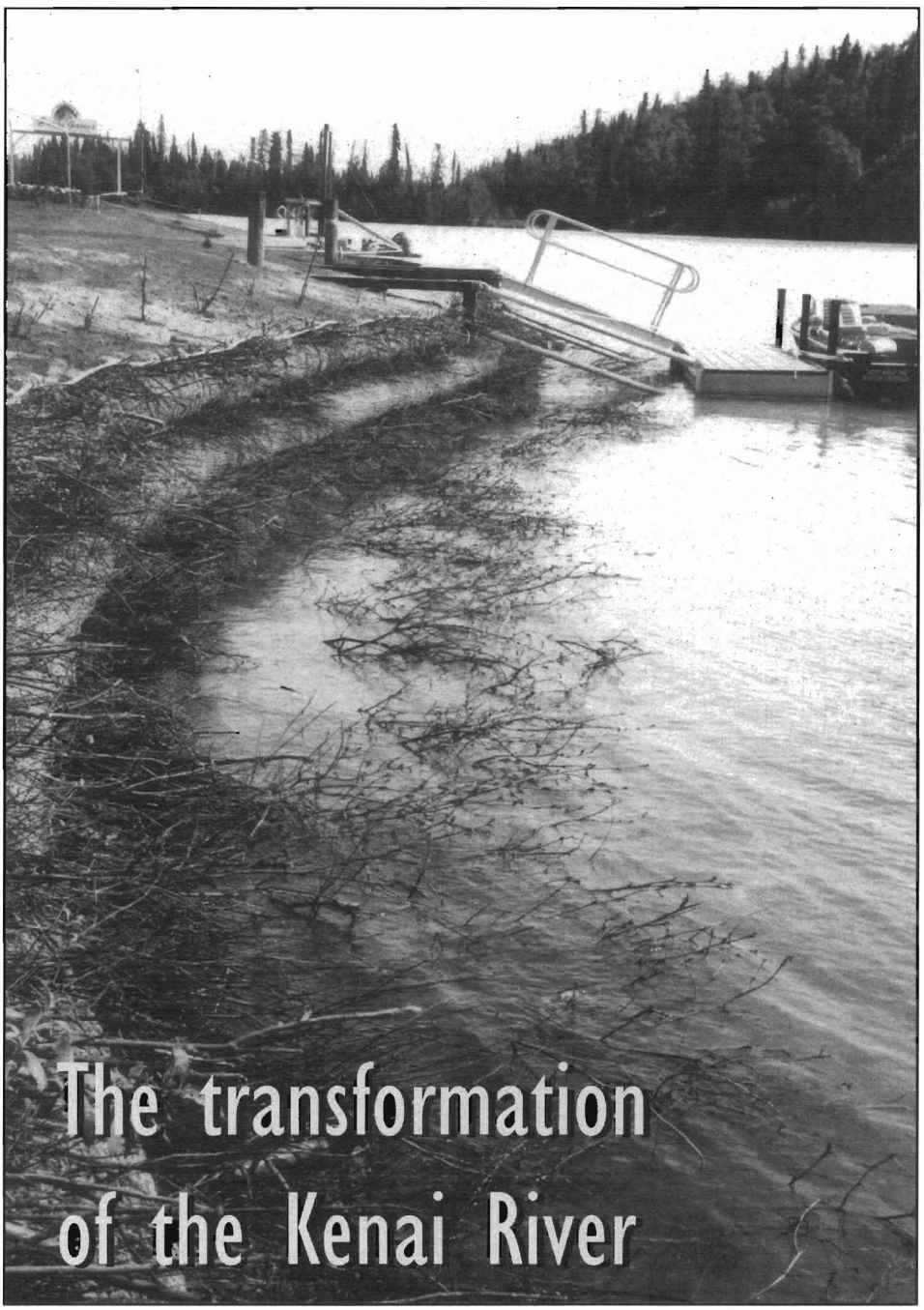
EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

RESTORATION UPDATE

Autumn 1999 Volume 6 Number 4



The transformation of the Kenai River

Revegetating and protecting the bank of the Kenai River has become a priority for government and landowners.

