

# Restoration Update

Exxon Valdez Oil Spill Trustee Council

May 1995

Vol 2 No. 2

## Preliminary results: PWS Herring Still In Decline

Cordova observers reported sightings of Pacific herring spawning in Prince William Sound during the last weeks of April. However, for the third year in a row, no commercial seine fishing for herring was allowed.

Alaska Department of Fish and Game staff from the Cordova office noted that the decline in herring biomass, although serious, was not as drastic as some feared, and may suggest moderately successful commercial harvests will be possible in future years.

Pathologists also noted the presence of lesions on some herring, which suggests that the *Ichthyophonus* virus is still present. More information on the source of the lesions will become available as analyses are completed as part of Project 95320S.

Although spawning fish were observed in more areas, the total biomass seems to be less than last year, according to John Wilcock of the Cordova Fish and Game Office.

"This year it looked like the largest accumulation of fish were near Montague Island," Wilcock said. "The preliminary estimate from sonar data was 10,000 tons, just in Rocky Bay, compared to last year's estimate of 20,000 tons of herring throughout the sound.

"This year we saw herring spawn on ten miles of beach in parts of the sound where spawning did not occur last year, but they were more spread out. Though there were at least some thousands of tons in other parts of the sound, by far the largest aggregation of herring we've seen this year from the air or on the water was at Montague."

Herring are an important element in the food chain of the

Gulf of Alaska marine ecosystem. Seabirds and marine mammals rely on herring and other forage fish as part of their diets. Understanding the herring declines of recent years is an especially challenging restoration problem.

"The trouble with herring is their variability," Wilcock said. "Whatever generalization you can make for herring, the next time you look at them they will do just the opposite."

The Trustee Council is supporting research on herring through several different projects, including the Sound Ecosystem Assessment, an ecosystem-based examination of environmental factors that may be constraining recovery of pink salmon and herring, and a project being conducted by researchers at the National Marine Fisheries Service laboratory in Auke Bay to investigate the effects of oil on herring genetics.

Divers were in the field in early May conducting spawn deposition biomass surveys to provide a better estimate of how many fish are actually spawning. Wilcock said results of that data collection will be available in August.

For more information on Trustee Council herring studies, contact Joe Sullivan at 907/267-2213.

## Calendar

**June 1** • Trustee Council meeting in Cordova, 1 PM at Mt. Eccles Elementary School Auditorium.

**June 13 & 14** • Public Advisory Group meeting in Anchorage at 645 G Street.

**June 27** • Draft 1996 Work Plan available for public review. Comment period from June 27 through August 1.

**August 25** • Trustee Council meeting in Anchorage to take action on 1996 Work Plan.

**September 21** • Public Advisory Group meeting in Valdez.

<b>Inside...</b>	
Habitat protection	Page 2
Pink salmon genetics	Page 4
SeaLife Center	Page 6
OSPIC	Page 7
Alutiq Museum	Page 8

# Habitat Protection

## Small parcel program Trustee Council could initiate negotiations by August



Sandra Cronland points out features of the Overlook Park KEN 55 small parcel near Homer to Eric Myers. This 97 acre parcel contains an extensive Kachemak Bay tidal pool area unique to the area and containing an especially diverse assortment of marine flora and fauna. The Trustee Council is considering possible acquisition of this parcel. Photo by Joe Sullivan, ADF&G.

Work continues on the Small Parcel habitat protection program with Trustee Council staff evaluating and ranking several additional private landowner nominations.

This program identifies opportunities for the Trustee Council to protect small parcels (less than 1,000 acres) of habitat important to resources injured by the spill. The Trustee Council works only with voluntary and

willing private landowners who wish their land to be considered for protection.

Evaluation of recent small parcel nominations by a multi-agency working group is nearly complete. Preliminary negotiations, title searches, hazardous materials investigations and appraisals are moving forward on small parcels identified to date as being of substantial importance to restoration objectives.

