for anyone who uses or may be interested in this popular program: the educational guide, *Explore the World with Shorebirds!*, is now available. This new tool joins a number of existing resources for this international program that covers six shorebird flyways from Asia and Australia to the Atlantic. As part of the SSSP, students track shorebird migration with updates from scientists, students, and shorebird enthusiasts following shorebird movements across the globe.



A class learns about waterfowl diseases through Earth Stewards. The class looks on as a Service biologist performs a necropsy on snow geese, while explaining the necropsy process and his field investigation into the cause of mortality.



KERISSA NELSON

decisions we make in our daily lives can help resolve problems.

For more information, contact Ann Bell/Pacific Island Refuges at 808/792-9532, or visit [www.hawaiianatolls.org](http://www.hawaiianatolls.org), [www.navigatingchange.org](http://www.navigatingchange.org), and [www.pvs-hawaii.com](http://www.pvs-hawaii.com).

A pair of ring-necked ducks will be featured on the 2005-2006 Junior Duck Stamp. The design for the new stamp was painted by 17 year-old Kerissa Nelson of Grantsburg, WI.

**Junior Duck Stamp Conservation and Design Program**

The purpose of the Junior Duck Stamp Conservation and Design Program (JDS) is to “teach conservation through the arts.” Students from kindergarten through high school are encouraged to get involved in this

Other resources include the international Web site at <http://sssp.fws.gov>; Shorebirds Educator’s Guide curriculum; educational kits (available on loan); a student activity guide, Shorebirds–

Migratory Super Heroes available at [birdday.org](http://birdday.org); and an active listserv that connects students and teachers around the world. For more information about SSSP, to borrow a kit, or request a CD of the new education guide, contact Regional SSSP Coordinator Sue Thomas at 503/231-6164. For more information about using SSSP, contact Sheila McCartan/Nisqually NWR at 360/753-9467 or Ken Clarkson/Don Edwards SF Bay NWR at 510/792-0222.



the latest trip, crewmembers aboard Hokulea communicated by satellite phone with students in Hawaii and the continental U.S. The canoe is the vehicle for the educational messages that are explored through the accompanying curriculum.

This project is a vision inspired by the Polynesian Voyaging Society and shared by private organizations, state agencies, and federal agencies. By interweaving science and cultural messages, the partners make powerful emotional connections to create an awareness of the health of our native ecosystems and demonstrate how

**Navigating Change**

Navigating Change is focused on raising awareness and ultimately motivating people to change their attitudes and behaviors to better care for the Hawaiian islands and ocean resources.

To raise awareness of the environmental decline in the Hawaiian islands, the Polynesian Voyaging Society has sailed the double-hulled canoe Hokulea throughout the islands carrying the Navigating Change message. During



Hokulea is a recreation of a Polynesian double-hulled voyaging canoe. The Hokulea crew spoke with children across the country each day via satellite and provided a wealth of information on three Web sites.

*From small local efforts to those that are national, employees around the region are using a variety of EE programs.*

innovative, curriculum-based program through the annual Junior Duck Stamp Art Competition offered in each state. The curriculum is recommended for both science and art classrooms, helping to meet the state environmental education requirements for schools.

Many of the curriculum’s exercises encourage students to interpret the natural world through artistic expression. Other activities provide students with opportunities to learn about all migratory birds, with an emphasis on ducks, geese and swans; the mysteries of bird migration; habitat needs; and ways to help conserve these species. The lessons help students improve their science and art skills, including field observation, data gathering, and

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# Mapping the Marsh

Investigation program a “game boy” for young trackers

BY KEN CLARKSON



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“I know what that is. That’s doggie dookie!” shouts 11 year old Timothy as the slide flashes on the screen. He is actually partially correct. It is a slide of common gray fox scat, a fellow member of the Canine family.

We are teaching the students animal scat identification as part of a predator monitoring project involving the


He holds the unit up to the sky while dancing in a circle. “Position Acquired” reads the screen. He runs off down the trail to catch up with the rest of his tracking team.

Something may be eating the endangered California clapper rails in the salt marsh of East Palo Alto. Refuge biologists recently surveyed this marsh and found that numbers are down from recent years. These fifth grade students from the East Palo Alto Charter School, which lies on the border of an urban wildlands interface, are participating in a pilot program with the refuge to study urban predators in the salt marsh and report their data to biologists of the refuge.

The students are using methodology based on the national *NatureMapping Program*, which trains citizens to identify species and report locations of sightings. The refuge is partnering to implement this environmental education and monitoring program, so far with great success. The students are using a variety of techniques to identify predators on trails of the salt marsh. They record live sightings of predators during monthly hikes. They identify, measure, and photograph tracks, scat, and sign using soot plates, sand traps, plaster casts, and digital motion detection cameras. The students record their data using handheld Palm Pilots with attached GPS units equipped with *Cybertracker* software. This icon-driven software was originally developed for illiterate South African Bushmen trackers. Tap on the animal track icon to enter footprint measurements. Tap on the carcass icon to enter kill site

data. And yes, tap on the dookie icon to enter scat data. “This is just like Game Boy!” noted one of the students.

Each month, a group of 20 local volunteers trackers from the Institute of Nature Awareness (IONA) help train the students in tracking and software use. Field equipment and field guides are being purchased from funding provided by the Nature of Learning Grant, which encourages educators to use refuges as outdoor classrooms.