Exxon Valdez funds critical in protecting, revegetating Kenai River sockeye habitat

A float down the lower Kenai River in mid-July is a lesson in riverbank management. The popular river has gone through a transformation during the last five years — more public lands, more protected areas, rehabilitated shoreline, elevated walkways, public education and more — largely financed by *Exxon Valdez* oil spill funds.

During the July sockeye salmon fishing frenzy, thousands of tourists line the shores, standing thigh deep in the cool current, side-by-side with Alaskans. Elevated walkways follow the contour of the river behind them, with stairways leading down into the water. Alder and willow branches, planted by hand, sweep the current, slowing the water to a crawl. Downed spruce trees are lashed to the bank.

In some areas, new public lands offer new fishing opportunities. In other areas, old public lands have been made off-limits to fishing to allow trampled areas to rejuvenate. In popular areas such as Morgan's Landing, Centennial Park and Slikok Creek, light-penetrating grate-walks allow fishing to continue while keeping fishermen off of the banks.

"It's a balancing act," said Bret Huber, director of the Kenai River Sportfishing Association. "How can we maintain and preserve the resource and at the same time utilize the resource? *Exxon Valdez* funds have helped make this possible.

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PAG hears about SEA program during visit to Cordova, Tatitlek

Sen. Loren Leman, ex-officio member of the PAG representing the State Senate, received a tour of the Prince William Sound Science Center from Nancy Bird, vice president of the center.

Turning $22 million worth of Prince William Sound research into usable information for commercial fishermen should be a priority of the Trustee Council, the Public Advisory Group was told during a meeting in Cordova September 14.

The Sound Ecosystem Assessment (SEA) program was initiated by commercial fishermen in 1994 after disappointing returns of pink salmon and the collapse of the herring population in Prince William Sound. Now that the intensive 6-year study is concluding, it's time for fishermen and fisheries biologists to start reaping the benefits, said Ken Adams, a Cordova fisherman who met with the Public Advisory Group.

Adams' question for the PAG was more precise: When will the data collected from SEA be used to produce predictive models showing likely run strength of pinks and projected biomass of herring?

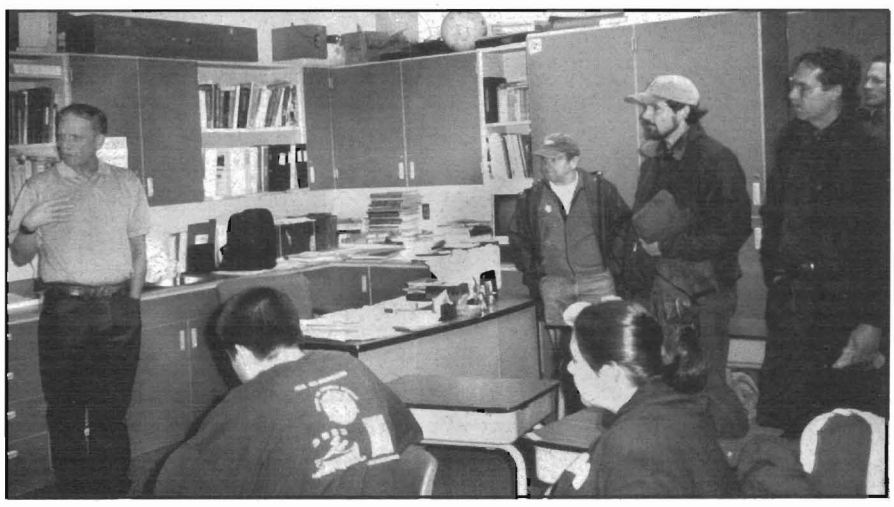
Executive Director Molly McCammon explained that the final report from the research has not yet been finished. When the report (due this fall) is received, it will be thoroughly peer reviewed and the reviewers will recommend how to proceed with future modeling efforts.