It is estimated that a total of approximately 25 – 30 small parcels will be considered for possible purchase and protection through the Small Parcel program. The Trustee Council may review options for small parcel action at their August 25 meeting.

For more information about the Small Parcel program, contact Eric Myers at 907/278-8012.

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.

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# Program Update

## Large parcel discussions underway

Some land transfers imminent

Lands owned by Akhiok-Kaguyak Inc. and Old Harbor Corporations will be transferred to the U.S. Department of the Interior soon, resulting in protection of almost 152,000 acres of forest lands in the Kodiak National Wildlife Refuge.

Transfer of another 115,000 acres of land owned by Koniag, Inc. is expected to follow shortly. Negotiations and appraisals continue for offers made by the Trustee Council to Afognak Joint

Ventures, Chenega, Eyak and Tatitlek Corporations, as well as the Kodiak Island Borough. Talks are also underway with the English Bay and Port Graham Corporations. The current status of these habitat protection negotiations is summarized in the table shown below.

For more information on the status of the Trustee Council's habitat protection activities, call Carol Fries at 907/278-8012.

### Status of Large Parcel Habitat Protection Actions

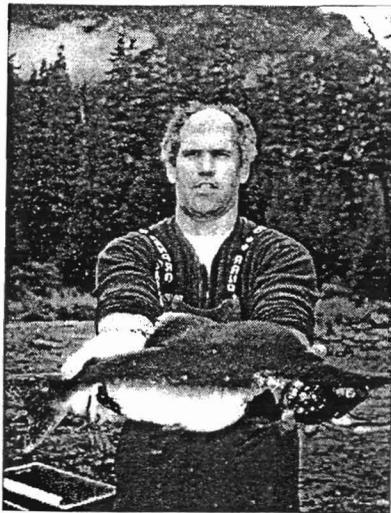
As of May 15, 1995

	Acreage	Purchase Price (In Millions)	Civil Trust Funds (In Millions)	Other \$ Sources (In Millions)
<b>Completed Transactions</b>				
Kachemak Bay State Park Inholdings	23,800	\$22.0	\$7.5	\$14.5
Seal Bay/Tonki Cape	41,549	\$38.7	\$38.7	
Orca Narrows Timber Rights	2,052	\$3.45	\$3.45	
<b>Subtotal:</b>	<b>67,401</b>	<b>\$64.15</b>	<b>\$49.65</b>	<b>\$14.50</b>
<b>Agreements Reached</b>				
Akhiok - Kaguyak, Inc.	119,885	\$46.0	\$36.0	\$10.0
Koniag	115,739	\$28.5	\$21.5	\$7.0
Old Harbor	32,100	\$14.5	\$11.25	\$3.25
<b>Subtotal:</b>	<b>267,724</b>	<b>\$89.0</b>	<b>\$68.75</b>	<b>\$20.25</b>
<b>Offers - Subject to Appraisals</b>				
Afognak Joint Venture	48,728	\$70.0	\$70.0	\$0
Chenega	74,554	\$48.0	\$38.0	\$10.0
Eyak - Core Parcels	13,700	\$21.0	\$21.0	\$0
Shuyak Island	25,665	\$42.0	\$42.0	\$0
Tatitlek	56,785	\$22.0	\$12.0	\$10.0
<b>Subtotal:</b>	<b>219,432</b>	<b>\$203.0</b>	<b>\$183.0</b>	<b>\$20.0</b>
<b>Negotiations Continuing</b>				
English Bay	49,800			
Eyak - Orca Revised & Other Lands	49,700			
Port Graham	46,170			
<b>Subtotal:</b>	<b>145,170</b>			
<b>Total:</b>	<b>699,727</b>	<b>\$356.2</b>	<b>\$301.4</b>	<b>\$54.75</b>



Project Geneticist Gary Miller collected muscle, liver, heart and retina tissue samples from pink salmon in Prince William Sound. The tissue samples were frozen in liquid nitrogen for transport to the Fish and Game genetics laboratory in Anchorage, where the genetic data was collected using DNA techniques and protein electrophoresis.

