Exxon Valdez Oil Spill Trustee Council

Restoration Update

March 1996 Vol 3 No. 2

SEA takes new approaches to pink salmon & herring

During an intense series of 24-hour surveys, SEA researchers sought to corroborate hydroacoustic data with the contents of fishing nets in specific areas of Prince William Sound. Margaret Powell writes down data as Shawna Karpovich weighs a fish and Jennifer Boldt prepares to take tissue samples. Photo by L.J. Evans.

The Trustee Council funded the Sound Ecosystem Assessment, or SEA, project to sort out the relationships among recent large declines in pink salmon and Pacific herring, the 1989 oil spill, and natural forces of climate and food availability. After two years of field work and data analysis, researchers are coming up with some of the answers.

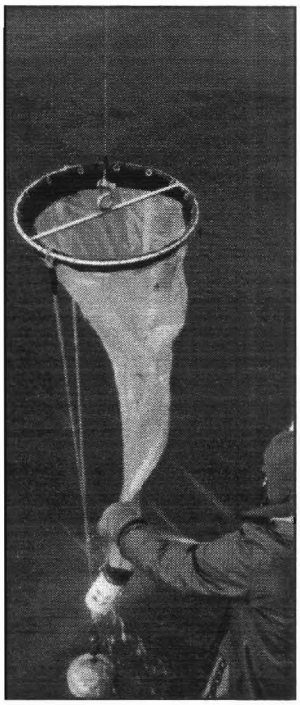
In the years after the 1989 oil spill, pink salmon fluctuated dramatically, and in 1993, the Pacific herring population crashed in Prince William Sound. Although considerable variability in the returns of both species is considered normal, these drastic declines were unexpected. Many people wondered if the oil spill was having a lasting negative effect on these valuable commercial resources. It was hard to tell if contamination from the spill had anything to do with the poor fishing, if the low returns were a result of natural forces in the ecosystem, or if a combination of these factors was the cause. Fishermen and resource managers wanted to know if anything could be done to prevent further declines or to accelerate recovery.

To help find the answers, the Trustee Council turned to the most knowledgeable experts: biologists, local fishermen, and fishery managers. Many of these experts felt strongly that while the oil spill may have contributed to the problems, the actual causes of the declines were much more complicated. Ocean conditions, availability of food, predation by other marine animals, and disease all were important factors controlling the production and recovery of pink salmon and herring. In addition, the experts felt the best aid to restoration was to develop an understanding of these controlling factors in order to improve management of the fisheries. The SEA project was developed in 1994 to answer these questions.

"The SEA project represents cutting-edge science," says Project Leader Dr. Ted Cooney of the University of Alaska

Continued on page 2

Inside...



A fine-mesh net is used to collect the small plants and animals that make up the bottom of the marine food chain. SEA researchers can examine the contents of the jar at the bottom of the net to determine what juvenile herring and pink salmon have available to eat
Photo by Bob Spies.

SEA Cont. from Page 1

Fairbanks Instititute of Marine Sciences. "We are developing a much better understanding of the large, underlying forces that drive the whole marine ecosystem in Prince William Sound. This information is going to prove invaluable, not only to restoration and improved management of pink salmon and herring, but to restoration of other injured resources as well."

SEA is a sophisticated, multi-component, interdisciplinary research program, involving specialists from the University of Alaska Fairbanks, Prince William Sound Science Center, Prince William Sound Aquaculture Corporation, the Copper River Delta Institute, and the Alaska Department of Fish and Game. These scientists are collecting data necessary for an ecosystem-level understanding of the two main processes which may control the variability of pink salmon and herring populations: the availability of food for juveniles resulting from physical factors such as tidal currents, salinity and water temperature; and predation on juveniles by other species.