When the hike is done, we hotsync the Palm Pilots and gather with the students to discuss and edit the blinking data dots that cover the computerized map projected in the front of the classroom. The goal of this project is to provide valuable data to help conserve endangered salt marsh species. It is providing information that these fifth graders can share with their community about the threats of urban wildlife predation — knowledge that can help them better protect local resources. Their participation in the *NatureMapping Program* also links them with a growing number of students nationwide who are working with professionals in scientific field investigation. For more information on how to participate in the *NatureMapping Program*, visit <http://www.fish.washington.edu/naturemapping/>. For more information on *Cybertracking*, visit <http://www.cybertrackerworld.com>. 

*Ken Clarkson is an environmental education specialist at San Francisco Bay NWR Complex.*



USFWS

Top: NatureMapping gives children real life experience in making sightings and collecting data. Above: Volunteers help teach the students how to enter CT cybertracker data.

*NatureMapping Program* on lands owned by the city of Palo Alto and managed by the Don Edwards San Francisco Bay National Wildlife Refuge. Three months later Timothy is standing on a levee in the middle of a salt marsh looking at a fox track. He is holding a Palm Pilot with an attached GPS unit. He taps the icon on the screen showing a silhouette of a dog, representing the Canid family. He scrolls down the list until he finds the common gray fox. He taps the screen.

# Using Art to Educate

*Salmon sculpture and illustrations instruct and inspire*

BY TAYLOR PITTMAN

The Ecological Services world is not a conventional environmental education milieu where the primary focus is children. Our audiences are adults, people employed by state agencies, Tribes, counties, cities, university extension programs and others that work on the regulatory side of natural resources.

When it comes to new ideas, this is a tough crowd to sell. They are busy, knowledgeable, and dedicated to the bottom

TAYLOR PITTMAN/USFWS



A naked salmon sculpture bears sticky notes with written messages about the future.

line of conservation, which usually means getting to “the facts” as quickly as they can. It is a rare moment when I have the opportunity to speak to my own agency, its partners, and or others involved in species recovery in a way that piques their curiosity, inspires appreciation for people and the natural world, and surrounds them with beauty and heart. The Shared Salmon Strategy Summit (SSS) was one such rare opportunity.

The Shared Salmon Strategy is a region wide collaborative effort to inform those involved with the recovery plans for Puget Sound chinook, Hood Canal summer chum and bull

trout from the ground up. Residents within the 14 watersheds in Puget Sound are becoming deeply involved in writing what will eventually be the official recovery document for these ESA-listed threatened fish. Watershed by watershed, year by year, Tribes, farmers, fishermen, environmentalists, loggers, and their state and federal agencies are fashioning a plan that, hopefully, will restore an important cultural and natural resource that has become depleted in recent years. Over the six years of working in this effort, it has become obvious that if we want fish and people to coexist in Puget Sound, then more than facts and scientists are required. It will take every one of us doing our part.

To elicit the consensus and commitment needed for the hard work ahead, the SSS steering committee held a summit for two days in January at the brand new Tacoma Convention Center in downtown Tacoma, Washington. The Summit itself was a strong educational effort. However, those of us working with the SSS steering committee knew we needed the energy, connectivity, and creativity of our artistic community to balance the science-oriented gathering.

Many artists had participated in the Soul Salmon project in 2002 when Tom Jay and his wife, Sara Mall Johani, crafted 100 six foot long fiberglass salmon to be surfaced by different artists throughout the Sound region to raise money for salmon recovery. Several of these fish were solicited for presentation, along with photographs, poems, and original sculpture. An AmeriCorps



TAYLOR PITTMAN/USFWS

In the midst of the conference hall a bronze salmon head emerges next to a mounted poem.

crew from Belfair, Washington assisted in the construction of a 25-foot-long dry streambed in the foyer of the Convention Center where several sculptures were placed, along with 100 drawings from high school students who had earlier submitted artwork to the Governor’s office on the theme “Why Salmon Matter.” The work of assembling and presenting this salmon-centric setting occurred between 5:00 a.m. and 7:30 a.m. the first day of the Summit — and it was beautiful!

More than facts, the appreciation, camaraderie, and commitment to the long-term goal of people and salmon co-existing in Puget Sound was well represented by artists, scientists, volunteers, politicians, and children willing to join their voices and needs.

We often look for a seminal statement that evaluates the implementation of our educational objectives and captures

TAYLOR PITTMAN/USFWS



An AmeriCorps crew from the Hood Canal Watershed project works on a streambed at the entrance to the Tacoma Convention Center.

the spirit of the endeavor. Public comments about this artistic endeavor provided an apt testimonial: “We are all students of the salmon; we are all salmon people.”

*Taylor Pittman is an information and education specialist at the Western Washington Fish and Wildlife Office.*

## Meet Field Notable Nancy Curry

*Vision spanning decades shapes EE program*

BY JEANNE CLARK



SANDRA RANCOURT



SANDRA RANCOURT

A volunteer helps students using microscopes to examine marsh life.

crayon drawings and thank yous,” says Curry, “making it clear that what we were doing was really valuable.”