Bruce Wright, oil spill director for the National Marine Fisheries Service, cautioned that computer modeling is as complicated as the ecosystem it attempts to model and that it takes a lot of time and fine tuning to get something that will be useful. Wright pointed to other aspects of the SEA program, such as monitoring of pristane levels, that might develop into a quick, easy-to-use tool for predicting pink salmon run strength.

Pristane is a naturally-occurring hydrocarbon found in calenoid copepods, a favorite food of pink salmon fry. The feces of the fry provide a clue on how well the salmon were eating during the vital months after emerging from the rivers and hatcheries. Pristane from the feces accumulates within mussels, where it can be collected and evaluated. High levels of pristane should indicate a successful feeding season and, possibly, a higher return of pink salmon. All of this is still being developed, Wright pointed out, but it's one example of the innovative work by SEA that could provide useful tools for fishermen.

Members of the PAG and agency liaisons to the Restoration Office listen as researchers at the Prince William Sound Science Center explain findings of the Sound Ecosystem Assessment (SEA) project.

Members of the Public Advisory Group met with high school teacher Dennis Moore and his students in Tatitlek to discuss their participation in the Youth Area Watch, which gives students hands-on experience with restoration science.



The Public Advisory Group takes an annual field trip to communities within the spill region. Earlier in the day the group met with researchers at the Prince William Sound Science Center to get a briefing on the results of the SEA program. They toured Fleming Spit where *Exxon Valdez* criminal funds were used to enhance the sport fishery. The group met with the Cordova City Council for a briefing on the proposed Cordova Center. R. J. Kopchak, city planner for Cordova, told the PAG that he believed portions of the community center would qualify for funding under the civil settlement guidelines.

The PAG visited Tatitlek the following morning, getting an aerial view of shoreline properties acquired through the habitat protection program.

Tribal chief Gary Kompkoff provided a tour of the village oyster farming facilities and the collection station for used oil and hazardous wastes. Members of the PAG also met with high school students who participate in the Youth Area Watch program.

Trustee Council Approves FY 2000 Work Plan

The Trustee Council approved its work plan for fiscal year 2000, providing $7.3 million to fund 65 research, monitoring and general restoration projects for the Kodiak Island, Kenai Peninsula and Prince William Sound regions. An additional 17 projects requiring $1.8 million in funding will be considered at the Trustee Council's December meeting.

The Trustee Council developed the FY 2000 Work Plan after receiving 133 proposals asking for $16.4 million in funding.

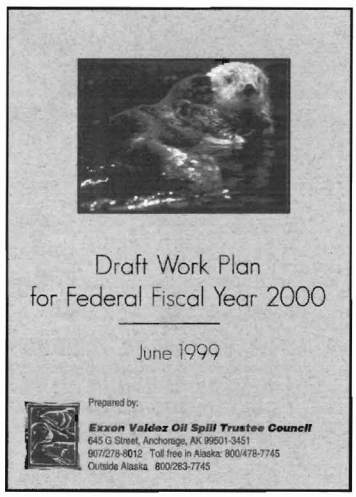
The majority of research projects funded by the Council will take place in Prince William Sound, some through the Prince William Sound Science Center in Cordova. The work plan includes up to $240,000 for herring research, $833,000 for research on pink salmon, $598,000 for oceanographic and ecosystem work in the sound, $835,000 for harbor seal and killer whale studies, and $2.2 million for studies on seabirds and the fish on which they prey.

The plan also provides $122,000 to the Chugach School District to fund Youth Area Watch, a program which gets students from Prince William Sound and lower Cook Inlet involved in restoration science. An additional $62,000 was funded to begin a similar educational program with the Kodiak Island Borough School District.

On the Kenai Peninsula, the plan provides $75,000 to enhance the pink salmon return to Port Graham and $46,600 to evaluate efforts to increase spawning habitat in Port Dick Creek. At least seven research projects, funded with $1.6 million, are to be operated from the Alaska SeaLife Center in Seward, focusing on pink salmon, pigeon guillemots, harbor seals and surf scoters.

