The Nature Watch Years
1997 & 1998

An Annual Report of the
Cordova Ranger District, Chugach National Forest

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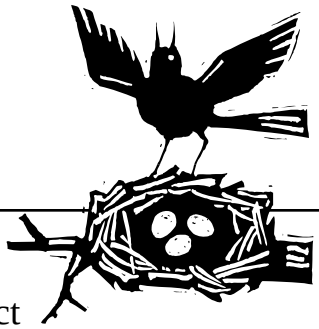

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The Cordova Ranger District is committed to maintaining the highest standard of professional land management and collaborative stewardship of the incomparable public resources entrusted to them.

The district manages approximately two million acres of the Chugach National Forest in southcentral Alaska. Encompassing the wetlands of the Copper River Delta and the marine wilderness of eastern Prince William Sound, the district's management focuses on fish, wildlife, recreation and research. This management is guided by Congressional direction under ANILCA which mandated that the Copper River Delta be managed primarily *"for the conservation of fish and wildlife and their habitats."*

An important component of the district's efforts is ***Nature Watch***, the district's interpretive and education program. This program serves to weave together the needs of the public, the resource and the agency.

The district's ***Nature Watch*** program has been nationally recognized for its innovated and proactive approach to implementing the Forest Service's mission of *"caring for the land and serving people'*. The district's program is characterized by a heavy reliance on community partnerships, creative funding, and integration with other district programs.

In 1997 and 1998, the district's ***Nature Watch*** program completed a wide diversity of interpretive and educational projects. From publishing children's books, to staging plays, to organizing community festivals, the program strives to serve the complete spectrum of stakeholders.

The successful 1997-'98 program earned over $70,000 in competitive grants, leveraged FS funds by 250% through partnerships and was multi-funded by FS funds. During this period, the program managed a visitor information site which contacted over 175,000 visitors. Additionally, the program provided over 9,000 hours of educational contact for area citizens and visitors. In 1997, the program leader received the Gifford Pinchot Award as the year's outstanding Forest Service interpreter.

The following report highlights many of the successful projects accomplished over the last two years.

Located in the eastern half of the Chugach National Forest, the Cordova Ranger District manages approximately two million acres of magnificent public land in southcentral Alaska. Perched along the margin between the wetlands of the Copper River Delta and the marine wilderness of Prince William Sound, the district balances a diverse mix of resources and uses.

From horizon to horizon the Copper River Delta stretches out in a vast tapestry of muskeg, sloughs and ponds, backed by towering snow-capped mountains and ice-blue glaciers. Encompassing 700,000 acres of pristine wetlands, the delta is the largest contiguous wetland on the Pacific Coast of North America.

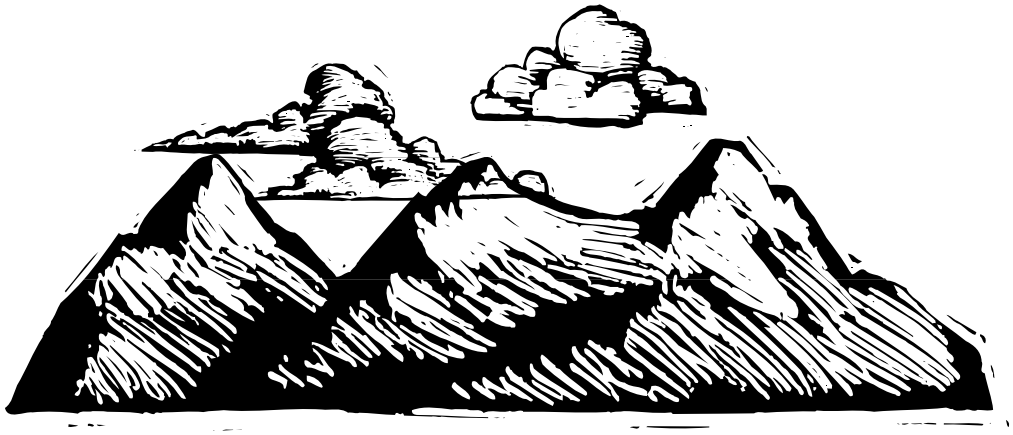
This productive coastal wetland supports a rich and varied array of fish, wildlife and human uses. Brown bears stalk the tidal marshes where trumpeter swans nest, coho salmon spawn in the groundwater-fed streams, and mountain goats scale the rugged peaks.

Much of this incomparable wetland ecosystem is managed by the Chugach National Forest. Recognizing the significance of the Copper River Delta to the fish and wildlife resources of Alaska, in 1980, the Alaska National Interest Lands Conservation Act (ANILCA) stipulated that the delta be managed primarily for the "conservation of fish and wildlife and their habitats".

The rich tidal mudflats of the wetland/ocean margin are a vitally important resting and refueling stop for millions of shorebirds during spring and fall migrations. In early May, the tidal flats of the Delta shimmer with the activity of hundreds of thousands of shorebirds. As many as 5 million shorebirds rest and feed on the tidal flats, considered the most important shorebird staging area in the Western Hemisphere.

To the east of the Copper River Delta lies Prince William Sound. This three million acre region is a wonderland of carved glacial fjords and temperate rain forests. The Sound harbors the highest concentration of tidewater glaciers in North America. Humpback whales, orcas, sea otters and harbor seals inhabit its protected waters. Brown bears, mountain goats and Sitka black-tailed deer thrive on the heavily forested islands.

Although vast and seemingly untouched, Prince William Sound supports a wide variety of human uses. Commercial fishing of pink, coho, chum and sockeye salmon is an economic mainstay of the Sound's communities. Logging on private lands (Alaska Native Corporation in-holdings) is a growing activity. And increasingly, visitors from throughout the world, are travelling to Prince William Sound to experience its unparalleled scenic and wildlife resources.



Settled in green forested lowlands, the sleepy fishing community of Cordova is the gateway to the Copper River Delta. With one of the five largest boat harbors in the state, Cordova's commercial fishing is the mainstay of this friendly community's economy.

Cordova Alaska is a small, isolated community on the eastern shores of Prince William Sound. Surrounded by the second largest National Forest in the United States, the Chugach National Forest, Cordova lies on the margin between the largest contiguous wetland on the Pacific Coast of North America and the pristine marine wilderness of Prince William Sound.

It is home to 2,300 year-round residents, about 25 per cent of whom are Alaska Natives (Eyak Indian and Chugach Eskimo) or immigrants from Asia and South America. Its summer population swells to over 4,000 at the height of the fishing season. Cordova's physical location provides tremendous opportunities for learning about both terrestrial and marine ecosystems. There are few places left in the world that can boast of such a variety of pristine habitats.

Attracted by the spectacular natural and cultural wonders of the area, researchers from throughout the nation and the western hemisphere flock to the area to conduct basic and applied research. Two research organizations, the Copper River Delta Institute (a Forest Service research station) and the Prince William Sound Science Center (a private, non-profit research organization) have been established in Cordova in recent years.

Yet, with the seemingly abundant natural and cultural resources of the area, few local children have the opportunity to learn about and discover their unique home. As an isolated community in an isolated state, children in Cordova lack many of the opportunities that other children may take for granted. Children in isolated native villages in Prince William Sound have even fewer opportunities to participate in natural resource conservation education programs.

There is one elementary school in Cordova and a junior/senior high school with a total enrollment of about 400 students. About 25 children are enrolled in a separate homeschooling program. The Prince William Sound Community College (PWSCC) is located adjacent to the elementary school. Although the community is small and isolated, it has attracted talented and dedicated teachers, researchers and others drawn to its environmental beauty and diversity.

Other Sound communities affected by Cordova Ranger District activities include Valdez and Whittier, and the native villages of Tatitlek and Chenega Bay.

Cordova's interpretive program was established in 1991 as a means to meaningfully "link" the natural and cultural resources of the area with our customers. Developed as a partnership between private, state, and federal partners, the program serves elementary and secondary students and adults. It integrates a range of activities into a balanced intepretive program that:

" ✱ Increases awareness, knowledge and appreciation of natural resources and,

✱ Promotes critical thinking skills that enable participants to recognize the complexity of resource issues and to make choices within social, political, scientific, and economic realities; and

✱ Fosters the individual's responsibility to conserve, preserve and wisely use natural resources." (NRCEP Task Force Report, April 1991)

The underlying premise of the program is that cooperation among organizations — through sharing of staff, money and other resources — results in a stronger interpretive program.

Cordova's NRCE program emphasizes the use of experiential learning opportunities to;

✱ Educate local residents about the surrounding ecosystems and their management,

✱ Encourage involvement in the decision-making process on the management and use of local natural resources, and

✱ Promote cooperative educational efforts by private and public organizations

Objectives

The program will achieve these goals by accomplishing the following objectives.

The interpretive program will:

- Foster a better understanding of the local environment through hands-on learning experiences.
- Respond to the needs and concerns of the community.
- Build partnerships and cooperative education programs among private, state and federal entities.
- Demonstrate to area students career opportunities in scientific and environmental study fields.
- Provide a forum where resident and visiting scientists can share their knowedge with students and the general public.
- Establish a community science resource room in a central location which will be available to the public, teachers and students.
- Utilize Project WILD/PLT, Alaska SeaWeek, and Alaska Wildlife Week activities and adapt them to the unique environment of Southcentral Alaska.
- Develop a range of programs and facilities that are accessible to diverse audi ences and interest groups.
- NRCE programs will reach approximately 85% of K-8 children in the region in FY 97, 95% in FY 98.

1997 Budget

In 1997, the NatureWatch interpretive program was multi-financed through the district's fish, wildlife and recreation budgets. Thirty percent of the program's funding was secured through competitive grants, and cost-share opportunities further leveraged agency funds. In some cases, programs eliminated seasonal positions to be able to continue to support the interpretive program. This level of commitment to public service and education is, in the view of the interpretive specialist, unique within Region 10. Cordova's District Ranger and his staff are to be commended for their vision and dedication to our mission of "*caring for the land AND serving people*".

At the beginning of the season, each function worked with the interpretive specialist to identify projects, establish priorities and set expectations. An analysis of the FY 1998 budget is included in the appendix.

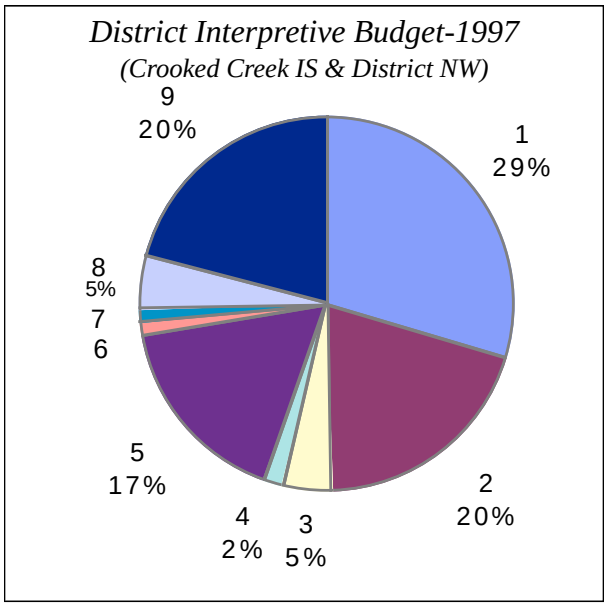


Chart Legend

1. Grants - $38,900
2. Anadromous Fish (NFAF) - $26,000
3. Inland Fish (NFIF) - $6,000
4. Fire (WFPR) - $ 2,000
5. Wildlife (NFWL) - $22,000
6. Minerals (NFMG) - $1,500
7. Timber (NFTM) - $1,500
8. Ecosystem Management (NFEM) - $6,000
9. Recreation (NFRM) - $27,500

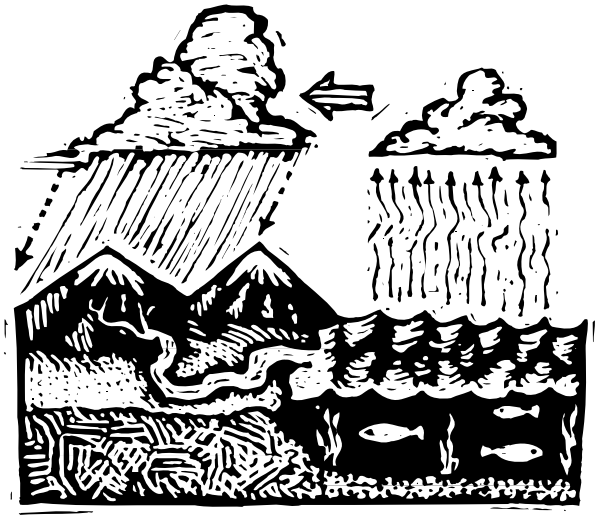
TOTAL - $131,400

Staffing

The accomplishments of 1997 & 1998 *NatureWatch* Interpretive Program could not have been possible without the full participation of all disciplines of the Cordova Ranger District. In addition to vital assistance and support from the wildlife, fisheries and recreation staff, seasonal recreation and biological technicians offered generous and invaluable help. The *NatureWatch* program was invariably a district effort.