Curry’s next move to the Washington Coastal Refuges Office in Port Angeles gave her even more exposure to volunteers and shaping education programs at the highly visited Dungeness NWR. “All of these experiences convinced me environmental education was a priority,” Curry recalls. “I finally had my chance in 1991, when I returned to Turnbull as manager. Initially, our administrative support assistant conducted the programs and the rest of us helped with tours and talks.”

Sixty-two groups and 2,580 students were going through the program — and the effort has grown from there. A former high school teacher and volunteer created an ecosystem-based, self-facilitated program and got a Friends group established. “He helped us receive \$90,000 in grants to get the program started. With help from a fulltime contract program coordinator, by 1995 we served 180 school groups and 4,635 students. Then we developed four outdoor sites to bring learning outdoors.”

A year later they were seeing 247 school groups and 5,760 students and 260 teachers went through workshops. “We then brought on two Student Conservation Association (SCA) positions to help handle the demand,” explains Curry. “You pay a stipend to SCA—today about \$3,500 for a 12 week intern.”

Still, the demand outstripped the refuge’s capacity to respond. “In 1999,

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SANDRA RANCOURT



This refuge sign underscores educational partnerships at Turnbull NWR.

Nancy Curry graduated from Washington State University with a degree in wildlife biology in 1976. She was working a temporary job as a bio tech at Turnbull National Wildlife Refuge, where one of her collateral duties was to give education programs to visiting groups. She really liked what the Turnbull refuge manager was trying to do with education and liked working on the refuge so much she told a maintenance worker “I’m going to become a refuge manager.” He promptly informed her “You can’t, you’re a woman.” Curry recalls, “That was like the gauntlet being dropped, and I do love a challenge!”

Curry realized that if she wanted a job in refuges, she’d probably have to

come in the back door. Her first permanent job was, again, at Turnbull. She took a job as a refuge clerk with the promise that in two years, she could apply for other jobs. During that time, she was exposed to all types of refuge work, including environmental education.

In 1981 Curry moved across the nation into a manager trainee program in Region 3, then onto Desoto NWR. “We had huge public use,” said Curry. “There was the visitor center with the Steamboat Bertrand exhibit and a large annual migration of snow geese. That was the first time I worked with volunteers.”

She moved on as an assistant refuge manager at Cibola NWR, where she started her own environmental education programs. “I’d get this fan mail of



# Volunteers the Heart of Refuge Program

*Environmental education services expanding at Turnbull NWR*

BY NANCY CURRY

The staff and volunteers of Turnbull National Wildlife Refuge have been providing environmental education activities to students in the region for more than 30 years. A program that started out in the early 1970s with a handful of schools using the refuge in the spring has expanded to a year around volunteer-facilitated program servicing up to 10,000 students on and off the refuge. This trend underscores the important role played by environmental education at Turnbull.

Originally Refuge staff provided the programs as a collateral duty. Demand was low and manageable with 250 to 2,500 students coming annually. As workloads for refuge staff increased and community demands for environmental education grew, it became increasingly difficult to rely on collateral duties to manage this program.

We highly valued this fledgling education effort and wanted to keep the program going, so we turned to the community for help. They responded by forming a Friends Group and forging new partnerships. We do receive occasional grants to contract with an environmental education coordinator, but it is truly volunteers who facilitate most of our education and outreach activities.

In 2000 we added a volunteer coordinator position to the staff, allowing us to recruit and train volunteers for all refuge programs. We rely heavily on AmeriCorps and Student Conservation Association (SCA) volunteers, whose stipends are funded by the refuge's Friends group, to handle our environmental education program. While other volunteer assistance can be sporadic,

these funded positions provide long term commitment and continuity for our programs.

After AmeriCorps and SCA members' term of service is completed, we are challenged to find good replacements who will maintain our momentum. Although each new volunteer needs extensive training to sustain the quality of our program, each brings unique talents and insights that add to its evolution and improvement. Last year, our volunteer facilitators worked with 8,000 students and did outreach with over 12,000 people at fairs and festivals.

Volunteers contribute to the success of our program in other ways. Over 100 volunteers tackled the renovation of our aging environmental education facility, turning it into a showcase classroom, museum, and Friends bookstore. A volunteer has been painting a beautiful instructional mural in the classroom. Every year Scouts, 4H members, and students replace the bark on our environmental education trails. These trails are used by the public and thousands of students who learn about the refuge on guided nature walks. A beautiful shelter was erected near refuge headquarters by Inland Northwest Associated General Contractors of America. This group spent several weeks building the shelter at no cost to the government.

In all, the Turnbull staff has formed over 28 partnerships that support its environmental education program. Long-term partnerships are essential to the success of any refuge. Our liaison with Eastern Washington University allows operation of Turnbull Laboratory for Ecological Studies, a unique research



SANDRA RANCOURT

and teaching facility located on the refuge. Our biological program works closely with the university conducting studies on the ecosystem. Annually, 3,000 students take college level courses at the lab.

At the heart of these efforts for the past five years is Sandy Rancourt. She originally came to us as a bio tech. After receiving a masters degree through the SCEP program, we were able to hire her as a supervisory park ranger. Some of her duties include interpretation,

AmeriCorps member Brian Walker and students conduct a water quality study.



SANDRA RANCOURT

environmental education, volunteer coordination, and liaison work with our Friends group. In addition to writing grant proposals to fund her position and various programs, she has nurtured many of the aforementioned partnerships that support our education efforts. Having a strong and capable person at the helm for these efforts has been indispensable.