In the western part of the spill area, the Council is funding enhancement of the coho run in the Kametolook River near Perryville on the Alaska Peninsula and training of village-based technicians to take biosamples from harbor seals for use by researchers. The Trustees provided $55,600 for development of a rapid screening test that can detect paralytic shellfish poisoning (PSP) and other natural toxins in shellfish collected for subsistence or personal use.

The Council also approved an additional $12 million to go into a restoration reserve account and $2 million for administration, science management and public information.



Science Center celebrates 10 years of sound research

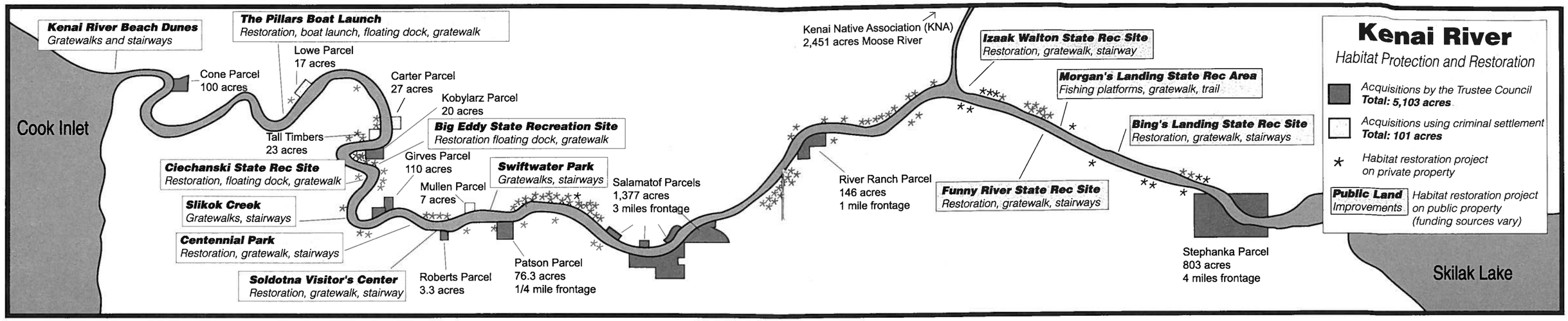
Ten years after the Prince William Sound Science Center opened its doors, the center has gained a reputation for contributing to our ecological understanding of the Prince William Sound region, and also encouraging long-term monitoring and biological conservation to benefit people dependent on those ecosystems.

The center opened less than one month after the *Exxon Valdez* oil spill and was funded that first year primarily by the City of Cordova. The city provided $100,000 in loan start-up funds and a home in what many Cordovans still call "the old harbormaster's office" or "the fish co-op's icehouse." Though in poor condition, the facility on pilings at the harbor's entrance was in a prime location for a research institute. It commands a spectacular view of Orca Inlet.

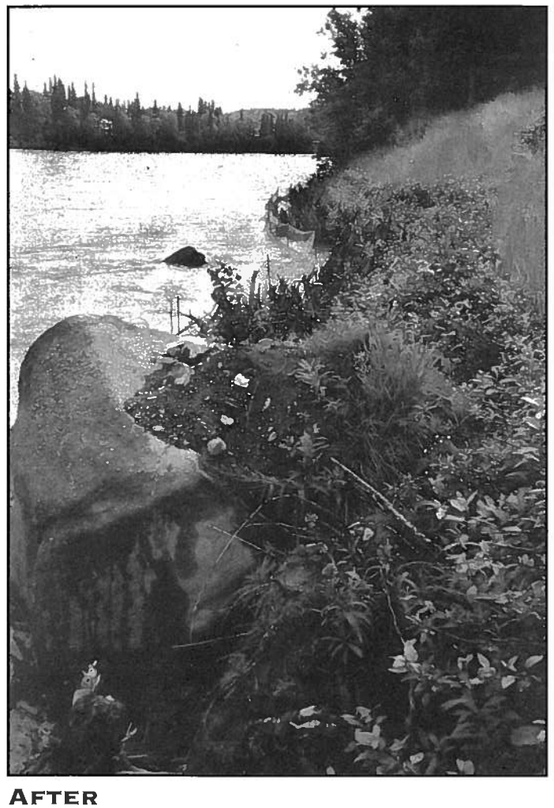
Today, the "old harbormaster's office" is often thought by visitors to be the newest building in town. Renovations to the Science Center building have turned it into a attractive office and laboratory complex. The latest addition is a combination reception and meeting room with audio-visual equipment and computer access for the public to the Center's web sites.