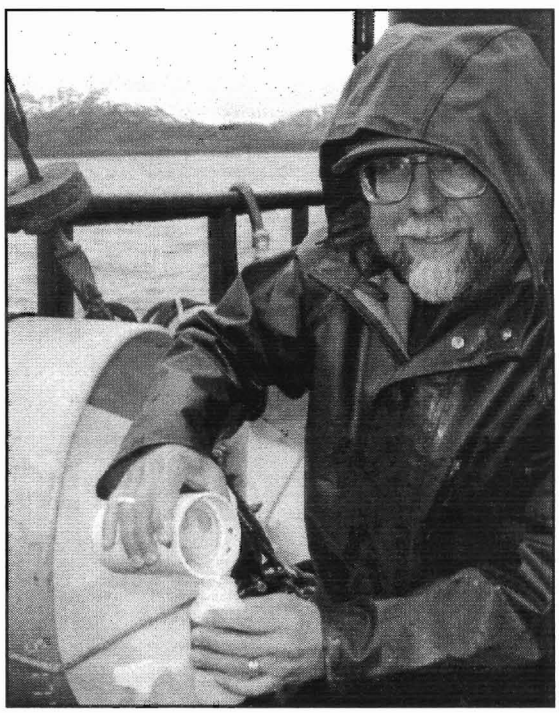
Program progress

Researchers working on the SEA project include physical and biological oceanographers, fishery scientists and experts in computer modeling. A significant amount of field work has taken place in the first two years to develop a clearer picture of the mechanisms and interactions which establish levels of juvenile pink salmon and herring survival each year. This information is being used to develop mathematical models of the ecosystem that will provide improved predictions of the returns of adult fish, and answer questons about the outcomes of proposed restoration or management activities.

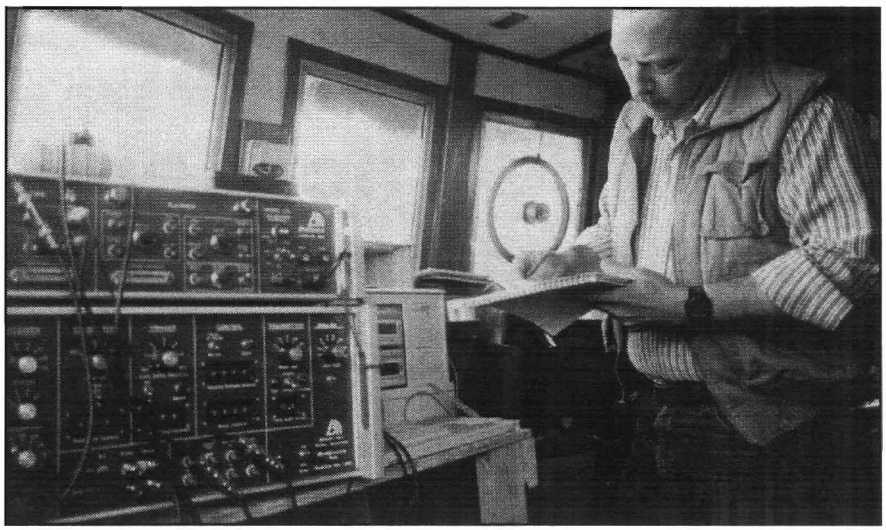
Some of the discoveries made by researchers in the SEA project are already generating information useful to the management of resources in the spill region. For example:

- Salmon fry that grew larger and were released from hatcheries later than normal survived much better than fry released at the usual size and time. Further work will help to determine if it is the size of the fry or the time they are released that is more important to survival.
- It is clear that walleye pollock are an important part of the Prince William Sound ecosystem, both as predators on juvenile salmon and as food for seabirds. The discovery of large schools of spawning pollock in the Port Bainbridge area may lead to development of a new commercial pollock fishery in the region.
- The SEA program has successfully developed and tested a computer model of ocean circulation in the Sound. Understanding ocean currents, especially the degree to which water from the Gulf of Alaska flows into and out of the Sound, is likely to be critical in predicting the amount of plankton available as food for pink salmon and herring fry and juveniles. Even in its early stages, this work has

Dr. Ted Cooney saves the plankton collected in the net pictured to the left for later examination in the laboratory.
Photo by Bob Spies.



changed scientists' understanding of ocean current patterns in Prince William Sound. For example, it appears that sometimes the Sound behaves more like a river, with sea water flowing through and returning to the Gulf, and sometimes more like a lake, resulting in less water exchange.



