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EXXON VALDEZ OIL SPILL
TRUSTEE COUNCIL
ADMINISTRATIVE RECORD

The Exxon Valdez Oil Spill Trustee Council

Background

On October 9, 1991, the U.S. District Court approved a plea agreement that resolved various criminal charges against Exxon as well as a civil settlement for recovery of natural resource damages resulting from the oil spill.

The Criminal Plea Agreement. Exxon received a fine of \$150 million -- the largest fine ever imposed for an environmental crime. The courts remitted \$125 million in recognition of Exxon's cooperation in cleaning up the spill and paying private claims. Of the remaining \$25 million, \$12 million went to the North American Wetlands Conservation Fund and \$13 million went to the Victims of Crime Fund. In addition, Exxon agreed to pay restitution of \$50 million to the United States and \$50 million to the State of Alaska.

Civil Settlement and Restoration Fund. Exxon agreed to pay \$900 million with annual payments stretched over a 10-year period. The agreement requires that the funds be used first to reimburse the federal and state governments for the costs of cleanup, damage assessment and litigation. The remaining funds are to be used for restoration. The settlement also has a provision allowing the governments to claim up to an additional \$100 million to restore resources that suffered a substantial loss, the scope of which could not have been anticipated from data available at the time of the settlement.

The Exxon Valdez Oil Spill Trustee Council was formed to oversee restoration and consists of three state and three federal trustees (or their designees).



Bruce Botelho
Attorney General
State of Alaska



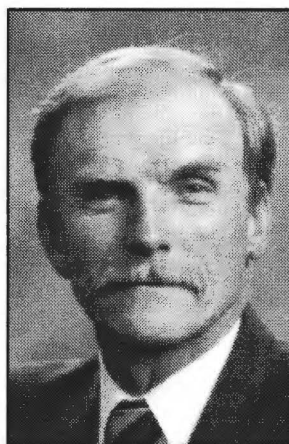
Michele Brown
Commissioner
Alaska Dept. of
Environmental Conservation



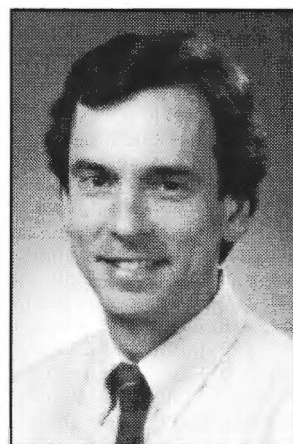
George T. Frampton, Jr.
Assistant Secretary
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Phil Janik
Regional Forester
Alaska Region
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Steve Pennoyer
Director, Alaska Region
National Marine
Fisheries Service



Frank Rue
Commissioner
Alaska Dept. of Fish & Game

Past and Estimated Future Uses of Civil Settlement

(in millions \$)

Reimbursements for Damage and Response	213.6
Governments (includes litigation and cleanup)	173.7 (a)
Exxon (for cleanup after 1/1/92)	39.9
Research, Monitoring and General Restoration	180.0
Actual expenditures:	
• FY 1992 Work Plan	12.4
• FY 1993 Work Plan	8.8 (b)
• FY 1994 Work Plan	15.2
• FY 1995 Work Plan	17.1
• FY 1996 Work Plan (authorized)	18.2
• FY 1997 Work Plan (authorized)	15.4 (c)
FY 1998 - FY 2002 Work Plans (estimate)	66.2
Alaska SeaLife Center	25.5
Reduction of Marine Pollution	1.2
Habitat Protection	381.5
Large Parcel and Small Parcel habitat protection programs (past expenditures, outstanding offers, estimated future commitments and parcel evaluation costs)	
Restoration Reserve	108.0
• FY 1994 — FY 1997	48.0
• FY 1998 — FY 2002 (anticipated)	60.0
Public Information, Science Management & Administration	30.9
Actual expenditures:	
• FY 1992 Work Plan	4.3
• FY 1993 Work Plan	2.7 (b)
• FY 1994 Work Plan	4.1
• FY 1995 Work Plan	3.2
• FY 1996 Work Plan (authorized)	3.4
• FY 1997 Work Plan (authorized)	2.9
FY 1998 - FY 2002 Work Plans (estimate)	10.3
TOTAL	914.0
Exxon Payments	900.0
Interest on Court Registry Investment System (minus fees)	12.0
Interest on federal and state accounts	2.0

- (a) Reimbursement to governments reduced by \$2.7 million included in the FY 1992 Work Plan.
- (b) 1993 Work Plan was funded for only 7 months during transition to the federal fiscal year (October 1 - September 30).
- (c) As of October 1, 1996. Additional \$ 1.1 million in projects pending further review for FY 97 funding.

Payments by Exxon

September 1991	\$ 90 million
September 1992	\$150 million
September 1993	\$100 million
September 1994	\$ 70 million
September 1995	\$ 70 million
September 1996	\$ 70 million
September 1997	\$ 70 million
September 1998	\$ 70 million
September 1999	\$ 70 million
September 2000	\$ 70 million
September 2001	\$ 70 million

Exxon Valdez Oil Spill Facts:

Date and Time:

March 24, 1989
12:04 a.m.

Amount spilled:

10.8 million gallons
257,000 barrels

Tanker loaded with:

53.1 million gallons
1.2 million barrels

Oiled Shoreline:

1,547.8 miles total
189.8 miles heavy oiling
165.3 miles moderate oiling
392.1 miles light oiling
850.6 miles very light oiling

Habitat Protection



Habitat protection is considered to be the most effective long term method to restore the environment and protect injured species and has broad support among residents of the spill area, other Alaskans, the country's top scientists, and individuals across the nation.

The Trustee Council has underway two habitat protection programs for willing sellers, one to evaluate and acquire large parcels in excess of 1,000 acres and another to acquire small parcels strategically chosen for their restoration value.

When the job is done, the Trustee Council hopes to have purchased and protected nearly 760,000 acres of land important for restoration and threatened by development. This will include at least 1,000 miles of shoreline and several hundred miles of riverbank needed for successful rearing of salmon.