The Trustee Council funded several research projects at the science center, including:

- Planning and implementation of the Sound Ecosystem Assessment study. This five-year study has increased our knowledge of salmon, herring, zooplankton, pollock and the oceanography of Prince William Sound.
- Mathematical models for pink salmon, Pacific herring and zooplankton populations of Prince William Sound.
- Better understanding of the oceanography and current circulation patterns in the sound. Drifter buoy studies demonstrate much more complex currents than were previously known.
- Hydroacoustic surveys of Pacific herring, zooplankton and pollack populations in Prince William Sound.
- Surveys of octopus and chiton, a subsistence resource for residents of Prince William Sound and the Kenai Peninsula.



BEFORE



AFTER

Transformation of the Kenai River

Centennial Park in Soldotna is one of the most popular fishing areas of the river, which resulted in severe erosion along the riverbank. Revegetation efforts began in the spring of 1998. Above, the eroded bank was clearly visible at low water. Note the large, fully exposed rock in the "before" photo. The same rock in the "after" photo at right shows the transformation of the river bank. Root wads placed side-by-side protect the bank, which was revegetated with brush layering and seeding.

. . . Kenai River habitat supports sockeye fry

> "Look at the juvenile salmon under the willows. There's thousands of them."
>
> Dean Hughes, habitat biologist
> Alaska Department of Fish and Game

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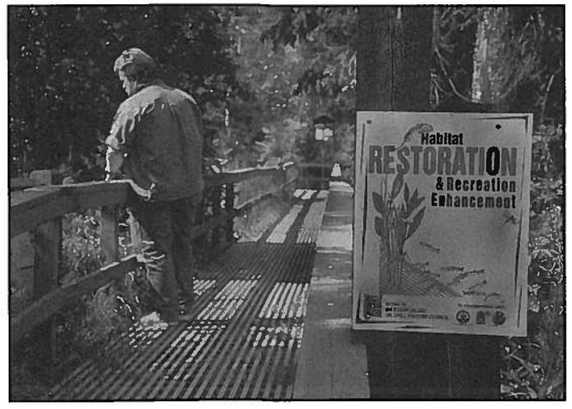
Habitat rehabilitation and protection are critical when you look at the balancing act we're trying to pull off here."

The transformation has come at a cost of more than $18 million from several sources, including $14.3 million from the Trustee Council. And it's all being done to protect tiny salmon fry, barely three inches in length.

A close look at the protected nearshore waters provides ample evidence that Kenai River restoration efforts are paying off. "Look at the juvenile salmon under the willows," said Dean Hughes, habitat biologist for the Department of Fish and Game. "There's thousands of them."

Maintaining safe refuge for the salmon fry is essential to ensure the long-term health of the river, biologists and fishing groups agree. That, in turn, helps protect the commercial, sport, and personal use fisheries that dominate the summer economy of the Kenai Peninsula. The Kenai River has been responsible for about 52 percent of the commercial sockeye catch and about one-third of the commercial chinook catch in upper Cook Inlet over the last 10 years. The value of that fishery has ranged from more than $100 million in 1988 to less than $20 million in 1991. The tourism and sport catch associated with the Kenai River is estimated to be worth as much as $50-$80 million annually.



Dean Hughes, habitat biologist with the Department of Fish and Game looks at restoration work from an elevated light-penetrating gratewalk in Centennial Park near Soldotna.