It doesn't take hundreds of volunteers to make a program succeed. A few creative, energetic people, and good leadership, can make a difference. ●

*Nancy Curry is the refuge manager at Turnbull National Wildlife Refuge.*

Student Conservation Association volunteer Pamela Johnson and students have a look at the macroinvertebrates they just netted from the wetland.

# Youthful Partners in Conservation

*Scouts benefit from and contribute to FWS Programs*

BY BEN HARRISON



ORA DIXON/USFWS/NCTC/DEO

A Fish and Wildlife Service biologist helps Boy Scouts earn their fishing merit badges at the 2001 Jamboree.

The U.S. Fish and Wildlife Service has been conserving the nation's fish and wildlife resources for over a century with a myriad of partners. Two long-term but very "youthful" partners are the Boy Scouts of America and Girl Scouts of the United States of America. Since 1910, conservation has been an integral part of the program of the Boy Scouts of America. The Girl Scouts of the United States of America have been

participate in wildlife viewing, environmental education, and service projects. In return, these youths have conducted hundreds of conservation projects on national wildlife refuges and national fish hatcheries. Projects have ranged from clearing unwanted vegetation, planting trees, restoring habitats, and erecting nesting boxes to maintaining trails, clearing trash, and installing fencing and interpretive panels.

Numerous Service employees have volunteered to be merit badge counselors and participated in instruction of outdoor activities, including camping, fishing, hiking, bird watching, water safety, and outdoor cooking. Service employees have also volunteered to share their knowledge, passion, and enthusiasm with members of both of these organizations by hosting Eagle Scout leadership projects and youth festivals, providing boat safety and hunter education, and assisting at national gatherings, such as Boy Scout Jamborees and National Girl Scout Conventions.

Nearly 500 Service employees actively help Boy Scouts in a variety of ways, from serving as merit badge counselors to acting as members of the Boy Scout National Conservation Task Force. Some 300 Service employees actively assist the Girl Scouts in a variety of leadership capacities, such as serving as troop leaders or training consultants. To learn how you can participate, contact your local Boy Scouts at [www.Scouting.org](http://www.Scouting.org) or Girl Scouts at [www.girlscouts.org](http://www.girlscouts.org) or Linking Girls to the Land at [www.epa.gov/linkinggirls](http://www.epa.gov/linkinggirls). ●

*Ben Harrison is Region 1 Boy Scout/Girl Scout Coordinator in the Regional Office.*

## More on Scouts

*The purpose of the Boy Scouts* is to promote, through organization and cooperation with other agencies, "...the ability of boys to perform duties for themselves and others; to obtain training in scout craft; and to teach scouts patriotism, courage, self-reliance, and kindred virtues..."

*The mission of the Girl Scouts* is to "offer an informal education and recreation program designed to help each girl develop her own values and sense of worth as an individual," and the Girl Scout Law states "I will do my best...to protect and improve the world around me... to use resources wisely..."

*It is the policy of the Service* to encourage and support employees who work with and lend support to boy and girl scouts at appropriate local, regional, and national levels. Service employees are encouraged to foster communications with scout leaders and offer guidance and support for scout programs and activities, especially those related to the conservation and management of our Nation's natural resources.



ANNE FEIGE/USFS COLLECTION

Girl Scouts learn about animals in their local environment from a Fish and Wildlife biologist.

*The Boy Scouts and Girl Scouts have been a positive force in conservation and environmental efforts.*

dedicated to helping girls build character and gain skills for success in the real world since 1910.

Boy Scouts, Girl Scouts, and their leaders represent a unique national audience which can favorably impact natural resource management now and in the future. Growing up with words such as ecosystem and biodiversity, these youths recognize the need for, and the benefits of, conserving natural resources and understand that we all must work together for the betterment of the land, forests, wildlife, air, and water.

The Boy Scouts and Girl Scouts have been a positive force in conservation and environmental efforts. Youths in both of these organizations have given distinguished public service by helping to conserve wildlife, energy, forests, soil, and water. Past generations of Boy Scouts and Girl Scouts have been widely recognized for pursuing conservation projects in their local communities.

For decades, Region 1 refuges and hatcheries have provided opportunities for Boy Scout and Girl Scout groups to

# Get Wet With Kids In The Creek

*Field experiences form the basis for learning*

BY CORKY BROADDUS



USFWS



USFWS



CORKY BROADDUS/USFWS

It all began with a committed group of partners concerned about how rapid growth and development would affect local water quality. The Wenatchee River Watershed was one of several needing improved management on a Department of Ecology list. An essential part of that task focused on education. A team of energetic natural resource specialists and educators from the Leavenworth National Fish Hatchery, Chelan Conservation District, Wenatchee National Forest, and Future Farmers of America stepped forward to tackle the challenge. The result: the increasingly popular watershed education program, *Kids in the Creek*.

Each May, hundreds of high school students and educators from a variety of distant watersheds participate in three one-day programs. Through the course of the past few years, resource specialists have developed a complex curriculum packed with pre-work and post-work, field activities, and evaluation methods to investigate the stream ecosystem. Teachers offered valuable

teaching tips and techniques for the biologists, botanists, and other instructors. We then developed student worksheets, conducted teacher workshops, and established Leavenworth Hatchery's Icicle Creek as the natural setting for the program.