One of the major efforts of the SEA project has been collecting hydroacoustic data in Prince William Sound. Tom McClain on the Alaska Beauty records information from the hydroacoustic equipment as the vessel travels down a transect near Knight Island. Photo by L.J. Evans.

- SEA scientists have determined for the first time the locations where juvenile herring overwinter. Herring biologists think that juvenile survival over the winter is a key factor in determining the number of fish available for commercial harvest at age three or four. It will now be possible to study the survival of juvenile fish, and use this information to improve our predictions of the number of herring available for commercial fishing, subsistence use, and as food for other spill-injured species such as harbor seals and seabirds.

Scientific review and integration

All projects sponsored by the Trustee Council are regularly reviewed in detail by the Chief Scientist and other independent scientists from around North America. At the Restoration Workshop in January 1996, the scientific reviewers commented that the information being collected by SEA researchers will be of immense value for restoration and for the future management of natural resources in the oil spill region.

SEA project researchers are working on increased integration and collaboration, both within the elements of the SEA project and with the other two Trustee Council ecosystem projects, the Nearshore Vertebrate Predator project, or NVP, and the Apex Predator Experiment project, or APEX. Each of these restoration projects is examining different aspects of the marine ecosystem and species injured by the oil spill. More management decisions in the future will be based on known facts about populations of fish, seabirds and marine mammals as a result of these Trustee Council restoration projects. This is likely to result in accelerated recovery of the ecosystem as a whole, as well as recovery of important commercial and subsistence resources.

For more information about the SEA project, contact Joe Sullivan, Alaska Department of Fish and Game at 907/267-2213.

Mark Willette sorts the contents of a net sample into different species for counting. Analyzing data about the species and numbers of juvenile and adult fish is giving SEA researchers more information about who is eating whom. Photo by Jody Seitz.

Civil settlement, criminal funds, Alyeska settlement: What's the difference, anyway?

Keeping track of restoration funds can sometimes be confusing. News stories at the time of the October 1991 civil agreement between Exxon and the state and federal governments touted an "unprecedented $1 billion settlement." In addition, Alyeska Pipeline Service Co. agreed to pay $32 million in November 1992 to settle claims by the governments. Allocation of each of these "pots" of money—the Exxon civil and criminal funds, and the Alyeska funds—are guided by different sets of rules.

Government claims

On October 8, 1991 an agreement was approved by the United States District Court in Anchorage that settled the *civil* claims of the United States and the State of Alaska in exchange for the payment of civil damages. On that date, Exxon Corporation and Exxon Shipping Company also pled guilty to various *criminal* violations and agreed to pay restitution for injuries resulting from the oil spill. These are generally called the *civil* funds and the *criminal restitution* funds.

Civil Settlement

As part of the *civil settlement*, Exxon agreed to pay the United States and the State of Alaska up to $900 million over a period of 10 years. The guidelines for how the civil funds can be used are in a document called the Memorandum of Agreement and Consent Decree. The United States and the State of Alaska agreed to act as co-trustees, and the six-member *Exxon Valdez* Oil Spill Trustee Council was formed to manage the restoration process. The settlement with Exxon also has a reopener clause that allows the governments to claim up to an additional $100 million for restoration of populations, habitats or species that could not have been known or anticipated from information available at the time of settlement.

Criminal Judgment

Exxon pled guilty to criminal charges for violating provisions of three Federal laws: the Clean Water Act, the Migratory Bird Treaty Act, and the Refuse Act. The sentences imposed by the court included a *fine* of $150

Civil Settlement Funds

The settlement agreement specified that certain reimbursements to the governments and to Exxon, which totaled $213.6 million, came out of the funds at the outset. Since the Trustee Council was formed, additional funds have been allocated as follows:

- Annual work plans dealing with research, monitoring and general restoration for 1992 through 1996 have totaled $71.7 million. The Trustee Council also contributed $25.0 million toward construction of the Alaska SeaLife Center in Seward, a marine research facility which is expected to open in 1998 and will provide resources for conducting restoration research on marine mammals, seabirds and fish genetics.
- The Trustee Council has committed $161.5 million thus far to protect 361,000 acres of habitat important to recovery of resources injured by the spill. Negotiations are underway for a number of other large and small parcels throughout the spill region.
- Recognizing the likelihood that restoration needs will extend beyond the 2001 date when Exxon will end its payments, the Trustee Council in 1994 began depositing $12 million annually in a Restoration Reserve. This fund currently totals $36.0 million.
- Providing public information, science management, and administrative support to the restoration process has totaled $14.3 million through 1996.

million. The court forgave $125 million of the fine because of Exxon's cooperation with the governments during the cleanup, the corporation's timely payment of many private claims, and environmental precautions taken since the spill. Of the remaining $25 million fine, $12 million was paid into the North American Wetlands Conservation Fund, and $13 million into the Victims of Crime Act Account.

Exxon also agreed to pay $100 million as *criminal restitution*, divided evenly between the Federal Government and the State of Alaska. The District Court ordered that these restitution funds must be used "exclusively for restoration projects, within the State of Alaska, relating to the *Exxon Valdez* oil spill."

What's the difference?

The *civil* funds can be used only for restoration of injures resulting from the *Exxon Valdez* oil spill. The *criminal* funds can be used for these purposes as well as for preparation for future spills. For example, criminal funds have been used to fund various spill technology grants, which would not be a permissable use of the civil funds. Both the state and federal government coordinate use of the criminal funds with actions taken by the Trustee Council as they are allocating the civil funds.

See the shaded boxes on these pages for summaries of how these funds have been allocated. Note that the dollar amounts do not include interest earnings. The *1996 Annual Status Report* includes information on the past and estimated future uses of the civil settlement funds. A brief summary of how the criminal, civil and Alyeska funds are being used is included here.

For more information contact the Oil Spill Public Information Center at 907/278-8008, toll free at 1-800-478-7745 within Alaska, and 1-800-278-7745 from outside Alaska. The Internet address is ospic@muskox.alaska.edu, or you can reach the OSPIC world wide web page at:

http://www.alaska.net/~ospic

Federal Criminal Restitution Funds

The federal criminal restitution funds have been allocated so far as follows:

- $21 million to protect habitat within the Chugach National Forest in Prince William Sound.
- $20.5 million to protect habitat in the Kodiak National Wildlife Refuge.
- $7.5 million to the National Oceanic and Atmospheric Administration for shoreline monitoring, establishing an Estuarine Research Reserve in the spill area, and research leading to enhancements in navigational safety in Prince William Sound and Cook Inlet.

State Criminal Restitution Funds

The Alaska Legislature appropriated the state criminal funds as follows:

- $12.5 million to the City of Seward for the Alaska SeaLife Center.
- $7 million contribution to the purchase price for inholdings in Kachemak Bay State Park.
- $.5 million for construction of a Kachemak Bay State Park visitors center.
- $3.25 million for a shellfish hatchery and technical center.
- $4 million for a water delivery system to the Fort Richardson hatchery for sport fish production.
- $4.75 million for construction of recreational facilities within Prince William Sound, the Kenai Peninsula and the Kodiak Archipelago.
- $3 million to the Alaska Department of Fish and Game for habitat enhancement and restoration within the Kenai River watershed.
- $2 million for a grant to the Prince William Sound Aquaculture Corporation for upgrade of the Main Bay Hatchery.
- $3 million for additions to the University of Alaska Fairbanks Fishery Industrial Technology Center.
- $5 million to the Alaska Department of Community and Regional Affairs for grants to restore subsistence resources in small communities in the spill region.
- $5 million to the Alaska Department of Environmental Conservation for research on prevention and cleanup of future oil spills.

Alyeska Settlement

The Alyeska settlement was approved by both state and federal courts and resolved all spill-related legal claims by the governments against the company. The agreement is separate from private claims against Exxon. As part of the agreement the funds went to specific purposes. These included:

- $14.5 million to build oil spill response storage facilities and docks at Tatitlek and Chenega.
- $6 million for work in Cordova to build a road to a proposed oil spill response dock location and construct a response storage facility.
- $7.5 million towards purchase of inholdings in Kachemak Bay State Park.
- $200,000 for communications equipment at the Valdez Emergency Operations Center.
- $1.5 million to various communities through the State of Alaska for lost Fisheries Business Taxes.
- $2 million for reimbursements to the federal government.