The long fingers of the *Exxon Valdez* spill reached the Kenai River even though the oil itself did not. A zero-tolerance policy concerning floating oil resulted in the shutdown that summer of all commercial salmon fishing in lower Cook Inlet. About 1.6 million salmon entered the Kenai to spawn, more than twice the maximum level allowed by the Kenai River late-run sockeye management plan.

This had two major impacts on the river. First, too many spawners produced more sockeye fry than the lakes could sup-

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. . . Kenai River Public Education Key to Success

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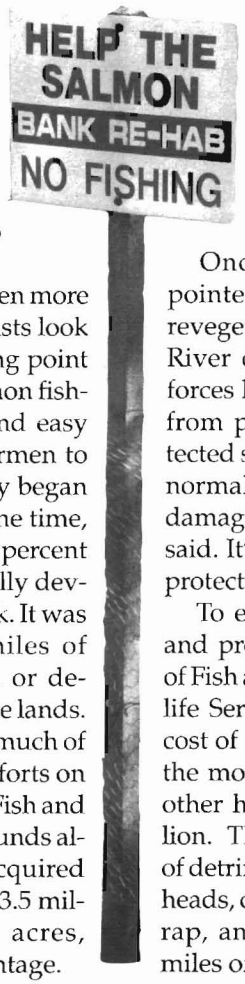
port. The tiny salmon could not find enough food and were too small when they emerged from the river. After lower-than-normal production, the number of fry per spawning salmon has returned to normal in recent years.

The second impact might have been more serious. Many residents and biologists look to the summer of 1989 as the turning point when the popularity of sockeye salmon fishing exploded. Liberal bag limits and easy fishing brought thousands of fishermen to the river for the first time and many began returning year after year. At the same time, tourism was growing by about 10 percent each year. The result was a potentially devastating degradation of the riverbank. It was estimated that in 1992, 18-22 miles of riverbank were already damaged or destroyed, including public and private lands.

The Trustee Council has focused much of its small parcel habitat protection efforts on the Kenai River. The Department of Fish and Game, using *Exxon Valdez* criminal funds allocated by the Legislature, also acquired riverfront properties. Altogether, $13.5 million was used to acquire 5,204 acres, including about 9 miles of river frontage.

The Trustees also invested about $2 million into rehabilitation and protection of the trampled banks, added to the $1.5 million provided by the state and $1 million by the National Marine Fisheries Service. In addition, an education campaign, using brochures, posters, and informational signs, was launched to teach sport fishermen how to fish without damaging the banks.



"I think the best thing that worked is educating people to the fact that standing on the bank is a lot worse than standing in the water," Hughes said while walking along a new gratewalk system at Centennial Park in Soldotna.

Once the riverbank is destroyed, he pointed out, it becomes very difficult to revegetate. The natural fast-moving Kenai River current coupled with other erosive forces like ice scour, flood flows and wakes from passing boats can cause the unprotected shoreline to erode at up to 10 times its normal rate. Revegetating and restoring a damaged streambank is very costly, Hughes said. It's much better to put money toward protecting habitat than rebuilding it, he said.

To encourage landowners to revegetate and protect private lands, the Department of Fish and Game and the U.S. Fish and Wildlife Service started a program to share the cost of restoration. Landowners put up half the money and the governments cover the other half, so far spending about $1.5 million. This program has resulted in removal of detrimental structures such as jetties, bulkheads, car bodies, 55-gallon metal drums, rip rap, and wooden walkways. Almost two miles of private lands were revegetated and three miles of riverbank protected through use of light-penetrating gratewalks and cabling of spruce trees to the shoreline.

The willingness of more than 160 private landowners to invest in habitat-friendly docks, walkways, stairways, and revegetation of shorelines is an indication of how strongly local residents feel about the protection of the Kenai River, Hughes and Huber said.