*Kids in the Creek* is based on exploring and experiencing fun activities with resource specialists, such as Invert Investigator, What's in that H<sub>2</sub>O?, Riparian Rx, and Habitat Sense. Students arrive early in the morning, put on a pair of chest waders, and break into groups of 12. Each group selects a

name, such as mayflies, riffles, or shredders, to begin their day in the creek. One hour is allocated for each of the four learning stations divided by a short lunch break. At the end, the groups converge for Watershed Wonders, a final session devoted to a discussion of how their activities related to real-life scenarios.

*Kids in the Creek* can be adapted to many age groups and venues. Careful logistical planning covers important details, such as stream site selection, bus access, distance between stations, and creature comforts; this helps maintain the connection between kids and nature. For more information and a copy of the newly released curriculum, contact Susan Faw Faw at 509/548-7641. ●

*Corky Broaddus is supervisory information and education specialist at Leavenworth National Fish Hatchery.*

**Frank and Franny Fish help kids learn and have fun at the Wenatchee River Salmon Festival.**

*Top: Kids in the Creek offers children a chance to study water samples. Left: Cold Mountain Indian School students take advantage of Leavenworth's education programs. Above: Students learn about fish habitat as part of Kids in the Creek.*



SUSAN PETERSON

# Announcements

## Lewis & Clark Traveling Exhibit

The Pacific Region's awesome new traveling advertisement for fish and wildlife is ready to take to the road. All of the design work for the vinyl wrap on this Sprinter cargo van was done in-house by Matt How in Visitor Services. The van will transport the region's Lewis & Clark Bicentennial traveling exhibit, which includes a 20 x 30-foot tent, interpretive panels with interactive components, audio-visual capability, and a stage area for live wildlife presentations.

The bicentennial presents an unprecedented opportunity to reach



NOEL JOHNSON/USED BY PERMISSION

This replica allows visitors to visualize the size and grandeur of the original native houses and its refuge location provides them with views of the original Native American landscape. It was built with \$575,000 in grants and donations from nearly 50 project supporters, and more than 100 volunteers turned construction into a labor of love. The Chinook Tribe plans to use the plankhouse for ceremonies, gatherings, and cultural renewal. The refuge will open it to the public and school groups as a classroom to learn about the natural and cultural heritages of the refuge. Volunteers are training to act as docent tour guides, interpreters, and cultural demonstrators. For more information, contact Yvette Donovan at 360/887-4106.

## Refuge and Tribe Sign Agreement

The Nisqually Indian Tribe and the Service signed a landmark cooperative agreement on February 23, 2005 that paves the way for the Tribe and Nisqually NWR to work as partners on the Nisqually River delta. The project will restore habitat vital to the recovery of Puget Sound salmon and provide public access to a restored estuarine marsh via a new 2.5-mile loop trail.

The partners will share management of 310 acres of tribal land that lie within the refuge boundary. The agreement guarantees that much of the Nisqually delta will be managed as a complete ecosystem despite different land owners. Contact Jean Takekawa at 360/753-9467 for more information.

large, targeted audiences eager to learn about the rich history of fish and wildlife associated with Lewis and Clark. It is our chance to tell the American people what has changed over 200 years and what the Service is doing today to manage and restore species, habitats, and landscapes. Service employees, retirees, and volunteers are invited to help with the exhibit. AmeriCorps volunteer Heather Becker in External Affairs (503/231-6297) is the exhibit coordinator.

## Plankhouse Opens Door to Visitors

Traditional Chinookan drumming and singing sounded across the Ridgefield NWR on March 29, 2005, signaling the opening of the door to the Cathlapotle Plankhouse to the public. The event offered a stirring link to explorers Lewis and Clark who, on this date 199 years ago, visited the Chinookan town of Cathlapotle, located about a mile away from the new plankhouse.



MATT HOW / USFWS

**Pacific Region's Habitat Fun Packs** California's Central Valley Habitat Joint Venture has published its Habitat Fun Packs in downloadable form on the Web at [www.calwaterfowl.org/fun\\_packs.htm](http://www.calwaterfowl.org/fun_packs.htm). Three grade levels are available (K-3, 4-6 and Junior-Senior High School). The free curriculum focuses on waterfowl and wetlands.

**Pacific Region's The Lewis and Clark Expedition: Discovery Educator's Resource Guide** The Pacific Region and National Park Service developed science-focused education materials that bring to life Lewis and Clark's observations and documentation of the natural history of the American West as it was 200 years ago. Order this 180 page guide for \$21.95 from the Fort Clatsop Historical Association at [www.nps.gov/focl/catalog.htm](http://www.nps.gov/focl/catalog.htm).

**Environmental Education at NCTC and FWS** The Conservation Library at the Service's National Conservation Training Center hosts a Web site of resources for environmental education at <http://library.fws.gov>. The Service's national Web site also has lots of links to education materials at [www.fws.gov/educators/educators.html](http://www.fws.gov/educators/educators.html)

**Aquatic Invertebrate Conservation Program** The Xerces Society has an extensive volunteer training program to teach citizens how to collect and use macroinvertebrates as stream monitors. It also offers the CD-ROM *Stream Bugs as Bio-monitors: A Guide to Pacific Northwest Macroinvertebrate Monitoring and Identification* and a companion field guide. Ordering information is available at [www.xerces.org](http://www.xerces.org).