*Photo by Jim Seeb, ADF&G.*



# Pink Salmon Genetics More Diverse Than Expected

**P**ink salmon that spawn in the upper reaches of streams in Prince William Sound are genetically distinct from salmon spawning in other areas of the same streams, according to 1994 Alaska Department of Fish and Game research funded by the Trustee Council. In fact, researchers say salmon spawned in the lower zones of different streams have more in common genetically than the salmon spawned in the upper reaches of the same streams.

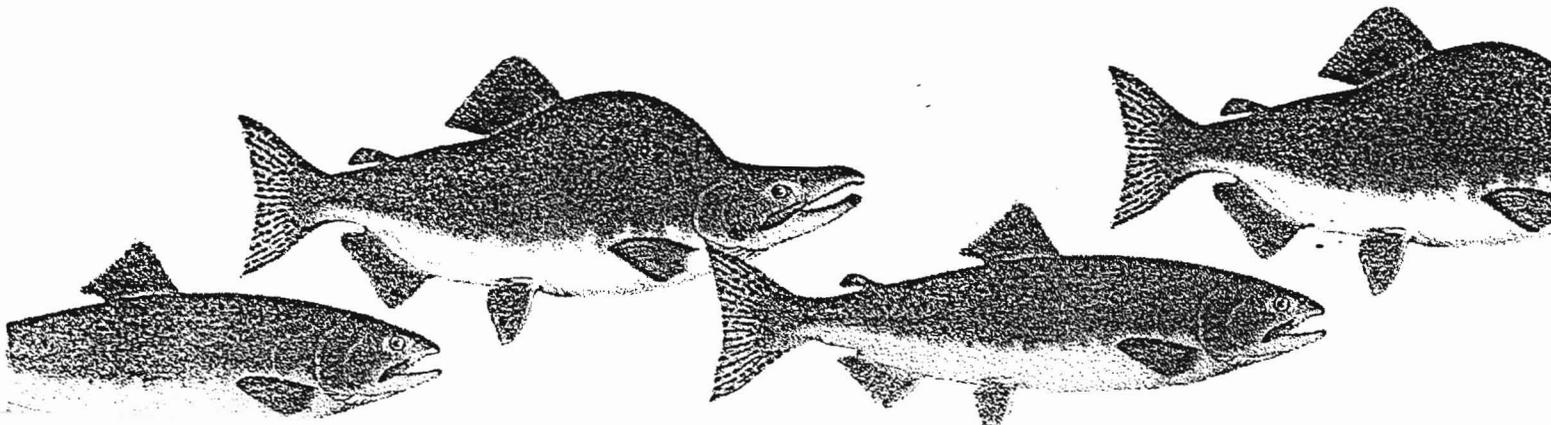
Understanding the genetic structure of wild pink salmon populations inhabiting Prince William Sound is critical to both their

management and conservation, according to fishery biologists.

"Pink salmon are known to stray among local streams, sometimes in large numbers," said Jim Seeb, Project Manager for ADF&G. "We also know that when they return to spawn, they home in to an area with some degree of geographical and temporal precision," Seeb said. "We're using genetics technology to understand just where the dividing lines are between specific populations."

In order to properly manage fisheries in Prince William Sound, ADF&G

needs to know the genetic boundaries of pink salmon populations. Managing for the pink salmon spawning in every stream may not be necessary and may result in policies which adversely affect the fishing industry and waste management resources while not significantly aiding conservation and restoration efforts, Seeb said. On the other hand, managing for the whole sound as if the wild stock populations in individual streams did not matter could result in a loss of genetic adaptations and diversity.



**Populations of fish adapt genetically in response to local conditions...**

According to Seeb, fishery managers will be able to use Trustee-funded research results to better interpret and apply findings obtained from analyses on a population basis, more properly define the population-level nature of the oil spill damage documented in previous studies of damaged pink salmon, and guide the management-oriented restoration of oil spill-damaged pink salmon populations. The same knowledge of population structure will be used for genetic monitoring and risk assessment required to evaluate restoration proposals involving fish supplementation.