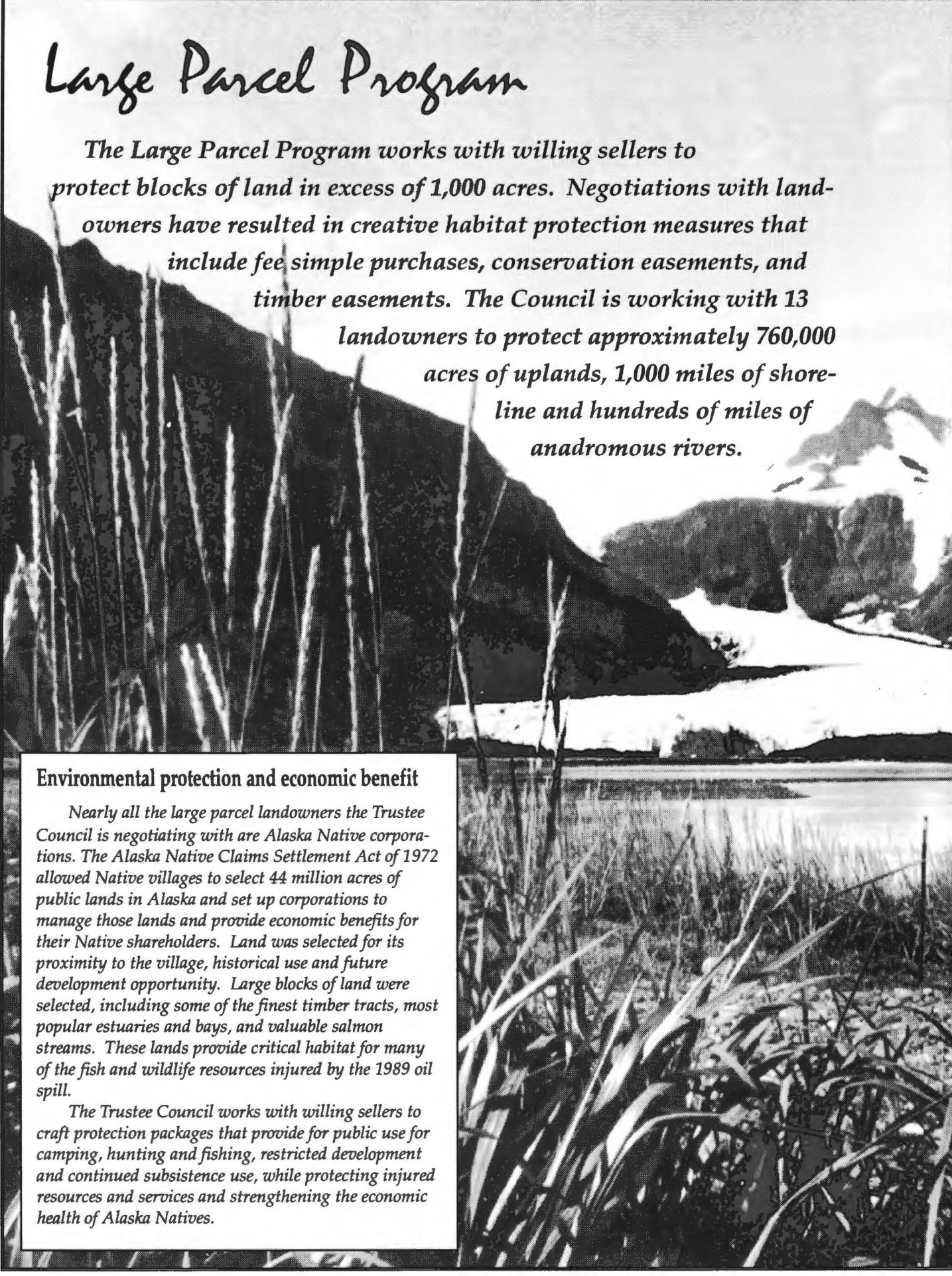
Large Parcel Program

The Large Parcel Program works with willing sellers to protect blocks of land in excess of 1,000 acres. Negotiations with landowners have resulted in creative habitat protection measures that include fee simple purchases, conservation easements, and timber easements. The Council is working with 13 landowners to protect approximately 760,000 acres of uplands, 1,000 miles of shoreline and hundreds of miles of anadromous rivers.

Environmental protection and economic benefit

Nearly all the large parcel landowners the Trustee Council is negotiating with are Alaska Native corporations. The Alaska Native Claims Settlement Act of 1972 allowed Native villages to select 44 million acres of public lands in Alaska and set up corporations to manage those lands and provide economic benefits for their Native shareholders. Land was selected for its proximity to the village, historical use and future development opportunity. Large blocks of land were selected, including some of the finest timber tracts, most popular estuaries and bays, and valuable salmon streams. These lands provide critical habitat for many of the fish and wildlife resources injured by the 1989 oil spill.

The Trustee Council works with willing sellers to craft protection packages that provide for public use for camping, hunting and fishing, restricted development and continued subsistence use, while protecting injured resources and services and strengthening the economic health of Alaska Natives.



Large Parcel Program

(Status as of October 1, 1996)

Parcel Description	Acreage	Total Price	Trust Fund	Other Sources
Acquisitions Complete				
Kachemak Bay State Park inholdings	23,800	\$22,000,000	\$7,500,000	\$14,500,000 ²
Seal Bay/Tonki Cape	41,549	\$39,447,600	\$39,447,600	\$0
Orca Narrows (timber rights)	2,052	\$3,650,000	\$3,650,000	\$0
Akhiok-Kaguyak	118,674	\$46,000,000	\$36,000,000	\$10,000,000 ³
Old Harbor ¹	31,609	\$14,500,000	\$11,250,000	\$3,250,000 ³
Koniag (fee title)	59,689	\$26,500,000	\$19,500,000	\$7,000,000 ³
Koniag (limited easement)	57,082	\$2,000,000	\$2,000,000	\$0
Shuyuk Island	<u>26,665</u>	<u>\$42,000,000</u>	<u>\$42,000,000</u>	<u>\$0</u>
Subtotal:	361,120	\$196,097,600	\$161,347,600	\$34,750,000
Offers Pending				
Chenega	60,997	\$34,000,000	\$24,000,000	\$10,000,000 ³
Tatitlek	<u>66,443</u>	<u>\$33,000,000</u>	<u>\$23,000,000</u>	<u>\$10,000,000 ³</u>
Subtotal:	127,440	\$67,000,000	\$47,000,000	\$20,000,000
TOTAL:	488,560	\$263,097,600	\$208,347,600	\$54,750,000
Negotiations Continuing				
Afognak Joint Venture	112,827	<\$70,000,000	<70,000,000	\$0
English Bay	33,350			
Eyak	72,000			
Koniag (fee title) ⁴				
Port Graham	<u>46,170</u>			
Subtotal:	264,347			
Total Acreage to be Protected:	752,907			

1. As part of the protection package, the Old Harbor Native Corporation agreed to protect an additional 65,000 acres of land on Sitkalidak Island as a private wildlife refuge.

2. State of Alaska contribution using \$7 million from the Exxon plea agreement and \$7.5 million from the civil settlement with Alyeska Pipeline Service Company.

3. Federal contribution from the Exxon plea agreement.

4. Negotiations with Koniag concern fee title to the 57,082 acres that are currently protected under a limited conservation easement.

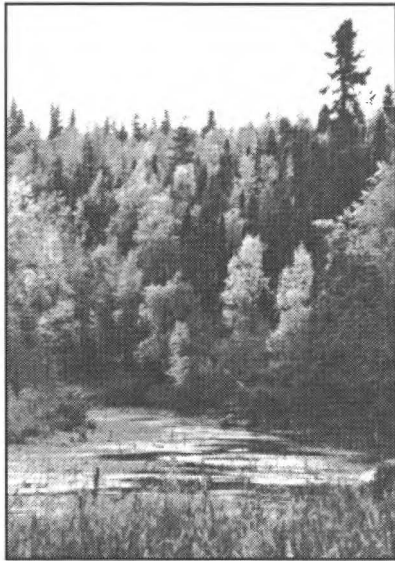


Prince William Sound Clearcut

Private lands within state and national parks, refuges, and forests are being slated for logging. Landowners, in need of economic opportunities, are willing to sell the land or timber rights rather than carry through with logging plans, in order to promote the restoration effort.

Small Parcel Program

A small tract of land can play a powerful role in an overall ecosystem. For instance, a 1,000-acre parcel on the popular Kenai River, with more than two miles of river frontage, provides a rare opportunity to protect valuable habitat for rearing king and red salmon. Placing this land under the protection of the Kenai National Wildlife Refuge will help maintain the health of the river and the subsistence, sport and commercial fishing economies that depend on the river for survival.



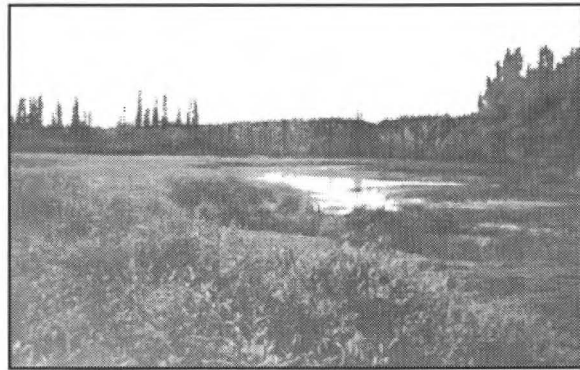
In recognition of the unique habitat qualities and strategic value of smaller tracts of land (less than 1,000 acres), the Council initiated the Small Parcel Program in 1994. The public has nominated 299 parcels for consideration in this program. Each parcel is

evaluated, scored and ranked based on resource value, recreational value and either the threat of or the potential for development. The Council is currently considering about 50 parcels.