Community Notes

Nine Community Involvement Local Facilitators have been hired in the spill region to aid information exchange with the Trustee Council. The facilitators are listed below.

Community Coordinator Martha Vlasoff is working with ADF&G Subsistence Division staff and Henry Huntington of the Inuit Circumpolar Conference to plan a Traditional Ecological Knowledge Protocol work session April 9 – 10, 1996 in Anchorage. All nine community facilitators will meet at the Restoration Office to discuss guidelines for collection of traditional knowledge and local hire through research projects. A draft protocol document will be produced at the work sessions for the community facilitators to take back to their villages for review.

On the second day of the work session there will be an opportunity for restoration project Principal Investigators to meet Local Facilitators and to work on creating opportunities for information exchange as part of 1996 field work. During the second day the Facilitators will also receive technical assistance on finalizing FY97 project proposals.

"We are hoping this exchange will provide a better understanding of the ecosystem from both points of view and greater respect for each one's contribution to the process," Vlasoff said.

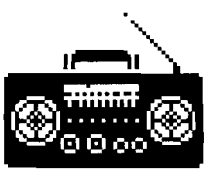
Vlasoff said that a number of Principal Investigators have already expressed interest in working with communities to coordinate projects with local residents this field season.

Martha Vlasoff, Molly McCammon and Dan Moore from ADF&G will be traveling to the Kodiak Island villages March 27-30, 1996. This will be an opportunity for the villagers to voice their concerns on injured resources and discuss projects, as well as a chance for staff to brief village residents on the progress of the restoration program.

Local Community Facilitators

Gary Kompkoff	Tatitlek	325-2311
Don Kompkoff	Chenega Bay	573-5132
Walter Meganack, Jr.	Port Graham	284-2227
Helmer Olsen	Valdez Native Tribe	835-5589
Charles Moonin	Nanwalek	281-2225
Kenny Blatchford	Qutekcak (Seward)	224-3118
Bob Henrichs	Eyak Tribal Council (Cordova)	424-7739
Hank Eaton	Kodiak Tribal Council	486-4449
Virginia Aleck	Chignik Lake	845-2212

Coastal Currents On The Air



A new radio program about the Trustee Council's research and restoration program will be heard in the spill region beginning the week of March 18. Each two-minute broadcast can be heard at varying times over public radio stations in Chenega Bay, Cordova, Dillingham, Glenallen, Homer, Kodiak, Tatitlek, Valdez and Whittier, as well as in Anchorage and Juneau.

The series of radio programs, called Alaska Coastal Currents, were developed by Jody Seitz of Cordova, working with Steve Heimel of the Alaska Public Radio Network.

The pilot series of 13 programs cover a variety of subjects such as new methods of studying harbor seals, research showing major shifts in abundance of forage fish species, and information about the status of killer whales in Prince William Sound. The Trustee Council funded this pilot series of programs as part of its overall public information effort.

For more information, call Jody Seitz at 907/424-3719 or L.J. Evans at 907/278-8012.

Alaska Specialists Observe Wales Spill Cleanup

The British government recently accepted Governor Tony Knowles' offer to send Alaska oil spill experts to the site of the *Sea Empress* spill in Wales. Dr. Robert Spies, Chief Scientist for the *Exxon Valdez* Oil Spill Trustee Council, and John Bauer of the Alaska Department of Environmental Conservation, the state's shoreline cleanup manager during the *Exxon Valdez* response, spent four days in Wales in mid-March observing the areas affected by the *Sea Empress* oil spill and exchanging information on cleanup and restoration strategies with British environmental officials.

Spies reported that about 108 miles of shoreline had been oiled so far, compared to more than 1,500 miles oiled in Alaska following the *Exxon Valdez* spill.

"Oil did get inside the Milford Haven estuary, an area especially rich in wildlife," Spies said. "Other than that, I didn't see anything that compares with the kind of immediate, major impact on wildlife we saw after the *Exxon Valdez*."