Prince William Sound is the center of one of the State of Alaska's largest aquaculture industries. Prince William Sound Aquaculture Corporation and Valdez Fisheries Development Association hatcheries release over 700 million salmon fry and smolts each year. ADF&G has been grappling for nearly a decade with managing the combined hatchery/wild stock fishery in order to prevent over fishing of wild stocks. The Exxon Valdez oil spill injuries

to wild stocks, coupled with survival rates for hatchery fish, which exceed wild stocks by 10 to 1, has intensified ADF&G's concerns about protecting the wild stocks.

"We know that populations of fish adapt genetically in response to local conditions such as stream gradient, temperature, turbidity, and many other factors," Seeb said. However, genetic exchange between populations is restricted, and the accumulation of local adaptations produces diversity within the population which is responsible for many aspects of the "fitness," or survival rate, of the species.

In the case of commercially harvested species like pink salmon, fitness includes peak productivity as well as long-term sustainability. Highly diverse genetic population mixes provide a biological buffer to environmental changes such as droughts, floods, major earthquakes, and other events which occur routinely in Alaskan ecosystems.

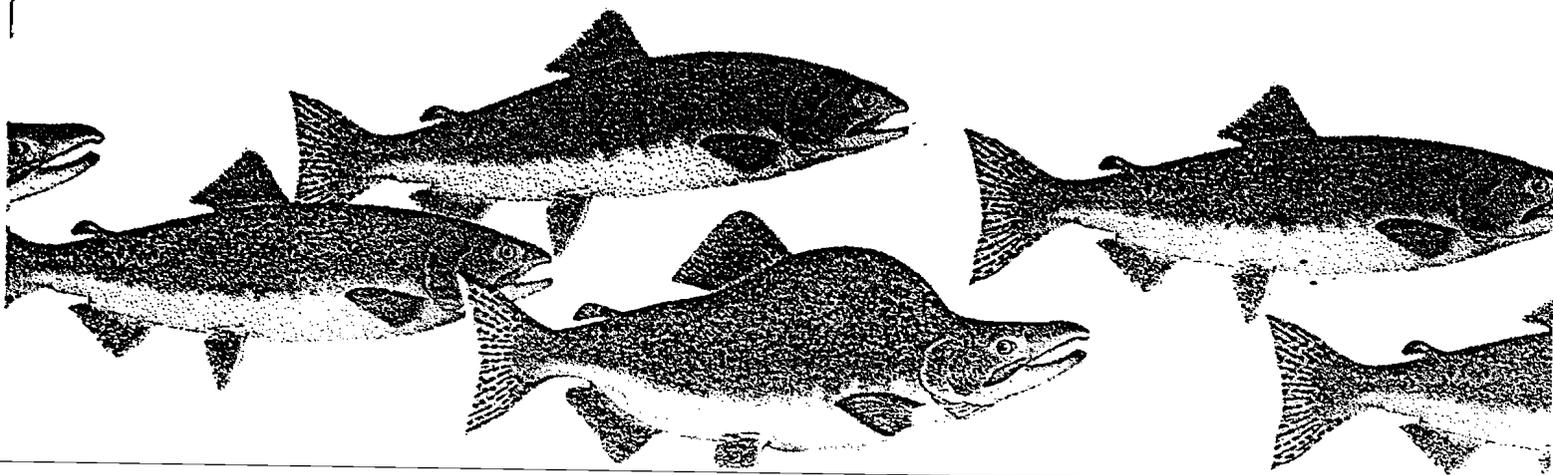
To date the Trustee

Council has funded data collection and analysis of 18 odd- and 45 even-year pink salmon populations. A comprehensive set of genetic markers has been screened using two different laboratory approaches.

Preliminary results show that Prince William Sound populations are identifiable at least along major geographic boundaries. East Sound, West Sound, and South Sound Island populations have been found to be genetically different from one another. Recent laboratory results seem to show that significant genetic differences also can occur between populations spawning upstream and intertidally in the same stream, Seeb said.