The Kenai River property cited above received a high score based on its value for salmon (an injured resource) and will be protected as habitat. Another parcel, 66 acres of road accessible lakefront

property, received a high ranking because it is ideally suited for recreation (an injured service) and it has been

added to the Chugach National Forest for use as a campground and recreation site.



Highlights of the small parcels to be protected

Kenai National Wildlife Refuge

The Department of Interior is working with two landowners to pick up 4,600 acres on the popular Kenai River and its drainage area. These tracts include about five miles of Kenai River-front habitat essential for successful rearing of salmon. The Kenai River is world renowned for its fishery resources.

Chugach National Forest

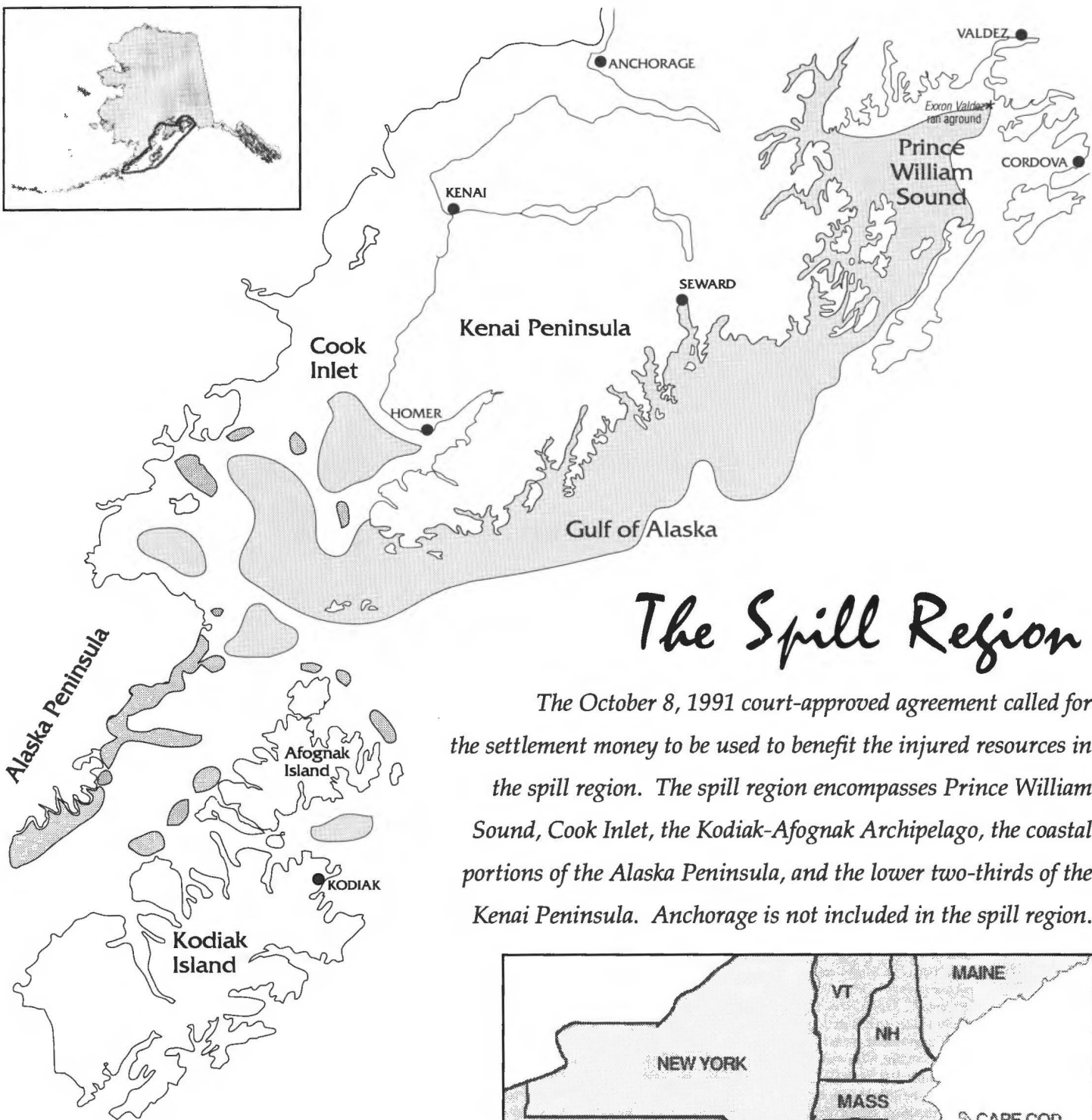
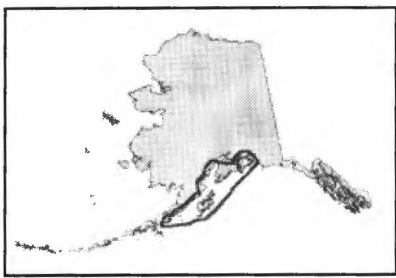
The U.S. Forest Service is negotiating for 1,000 acres of prime recreational land in Prince William Sound. One site near Valdez could be used for a visitor center and public education program in a prime habitat area that is road accessible. The Forest Service has completed acquisition of a 66 acre lakefront site along the road system to Seward. This property is considered valuable for its fish resources and its potential as a campground and recreation site.

Kodiak National Wildlife Refuge

Twelve parcels that provide critical habitat for salmon and the Kodiak brown bears that feed on them are currently being considered for acquisition. These sites total 1,125 acres and many are located at the mouths of rivers with access by boat or float plane only. In addition, the Kodiak Island Borough has offered 150 parcels of approximately 10 acres each, which are currently being appraised and evaluated.

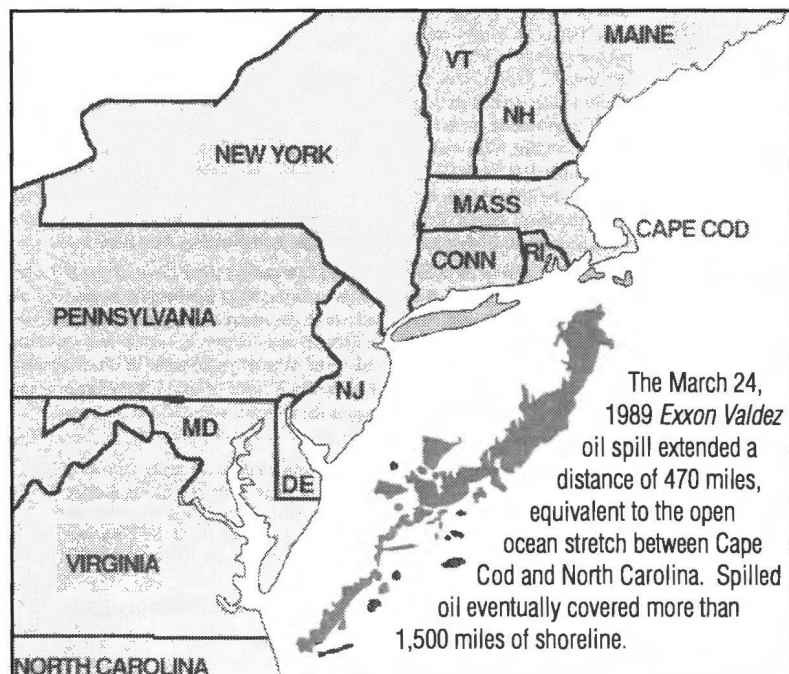
Alaska Parks and Critical Habitat Areas

The State of Alaska has acquired or is evaluating 23 sites totaling 2,400 acres throughout the spill area, to be preserved as critical habitat areas, added to the park system or developed into recreation sites. This includes 514 acres of Kenai River front, providing large critical stretches of undisturbed habitat for salmon and other fish and wildlife resources.