The Trustee Council has invested into Kenai River habitat through two principle means. It acquired 9 miles of shoreline, such as the Patson parcel (below left) with 1/4 mile of frontage. The Council has invested $2 million in revegetating and protecting riverbank and providing fishing access at public recreation areas, such as at Centennial Park in Soldotna (below right).

Phil Mundy takes over as science coordinator

Phil Mundy, former chief fisheries scientist for the Department of Fish and Game and a long-time peer reviewer of Trustee Council-funded research projects, is the new science coordinator for the Restoration Office. Mundy fills the role after the four-year tenure of Stan Senner, who left to become executive director of Audubon Society for Alaska.

Mundy has worked in Alaska fisheries for 23 years and became chief fisheries scientist for the state in 1985. He joined the Columbia River Inter-Tribal Fish Commission in 1987 and went on to start his own consulting firm, specializing in issues related to the salmon of the Pacific Northwest.

The mismanagement of salmon and the loss of salmon habitat along the Columbia and Snake rivers provides many lessons for fisheries managers in Alaska, Mundy said. "Whenever someone tells me that it can't happen here, I tell them to guess again," he said. "It can. We know how to stop it, but the question is will we?"

When the team of peer reviewers was put together to keep an independent eye on oil spill research, Mundy was among the first scholars contacted. His knowledge of fisheries biology and ecosystem management is top of the line, said Bob Spies, chief scientist for the Trustee Council.

Mundy takes over at a critical time for the EVOS research, monitoring and restoration programs. Plans are underway to create a 100-year monitoring program for the northern Gulf of Alaska, funded with a $115 million investment by the Trustee Council.

The long-term monitoring effort, known as Gulf Ecosystem Monitoring (GEM), needs to be crafted and ready for implementation by spring of 2002, when the current Restoration Program comes to an end.

"If we do GEM right, it could be the lynch pin that holds our resources up here intact," Mundy said. "Ecosystem management is imperative. That's where we've screwed up every time in the past. We need to coordinate our efforts across institutional boundaries and across geopolitical boundaries and across species boundaries."

Mundy received his doctorate in fisheries from the University of Washington in 1979. He worked in museums before that and spent four years as a professor of oceanography at Old Dominion University in Norfolk, Virginia.

Phil Mundy leads a discussion on the future of restoration programs during the 1998 Restoration Workshop.

Draft long-term monitoring plan to be presented to Trustees

The Trustee Council will meet in Juneau on October 22 to receive a briefing on the Gulf Ecosystem Monitoring project, a 100-year plan to monitor the vital signs of the northern Gulf of Alaska, including Prince William Sound and lower Cook Inlet.

The Council decided in March to establish a long-term monitoring and restoration program using at least $115 million from the Restoration Reserve. An additional $55 million is being set aside for habitat protection efforts.

GEM, as the project is being called, is a work in progress. The current draft plan is the result of several meetings involving principal investigators doing oil spill research and representatives from agencies and other groups doing research in or near the region.

"We don't want to duplicate what's already being done," said Science Coordinator Phil Mundy. "This effort will be coordinated to take advantage of research already underway and fill in the gaps where information is missing."

The idea, Mundy said, is to develop data sets that are decades long so that trends in the ecosystem can be detected. This will help fisheries and wildlife managers make better long-term forecasts and help commercial fishermen make long-term financial decisions.

RESTORATION 8 UPDATE

Restoration Notebook series expands

The natural history series on resources and services injured by the *Exxon Valdez* oil spill has grown by two with the addition of booklets on subsistence and bald eagles.

The series, written by the chief researchers in the field, cover the biology, oil spill injury and recovery of resources and services in the spill region.

The series is produced by the Restoration Office and made available free upon request. Topics so far cover: bald eagles, black oystercatchers, harbor seals, killer whales, marbled murrelets, Pacific herring, pigeon guillemots, sea otters and subsistence.

To obtain free copies, contact the Restoration office at 907-278-8012 or 800-478-7745 (inside Alaska) or 800-283-7745 (outside Alaska) or by e-mail: restoration@oilspill.state.ak.us.

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