The program was also blessed with a talented and committed staff. The following individuals worked in the program and dedicated their hearts and souls to its success.

Sandra Frost – GS 9 Interpretive Specialist,'97-'98
Heather Maxcy – GS 6 Interpretive Specialist, Cordova, '97-98
Kim Kiml – GS 6 Lead Forest Guide, Crooked Creek Information Site, '97-'98
Amy Sayer ('97) , **Jeralee Johnson ('97), Robin Lohse ('98), Andi Burling ('98)** – GS4 Forest Guides, CCIS
Elena LaPella, MaryLou Wilcox, – GS4, (PT) Forest Guides, CCIS
Emily Becker – Interpretive Volunteer, Cordova, winter '97
Scott Schievelbein, Katie Moore – Volunteers, CCIS '98
Heidi Arts, Wil Osborn, James Vest, Seanna Barnes – '97 RAPS students, Cordova



One of the primary goals of the Nature Watch Program is to

Promote cooperative educational efforts by private and public organizations.

One of the major factors in the success of the1997/98 program was the cooperative involvement of a diversity of partners and supporters. Over 25 organizations contributed money or time to the district's program. The partner contribution's leveraged the district budget by 220%. Although over $38,000 of competitive grants were earned in 1997, the majority of the partner contributions were in the form of in-kind services and donated supplies. Partner contributions are listed in the accompanying project summaries.

One exceptional district partner deserves special recognition. The Prince William Sound Science Center (PWSSC) is a private, nonprofit research organization based in Cordova, Alaska. Since 1992, the PWSSC has conducted a comprehensive science education program for Cordovans and residents of Prince William Sound.

From the beginning, the Cordova Ranger District has worked closely with the PWSSC to plan, implement and evaluate a wide range of Natural Resource Conservation Education projects. This cooperation has included direct grants from the district, assistance with developing and securing competitive grants, staffing, materials, and guidance. The programs of the district and the PWSSC are true partnerships and resources and expertise are fully shared between the two organizations. PWSSC's commitment to providing quality educational experiences has contributed greatly to the community and to the district's educational and interpretive programs. The district looks forward to nurturing this exceptional partnership.

Other organizations have joined in planning and implementing the NRCE program in Cordova. These community partners contribute staff support, materials, space and funds. The partners have recently signed a MOU and Participating Agreement to formalize the cooperative work. The following groups are key partners in the district's interpretive and NRCE program;

- Prince William Sound Community College
- Cordova School District
- Chugach School District

Partners who have contributed direct funding to the programs include:

- Alyeska Pipeline Services Company
- British Petroleum
- Skaggs' Foundation
- National Forest Foundation
- ARCO, Alaska Inc.
- USDA Forest Service, NRCE Program

Cordova's interpretive program will yield long-term benefits to the public and the area's resources. Some of these benefits include;

★ The public will gain an increased understanding of local ecosystems and who to contact for additional information.

★ Community residents will be better informed and equipped to participate in the decision-making process of resource management.

★ Hands-on learning experiences and encouragement of questioning help students develop critical thinking skills and provide a lifelong interest in the discovery process.

★ Fun, science-related experiences engender more attentive and enthusiastic students at school and may improve their classroom performance. (In the analysis of the 1995 Iowa Basic Test scores for Mt. Eccles Elementary School, asignificant increase in science scores was noted. The teachers and the Principal, Mr. James B. Bruseth, attribute this improvement to the continuing Cordova Discovery Room program. See enclosed letter from Mt. Eccles Elementary School principal, Mr. James B. Bruseth)

★ Students are exposed to careers in scientific and environmental related fields.

★ Students are exposed to role models of women and minorities in natural resource related professions.

★ The Discovery Room provides a centralized clearinghouse of NRCE information for all community agencies and organizations concerned with NRCE in Cordova.

★ The interpretive program will provide researchers and resource professionals on-the-job training in effective methods of sharing their knowledge with students and adults.

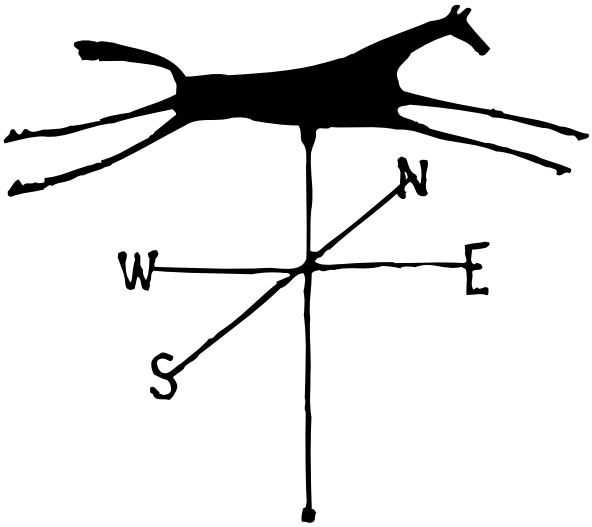
With the support of a broad array of partners and contributors, the future of the Nature Watch program is bright. The district's partners are busily developing a road map for the future. The partners envision a future where;

❄ NRCE goals are fully integrated into youth programs, school curriculum, and agencies' management programs,

❄ The local citizenry is informed and active about resource management issues,

❄ Forest Service units throughout Alaska use Cordova's successes and learn from our failures, and

❄ Visitors from throughout the United States travel to Cordova and Prince William Sound to learn about and discover the unique public resources of the region.



To achieve this future, the district continues to focus our efforts on several emphasis areas.

Regional Outreach.

We plan to continue to extend our services to the Prince William Sound region. The program took a major step toward this goal with the establishment of the Crooked Creek Information Site in Valdez, Alaska. The district also plans to continue our education outreach program and produce regional radio shows, a children's publication and an interpretive tabloid.

Provide a diversity of learning experiences for all audiences.

We will continue to utilize a diversity of media in our efforts to "get the word" out about the public lands we manage. In 1996, the program will develop a series of accessible signs for the Alaganik Slough Boardwalk, a set of interpretive publications, a video and will continue with successful Cordova programs.

Responsive to the needs of the community, resource and agency.

The program will develop ways to serve the needs of district, resource and community by maintaining consistent and open communication and evaluation of our efforts.

Sharing program successes and failures.

The program will continue to network with other FS units in our attempt to share what we've learned from our efforts. Articles will be published in internal and external documents. Yearly program reports will be completed and distributed.

Accountability.

The program will continue to use the "contact hours" standard as a measure to quantify our efforts. We will develop ways to not only measure the quantity of our efforts, but also the quality. District staff will be fully informed of the program's progress and fiscal matters will be responsibly and reliably addressed.

Continue Partnerships.

The program will nurture existing partnerships and develop new ones.

Maintain in the program a sense of wonder.

Created out of a love for the resources we manage, the program will find ways to communicate and share that enthusiasm.

Crooked Creek Information Site

Abstract: *The Cordova Ranger District operated the Crooked Creek Information Site in Valdez, Alaska from Memorial Day to Labor Day, 1997 & 1998. At this site, over 85,000 visitors each year had the opportunity to learn about Forest Service management and the cultural and natural resources of their public lands.*

Partners & Their Contributions

Valdez Convention & Visitors' Bureau	*in-kind*
City of Valdez	*in-kind*
University of Alaska	*in-kind*
Prince William Sound Community College	*in-kind*
USDA-FS, Cordova Ranger District	$56,000

Accomplishments

*Hosted over 85,000 visitors at Crooked Creek Information Site in 1997 and 1998
*Increased ANHA revenues by 60% in 1997.
*Completed site improvements such as planting flowers, painting viewing deck and maintained barrier fence.
*Installed underwater fish camera and used it as an interpretive tool.
*Participated in Valdez Summer Fun Days, Elderhostels and Valdez Gold Rush.
*Coordinated living history interpretive presentations in commemoration of 100th anniversary of the Alaska Gold Rush.

The newest, and most innovative interpretive program on the Chugach National Forest is located in Valdez, Alaska. Perched along the banks of a salmon stream and overlooking an intertidal wetland, the Crooked Creek Information Site is a wildlife watcher's dream. Here, visitors can view spawning salmon, learn about Forest Service management, meet Smokey Bear or purchase an interpretive publication.

Teeming with fish, wildlife, recreation and cultural resources, Prince William Sound is one of the true public treasures of Alaska. Of all the Prince William Sound communities, Valdez—the largest, most accessible, and most visited—is the least served and represented by the Chugach National Forest. Hosting over 200,000 visitors annually, Valdez serves as the major gateway into Prince William Sound. Yet, despite continued community interest in establishing a Forest Service presence, the Chugach was unable to address the community's needs.

In 1994, the Cordova Ranger District established a modest visitor information site at the Crooked Creek salmon spawning area on the outskirts of Valdez. The information site consists of a small trailer filled with exhibits and displays and an Alaska Natural History Association sales branch, a short trail to a waterfall, a salmon-viewing platform, and site development including picnic sites, portapotties and garbage cans. For the last two years, the site was open daily from Memorial Day to Labor Day and is staffed by two professional interepreters and community volunteers.

The project was initially funded through the 1993 President's Initiative-America's Great Outdoors program. In 1994, the District's fish, wildlife and recreation program supported the interpretive effort. Sandy Frost, Interpretive Specialist with the Cordova Ranger District, explained, "It hasn't been easy, or without cost to the District, to take on this new interpretive project. But the response from our visitors and Valdezeans has been so positive that the sacrifices are worth it. This is where the people are and this is what we should be doing. We're looking forward to next year, and doing an even better job!"

Kim Kiml, Lead Forest Guide, has done a remarkable job of managing the day-to-day challenges of establishing a new operation. The interpretive focus of the information site is providing information about the resources and management of Prince William Sound.

In its first year of operation, the success of the Crooked Creek Information Site exceeded all expectations. Over 75,000 people were contacted during the 1994 summer season.

Forest Guide, Jeralee Johnson explains the secrets of salmon biology to visitors at the Crooked Creek Information Center.

Located along the Richardson Highway, the Crooked Creek Information Site attracts over 85,000 visitors each year.

Since that beginning, the site has hosted over 85,000 people each year, for a total of over **400,000** forest visitors!.

During 1997 and 1998, the district focused on making site improvements. The area was revegetated and flowers were planted, interpretive signs were placed at the salmon viewing platform, and a barrier fence along the salmon stream was erected.

For the last two years, in addition to staffing and maintaining the information site, district interpreters have provided additional interpretive programs in Valdez. Presented at the Prince William Sound Community College, these twice-weekly programs addressed such topics as the "Salmon of Crooked Creek", "Bear Safety", and "Leave No Trace Camping". The staff also participated in the three Prince William Sound Community College 1995 Elderhostels by leading hikes and tours of CCIS.