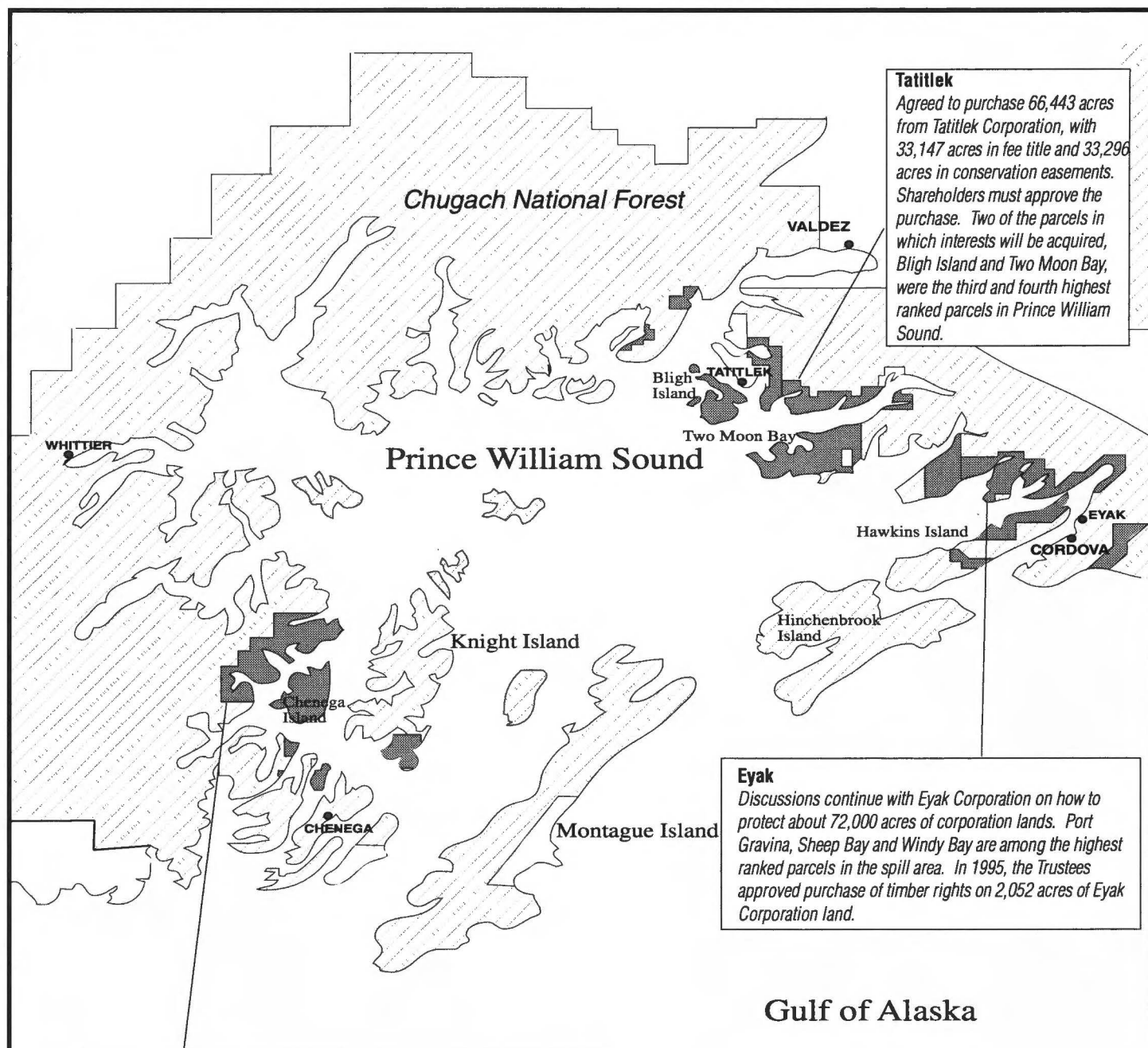


The Spill Region

The October 8, 1991 court-approved agreement called for the settlement money to be used to benefit the injured resources in the spill region. The spill region encompasses Prince William Sound, Cook Inlet, the Kodiak-Afognak Archipelago, the coastal portions of the Alaska Peninsula, and the lower two-thirds of the Kenai Peninsula. Anchorage is not included in the spill region.



Prince William Sound



Tatitlek

Agreed to purchase 66,443 acres from Tatitlek Corporation, with 33,147 acres in fee title and 33,296 acres in conservation easements. Shareholders must approve the purchase. Two of the parcels in which interests will be acquired, Bligh Island and Two Moon Bay, were the third and fourth highest ranked parcels in Prince William Sound.

Eyak

Discussions continue with Eyak Corporation on how to protect about 72,000 acres of corporation lands. Port Gravina, Sheep Bay and Windy Bay are among the highest ranked parcels in the spill area. In 1995, the Trustees approved purchase of timber rights on 2,052 acres of Eyak Corporation land.