Pink salmon genetics work proposed for 1996 is intended to provide a better understanding of the structure of diversity among all of the potentially influential factors, including early and late spawners and spawners in different bays and corridors. For more information contact Jim Seeb at 907/267-2385.

**Diverse genetic population mixes provide a biological buffer to environmental change...**





**Attendees  
at area  
meetings  
discuss  
local  
concerns,  
restoration  
goals**



*At a meeting in Kodiak representatives of all the outlying Kodiak villages spoke with staff from the Trustee Council and from the Alaska Department of Fish and Game's Subsistence Division. Trustee Council representatives held public meetings in twelve communities in the spill region during April to provide an update on current activities and discuss options for the future. Meetings in other spill area communities will be held in the fall. Photo by Bruce Wright, NMFS.*

**Ground  
breaking  
for  
Alaska  
SeaLife  
Center  
May 21**

Groundbreaking ceremonies for the Alaska SeaLife Center in Seward took place at 11:30 AM on Sunday, May 21. When completed, the SeaLife Center will provide a facility for long-term research and monitoring programs important to restoration of resources injured by the Exxon Valdez oil spill.

The center will consist of a research and wildlife rehabilitation facility as well as a public educational and visitation component. The Trustee Council in 1994 authorized \$24.9 million in funding to support development of the research component of the SeaLife Center. Additional start-up funding came from the

state's Exxon Valdez oil spill criminal restitution funds appropriated by the Alaska Legislature.



**Alaska SeaLife Center**  
*windows to the sea*

A \$10 million private funding campaign is underway to fund the public

visitation component of the Center. The facility will include specialized resources for studies on marine mammals, marine birds and fish genetics.

The City of Seward is providing the land and will own the center; the Seward Association for the Advancement of Marine Science, a non-profit organization, will operate the facility.

Current plans are for the Alaska SeaLife Center to open its doors to researchers and the public in 1998.

For more information about the the Trustee Council's support of the Alaska SeaLife Center, call Kim Sundberg at 907/267-2342.

# Oil Spill Public Info Center

More than 8,000 served

Staff at the Oil Spill Public Information Center recently received their 8,000th visitor since the opening of the library in September 1990. This unique library is funded by the Trustee Council to provide public access to information on the *Exxon Valdez* oil spill and subsequent restoration efforts.

During the past four and a half years, the library staff has answered over 12,000

questions about the spill and distributed 23,000 publications. Questions come in from people all over the

world via phone, fax, regular mail and electronic mail.

"The question we get most often is 'How did the oil spill affect the wildlife?' said Carrie Holba, the OSPIC's Head Librarian.

OSPIC regularly receives queries from students, teachers, writers, radio and television journalists, attorneys, agency personnel, scientists, business professionals, and librarians from Alaska and elsewhere.

The OSPIC collection includes information from the natural and social sciences, economics, and law pertaining to the *Exxon Valdez* oil spill, other spills in the marine environment, and restoration. Visitors to the OSPIC find answers to their questions in technical reports, books, journals, maps, video tapes, audio tapes, photographs and computerized databases.

Items in the circulating collection are available for check out by Anchorage residents. Users outside the Anchorage area may borrow these materials through interlibrary loan from their local public or academic library. OSPIC is also a contributing member of the

Western Library Network, and a database of the OSPIC collection is available via Internet on SLED, the Alaska State Library's Statewide Library Electronic Doorway.

The OSPIC staff recently established a Home Page on the World Wide Web. Users can find out about the oil spill, library materials, and the latest Trustee Council publications and activities by typing <http://www.alaska.net/~ospic>.

To reach the OSPIC staff with your questions, call (907) 278-8008, toll-free from within Alaska at 1-800-478-7745, toll-free from outside Alaska at 1-800-283-7745, or via email to [ospic@muskox.alaska.edu](mailto:ospic@muskox.alaska.edu) or [ospic@calvino.alaska.net](mailto:ospic@calvino.alaska.net), or you may visit the library at 645 G Street in Anchorage. Hours are Monday - Friday, 9 AM - 4:30 PM.