In 1998, the CCIS staff took the lead in organizing a variety of interpretive presentations in commemoration of the 100th anniversary of the Alaskan Gold Rush. The staff designed and crafted replica vintage Forest Service uniforms. These uniforms were used at CCIS, aboard the Alaska Marine Highway ferries and at a number of community events. Accompanied by Smokey Bear and Woodsy Owl, the "gold-rush era forest rangers" were awarded first place in Valdez's Gold Rush parade!

In addition to "looking the part", the staff developed a diversity of educational programs designed to bring the Gold Rush to life for forest visitors. They developed living history presentations and an interpretive display. They also arranged for a variety of "guest" living history interpreters to visit Valdez and Cordova.

For the past five seasons, public support and feedback have been overwhelmingly positive. There has been been tremendous local support, and the program has received many positive visitor comments. The CCIS continues to fill an important niche in Valdez. The District looks forward to improving operations at CCIS in 1999.

Interpretation at the CCIS is simple yet effective -- no high tech exhibits here!

Mary Lou Wilcox repairs our pink salmon speciman *(left)*. Each year CCIS is taken down and stored off-site in Valdez *(above)*. Nicole Wilson works on the collaborative ecosystem mural in the information building *(below)*.

Alaska Ferry Interpretive Program

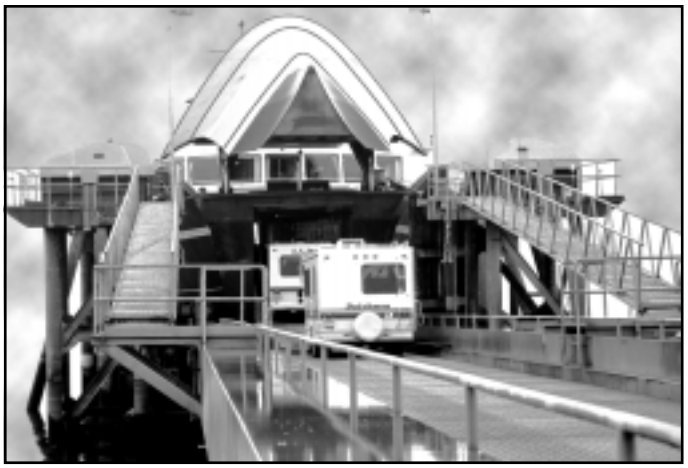
Abstract: *1997 was the first time in the 35 year history of the FS/Alaska Marine Highway partnership that the Cordova Ranger District shared the operation of the ferry interpretive program. Based out of the Crooked Creek Information Site in Valdez Cordova interpreters staffed approximately 1/2 of the ferry runs in Prince William Sound. This successful partnership between the Glacier and Cordova Ranger Districts was continued and expanded upon in 1998.*

Partners & Their Contributions

Alaska Marine Highway System	$23,000 *in-kind yearly*
Unversity of Alaska-Fairbanks	$3,000 *in-kind 1998*
Brett Dillingham	$2,000 *in-kind 1998*
USDA-FS, Cordova Ranger District	$16,000 *yearly*
USDA-FS, Glacier Ranger District	$35,000 *yearly*
USDA-FS, SO - Gold Rush Emphasis	$15,000 *1998*

Accomplishments

*Staffed over 180 ferry runs yearly; contacting approximately 25,000 forest visitors yearly.
*Presented over 400 interpretive programs yearly.
*Developed close, successful working relationship with Glacier Ranger District to implement program.
*Organized ferry interpretive training for forest in 1998.
*Revised and updated ferry interpretive handbook in 1998.
*Coordinated series of Gold Rush living history interpretive programs in 1998.



Forest Guide, Marylou Wilcox (upper left & lower right) Interprets the natural and cultural history of Prince William Sound aboard the Alaska Marine Highway ferry, the MV E.L. Bartlett (upper right).

Prince William Sound is the heart of the Chugach National Forest. This two million acre marine wonderland is one of the nation's true public treasures. Much of this area is public land managed by the USDA Forest Service. Each year tens of thousands of Alaskans and visitors travel through this spectacular region. Yet the Sound's scale and relative remoteness offer challenges to effective interpretation of this public treasure.

For the last 35 years the Forest Service has worked in partnership with the Alaska Marine Highway to place Forest Service interpreters aboard ferries. Since 1965, interpreters have staffed the M.V. Bartlett and M.V. Tustumena in Prince William Sound. Traditionally, this interpretive program has been managed by the Glacier (nee Anchorage) Ranger District.

In 1997, the Glacier and Cordova Ranger Districts joined forces to operate the ferry interepreter program. In this internal partnership the district's shared responsibilities to staff ferry runs in Prince William Sound. Each district staffed approximately one-half of the summer ferry runs.

The success of the 1997 season encouraged the districts to expand the partnership in 1998. During 1998, the Cordova Ranger District took the lead in organizing the pre-season ferry training, revising and updating the ferry interpretive handbook, and organizing the Gold Rush Living History interpretive program.

The districts look forward to improving the coordination and working relationship between the units and identifying future cooperative projects.

Copper River Delta Shorebird Festival

Abstract: *In partnership with a diversity of community, regional and national partners, the Cordova Ranger District hosted the eighth and ninth annual Copper River Delta Shorebird Festival. Over 120 visitors travelled to Cordova each year for this successful community event. The festival celebrates the unique wildlife resources of this public treasure.*

Partners & Their Contributions

Cordova Chamber of Commerce	$5,000
Copper River Delta Institute	$2,000
National Forest Foundation	$10,000 *1998*
USDA-Forest Service, NRCE Grant Program	*$4,700*
ERA Aviation	$1,500
Alaska Airlines	$1,500
British Petroleum	$5,000
ARCO Alaska Inc.	$2,500
Festival Participants	$6,500
Prince William Sound Community College	*in-kind*
Cordova Public Schools	*in-kind*
Prince William Sound Science Center	*in-kind*
Bird Treatment & Learning Center	*in-kind*
U.S. Fish and Wildife Service	*in-kind*
Alaska Department of Fish & Game	*in-kind*
USDA-Forest Service, Cordova Ranger District	$7,000

Accomplishments

*Worked with partners to organize and implement the eighth and ninth annual Copper River Delta Shorebird Festival.

*Over 120 birdwatchers travelled to Cordova to attend festival yearly.

*An estimated 70% of Cordovans participated in some aspect of the festival.

*Festival participants contributed an estimated $45,000 to the local economy yearly.

*The Festival provided 800 hours of educational contact yearly.

Each year, millions of shorebirds rest and refuel on the vast mudflats of the Copper River Delta on their journey to breeding grounds in northern and interior Alaska. In recognition of the importance of the Delta to the survival of shorebirds, in 1990, the Delta was dedicated as a Hemispheric Site in the Western Hemisphere Shorebird Reserve Network. This network identifies vital shorebird habitats throughout the western hemisphere and works to provide for their protection.

In conjunction with the dedication, the Copper River Delta Institute sponsored the first "Copper River Delta Shorebird Workshop". The goal of this first effort was to educate and excite Cordovans about the area's remarkable shorebird resource. The workshop has grown and evolved from a small event reaching 30 people to the 1997 workshop in which over 150 birders from throughout the state participated. In 1992, over 120 visitors from the Anchorage area traveled to Cordova for the three-day workshop. Representatives from the Anchorage Audubon Society reported that the workshop was one of the largest gatherings of recreational birders in Alaska.

Heather Johnson, USF&WS, works with area teachers to help them integrate shorebird education activities into Cordova's classrooms (upper right). Excited birdwatchers flock to the mudflats to observe the spectacular shorebird migration (lower left).

After the success of the 1992 Shorebird Workshop, the Cordova Ranger District worked with the Cordova Chamber of Commerce to acquire a $8,000 rural development grant. This grant was used to assist the Chamber in the planning and execution of future shorebird events. With this assistance, the Chamber of Commerce was able to take over the shorebird workshop and transform it into a true, community festival.

The Copper River Delta Shorebird Festival has grown into a five-day event which featured a wide range of children's activiites, story telling, educational presentations, field trips and other communtiy activities.

The Cordova Ranger District coordinated a wide-range of media coverage for the event. The local newspaper, ***The Cordova Times***, published a series of articles about the shorebird migration and workshop. Regional newspapers and radio stations also ran stories about the event. Channel 2 KTUU, an Anchorage television station, produced a thirty minute program about the workshop and birding opportunities on the Copper River Delta. Also, national coverage of the event was provided by CNN and Alaska Magazine.

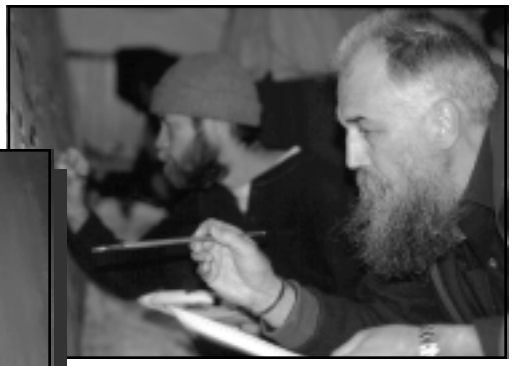
In the past, the workshop has featured educational evening lectures on shorebird biology and conservation. Beginner, intermediate and advanced classes on shorebird and waterfowl identification are also provided. Teachers include ornithologists from the USDA-Forest Service, Alaska Department of Fish & Game, and the U.S. Fish & Wildlife Service. Other events have included community activities, natural resource conservation education activities for children, and extensive field trips to observe the shorebird migration.

The community of Cordova has embraced the Shorebird Festival and has begun to plan the 1999 event. Tentative plans include working with the international artists group, Artists for Nature, sponsoring a Bird Art Show", continuing the field trips and evening lectures, sponsoring for-credit Prince William Sound Community College classes, coordinating charter boat operations, and producing educational and commemorative items.

Partners and birders alike are excited about the opportunities to transform this event into a celebration of spring and the unique character of the Copper River Delta.

Although the shorebird festrivals have been remarkable successes, there is always room for improvement and growth. Providing activities specifically tailored for children and family groups will be a significant contribution to the Shorebird Festival. As part of a whole gamut of activities, the children's and families' programs were focused for K-8th grade students and family groups.

At the Shorebird Festival, birdwatchers have the opportunity to join in group field trips or explore the delta on their own.



Community members joined artists from the international **Artists for Nature Foundation** to create a sixteen foot shorebird mural. The mural will be displayed at Shorebird Central during subsequent shorebird festivals.

The following "kid's" projects were conducted for the 1997 Shorebird Festival;

A "Kid's Primer to Birds" Workshop

The Kid's Primer to Birds Workshop was a fun and interactive session focusing on basic bird biology, migration and the critical importance of the Copper River Delta to migrating birds.

Cordova Discovery Room Activities

One month of the Cordova Discovery Room was devoted to "Shorebirds and Marine Life Around Cordova". Through puppet shows, interactive experiments, and NRCE activities, children will be exposed to accurate information about shorebirds. This activity reached approximately 95% of Cordova children, ages 3-12. Age-appropriate extension activities were provided for teachers requesting additional information.

Family Birding Trips

Designed and structured for families that may not be experienced birders, but value the natural world, these field trips emphasized basic bird identification techniques, interactive and involving activities and rewarding birding opportunities. Special birders/environmental educators accompanied the Family Birding Trips and provided information and guidance.

Bird Treatment and Learning Center Programs

The Bird Treatment and Learning Center is an Anchorage-based raptor rehabilitation center that emphasizes providing educational opportunities for children. Ask a Cordova child what a nictitating membrane is! For the last three years the dedicated professionals of the Bird TLC have traveled to Cordova to share their love and knowledge of birds. Always a highlight of the Shorebird Festival, Bird TLC has introduced Cordovans to northern harriers, northwestern crows, bald eagles, peregrine falcons, gyrfalcons, short-eared owls and northern hawk owls. In 1997 and 1998, three educators worked with all the children in the Mt. Eccles Elementary School.