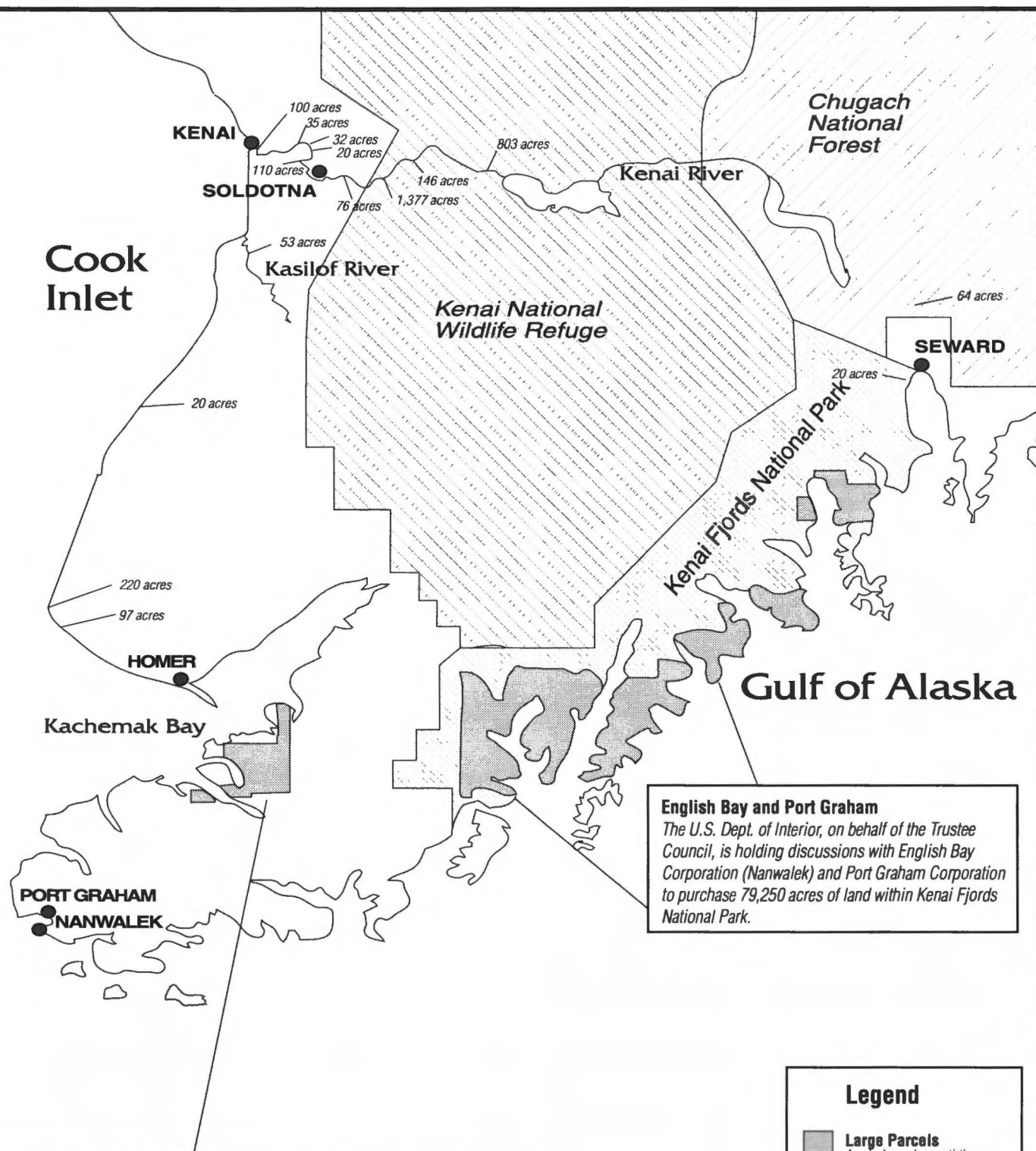
Chenega

Agreed to purchase 60,997 acres from Chenega Corporation. The offer, if approved by shareholders, includes acquisition of surface title to 38,228 acres together with a conservation easement on 22,769 acres with public access on all but 3,330 acres of these lands in the vicinity of the original Chenega village site. Two parcels to be acquired in fee simple, the Eshamy Bay and Jackpot Bay parcels, are among the highest ranked parcels in the oil spill area.

Legend

- Large Parcels**
Acquired or under negotiations
- National Forest**

Kenai Peninsula



Kachemak Bay

In August 1993, the state acquired 23,800 acres of private inholdings within Kachemak Bay State Park. This acquisition protects a highly productive estuary, several miles of anadromous fish streams and intertidal shoreline and upland habitat for bald eagles, marbled murrelets, river otters and harlequin ducks. The Council contributed \$7 million to this purchase. The State of Alaska contributed \$7 million from the Exxon criminal plea agreement and another \$7.5 million from the Alyeska civil settlement.

English Bay and Port Graham

The U.S. Dept. of Interior, on behalf of the Trustee Council, is holding discussions with English Bay Corporation (Nanwalek) and Port Graham Corporation to purchase 79,250 acres of land within Kenai Fjords National Park.

Legend

- Large Parcels**
Acquired or under negotiations
- National Wildlife Refuge**
- National Forest**
- National Park**

110 acres — **Small Parcel Program**
(indicated by acreage amount)

Kodiak-Afognak Archipelago

Shuyak Island

Purchased surface title to 26,665 acres of prime habitat on Shuyak Island from the Kodiak Island Borough. The borough agreed to commit \$6 million from the land sale to expansion of Kodiak's Fishery Industrial Technology Center.

Afognak Joint Venture

Negotiations continue with Afognak Joint Venture for surface title to 112,827 acres on northern Afognak Island. The property consists of seven dispersed parcels, three of which are adjacent to the previously acquired Seal Bay parcel. A final appraisal is expected in late Fall 1996.

Koniag

Purchased from Koniag, Inc., surface title to 59,689 acres of prime habitat for bear, salmon, bald eagles, and other species in the Kodiak National Wildlife Refuge. This agreement protected an additional 57,082 acres along the Karluk and Sturgeon Rivers under a nondevelopment easement through the year 2001. Negotiations are continuing on permanent protection of these parcels.

Seal Bay and Tonki Cape

Purchased 41,549 acres of mature spruce forest adjacent to highly productive marine waters; includes salmon streams, excellent habitat for bald eagles and marbled murrelet nesting. Afognak Island State Park was created in 1994.

Shuyak Island

Kodiak National Wildlife Refuge

Afognak Island

AFOGNAK

PORT LIONS

KODIAK

Shelikof Strait

Kodiak Island

KARLUK

UGANK

LARSEN BAY

Kodiak National Wildlife Refuge

OLD HARBOR

Sitkalidak Island

AYAKULIK

AKHIOK

KAGUYAK

Old Harbor

Purchased from Old Harbor Native Corporation surface title to 28,609 acres of land within the Kodiak National Wildlife Refuge. The corporation also donated a conservation easement on 3,000 acres and agreed to preserve 65,000 acres of land on Sitkalidak Island as a private wildlife refuge with facilities for ecotourism.

Akhiok-Kaguyak

Purchased from Akhiok-Kaguyak, Inc., surface title to 76,211 acres of land and conservation easements on 42,463 acres, for a total of 118,674 acres. These lands are within the Kodiak National Wildlife Refuge.

Legend

 Large Parcels
Acquired or under negotiations

 National Wildlife Refuge

Restoration

Research, Monitoring & Management

The North Pacific is a vast cold-water environment, rich in marine life and poorly understood. The lack of good scientific data became a severe handicap in understanding the true impacts of the Exxon Valdez oil spill.

With funding from the Exxon Valdez Oil Spill

Trustee Council, scientists are taking a giant leap forward in their understanding of the intricate North Pacific ecosystem.

The Council has funded hundreds of scientific studies throughout the spill region with the expectation that increased

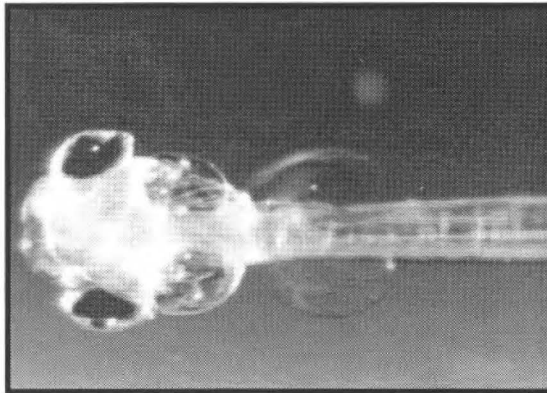
knowledge will help protect our marine life, provide for better fisheries management and allow for sustained use of our

ocean resources for generations to come.

It's been said many times that if one can find a silver lining in the oil spill, this is it.