The number of dead birds recovered are on the order of 3,000 so far, Spies said, with scoters, cormorants and murres among the dead. More than 30,000 oiled bird carcasses were recovered after the Alaska spill.

Bauer noted that there were several key differences between the spills. The *Sea Empress* spill was a different, lighter crude oil, and some of the spill was composed of a partially refined fuel oil. Also, British officials used chemical dispersants on any oil slicks that were at least one mile offshore, which helped to break up the slick before it got onshore.

"That's their strategy," Bauer said. "If the conditions are right, use lots of dispersants right away. They had aircraft with dispersants ready to fly at first light the morning after the wreck." Spies also noted that the weather has at times been extremely rough, helping to further break up and disperse the oil.

The Liberian tanker Sea Empress grounded February 15 at the entrance to Milford Haven, Wales. The tanker spilled an estimated 19 million gallons of crude, almost twice the amount spilled by the *Exxon Valdez* in 1989. Travel expenses for Bauer and Spies were paid for by the British Coastguard Agency. Contact: Stan Senner at 907/278-8012.

Audit of Trust Funds Complete

The trust funds overseen by the *Exxon Valdez* Oil Spill Trustee Council were given a clean bill of health in an independent audit released by the Trustee Council in Anchorage March 20.

The Juneau firm of Elgee, Rehfield and Funk conducted the audit as the result of a competitive solicitation authorized by the Trustee Council.

"We're pleased that the audit's findings affirm that our financial statements and accounting system are in good shape," the Council's Executive Director Molly McCammon said. "As part of its trust responsibilities, the Council wanted to assure the public that the trust funds are being well managed, and that's why having an audit done was a high priority."

The audit of the Trustee Council funds cost $48,710. A summary of the audit is contained in the 1996 Annual Status Report. Copies of the audit and Status Report are available by calling the Oil Spill Public Information Center at 907/278-8008, toll-free within Alaska at 1-800-478-7745.

Calendar

March 27–30

Community meetings in Kodiak Island villages. Contact Martha Vlasoff at 907/278-8012 for more information.

April 9–10

Traditional Ecological Knowledge protocols workshop. Contact Martha Vlasoff at 907/278-8012 for more information.

April 15

Project deadline for FY97. Contact Sandra Schubert at 907/278-8012 for more information.

June 5

Public Advisory Group meeting. Contact Doug Mutter at 907/271-5011 for more information.

August 7

Public Advisory Group meeting. Contact Doug Mutter at 907/271-5011 for more information.

August 30*

Trustee Council meeting on FY97 Final Work Plan. Contact Rebecca Williams for more information at 907/278-8012.

***Tentative date.**

The Restoration Update is published approximately six times a year by the *Exxon Valdez* Oil Spill Trustee Council. Its purpose is to update interested members of the public about actions, policies and plans of the Trustee Council to restore resources and services injured by the *Exxon Valdez* oil spill.

For more information, mailing address correction or to request future articles on specific subjects, contact:

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Documents

1996 Annual Status Report

Abstracts of 1995 Restoration Project Results

FY 1996 Work Plan

Invitation to Submit FY97 Restoration Proposals

Reports • Archaeology

1994 EVOS report, spill area site and collection plan, Restoration Project Final Report, Bittner, J.E. and D.R. Reger.

Archaeological site monitoring and restoration, Restoration Project 1994 Annual Report, Reger, D. et al.

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Habitat use, behavior, and monitoring of harbor seals in Prince William Sound, Restoration Project 1994 Annual Report. Frost, K.F. et al.

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Pink Salmon

Injury to pink salmon eggs and preemergent fry incubated in oiled gravel (laboratory study), Restoration Project 1994 Annual Report, Heintz, R.A. et al.

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Subtidal

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Hydrocarbon mineralization potentials and microbial populations in marine sediments following the EVOS, Damage Assessment Final Report, Braddock, J.F. et al.

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Assessment of oil spill impacts on fishery resources: measurement of hydrocarbons and their metabolites, and their effects, in important species, Natural Resource Damage Assessment Final Report, Varanasi, U., et al. 1995.

Whales

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