**Environmental Education Clearinghouse** The U.S. Environmental Protection Agency sponsors this on-line tool to locate resources in the Pacific Northwest. Go to <http://yosemite.epa.gov/r10/clearinghouse.nsf>.

**California Regional Environmental Education Community (CREEC) Network** The best source for environmental education resources in California is at [www.creec.org](http://www.creec.org).

**Environmental Education Associations** All of these organizations offer annual conferences, training and access to resources.

- North American Association for Environmental Education – [www.naaee.org](http://www.naaee.org)
- Association for Environmental and Outdoor Education (California) – [www.aeoe.org](http://www.aeoe.org)
- Hawai'i Environmental Education Association – <http://heea.edgateway.net/index.csp>
- Idaho Environmental Education Association – [www.idahoee.org](http://www.idahoee.org)
- Nevada Natural Resource Education Council – <http://nnrec.org>
- Environmental Education Association of Oregon – [www.eeao.org](http://www.eeao.org)
- Environmental Education Association of Washington – [www.eeaw.org](http://www.eeaw.org)



Students participating in the Earth Stewards Program count and identify invertebrates they have collected from the marsh. The students enjoy this combination of field and laboratory experience.

**EE Program Roundup**

CONTINUED FROM PAGE 5

interpretation; creative and critical thinking; and problem solving and artistic expression. For more information about the JDS program, contact Dawn Grafe, Oregon Coastal Refuges at 541/867-4550.

**Earth Stewards and the Nature of Learning**

The Earth Stewards program, originally developed by the Service, was adopted and modified by the Keystone Learning Center. The program is now called the Nature of Learning (TNL).

TNL is a community-based conservation education program that uses public lands as outdoor classrooms to promote greater understanding of conservation issues. The standards-based curriculum joins teams of teachers and resource specialists to focus on a specific complex topic, such as wetlands, endangered species, or neotropical migratory birds.

After building an understanding of conservation issues, students put their awareness into action by planning a community project, such as tree planting to control erosion or monitoring

a local stream. Central to each TNL site is a partnership involving a neighborhood school, natural resource professionals, and community members who create site-specific goals and an action plan.

Get an assessment of Earth Stewards, which is still in use, and TNL from Marilyn Gamette/Sacramento NWR at 530/934-2801 or Dawn Grafe/Oregon Coastal Refuges at 541/867-4550.

USFWS



Students examine wetland plants, such as cattails, during an Earth Stewards field trip.



RYAN HAGGERTY

**Three Backpack Programs at San Diego Refuges**

Sweetwater Safari introduces students to the wonders of Sweetwater Marsh NWR and to the endangered species in their own backyards. This science-based field experience for fourth grade students meets State of California standards for language arts, science, and social studies. The program is a self-guided backpack adventure that can be adapted for slightly younger or older students. The curriculum includes four field activities: Plankton Catch and Identification, Bird Identification, Evidence of Animals, and Plant Identification. Backpacks include field guides and all the equipment students need.

Tijuana Estuary Explorers is another backpack field experience that meets California third to fifth grade standards for math, science and language arts. Staff at the Tijuana Estuary NWR guide students and teachers in four field activities: Salt Marsh Plants, Going Birding, Build a Watershed, and Plankton Catch. Like Sweetwater Safari, students work in the classroom prior to and after their field experience to relate what they've learned to their everyday lives.

Habitat Heroes is an education/restoration program that targets invasive plant species and pollution at the South Bay Refuge. The project brings together elementary, secondary, and post secondary students, volunteer groups, and members of the community to understand and address the growing threat of invasive species to the refuge. Based on habitat investigations in the field, students

Once considered abundant, the California least tern has suffered dramatic declines due to human encroachment and destruction of its nesting habitat.

J & K HOLLINGSWORTH



Sweetwater Marsh NWR is home to the endangered least tern, Belding's savannah sparrow, and light-footed clapper rail, which provide rich material for fourth grade students and their teachers.

CONTINUED ON PAGE 15

**Environmental Education** *CONTINUED FROM PAGE 1*



RYAN HAGGERTY/USFWS

Conservation education is a high priority for both the National Wildlife Refuge System and state wildlife management agencies.

ADRIANA CAFFERATA



Students interact with biologists in the Shorebird Sister Schools Program, gaining exposure to scientific methods.

The current focus on state and national learning standards allows the Service to support and facilitate teachers' jobs. Our education programs can meet these standards while accomplishing our own mission. Guidance from The Nonformal Environmental Education Programs: Guidelines for Excellence, developed by the North American Association for Environmental Education, ensures the quality and suitability of nonformal environmental education programs like our own.

Other national trends include a move toward on-line environmental education training. NCTC and the University of Wisconsin offer an on-line Environmental Education Program Evaluation course; on-line courses in Project Wild and Project Learning Tree are also available, among many others. Imagine! What was once heralded as "hands-on" learning now takes place, quite effectively, in cyberspace.

A national professional certification program for environmental educators is underway. This meshes well the National Wildlife Refuge System's recent adoption of a standard Environmental Education Specialist classification and position description. The recognition that environmental education is a

profession, with associated training and experience requirements, raises the bar for staffing and program quality.