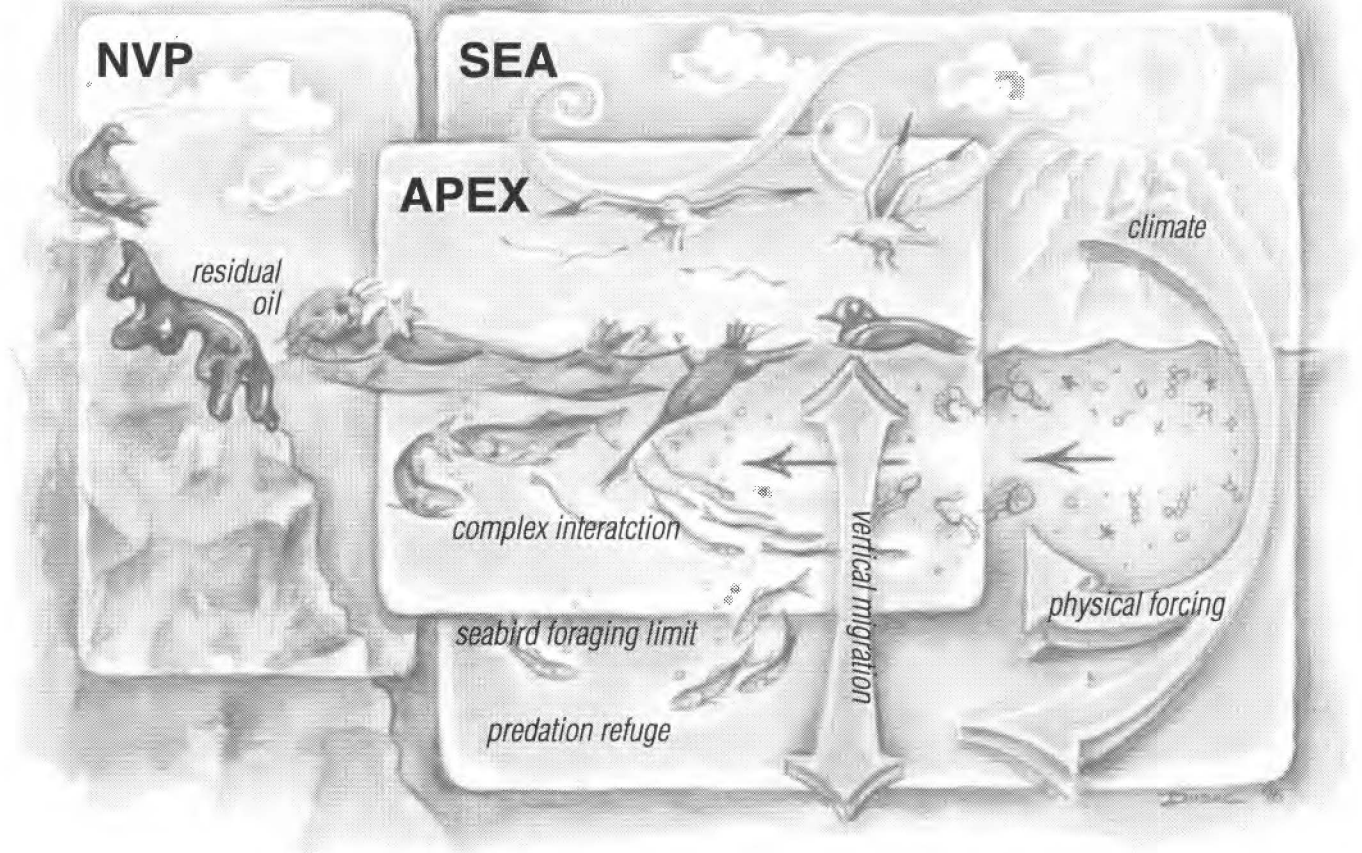
The action of the Trustee Council

translates into vital habitat protection, more recreational access to lands, better fishing success, sustained subsistence harvests, and a world of scientific knowledge once thought unachievable due to funding constraints.



Research & Monitoring

Ecosystem Projects



The challenge to scientists is to look at the spill region as a single ecosystem, taking into account the complex interrelationships among species as well as the oceanic physical factors.

The Trustee Council is providing long term funding for three projects that explore the natural dynamics of the North Pacific. They are known by their acronyms: NVP, SEA, and APEX.

The Nearshore Vertebrate Predator project began in 1995, using four indicator species to study recovery factors in shallow waters along the shore. This project focuses on two fish eaters -- river otters

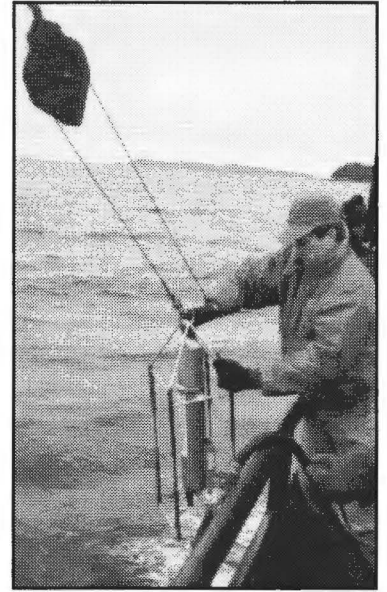


Vladimir Burkanov, Russia, and Lloyd Lowry, Alaska Department of Fish and Game, weigh a harbor seal in Prince William Sound. Burkanov was assisting the restoration project as part of a cooperative exchange program on marine mammals.

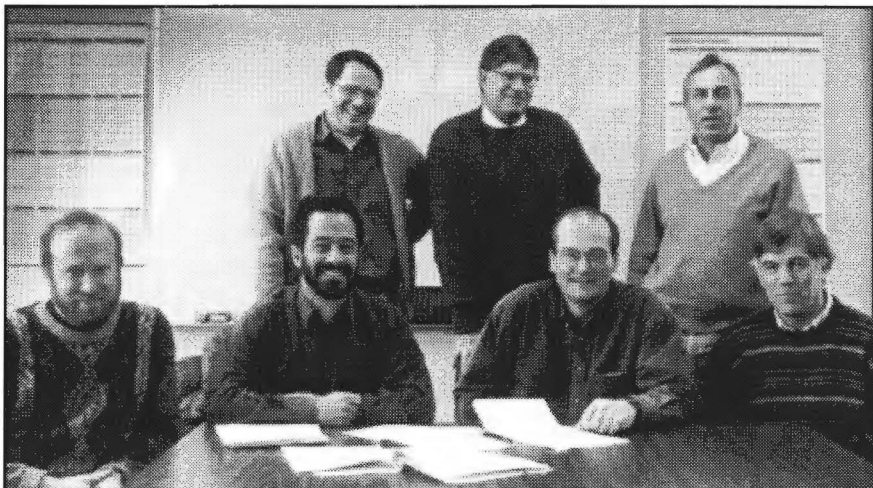
and pigeon guillemots -
- and two species which
feed on shellfish --
harlequin ducks and sea
otters.

**The Sound Eco-
system Assessment**
project was initiated in
1994 to understand the
dynamics influencing
pink salmon and Pacific
herring productivity in Prince William
Sound. Local populations of both species are
highly variable and herring crashed in 1993.
This study considers currents, water mixing,
and ocean temperatures as well as plantlife,
prey and predators in the food chain.

The Apex Predator Experiment concen-
trates on recovery of seabirds based on the
availability of forage fish as a food source.
Three species -- pigeon guillemots, common
murres and black-legged kittiwakes -- are being
studied as key indicators of a healthy ecosystem.



As part of the APEX project, veterinarians surgi-
cally implanted very small satellite-linked radio
transmitters into common murres and tufted puff-
ins (top left) in the Barren Islands. Jim Murphy (top
right) retrieves a recorder during a SEA research
cruise. Dave Tessler (above) measures the wing of a
pigeon guillemot chick while Lindsey Hayes weighs
another chick as part of the APEX project.



A science team (left) reviews each project prior to
Council approval and provides peer review of the re-
sults. Standing left to right, Science Coordinator
Stan Senner; Pete Peterson, marine biologist; Chief
Scientist Robert Spies. Sitting are Chris Haney, wild-
life ecologist; Andy Gunther, marine biologist; Phil
Mundy, fisheries biologist; George Rose, fisheries
biologist.

Injured Species

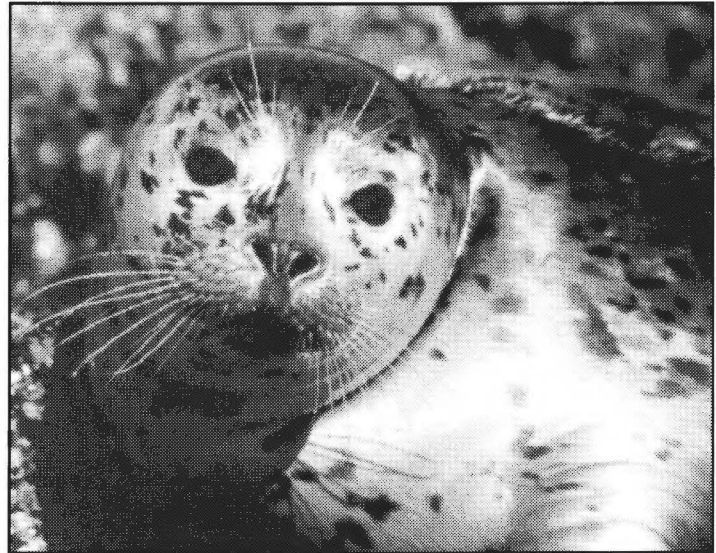
To date, 28 species or resources have been classified as injured by the oil spill. Only one, the **bald eagle**, is considered to be healthy and has been officially declared as “recovered” by the Trustee Council.