Abstract: *In partnership with the Prince William Sound Science Center and the Prince William Sound Community College, the district implemented the sixth and seventh year of the successful Cordova Discovery Room program. This interdisciplinary science and resource education program reaches 95% of K-6 grade children each month, and provides over 2,700 hours of educational contact each year. It is funded by a wide range of grants and in-kind contributions.*

Partners & Their Contributions *(yearly)*

Prince William Sound Science Center *(in-kind)*	$10,000
Prince William Sound Community College *(in-kind)*	$2,000
Cordova Public Schools *(in-kind)*	$5,000
ARCO Alaska	$17,000
British Petroleum Exploration, Inc.	$ 5,000
National Bank of Alaska	$1,000
PWS Businesses	$2,500
Koncor Forest Products	$4,000
USDA-Forest Service NRCE Grants	$4,000
USDA-FS, Cordova Ranger District	$19,000

Accomplishments

*Provided over 2,700 hours of educational contact in 1997.
*Developed 9 original curriculum units.
*Private partners (PWSSC) earned $25,000 in competitive grants in 1997; $35,000 in 1998.

The Cordova Discovery Room is a unique cooperative program between the Cordova Ranger District, Prince William Sound Science Center, Prince William Sound Community College and the Cordova School District. The **Discovery Room** was developed as a stimulating environment for students and adults to explore various areas of the natural sciences.

The Science Reading Room is another component of the Discovery Room which provides teachers, students, parents and the general public access to a large library of environmental education and science-related materials. Books, videos, catalogs, curriculum guides, and educational kits have been catalogued and some will be available for loaning. In 1994, the extensive collection of resources and materials was organized and the cataloged on a computer system at the Prince William Sound Science Center. Teachers now have access to a complete inventory of resources available locally.

During Fall 1992, a room at the Prince William Sound Community College was transformed into a hands-on learning "imaginarium". Each month, over 300 preschool - sixth grade children attend Resource Room programs facilitated by Forest Service and Prince William Sound Science Center Staff. The program reaches approximately 95% of preschool - sixth grade children—including home schoolers.

The Discovery Room is a learning center filled with displays which students can touch, explore, manipulate and observe. Monthly themes, developed by a committee of local teachers and Prince William Sound Science Center/Forest Service staff, complement the elementary school's science curriculum. These themes, have included Local Plants, Natural Cycles, Preparing for a Delta winter, Animal Sights & Sounds, Weather & Astronomy, Local Geology and Marine Biology.

Teachers and homeschooling parents bring their classes/children to the Discovery Room, monthly for an hour and a quarter "discovery" session. Three staff persons team-teach the monthly programs.

During their action-packed 1.5 hours at the Discovery Room, students participate in an involving puppet show which introduces the day's theme, and then rotate through three separate NRCE activities. Many of the month's programs are structured around the educational framework of Project WILD NRCE curriculum. Project WILD and PLT materials are often used in the monthly program.

In 1994 the Taking Wing program of the USDA Forest Service recognized the Cordova Discovery Room Program as the premier wetlands education program in the nation. The national award was presented in March, 1994 at the North American Wildlife Conference in Minneapolis, Minnesota. Over 25 partners and sponsors were recognized with this award. A local presentation in Cordova, Alaska was conducted during the Copper River Delta Shorebird Festival in May, 1995.

The Cordova Discovery Room reaches 95% of K-6th grade children each month. Through a series of engaging, hands-on, minds-on activities, local children learn about their home – the Copper River Delta and Prince William Sound.

Discovery Room Outreach

Abstract: *The district assists the Prince William Sound Science Center in efforts to take the Cordova Discovery Room program to local Prince William Sound communities. The Discovery Room outreach program serves all children in the region.*

Partners & Their Contributions

Prince William Sound Science Center	$3,000
Prince William Sound Community College	in-kind
Chugach School District	in-kind
ARCO Alaska	$5,000
Chugach Alaska Corporation	$3,000
USDA-FS, Glacier Ranger District	$1,000
USDA-FS, Cordova Ranger District	$3,000

Accomplishments

*Provided over 200 hours of educational contact in 1997 and in 1998.

*Visited the communities of Whittier, Tatitlek and Chenega Bay twice each during the 1997 school season.

A key component of the "Science of the Sound" NRCE program is the Cordova Discovery Room. This successful program forms the cornerstone of the community's NRCE efforts.

Although the program reaches nearly 100% of Cordova children, ages 3-12, we had not been able to work with children from outlying villages and communities. Children from Valdez and Whittier, and the Alaska Native villages of Tatitlek and Chenega had not been served by Cordova's NRCE efforts.

The Cordova Ranger District emphasized improving FS public service to communities in Prince William Sound. This NRCE project targets children in these communities. Many of these children are intimately in-touch with the natural environment, but may have limited access to NRCE activities and resources. The "Science of the Sound" NRCE Program is reaching out to these communities by bringing children to Cordova AND by sending resources to the PWS communities.

The goal of the PWS NRCE program is not only to provide relevant NRCE activities to PWS children, but also to provide the support and training necessary for communities to establish their own NRCE efforts.

The Prince William Sound Science Center and the Cordova Ranger District initiated this successful program in 1993. During spring, facilitators visited the native villages of Chenega Bay, Tatitlek and the isolated community of Whittier. Since its beginnings in 1993, the program has been partially funded through grants from ARCO Alaska, Chugachmiut, and the EPA.

Cordova educators travel to PWS communities to help them learn about their natural environment. The outreach program is based upon the successful Cordova Discovery Room program (above & below).

A team of educators travelled to Prince William Sound communities several times in the 1997 school year. The educators presented a series of interactive NRCE activities in each of the communities. Educators brought "self-contained" educational kits and contributed NRCE resources and extension activities to the community school.

Although the activities were tied to the successful **Cordova Discovery Room** program, they were tailored to meet the needs and concerns of each community. Many of the activities were developed from existing curricula such as PLT, Project WILD or Alaska Wildlife Week.

Developing and nurturing new partnerships was a key to the success of the PWS NRCE initiative. Contacts with the Glacier Ranger District, Valdez School District, Chugach School District (Chenega, Tatitlek, Whittier schools, and home schoolers), Eyak Corporation, Tatitlek Corporation, Chugach Alaska Corporation and the Prince William Sound Community College were established and all partners were involved in the development and implementation of the program.

Alaska Sea/River Week Teacher Workshop

Abstract: *During 1997, a team of community education partners joined forces to present a model teacher training workshop focused on Sea/River week natural resource education curriculum. This successful three day workshop was held in Cordova, Alaska, April 17 - 21, 1997. The interactive workshop attracted teachers from throughout the State of Alaska. Over 26 educators, from as far away as Barrow, Alaska, participated in the intensive and interactive session.*

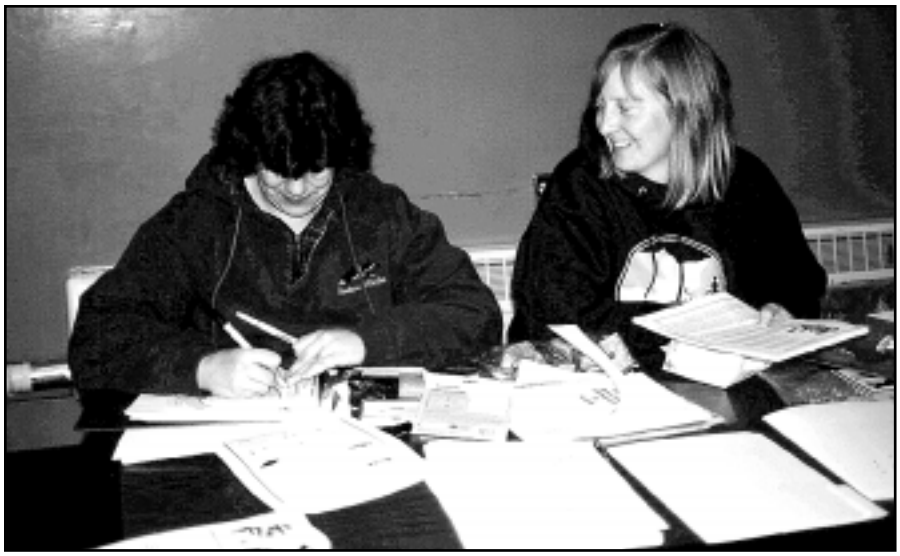
Partners & Their Contributions

Prince William Sound Science Center	*in-kind*
Cordova Public Schools	*in-kind*
University of Alaska-Sea Grant Program	*in-kind*
Prince William Sound Community College	*in-kind*
USDA-FS Quality Improvement Grant	$6,000
USDA-FS, Cordova Ranger District	$5,000

Accomplishments

*Planned and implemented one-credit teacher training workshop
*Developed statewide network of teachers involved in Alaska Sea Week education
*Established model teacher training workshop to be used in other areas of Alaska
*Provided over 500 hours of quality educational contact

Alaska Sea Week was originally developed by Juneau parents who realized that their children were living right by the sea, yet learning little in school about this incredible ecosystem. They began taking students to wetlands and beaches on spring field trips. Soon students, teachers and parents wanted more. The parents worked with local resource people and wrote curriculum guides for each grade level.



Twenty-six Alaskan teachers participated in the successful Sea/River Week workshop. They examined and explored curriculum materials, discussed teaching techniques, and investigated marine and wetland environments (all photos).

Ten years later, the program was taken statewide by the Alaska Sea Grant program. The Sea Grant program wrote new curriculum guides which included fresh and saltwater activities. In 1984, Alaska Sea/River Week won a national award from the National Science Teachers' Association as one of the top ten environmental education programs in the country.

Alaska Sea/River Week is a multi-disciplinary curriculum that branches into all parts of the school. During Sea/River Week, schools are decorated and students study the sea or river in all their classes. Math problems focus on the sea, students read sea stories in language arts and sing sea shanties in music, and students run salmon or octopus races in physical education classes. Every class takes at least one field trip during the celebration. In many cases, Sea/River Week has grown into a month-long activity!

Curriculum guides are available from the Alaska Sea Grant College Program. Until recently, teacher workshops were sponsored by the Education Department at the University of Alaska-Fairbanks. In 1997, the Prince William Sound Science Center in Cordova, was designated the Teacher Workshop Center for the many schools that want to implement a Sea/River Week program. The 1997 workshop, sponsored by the Quality Improvement Grant, is the model that will be used in future years throughout the state.

The Workshop

After receiving the 1997 Quality Improvement Grant, a coalition of community partners went to work designing and planning the teacher workshop. The critical element in this planning was participation from teachers. After extensive discussions with area teachers, the team decided on a three day in-service offered for 400 level college credit through the Prince William Sound Community College. The teachers chose individual subject areas to be covered and focused the workshop to best meet their needs (please see surveys in appendix).

The successful workshop was held April 17 - 21, 1997 at Mt. Eccles Elementary School in Cordova, Alaska. The workshop provided over fifteen hours of educational contact with the teachers through one-on-one meetings, group sessions, hands-on activities and several field trips to different local habitats. The workshop was taught by a team of educators

from the Alaska Marine Advisory Program, Prince William Sound Science Center, USDA Forest Service and the US Fish & Wildlife Service.

The workshop featured sessions on the Native and historical uses of seas, wetlands and rivers, integrating art, music and physical education activities for Sea/River Week, marine biology, fish ecology, field trip techniques, and a shorebird workshop (please see attached agenda).

Although the entire workshop was a great success, some portions of the workshop were true highlights. Local businesses sponsored a "seafood" lunch for the hungry participants, and provided transportation to a nearby intertidal area for a memorable marine field trip. The workshop was greatly enhanced by the participation of a diversity of skilled environmental educators.

Deborah Mercy, of the Alaska Marine Advisory Program, travelled to Cordova and video taped the teachers' workshop. She returned in early May to gather footage of classes implementing Sea Week activities. This footage will be used to develop a professional video production that will be used in schools throughout Alaska and the Pacific Northwest.