With more students participating in quality conservation education programs, more students will choose and support conservation related careers. That will help our agency inspire greater participation as we nurture the next generation of potential Service employees.

Theodore Roosevelt recognized the critical need to preserve our nation's wildlife and its habitat as he laid the groundwork for what has become the National Wildlife Refuge System. Franklin Roosevelt later acknowledged that education is the key to a successful democracy. Let ours be the generation of Service employees that takes both of those visions to heart, and combines them into action.

If we wield all the tools environmental education provides, we can focus on the "big picture" by crafting vibrant programs to foster scientific literacy, develop skills, and instill habits to enable society to work democratically to solve conservation challenges. We can help wildlife, students—and our country—in the process. ●

*Janet Ady is the chief, Division of Education Outreach, at the National Conservation Training Center.*

UPCOMING EVENTS

MAY

1-31

**American Wetlands Month**  
WHERE: Nationwide  
CONTACT: 800/284-4952  
[www.iwla.org](http://www.iwla.org)

14,21

**Wings Over Central Oregon**  
WHERE: Bend, OR (14th),  
Madras, OR (21st)  
CONTACT: 541/383-5300  
[www.fs.fed.us/r6/centraloregon/](http://www.fs.fed.us/r6/centraloregon/)

14

**Walk on the Wildside**  
WHERE: Elk Grove, CA  
CONTACT: Amy Hopperstad  
916/775-4416  
[www.fws.gov/pacific/stonelakes/wow.htm](http://www.fws.gov/pacific/stonelakes/wow.htm)

JUNE

4-12

**National Fishing Boating Week**  
WHERE: Nationwide  
CONTACT: [www.nationalfishingandboatingweek.org](http://www.nationalfishingandboatingweek.org)

26

**Carson NFH 7th Annual Open House**  
WHERE: Carson, WA  
CONTACT: 509/427-5905

SEPTEMBER

9

**Carson NFH 7th Annual Disabled Fishing Day**  
WHERE: Carson, WA  
CONTACT: 509/427-5905

10

**Carson NFH 7th Annual Kid's Fishing Day**  
WHERE: Carson, WA  
CONTACT: 509/427-5905

24

**Spring Creek NFH Annual Open House**  
WHERE: Underwood, WA  
CONTACT: 509/493-1730

16-18

**Wings of the Warners Festival**  
WHERE: Alturas, CA  
CONTACT: 530/233-3572  
<http://modoc.fws.gov>

16-18

**Wenatchee River Salmon Festival**  
WHERE: Leavenworth, WA  
CONTACT: Corky Broadus  
509/548-6662 ext. 250  
[www.salmonfest.org](http://www.salmonfest.org)

UPCOMING TRAINING

JULY

10-14

**Association for Conservation Information**  
WHERE: Ogden, UT  
CONTACT: [www.aci-net.org](http://www.aci-net.org) or  
Robin Thomas  
[RobinThomas@utah.gov](mailto:RobinThomas@utah.gov)  
801/538-7303

**Meet Field Notable Nancy Curry**

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we discovered AmeriCorps,” recalls Curry. “This urban-focused service liked our rural education opportunity so much that they gave us two people. Then we were paying about \$3,000 but receiving about \$12,000 worth of value. We’ve had at least one AmeriCorps person every year since.”

Sandy Rancourt, the refuge’s current volunteer and environmental education coordinator, first came to Turnbull as a temporary biologist and then as a SCEP student. “We explored every funding possibility to create a permanent position

SANDRA RANCOURT



AmeriCorps member Mindy Howard instructs students inside the EE classroom.

for Rancourt. We initially received \$28,000 from a RONS project and have relied on programmatic funding and grants since.

After three decades, Curry’s vision regarding education and volunteers has fully matured. There are now education programs tied to each season of the year. There is a high demand to participate, with some schools driving three hours one way to attend. The numbers speak for themselves. In 2004, the refuge reached more than 11,250 students. Close to 600 volunteers help with a range of refuge activities, donating up to 20,000 hours annually.

“I have always believed in environmental education, even when it has been much easier to find other important things to do on the refuge,” reflects Curry. “If we hadn’t kept supporting it, if we hadn’t had so many valuable volunteers, this important program could have died out.”

*Jeanne Clark is editor of Out & About.*

**EE Program Roundup**

CONTINUED FROM PAGE 13

collect and distribute information, and work with refuge volunteers, habitat restoration experts, FWS staff, and educators to remove non-native species and cultivate and plant native species.

*For more information, contact Barbara Simon/San Diego Refuges at 619/691-1262.*

**Students Benefit from Volunteers at McNary NWR**

Thanks to a dedicated cadre of volunteers, education programs have been designed and administered at the McNary NWR Environmental Education Center since 1997. The programs are

*The programs are designed to inspire a sense of wonder, love, and appreciation of nature and encourage creative ways of knowing and expressing experiences in nature.*

designed to introduce students to the diversity of wildlife and habitats at the refuge; educate them about ecology and the interdependent web of life; inspire a sense of wonder, love, and appreciation of nature; and encourage creative ways of knowing and expressing experiences in nature.