Marine Mammals

Sea otters, which became the symbol of oil’s destruction during the early days of the spill, are recovering well, although their numbers in the hard-hit portions of western Prince William Sound remain low.

The well-known and intensively studied AB pod of **killer whales**—a group of 36 animals inhabiting the Gulf of Alaska—lost 14 of its members and produced no young in the two years following the spill. The pod still has more losses than births, and its complex social structure is deteriorating.

Harbor seals in the Gulf of Alaska were known to be in decline before the oil spill, with populations down 80 percent over the last 20 years. An estimated 300 harbor seals died during the spill and rates of decline continue to be higher in oiled areas than in non-oiled areas. Natural



Harbor Seal

changes in food supplies (especially “bait” fishes) may account for the long-term decline.

Seabirds

Pigeon guillemots nesting on Prince William Sound’s Naked Island have declined by 40 percent since 1981. It’s estimated that the oil spill claimed 10-15 percent of the pigeon guillemots in the region. There is no evidence of a post-spill recovery, and, as is the case for harbor seals, natural changes in food supplies may play a role.

Marbled murrelets, a species listed as threatened in the Pacific Northwest, is still abundant in Alaska waters. The marbled murrelet, however, is another species that had declined before the oil spill. As much as 7 percent of the spill-area population was killed during the spill, and there is no evidence yet of recovery.

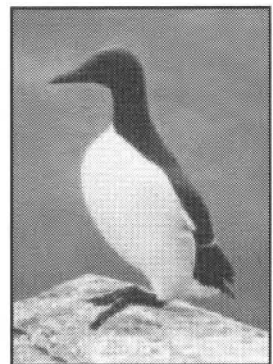


Marbled Murrelet

Common murres took the brunt of the oil, accounting for about 74 percent of the 30,000 oiled bird carcasses recovered. Actual deaths may have been about 185,000 murre. Productivity at key colonies was within normal bounds by 1993.

Most of the oil was initially stranded in shallow subtidal areas where **harlequin ducks** feed.

The spring spill hit over-wintering birds, so its impacts may extend far beyond the Gulf of Alaska coast. There continues to be concern about poor reproduction and a possible decline in numbers of molting birds in western versus eastern portions of Prince William Sound.



Common Murre

Intertidal, Subtidal and Sediments

Detailed coastline surveys found varying degrees of oiling on 1,500 miles of coastline. Impacts to **intertidal and subtidal flora and fauna** occurred at all tidal levels and to depths of up to 20 meters. Many species of algae and invertebrates were less abundant at oiled than at unoiled sites. In some cases, oil-tolerant species increased greatly, changing the composition of the biological communities. Intertidal and subtidal communities are recovering from the spill and the cleanup activities that followed, but some effects linger.

Exxon Valdez oil penetrated deeply into cobble and boulder beaches and the underlying **sediments** that are common on shorelines throughout the spill area. Some of that oil remains, especially in sheltered habitats and underneath rocks. The oil that remains is relatively stable. In 1995, a shoreline survey team visited previously oiled sites in the Kodiak Archipelago and found no oil or only trace amounts.

Though the residual oil is not considered an environmental risk, the Trustees approved a \$1.9 million cleanup plan in

Resources and Services Injured by the Spill

Injured Resources		Lost or Reduced Services
<p>Recovered</p> <p>Bald eagle</p>	<p>Not Recovering</p> <p>Cormorants (3 species) Harbor seal Harlequin duck Killer whale (AB pod) Marbled murrelet Pacific herring Pigeon guillemot Sea otter (western PWS)</p>	<p>Commercial fishing Passive uses Recreation and Tourism including sport fishing, sport hunting, and other recreation uses Subsistence</p>
<p>Recovering</p> <p>Archaeological resources Common murre Intertidal communities¹ Mussels Pink salmon Sediments Sockeye salmon Subtidal communities</p> <p><small>1. Status of intertidal communities based largely on monitoring in sheltered rocky habitats in Prince William Sound; status of other intertidal habitats is less certain or unknown, though some recovery can be anticipated.</small></p>	<p>Recovery Unknown</p> <p>Black oystercatcher Clams Common loon Cutthroat trout Designated wilderness areas Dolly Varden Kittlitz's murrelet River otter Rockfish</p>	

the **Chenega area** in an effort to boost confidence in subsistence and recreational use of the tidelands.

A 1993 shoreline survey of Prince William Sound identified 225 locations with residual surface oiling, asphalt or mousse. The **Chenega-area cleanup**, to take place in the summer of 1997, will target surface oil found at eight key sites on Latouche, Evans and Elrington Islands. These sites are on beaches where residents go to gather food from the rich tidelands.



Common murre colony at Barren Islands

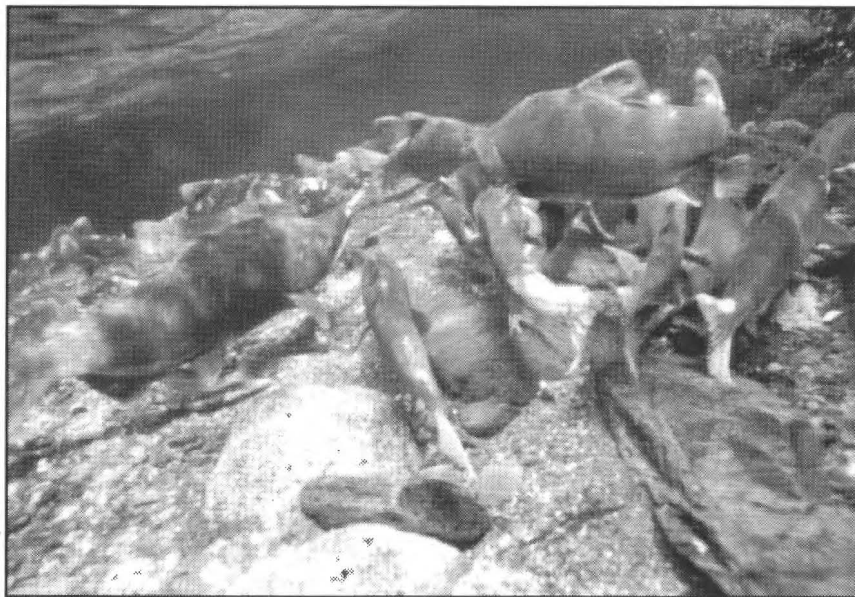
Fisheries

Many commercial fisheries were closed in 1989 due to concern about oil contaminating fish bound for human consumption. By 1990, most of those fisheries had reopened, but oil's impact on the fish themselves lingered.

Both wild and hatchery-reared **pink salmon** swam through oiled waters in 1989 as they foraged in Prince William Sound and emigrated to the sea. The result was reduced growth rates in young salmon and increased egg mortality in oiled streams. By 1994, differences in egg mortality between oiled and unoiled streams had disappeared. Wide swings in returns of pink salmon may largely be a function of natural conditions in the Sound and in the Gulf of Alaska.

The oil spill caused a different problem for **sockeye salmon**. Because commercial fisheries were closed, more sockeye reached the Kenai River (and other rivers) to spawn. As a result, a super abundance of juveniles "overgrazed" their food supply. The effect of a large overescapement can ripple through a system for years. Although the returns per spawning adult have been lower than normal, productivity is now acceptable.