Deborah Green, of the US Fish and Wildlife Service, presented an interactive shorebird workshop for teachers. The workshop showcased the Sister Shorebird Network and the new shorebird curriculum.

An important component of the project was the pre-planning and field trip assistance provided by the workshop staff. Individual planning sessions with teachers were scheduled prior to the workshop. In these sessions, teachers met with the three primary workshop facilitators to plan 1997 Sea Week classroom activities. During Sea Week, workshop staff led field trips in all of the grades. Together with the financial support provided by the quality improvement grant, this assistance was critical in allowing classes to experience the marine environment this year.

Success!

The Alaska Sea/River Week Teachers' Workshop was a great success!

Like a pebble tossed into a pond, the ripple effects of the workshop are far-reaching. Over 26 educators and Forest Service staff participated in the interactive session. The workshop provided over 400 hours of educational contact for these participants. In turn, the workshop participants contacted over 700 students throughout Alaska and provided approximately 7,000 hours of educational contact for these students. Over one-half of the participants volunteered to become Sea Week trainers and assist in taking the curriculum to school districts throughout the state.

Teachers from as far away as Barrow, Alaska participated in the workshop. Over one-third of the participants were from areas other than the Prince William Sound region. The workshop was advertised in school districts throughout the state and across the Forest Service's data general computer system. The Cordova Ranger District provided housing and transportation for visiting teachers and participants.

Participants completed a comprehensive evaluation form and provided constructive input for future workshops. They consistently gave the workshop high marks for planning, effectiveness and usefulness. Out of a possible "5" rating, the workshop received an average, overall score of "4.7"!

Partners

The teachers' workshop was designed and implemented by a diversity of community and regional partners. The following agencies and organizations provided significant in-kind and monetary support:

***Marine Advisory Program:** primary staff and technical support including leading workshop sessions, teaching classroom sessions, leading field trips, and grantsmanship.

***USDA Forest Service-Cordova Ranger District:** primary staff and technical support including leading workshop sessions, teaching classroom sessions, leading field trips, and grantsmanship.

***Prince William Sound Science Center**
***US Fish & Wildlife Service**
***Native Village of Eyak**
***Prince William Sound Community College**
***Cordova 4H Club**
***Alaska Department of Fish & Game**
***US Coast Guard**
***National Marine Fisheries Service**

Summer Science Camp

Abstract: *In partnership with the Prince William Sound Science Center, the Cordova Ranger District participated in the fifth and sixth consecutive year of summer science camps in PWS and the Copper River Delta. In 1997, fifteen children, ages 13-15, from across the nation attended the nine-day camp and explored the PWS and delta ecosystems. In 1998, a total of 35 children attended two eight day camps in the region.*

Partners & Their Contributions *(yearly)*

Prince William Sound Science Center *(in-kind)*	$3,000
ARCO, Alaska	$20,000
Volunteer Interns (*in-kind*)	$7,000
Local Businesses	*in-kind*
USDA-FS, Cordova Ranger District *(in-kind)*	$7,000

Accomplishments

*In cooperation with partners, planned, organized and implemented a nine-day summer science camp for children ages 13-15.

*15 campers from throughout Alaska and the U.S. attended the summer camp.

*1997 camps provided over 1,000 hours of educational contact, while the 1998 camps provided 3,500 hours of educational contact.

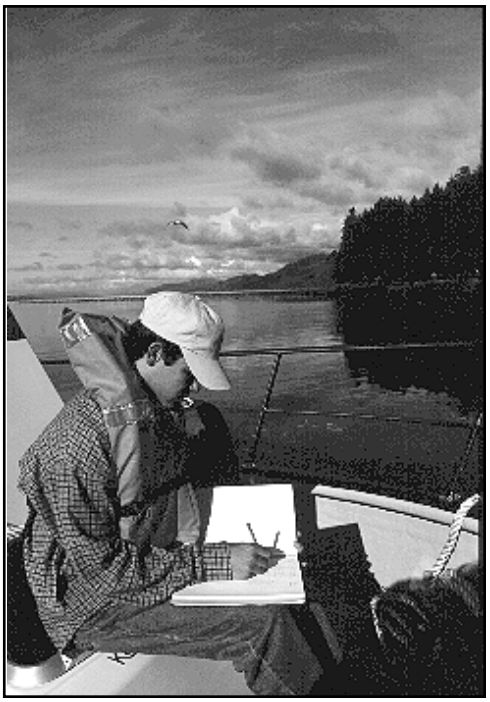
For the fifth and sixth consecutive years, the Cordova Ranger District partici pated in an innovative and extensive summer camp program in PrinceWilliam Sound and the Copper River Delta. Created by the Prince William Sound Science Center, and supported by grants from ARCO and the Skagg's Foundation in Juneau, the "*From the Forest to the Sea*" camps gave children, ages 9 -15, the opportunity to explore the complex environment of the forest and the sea.

The camp staff offered a wide diversity of knowledge and experience. Education coordinators from the Prince William Sound Science Center and the Cordova Ranger District were co-directors of the science camps. Additional staffing was provided by volunteer interns, and specialists from the PWSSC and the USFS.

The goal of the summer camps was to give children an opportunity, through hands-on learning experiences, to investigate the region's unique natural and cultural resources. Each camp offered educational sessions and activities in both field and classroom settings. Camp curriculum focused on three areas; forestry, marine biology, and traditional and current uses of the natural resources in Prince William Sound.

Camp infrastructure is extremely limited, and the partners depended upon donated services and facilities to accomplish their goals. For the last four years, a local family has donated the use of their PWS cabin for the camp. Additionally, the US Coast Guard has provided invaluable services by offering to transport campers to remote PWS location. Their support has been critical to the success of the camps.

During the camps, each camper received a notebook filled with references and educational materials. The notebooks also had information on safety, maps, Cordova, music, and a camp journal. Notebooks served as a place for campers to place their work, observations, writings, drawings, and plant samples collected during the nine-day sessions. Created by the district interpretive staff, the notebooks helped the campers organize,



evaluate and synthesize what they learned, and share their camp experience with family and friends.

During most sessions, campers had the opportunity to spend two nights and three days at remote forest and coastal sites. Forest sites included McKinley Lake and McKinley Trail cabins, and the Alaganik Slough Recreation Area.

From dissecting fish to watching logging operations, the campers were involved in a wide range of science activities. Camp staff led walks and discussions in old and second growth forests. Surrounded by towering spruce and hemlock, campers investigated the temperate rain forest ecosystem.

Each marine site included intertidal beach walks led by PWSSC researchers, Exploratory walks were a favorite of the children. "The beach walks were my favorite thing. It's the only time that I've ever seen a nudibranch (a type of sea slug), except in my Ranger Rick magazine" said Tara Anderson of Cordova. Campers conducted mini-research projects, observed intertidal invertebrates under microscopes, and investigated habitat needs and adaptations of marine creatures.

Activities conducted in Cordova focused on Prince William Sound natural resources and their traditional and current uses. Campers learned about fisheries and resource management by participating in a harbor scavenger hunt, touring a local fish processor, and visiting the Prince William Sound Aquaculture Corporation and Prince William Sound Science Center. Activities surrounding traditional uses of Prince William Sound natural resources included instruction from Alaska

Campers had the opportunity to study the Prince William Sound ecosystem aboard a large charter boat. They sampled water, completed plankton tows and observed circling salmon sharks.

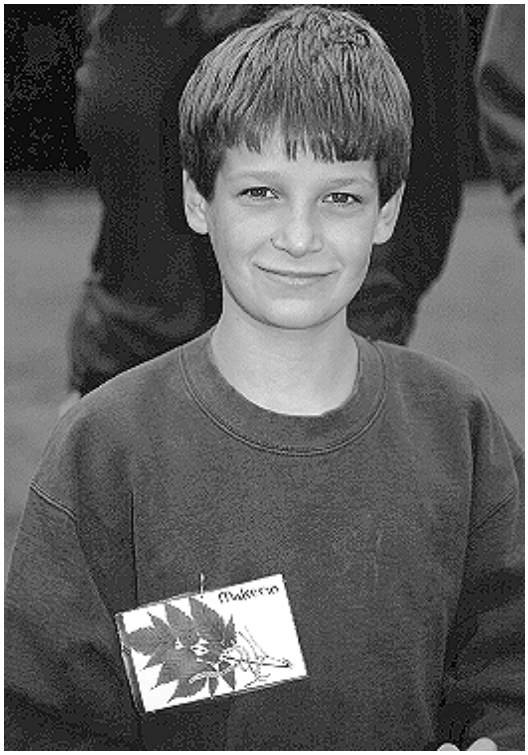
Natives, completion of a traditional handicraft project, and a tour and slide show at the Cordova Historical Museum.

Safety is always a major focus of any youth activity. To include this important subject in the camp, a special water safety and survival session was incorporated. Here campers learned how to don an immersion suit, perform a water rescue, roll over a tipped canoe, and transmit a May-Day call. Safety and survival lessons were also integrated throughout the camp. Campers started a

personal survival kit and learned how to apply the seven steps of survival to an emergency situation.

The summer science camps continue to be an integral part of the district's education program.

In addition to educational activities, campers enjoyed traditional camp out fun. "I really liked the campfire. We all told stories and roasted marshmallows. Then the sea came up and put out our fire. It was neat," said Cordova camper Zach Kopchak. Summer science camp is about more than just science. It's about making friends, learning about yourself, and working as a team. Sometimes accomplishing experiential objectives is just as important as completing all "educational" activities.



"Simply Bully!"

Abstract: *The story of the founding of the Chugach is replete with colorful characters, dramatic politics, and important conservation principles. Unfortunately, this remarkable story was known to very few. The 90th birthday of the Chugach National Forest provided an unparalleled opportunity to explore both the compelling events and noble ideals that led to the Forest's founding. Spearheading the writing and staging of the original play, "Simply Bully!", the district reached over 300 people with its public lands message.*

Partners & Their Contributions

Stage of the Tides Theatre Group (*in-kind)*	$10,000
Cordova Historical Society (*in-kind)*	$2,000
Grey Towers Institute (*in-kind*)	
USDA-FS NRCE Grant	$2,200
USDA-FS, Cordova Ranger District (*in-kind*)	$3,000

Accomplishments

*Contracted the writing of an original melodrama script chronicling the Pinchot/Ballinger Affair

*Coordinated the staging and presentation of the melodrama.

*Participated in three presentations of the play for over 300 people.

July marked the 90th Birthday of the Chugach National Forest, set aside by President Theodore Roosevelt in 1907. Today, many take for granted the presence of the Forest Service in Alaska. We consider the debate over proper use and management of Forest resources a contemporary one. Yet these same issues were debated, perhaps even with more vehemence than we see today, in the early part of this century. Entrepreneurs

The controversy over the Bering River Coal fields captivated the nation's attention in the early 1910's.

longed for access to natural resources. Conservationists argued for protection of the land from corporate exploitation.

In the early 1900's, the coveted resource was coal. When Teddy Roosevelt withdrew the coal lands from public entry, the Chugach National Forest was born. Yet the story behind it soon captured the attention of the entire nation. Roosevelt set aside the land to keep large corporations from gaining a monopoly on the resources. Coal miners and pioneer-town Alaskans, of course, wondered why a government thousands of miles away was preventing them from using their land. Depending upon your political persuasion, the Chugach National Forest became a national symbol of a tyrannical, absentee government attempting to lock up the land, or, a careful steward and protector of public resources.

As a result of the controversy, known as the "Pinchot-Ballinger affair", Secretary of the Interior Ballinger resigned in disgrace, Chief Forester Pinchot was burned in effigy in Katalla, and, many say, both TR and William Howard Taft were denied reelection, boosting Woodrow Wilson into the White House.

The Cordova Ranger District developed the concept of sharing this dramatic story through the use of an original melodrama. A melodrama is a type of play that utilizes humor and audience participation. Typically, a melodrama is filled with flamboyant characters, particularly "good guys and bad guys." The story in a melodrama is simplified and the themes exaggerated.