Third and sixth grade students, largely from a rural farming community with a high Hispanic population, visit the refuge to engage in hands-on and inquiry-based science activities and creative expression. Back in the classroom, their field experiences are followed with related science, math, writing, and art activities. The EE programs are tied directly to the grade level expectations (GLEs) or learning goals of the State of Washington.

*For more information, contact Art Shine at 509/545-8588 or visit <http://www.nwr.mcary.wa.us/>*

*Jean Harrison is division chief for Visitor Services and Communications in the Regional Office.*

SANDRA RANCOURT



The footings are laid for Turbull’s Environmental Education Center.

**Doing More With Less** CONTINUED FROM PAGE 16

DIANA KING/USEFWS



Alice Elshoff, president of Malheur NWR’s Friends group, helps students examine owl pellets during a refuge event.

you must do more with less, be self-reliant, and creatively use your available resources. Though we lack the volunteer and resource base common in urban areas we have found that a willing staff and a small cadre of volunteers are sometimes more than enough to bring effective environmental education experiences to our children.

*Carey J. Goss is a refuge operations specialist at Malheur National Wildlife Refuge.*

# Doing More with Less

*Malheur NWR serves rural students with regular staff*

BY CAREY GOSS



CARLA BURNSIDE/USFWS

DIANA KING/USFWS



*Above:* Local ranchers participate in the Harney County Fair Parade, a community educational experience.

*Top:* Children enjoy Ranching Heritage Day at the Historic Sod House Ranch on Malheur NWR.

Imagine yourself at a refuge where you can see miles of wide, open spaces with high mountain ranges and rim-rock, where you can listen to tens of thousands of geese lifting off or see hundreds of cranes displaying in meadows.

Now consider that Malheur National Wildlife Refuge sits among the 10,000 square miles of land in Harney County, which boasts a population of only 7,000 adults and children. Cattle ranching is a way of life here and children learn responsibility by working on family ranches at a young age. Out of necessity, schools and the education process in this rural county are unique. The refuge's effort to provide environmental education is likewise unusual.

In Harney County, the school district serves less than a thousand children in

grades K-12. There are seven rural schools with less than hundred students and a dormitory school where children stay during the week, then return home on the weekends to work on their family ranches. Though schools are small and often far for the refuge, many work with the refuge to teach children about conservation and wildlife.

The refuge lacks a dedicated environmental education position or education facilities. Instead, we rely solely on a supportive staff and two valuable resources — the Benson Memorial Museum, which houses nearly 200 mounted bird specimens, and the large museum lawn that overlooks a rich expanse of marshes.

Normally, schools visit the refuge in groups ranging from 10 to 80 students;

any group larger than 10 generates a call for help among the staff. When this occurs, the refuge calls upon two administrative assistants, an archaeologist, a biologist, a habitat specialist, and various volunteers to work with the students. On occasion, our fire and maintenance staff hear and respond to the cry for help.

Despite our limitations, the refuge manages to visit the schools, using conventional tools such as pelts, bones, feathers, mammal-casting kits, and visual software. Thanks to a local volunteer, we also bring bird masks that he has created to encourage students to make bird calls and act like a bird.

When you live a rural lifestyle connected to the land, you often find that

CONTINUED ON PAGE 15

## WHAT'S NEW?

**Media Tip Sheets:** The Service's Office of Public Affairs and the Refuge System Branch of Communications are producing a bi-monthly tip sheet that gives national news reporters solid leads to a range of stories — from events to science and wildlife management to accomplishments and "people" features. The tip sheet will be posted on the FWS Web site and the national NWRS Web site, e-mailed to our national news media listserve, and distributed to hundreds of producers who contribute programming for the Outdoor Channel. The goal is to have at least one Refuge story from each region as well as stories from each Service program in each issue. Send your stories to Susan Saul by e-mail or call 503/872-2728 by the first day of June, October, December, February, and April.

**Hatchery Is Building Visitor Center:** The Museum at Warm Springs will feature the Warm Springs National Fish Hatchery throughout the busy summer months. The reason: the hatchery is designing a visitor center that meshes the cultural significance of salmon with the science of salmon. The visitor center is scheduled to open

mid April 2006 (the same time Lewis & Clark Corps Discovery II visits the Museum). Check out the announcements on page 12 to learn more about the Service's Lewis & Clark van.

**Freebies for Youth Anglers:** Leavenworth National Fish Hatchery is working all of the angles to lure anglers to the hatchery. Professional instruction, a free rod and reel, a free T-shirt, and an angling adventure awaits those who register for the C.A.S.T. for Kids Fishing Day to be hosted by the hatchery on June 4, 2005.

**New Cultural Web site:** A new cultural resources Web site illustrates how the Service preserves important cultural sites, including a Civil War-era plantation and segments of the Lewis & Clark Trail. It also provides regional cultural resource contacts. Make time to visit <http://historicpreservation.fws.gov>.

**Disability Mentoring Day:** The Regional Office in Portland recently hosted a Disability Mentoring Day for students and job-seekers with disabilities. Five participants identified job areas of interest, were assigned Service employee mentors from those job areas, and spent a half a day in the mentors' work center. The participants had a chance to ask questions, share their portfolios and resumes, and learn more about the job they selected and the mission of the Service. FWS Workforce Recruiter Jerry Wells helped them enroll in CARES and provided informational packets about education and career opportunities with the Service.