In 1993, there was an unprecedented crash of adult **Pacific herring** in Prince William Sound and



Spawning Sockeye Salmon

the commercial fishery has been closed ever since. A viral disease and fungus were the probable agents of mortality, and stress is a possible connection between the oil spill and the disease outbreak.

Prince William Sound is at the northwestern limit of the range of the **cutthroat trout**, a prized sport fish. There are few local stocks and numbers are small. Following the oil spill, cutthroat trout grew more slowly in oiled than in unoiled streams, possibly as a result of reduced food supplies or exposure to oil.

Scientific and Resource Management Highlights

- In-stream improvements are increasing the quality and quantity of spawning and rearing habitat for pink and Coho salmon and cutthroat trout to benefit subsistence, commercial, and sport users.

- Development of a 48-hour technique to genetically identify the origins of sockeye salmon in Cook Inlet enables fisheries managers to adjust harvests to ensure adequate returns of injured stocks.

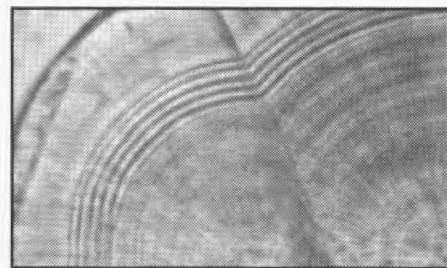
- Studies underway to describe the genetic make-up of Pacific herring and pink salmon in Prince William Sound will enable fisheries managers to better protect and sustain individual stocks, thus conserving genetic diversity.

- Harvest of harlequin ducks in Prince William Sound has been restricted since 1991. Studies now underway seek to identify why reproduction in western Prince William Sound is so low and to indicate when it is appropriate to lift sport hunting restrictions.

- Disease (a virus and a fungus) has been identified as the cause of the collapse in the Pacific herring population in Prince William Sound in 1993. Studies now underway on the nature and incidence of the disease already have alerted fisheries managers to the possibility that some types of commercial herring fisheries may promote the spread of disease through overcrowding and stressing the herring.

- A pilot project to train and coordinate volunteers to monitor archaeological sites vandalized in the aftermath of the spill should lead to long-term protection of these sites by local communities.

- Studies now underway on the status and health of still-declining harbor seals actively involve Alaskan Native subsistence hunters with a direct stake in the sustained management of a resource which has been so valuable to them for many generations.



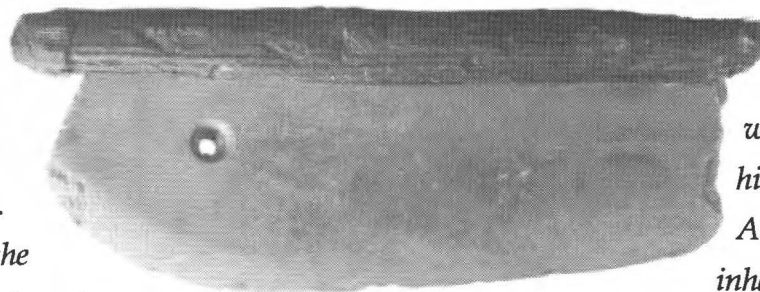
Otolith marks accurately identify pink stocks

- Installation of thermal equipment to mark the otoliths (ear bones) of every hatchery-reared pink salmon in Prince William Sound enables fisheries managers to regulate harvests to better protect injured wild stocks.

- Several species of marine birds and marine mammals had declined before the oil spill, and the effects of the spill itself added to these declines. Studies now in progress will yield insights on the causes underlying the declines and help resource managers develop an effective long-term approach to restoration needs.

Archaeology

It's estimated that there are more than 3,000 significant archaeological sites in the oil spill region. During the early days of the cleanup, with thousands of people working at remote beaches, many archaeological sites were discovered and 24 sites on public land were looted



or vandalized. Artifacts were stolen, burial sites were violated and valuable historical evidence of North America's earliest human inhabitants was destroyed.

The Trustee Council has funded a monitoring program using local residents to check on known sites and report any suspicious activities. In 1993, only two of 14 sites visited showed continued signs of vandalism and no new damage has been reported since then.

Native communities in the spill area have expressed a strong desire to have artifacts collected during the spill returned to them for storage and display. The Alutiiq Archaeological Repository in Kodiak, whose construction costs were partly funded by the Trustee Council, is the only artifact storage facility in the spill area. In 1995, the Council approved funds for development of a comprehensive community plan for restoring archaeological resources in Prince William Sound and lower Cook Inlet, including strategies for storing and displaying artifacts at appropriate facilities.



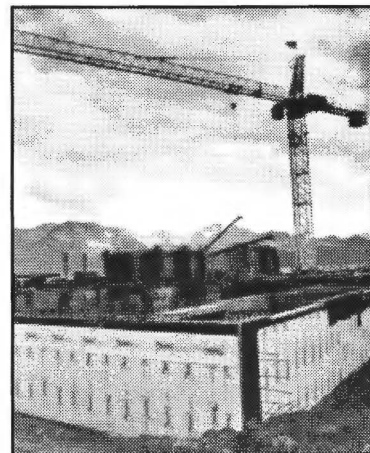
This archaeological site on Kodiak Island was identified as a result of oil spill cleanup surveys. Restoration projects enabled excavation and stabilization of the site. Above, the well-preserved stone ulu was excavated at an archaeological site in Prince William Sound by Linda Yarborough of the U.S. Forest Service.

Alaska SeaLife Center

The Alaska SeaLife Center in Seward will provide much needed marine research facilities to support restoration work in the spill region. The Trustee Council contributed \$25 million toward construction of the facility, which is scheduled to open in spring of 1998.

The center will include public educa-

tion components, marine life interpretive programs and full research laboratories. The scientific program will be guided by the University of Alaska School of Fisheries and Ocean Science and will provide technologically advanced facilities previously unavailable for research on marine mammals, fish and seabirds.



The Alaska SeaLife Center in Seward is scheduled to open in spring 1998.

Subsistence and Community Involvement

Fifteen predominantly Alaskan Native villages in the spill area rely heavily on harvests of subsistence resources such as fish, shellfish, seals and ducks. Subsistence harvests in most of these villages declined substantially following the spill. The harvest, as measured in pounds per person, appears to have returned to pre-spill levels in some communities, but some resources remain scarce and residents are still concerned about the food safety of fish and other wildlife resources. In addition, the spill's interruption of the subsistence lifestyle caused a cultural disruption which subsistence users report still continues.

The Trustee Council has made a special effort to listen to subsistence users and closely involve them in

the restoration process. The Council funds a local facilitator in most spill-area villages to serve as a liaison between the village, the Council, and the scientists conducting restoration projects. Public hearings are held annually throughout the spill area and staff assist village representatives in developing restoration proposals. Each year, an increasing number of the proposals funded by the Council are initiated by the villages.

The Council funded routine testing of subsistence foods for evidence of hydrocarbon contamination through 1994. Since then, a process for testing abnormal resources found during the harvest has been in place. Efforts to use traditional knowledge of the area's ecosystem to benefit restoration are also underway.

Marine Pollution

In an effort to reduce pollutants entering Prince William Sound and the Gulf of Alaska, the Trustees are funding two programs to stop marine pollution at its source.

Many villages in the spill region are not accessible by the road system. Sanitary landfills are often inadequate and hazardous waste facilities non-existent. The Sound Waste Management Program and its sibling, the Kodiak Waste Management Program, are designed to reduce chronic sources of marine pollution by providing facilities and services to properly dispose of used oil, household hazardous waste and scrap metals. These continuous waste streams are affecting fish, wildlife and human services injured by the spill, including disruption of

important habitat.

The programs will use a regional approach, coordinating efforts among communities for temporary storage and then transferring waste for proper disposal at a central facility. The Prince William Sound program will receive \$2.1 million this year to implement its plan. Another \$267,000 will go toward creating a waste management plan for Kodiak communities.