Goals and Objectives

The goal of the melodrama was to:
Through the dramatic presentation of the Chugach's history, community residents and

visitors will better understand the issues forest managers faced, both today and yesterday. The humorous, fun style of a melodrama promoted community dialogue on the Chugach's past and present in a way that is non-threatening and entertaining.

To achieve these goals, the following objectives were planned:

*produce and perform a fun, dramatic presentation to teach a historical story
*provide related interpretive exhibits, programs, and talks to introduce and explain the historical milieu
*use a diversity of local media to dissemi nate performance information to the widest possible audience
*provide several performances of the drama to attract 50% of Cordova residents and all town visitors.

The project was funded by a $2,200 Natural Resource Education Grant from the USDA-FS, Region 10. These funds were used to contract the playwright, Greg Lloyd. All the other expenses, including the production of the play and the salaries for all the actors, will be in-kind contributions. These contributions also included district salaries spent on the project. Also, vital research work was accomplished by the Pinchot Institute and Historical Society professionals.

"Simply Bully" used drama and music to communicate important public land messages.

Methods and Partners

A team of partners implemented this innovative project:

*Stage of the Tide theatrical group—planning, implementation, staff
*Cordova Historical Society—research, planning, implementation, staff
*Gifford Pinchot Institute—research, planning, implementation, staff

*Cordova Ranger District—research, planning, implementation, staff

*Greg Lloyd, playwright—melodrama script
Mr. Lloyd is an interpretive specialist in living history. He has written and performed numerous dramatic history programs. He has also acted in many dramas, including melodramas about the old West. Mr. Lloyd is an avid student of history with a particular interest in Theodore Roosevelt and the development of conservation philosophy. He currently works at Mesa Verde National Park.

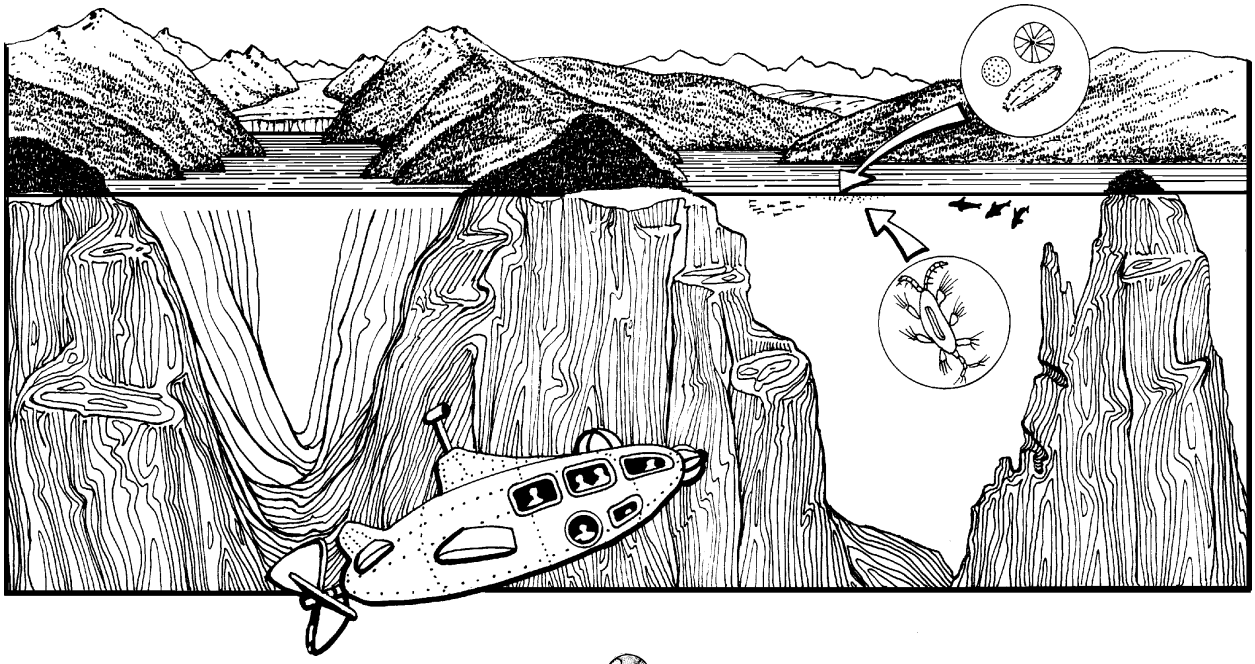
The local theatre group, "The Stage of the Tides" coordinated the staging of "Simply Bully". A talented and committed cadre of amateur thespians devoted two months of their summer to making the play a reality. From the original script, music and dance were added. Smokey Bear introduced the evening -- and it was a wild ride from there.

The Cordova Historical Society sponsored a successful dinner theatre performance. The Cordova Ranger District coordinated related interpretive programs and exhibits.

This project will resulted in several tangible end products:
*a script and set design that can be used on other districts or at other historical events
*a quality video tape of the performance to distribute throughout the Forest
*a historical booklet detailing the story of the Forest's founding and including photos from the dramatic production

This project brought together a variety of local resources to increase the community's knowledge of its own history. The Chugach has a colorful, interesting past. The drama also presented the story of the Forest to the public, many of whom do not even realize the presence of public land.

Exploring Alaska's Prince William Sound



Abstract: *The Cordova Ranger District planned, coordinated and developed a quality 28 page children's book about Prince William Sound. Developed in partnership with the Prince William Sound Science Center and the Cordova Historical Society, the publication provides accurate and involving information about this region. The publication covers the natural history of the forest, and marine ecosystems, and the cultural history of the region.*

Partners & Their Contributions

Alaska Natural History Association	$3,000
Prince William Sound Science Center (*in-kind)*	$1,000
Cordova Historical Society (*in-kind*)	$1,000
Alyeska Pipeline Services Co.	$5,000
USDA-FS, Cordova Ranger District (*in-kind)*	$5,000

Accomplishments

*Earned $8,000 in grants to complete project.
*Coordinated project among a network of partners.
*Produced 5,000 copies of a quality, resource education publication
*Proceeds from the sale of this publication will be used to support education activities in the region.

Over a two-year period, the Cordova Ranger District designed, coordinated and produced a high-quality childrens' publication about Prince William Sound. A coalition of private, non-profit organizations, federal agenies and corporate sponsors worked together to make this project a reality. The publication focuses on both the natural and cultural history of the region. Through a series of engaging activities,

coloring sheets and text, children are lead into the fascinating world of Prince William Sound.

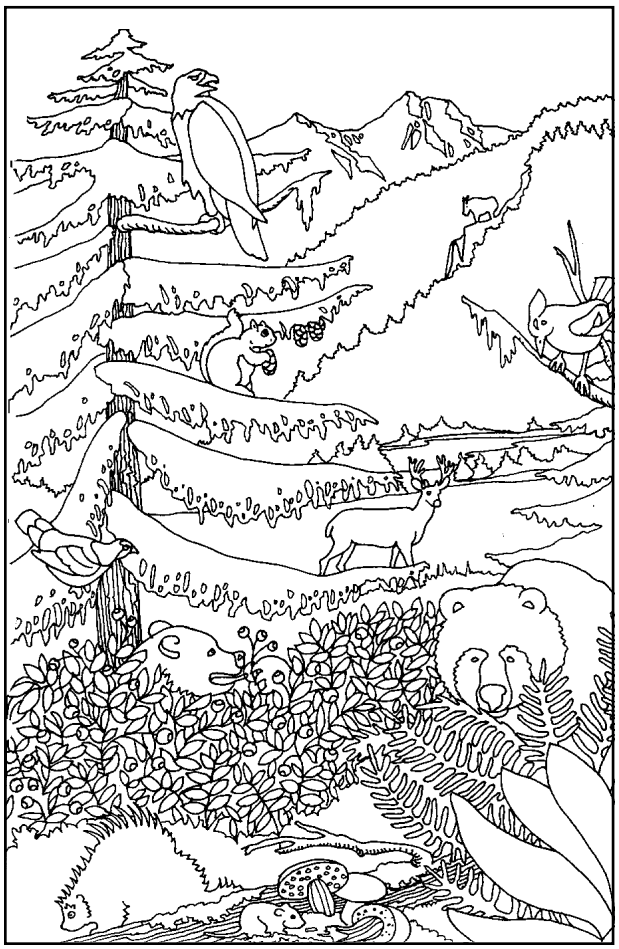
The publication was developed, illustrated and reviewed by a team of resource educators from the Prince William Sound region. These partners represented the Prince William Sound Science Center, Prince William Sound Community College, the Cordova Historical Society, Cordova Visual Artists Guild, Cordova School District and the USDA-Forest Service – Glacier Ranger District and Forest Supervisor's Office. Susan Ogle, a renowned Alaska artist, provided professional illustrations and design expertise.

The Cordova Branch of ANHA sought and received a Development Fund grant to take advantage of a unique opportunity. After years of work in the Cordova community, a talented and committed group of educators has coalesced in Cordova. This group, comprised of individuals from various city, state, federal and private organizations, is committed to providing quality resource and science education for the region's children. The unique blend of experience, expertise and talents found within the group will allow the project to be completed for a fraction of the cost for a similar contracted publication.

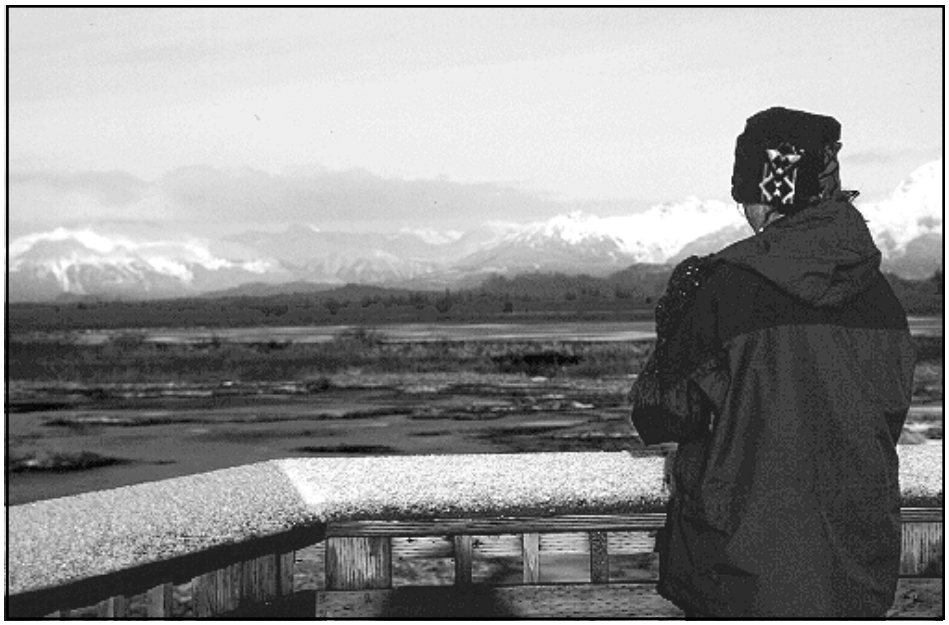
In addition, 1997 marked the eighth year of the Copper River Delta Shorebird Festival. This nationally-recognized event draws nature lovers and birdwatchers from throughout the United States. An international group of artists, the Artists for Nature Foundation, worked on the Copper River Delta and in Prince William Sound during early May. This group is dedicated to using their art to bring attention to threatened ecosystems. The Copper River Delta Project is the organization's first program in the United States.Festival. The artist for the ANHA publication, Susan Ogle, was selected to be a member of this elite artists group. Unveiling the publication during the shorebird festival was a wonderful addition to the event and helped get the publication off to strong sales.

In addition to the ANHA grant and agency in-kind donations, Alyeska Pipeline Services Company generously donated the printing of 5,000 copies of the publication.