OSPIC staff, l to r: Beverly Hayes, Technical Services Librarian; Carrie Holba, Head Librarian; and Jeff Lawrence, Library Technician.

Photo by L.J. Evans

## New Science Coordinator On Board



A veteran of oil spill restoration work has returned to fill the position of Science Coordinator for the Trustee Council. In his new role, Stan Senner will facilitate coordination and communication among the Trustees, Chief Scientist Bob Spies, and the agency and private researchers working on *Exxon Valdez* restoration projects.

Senner is no stranger to the Council since he served as ADF&G's Restoration

Program Manager from 1990 to 1992. He co-chaired the Trustee Council's Restoration Planning Work Group and played a key role in early development of the Restoration Plan. In 1992 he moved to a position as Director of the Migratory Bird Conservation Program for the National Audubon Society in Boulder, Colorado.

"I'm glad to be back in the middle of this ground-breaking program," Senner said. "Much discussion is

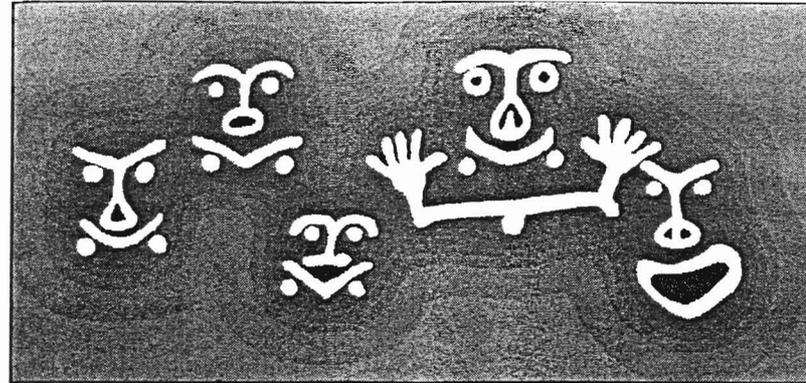
taking place among scientists, industry and conservationists about restoration, but the Trustee Council has the resources and the opportunity to put new ideas into practice. We can add greatly to the knowledge of what can and should be restored following an environmental disaster such as the *Exxon Valdez* oil spill."

## Kodiak's Alutiiq Museum Opens

The Alutiiq Museum and Archaeological Repository officially opened to the public on Saturday, May 13. Opening ceremonies marked completion of the Alutiiq Center, which houses the museum and repository on the first floor and office suites for Natives of Kodiak Inc. and Afognak Native Corporation on the second floor.

"The Trustee Council is pleased to have played a role in the creation of this facility," Craig Tillery, Assistant Alaska Attorney General said at the ceremonies. "The Trustees thank the people of Kodiak for working with us on this project. This Center will help to achieve an important restoration objective by providing the means to preserve and protect cultural resources injured by the 1989 oil spill."

Construction of the Archaeological Repository



When designing the Alutiiq Museum and Archaeological Repository's logo, the staff incorporated figures which resemble several 1,000-year old petroglyphs found near a "Kachemak tradition" village site on Cape Alitak.

was partially funded with \$1.5 million from the *Exxon Valdez* oil spill settlement funds. The regional and village Native corporations of Kodiak and the Kodiak Area Native Association jointly formed the Alutiiq Heritage Foundation to oversee operations of the center.

The museum will house and display artifacts, ethnographic pieces and archival collections from the Alutiiq culture in a facility

with appropriate climate control and security features. The first exhibit on display at the museum is *Crossroads Alaska*, a collection of Native artifacts from Alaska and Siberia. Artifacts found during Kodiak archaeological excavations, including projects funded by the Trustee Council, will also be on display.

For more information about the Alutiiq Museum, call Rick Knecht at 907/486-7004.

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