The Cordova Branch is small, yet growing. We strongly feel that the children's publication was both needed by the agencies and organizations of the area and was wanted by the public.



Pete Isleib Memorial Boardwalk Interpretive Signs



Abstract: *In partnership with Ducks Unlimited and the National Forest Foundation, the Cordova Ranger District designed, illustrated and produced a series of interpretive signs for use along the Pete Isleib Memorial Boardwalk at the Alaganik Slough Recreation Area. These interpretive signs focused on the imcomparable wetland ecosystem of the Copper River Delta.*

Partners & Their Contributions

Ducks Unlimited	$10,000
National Forest Foundation	$10,000
Chugach Design Group	$3,000 *in-kind*
Erin Cooper	$2,000 *in-kind*

Accomplishments

*Designed series of interpretive panels for use along the Pete Isleib Memorial Boardwalk.
*Used new interpretive sign media, fused PVC, for first time in Alaska.
*Incorporated beautiful illustrations from local artist into panel design.

Winding nine hundred feet through a beautiful wetland habitat, the Pete Isleib Memorial Boardwalk offers visitors an unparalleled opportunity to experience the Copper River Delta. The boardwalk is located at the Alaganik Slough Recreation Area of the Cordova Ranger District.

The elevated boardwalk features a wildlife viewing shelter, an interpretive kiosk, an elevated viewing platform and a river overloook platform.

The boardwalk was finished in 1997 and was constructed by crews of international volunteers. These volunteers contributed thousands of hours of work to complete the beautiful recreation structure.

The Alaganik Boardwalk features incredible views of the surrounding wetlands from a viewing shelter *(bottom left)* and an elevated viewing tower *(bottom right)*.

The Cordova Ranger District secured private funding for the completion of the interpretive signs for the boardwalk. Ducks Unlimited contributed $10,000 to the project. The National Forest Foundation contributed a matching $10,000.

A talented local artist, Erin Cooper, donated original watercolor illustrations for the project. Using these beautiful pieces of art, the district developed the signs along the concept of an artist's sketch book. The interpretive panels focus on the wetland environment of the Copper River Delta and the Forest Service's management of these public lands. The district worked with the *Chugach Design Group* of the Chugach National Forest to complete the design and production of the signs.

The district chose to experiment with a new media for the panels. "Fused PVC" appears to be a high-quality, cost-effective, and durable sign media. This is the first time that this media has been used in the Alaska environment. The district will monitor the results of this test and share their experience with others.

Artist Erin Cooper donated illustrations for the interpretive panels which focus on the public wetland treasure of the Copper River Delta *(above)*.

Underwater Fish Camera

Abstract: *The Cordova Ranger District established an innovative underwater video system to be used at the Crooked Creek Information Site in Valdez Alaska. The district wrote grant proposals, secured partner funding, and worked with various agencies to make this project possible. The camera system has worked flawlessly for the two years of its operation, and has been an extremely effective educational tool to the more than 100,000 visitors to the site during its operation.*

Partners & Their Contributions

USDA-FS, NRCE Grant Program	$2,500
USDA-FS, Cordova Ranger District	$2,000

Accomplishments

*Developed and implemented underwater video system for Crooked Creek I.S.
*Reached over 100,000 over two years of operation.
*Used underwater footage for various salmon education projects.
*Shared technological expertise with others interested in project.

Each year, hundreds of thousands of visitors from throughout the world travel to Alaska to experience its pristine beauty and wildness. For many travellers, an opportunity to observe wild stocks of spawning coldwater fish is a highpoint of their adventure. At the Crooked Creek Information Site in Valdez, Alaska, the Cordova Ranger District of the Chugach National Forest has taken advantage of a unique opportunity to educate forest visitors about the life history and habitat needs of local wild stocks of salmon.

Perched along the banks of a pink and chum salmon stream, and overlooking an intertidal wetland, the Crooked Creek Information Site is a wildlife watcher's dream. Since 1994, the Cordova Ranger District has operated a visitor information site which hosts over 85,000 visitors each year. The Crooked Creek Information Site consists of a salmon viewing platform, a staffed information center, and modest site developments. The district operates the site from Memorial Day to Labor Day.

From mid-July to Labor Day, schools of spawning pink and chum salmon draw visitors to the site. Observing Crooked Creek's spawning salmon is one of the most popular summer activities in the community.

Currently, the site is overwhelmed by the number of people wishing to view the salmon. Many visitors cannot access the platform or cannot adequately view the fish. In frustration, some visitors walk down the steep stream bank to get a "closer look" at the salmon. While not only a safety hazard, this uncontrolled access to the stream has led to extreme bank erosion and direct fish harassment. The Fish Cam provided an accessible media to not only enable the Forest Service to better take advantage of this incredible natural educational opportunity but also to protect this invaluable resource.

This innovative NRCE project placed an underwater "fish cam" into Crooked Creek and provided live, "real-time" underwater video of spawning salmon. The video footage was displayed in the Crooked Creek Information Site and was complemented by an interpretive sign that explains coldwater fish life history and habitat needs.

The target audiences for this project were recreational visitors to the area including cruise ship passengers, tourists, other out-of-town guests, local visitors, and school groups.

By increasing the opportunity to view spawning salmon, the district also saw a reduction in the negative impacts on the stream bank and a reduction in the level of fish harassment.

The underwater video system was patterned after a Juneau Ranger District project at Mendenhall Glacier. After an unsuccessful attempt to construct an underwater housing, we decided to purchase a commercial housing. This equipment was modified to allow for direct power and signal output. The camera and housing were placed in the stream and camouflaged. The system provides a direct, "real-time" video feed to the information center.

The performance of the video system has exceeded all expectations. In two years of operation, the system has never failed! The educational opportunity the system provides is unsurpassed. The district has gladly shared technical information with a number of agencies and organizations which are interested in establishing similar projects.

Saltwater Aquarium

Abstract: *The Cordova Ranger District earned a competitive NRCE grant to purchase a coldwater, saltwater aquarium system for the district office. During 1998 the district acquired, assembled and maintained the 100 gallon aquarium. The aquarium is an extremely popular community attraction and has been an effective educational aid.*

Partners & Their Contributions

USDA-FS, NRCE Grant	$2,500
USDA-FS, Cordova Ranger District	$1,000 *($2,500 in-kind)*

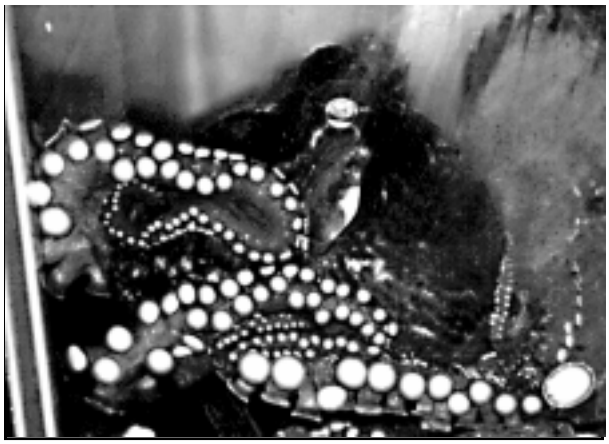
Accomplishments

*Earned competitive grant to establish saltwater aquarium
*Successfully established 100 gallon saltwater aquarium.
*Hosted over 300 educational visits from local school children.
*Developed interpretive displays about PWS and the marine environment using the aquarium as a focal point.

Cordova Alaska is perched on the margin between the incomparable wetlands of the Copper River Delta and the marine wilderness of Prince William Sound. Although we often focus on the delta ecosystem, the marine environment is equally as important. However, many visitors have only limited opportunities to experience the "wonders" of PWS.

In 1996, the district successfully earned a grant to purchase a 100 gallon saltwater, coldwater aquarium system. In May of 1997 a district volunteer devoted two weeks to getting the aquarium established and stable.

Since that time, the aquarium has been a source of wonder and interest to all who visit the district office -- both employees and visitors!



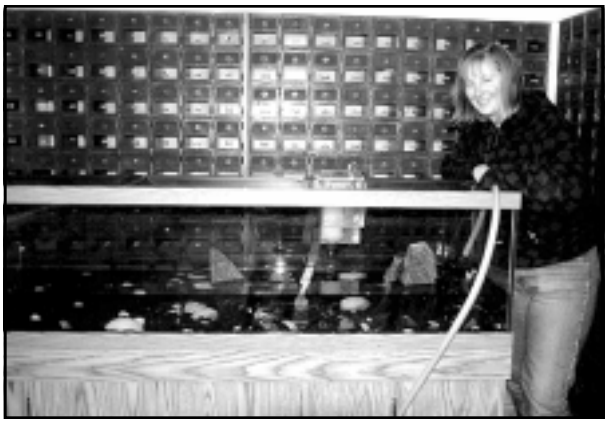
The "star" of the tank was a young octopus that charmed all visitors. (above). District employees Nancy O'Brien (left) and Laurie Lamm (bottom) help to get the aquarium up and running.

The operation of the system has been a learning experience for all involved. The tank quickly became a district effort, with employees from all disciplines pitching in to maintain and improve the tank. Although the aquarium requires daily maintenance, the upkeep of the tank has been easier and less complicated than we expected.

In a short time, community children began to visit the office to donate creatures for the tank. These children continue to visit the office on a regular basis to see how "their" animals are doing. The tank is populated chiefly by intertidal invertebrates such as anemones, barnacles, hermit crabs and periwinkles.

The highlight of the aquarium was a small Pacific octopus that the district named "Ophelia". Donated by a local fishing family, she soon became the district "member". Intelligent and responsive, Ophelia charmed all visitors. She grew quickly and, after one year, was reaching the limits of the tank. Learning of our plight, the new Seward SeaLife Center offered to give her a new home at their educational facility. Ophelia now resides in Seward and is a favorite of their visitors.

During the last year, the district hosted approximately 300 children at the aquarium. Currently, the tank is not operating and is undergoing maintenance. The District looks forward to reestablishing this effective educational tool.



Salmon Education Box

Abstract: *Over a two year period, the Cordova Ranger District developed and distributed a successful education kit focused on Pacific salmon. Supported by competitive grants and in-kind donations, this kit has been used by teachers from throughout the state. In 1998, the district received a second grant to produce six additional kits for Forest Service offices throughout the state.*

Partners & Their Contributions

USDA Forest Service - NRCE Grant	$2,500
USDA Forest Service - Regional Office	$2,500
USDA-FS - Cordova Ranger District	$4,000 *in-kind*
Local Businesses	*in-kind*
Emily Becker - FS Volunteer	$3,000 *in-kind*

Accomplishments

*Secured competitive grants to design and complete education kit.
*Completed exemplary education kit on Pacific salmon.
*Effectively advertised kit and distributed it to teachers from throughout state.
*Secured additional funding to produce six kits for use in Region 10.

Salmon are the lifeblood of coastal Alaska. Their annual cycles set the rhythms of the seasons. To both the wild creatures and the people, the return of the salmon is a time of plenty.

From the Chugach Eskimos and Eyak Indians who traditionally depend upon the return of salmon, to the commercial fishing fleet of today, the history of Cordova is inextricably entwined with the yealy return of the salmon.

In recent years, Cordova has been plagued by a series of natural and human-caused disasters that have shaken the community's stability. Oil spills, failed runs, hatchery issues, and market conditions have all contributed to the uncertain future of Cordova's commercial fishing community. While these issues are regional, national attention is increasingly focused on the plight of salmon stocks throughout the Pacific Northwest.

In response to these issues, the Cordova Ranger District proposed the "Salmon in the Classroom" project. This project provided Cordova children the opportunity to learn about salmon life history, habitat needs, and the social implications of salmon management.

A key component of the program has been the creation of the SALMON BOX. This educational kit is targeted for children in third through sixth grades.

The Cordova Ranger District developed the educational kit over a two year period. Samantha Greenwood, district fisheries technician initially proposed the project and established the foundation for the kit. FS interpretive volunteer Emily Becker worked diligently to complete the first kit. Heather Maxcy, interpretive specialist, was the motivating force in the creation of six additional kits.

The SALMON BOX features a wide range of educational materials, focused curriculum, background information, and additional resources. The curriculum uses puppet shows, worksheets, activities and management simulations to help teachers educate students about salmon anatomy, life history, and habitat needs.

The original kit is available for loan from the Cordova Ranger District. Currently the kit has travelled to southeast, western and coastal Alaska.

In 1998, the district worked with the R10-Regional Office to produce six additional SALMON BOXES. These kits will be completed 1998 and will be distributed to R10 Supervisor's Offices in Alaska.

National Fishing Days

Abstract: *The Cordova Ranger District sponsored successful National Fishing Day events in 1997 and 1998. Each year over 90 children attend the 1/2 day event focused on fish life history, habitat needs, and human uses.*

Partners & Their Contributions

KLAM Radio Station	*in-kind*
The Cordova Times	*in-kind*
Numerous local businesses *(Save U Lots, Whiskey Ridge Trading Company, Orca Book & Sound, Club Restaurant, Ambrosia Restaurant, Homeport)*	$500
USDA-FS, Cordova Ranger District	$2,000

Accomplishments

*Organized and implemented 1/2 day fishing day emphasizing ethics and fish life history.
*Served 90 children and provided 360 hours of educational contact, yearly.
*Published news article in local newspaper.

In celebration of National Fishing Week, the Cordova Ranger District continues to sponsor successful National Fishing Day events in early June. The events were held at One-Eyed Pond *(named in the first National Fishing Day!)*. Designed to target children pre-K through twelth grade and their families, these activities attracted approximately ninety children each year.

District volunteers pitched in to help Cordova's children learn more about the delta's salmon resource *(left)*.

One new project was the completion of a community mural depicting the delta ecosystem *(below)*.

A pre-event poster contest was sponsored by the district to further youth involvement and encourage critical thinking skills. Entrants were asked to create posters focusing on the following themes: Fishing methods in Prince William Sound, fishing ethics, or fish species of the Copper River Delta and Prince William Sound. Entries were received from almost every age group and exhibited a wide range of skill and creativity.

The National Fishing Day events were planned by the interpretive and fisheries staff and were run by a large group of Forest Service volunteers. Every shop within the district had a representative volunteer to assist the children. Both radio and newspaper media coverage were coordinated for the event.

Throughout the fun-filled afternoons, children rotated through four different activity stations. Station One taught children about the salmon life cycle and the obstacles they face on their journey back to fresh water. Children became salmon and hurdled dams and dodged bears, anglers, nets and predators in an interactive salmon life cycle game.

Using neon-colored beads and spoons, Station Two gave the children the opportunity to create their own spinner bait and give it a test-run in the nearby pond. Station Three was

the most popular stop during the day. Children created a unique and colorful fish print t-shirt as a souvenir of the day's fun. At the Pond Ecology station children were nose-to-nose with the delta's fishy residents. Young Dolly Varden char, cutthroat trout, silver salmon and boreal toad tadpoles were among the featured guests.

Local businesses generously donated treats and prizes for the children. Cordova's support for its youth is outstanding. Without the help of local businesses these community events would not be possible.

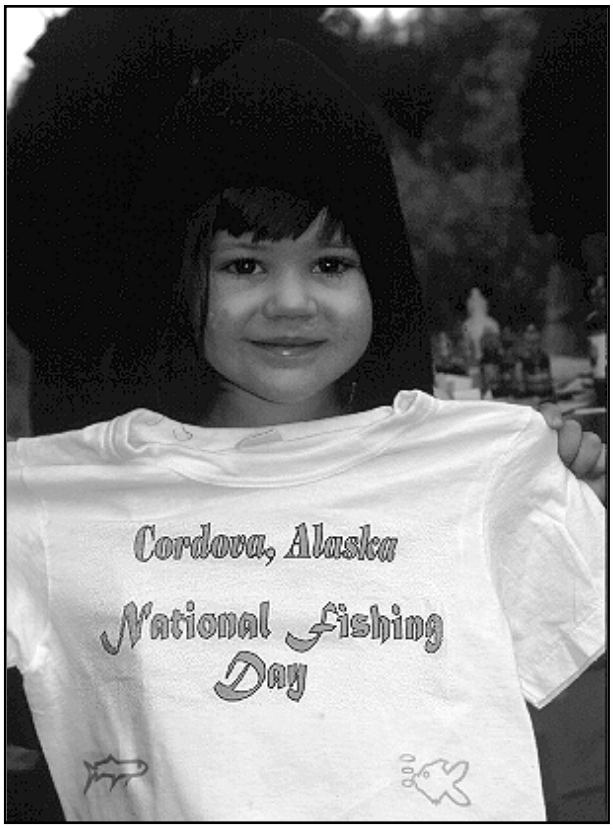
The goal of National Fishing Day was to educate the children about pond ecology, the different fisheries in Prince William Sound, fish life cycles, and fishing ethics.

Fishing Day is an extremely popular event in Cordova. Many of the residents and visitors already enjoy the fisheries resource and appreciate an opportunity to teach their children more about it. Fishing is an integral part of Cordovan life and the celebration of National Fishing Day is an opportunity for the Cordova Ranger District to serve the public by providing an educational, fun-filled afternoon for children and their families.

The community has voiced their desire to have this project remain an annual event. As one mother said as she left for the afternoon, "You Forest Service people always go above and beyond the call of duty."

The district plans to continue this project in 1999.

A Cordova kid discovers the joy of fishing.


Cordova, Alaska
National Fishing
Day

Resource Apprenticeship Program for Students

Abstract: *In 1997, the Cordova Ranger District sponsored and mentored five high school students in the Resource Apprenticeship Program for Students (RAPS). These students worked on various resource management programs on the district and gained valuable professional skills and experience. The district was not able to continue the program in 1998 due to program administration difficulties between the Forest Service and the Bureau of Land Management.*

Partners & Their Contributions

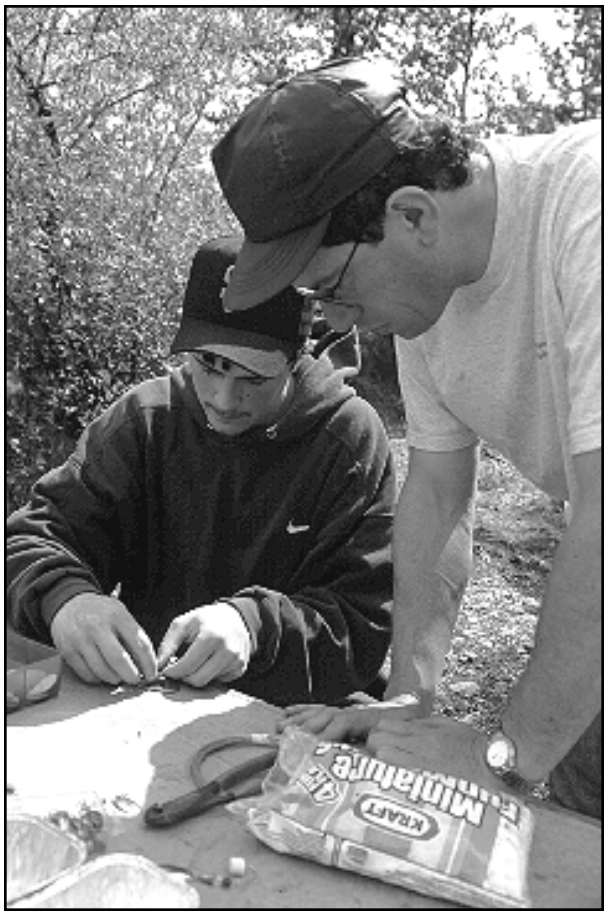
Bureau of Land Management - RAPS	$7,000 *in-kind*
USDA-FS, Cordova Ranger District	$4,000

Accomplishments

*Mentored five high school students on the Cordova Ranger District.
*Provided excellent professional experience for young people investigating resource careers.
*Of eight RAPS participants in previous years,4 have subsequently worked seasonally for the Forest Service--and two are pursuing resource careers.
*District participation in RAPS program highlighted in *Anchorage Daily News* article

Slogging through muskegs, brushing an impassable trail, tagging salmon smolt, and incorporating the world of computers into everyday life were all part of the 1997 summer for four Cordova students. Seana Barnes, Peter Masolini, James Vest, Wil Osborn and Heidi Arts participated in an exciting an innovative program call RAPS.

RAPS, or Resource Apprenticeship Program for Students, was started in 1987 by the Bureau of Land Management in Alaska. The program is designed to give students hands-on opportunities to learn how important education is to their future careers. To accomplish this goal, students are placed with a cooperat-



RAPS student Peter Masolini helps with the district's National Fishing Day event. Peter went on to serve two years in RAPS and work seasonally with the district.

ing agency and exposed to professional job opportunities in natural resource management. The Cordova Ranger District has provided work experience and mentors for the last three years.

One of the main goals of the program is to give students a chance to experience the varied job responsibilities on the Cordova Ranger District. Throughout their apprenticeships students worked with staff from all of the district's programs.

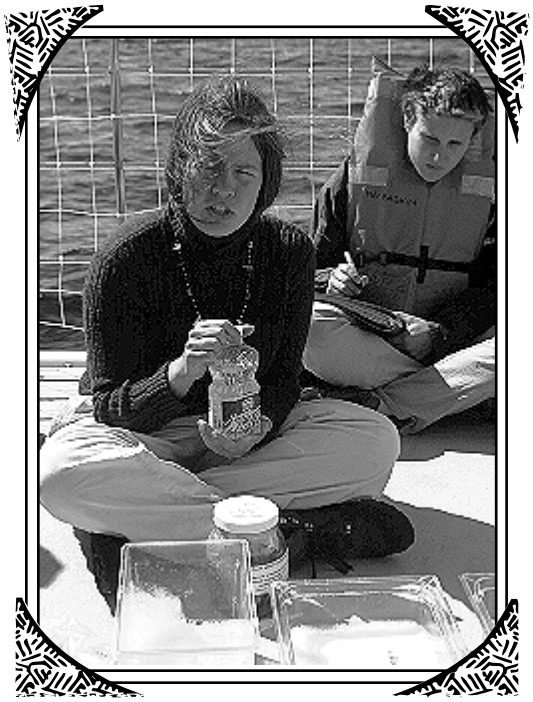
The summer began with a week of intensive safety training. Students learned about and practiced CPR, first aid, firearm handling, defensive driving, bear safety and aviation safety. After the week-long orientation, work in the field began.

Peter Masolini recently completed his second year in the RAPS program. Peter spent his apprenticeship on the recreation crew and cleared, maintained and improved many of the popular Cordova trails.

Monitoring and maintaining dusky Canada goose nest islands, weighing and measuring salmon smolt, constructing trails and staffing the Crooked Creek Information Site in Valdez, Alaska, were all part of the apprenticeship program for the other students.

Students learn more than specific job skills during the RAPS program. They learn what the Forest Service does, how specific jobs affect the community, and many important interpersonal skills associated with a career. "I learned who was responsible for all of the things that I love to use. I learned who maintains the trails that I love to hike, the cabins that I like to stay in, and who improves the fish habitat". explained one student. "The work is often hard, but the trick is to get along with the people you are working with. The job is great experience. I've done more things and seen more things in one summer than most people see in a lifetime."

Of the 8 Cordova students that have worked in the RAPS program, 4 have subsequently worked seasonally for the Forest Service--and two are pursuing resource careers.



Erin Cooper (upper left), Emily Becker (upper right), MaryLou Wilcox, Kim Kiml, Heather Maxcy, Amy Sayer, Jerralee Johnson (lower, clockwise) -- missing Elena LaPella, Heidi Arts.

The Cordova Ranger District Interpretive Team

The folks who made 1997 a success!