Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

MEMORANDUM

To: Brenda Baxter, Mike Castellini, Bill Hauser, Joe Hunt, Ernie Piper, Jeep Rice, Bob Spies, Joe Sullivan, Lisa Thomas, Ray Thompson, and Bruce Wright

From: Stan Senner
Science Coordinator

Date: July 3, 1996

Subject: Summary of June 27 Anniversary Planning Meeting

Thank you for a very successful 10th-anniversary planning meeting. I have enclosed a summary of the meeting, which was reviewed by Brenda and Bruce. If I have misrepresented our discussion in any significant way, please let me know.

There was a Restoration Work Force meeting on Tuesday, and I briefly described the results of the anniversary planning meeting. I am circulating this meeting summary to the Work Force and to the Liaisons for their review. My plan is to discuss the symposium at the next Work Force meeting. Once we have feedback from the Executive Director and the Work Force, and they are comfortable with the basic plan, we should be able to build a timeline and milestones and otherwise proceed as discussed.

Among the questions yet to be resolved are whether there will be a Restoration Workshop in January 1999 and whether and what is required in the way of reports and DPDs that spring. These do not require immediate resolution, but we need to keep on them our list for more discussion. If you have other issues that we have not identified, please let me know.

enclosure (1)

cc: Restoration Liaisons and Work Force
Jim King and John French, PAG
Patty Ginsburg and Lisa Ka'aihue, PWS RC

10th Anniversary Science Symposium
Planning Meeting
June 27 1996

Meeting Summary[1]

Location, length, dates, and times

For reasons of logistics and access, the symposium will be held in Anchorage, starting with a one-day summary session on Tuesday, March 23, 1999. This would be followed by a four-day meeting, starting Wednesday, March 24 and running to noon on Saturday, March 27. Easter is not until April 4, so there is no conflict with the events of that week.

Brenda Baxter (Alaska Sea Grant Program Office) is exploring different venues now, but it would appear that the Egan Center is both most cost effective and best able to handle the 1,000+ participants that we anticipate. The Egan Center will need a commitment quite soon.

Target audience

Audiences include general public, scientific community, and news media. The one-day summary session on the 23rd would be especially geared to general audiences and the news media. The balance of the symposium would be more technical, but all speakers would be encouraged to make their presentations understandable to general audiences.

Themes, topics, and title

The symposium needs to look back at the spill and forward to the long-term benefits of the restoration program. In an attempt to capture this sense of past and present, for better or for worse, we propose the following as a working title: "Legacy of an Oil Spill--10th Years After the *Exxon Valdez*."

Three overarching themes would be addressed: (1) injury, recovery, and long-term effects; (2) what we have learned about the ecosystem; and (3) long-term benefits of the restoration program. The one-day general session would include such topics as how restoration funds have been allocated, overviews of injury and recovery, status of habitat protection efforts, socio-economic impacts of the spill, and lessons learned that may help respond to and prevent future oil spills. The balance of the symposium will be more technical in character, and might be organized in several ways: e.g., in taxonomic or functional/ecological groups (like the 1996 Restoration Workshop). Scholarly papers on socio-economic impacts will be appropriate.

---

[1]Persons present were: Brenda Baxter, Mike Castellini, Patty Ginsburg (RCAC), Bill Hauser, Joe Hunt, Lisa Ka'aihue (RCAC), Ernie Piper, Jeep Rice (by telephone), Stan Senner, Bob Spies (by telephone), Lisa Thomas, Ray Thompson, and Bruce Wright.

Summary of June 27 Planning Meeting

Basic organization

As much of the entire agenda as possible should be held in plenary sessions. If necessary, however, we can resort to limited (e.g., one afternoon) concurrent sessions. A cookies-and-juice reception should follow the one-day summary symposium. Another reception and poster session should follow the first day of the technical symposium, which is the anniversary day (March 24, 1999). Lunches would be provided during the technical symposium.

Participants

All of the speakers at the one-day symposium would be invited. Most of the technical symposium would be open to all researchers (i.e., Trustee-sponsored, Exxon contractors, and others) who have original results to present. Abstracts will be screened by a committee, who will decide which presentations to accept. Researchers also will be invited to organize special panels or mini-symposia. There may be need to invite some speakers to ensure that key topics are covered. In addition, there may be special guests invited to give summary talks on such topics as international perspectives on oil spills in northern marine waters. These summary talks and perhaps panel discussions could be sprinkled through the symposium to vary the agenda.

Invitations would be extended to the Governor, Vice President, and the congressional delegation (?). Participation by the Governor and Vice President would be accommodated as needed to suit their schedules.

Publications

Standard 300-word abstracts would be due in April or May 1998 as the means of screening prospective participants. Abstracts would be published in a booklet available at the symposium.

The Trustee Council should sponsor publication of a technical proceedings in cooperation with the Alaska Sea Grant Program and, possibly, a professional society, such as the American Fisheries Society or The Wildlife Society. Whether a professional society would get involved in such a three-way partnership, with the Sea Grant program managing the editorial process, must be explored.

All things considered, it is not realistic to have the proceedings ready for distribution at the time of the anniversary, but a goal of one year later, March 2000, is possible. In order to achieve this goal, it is strongly recommended that a person (probably the Sea Grant scientific editor) be paid starting in October 1998 to identify reviewers and manage the review/editorial process. Manuscripts would be due in the fall of 1998 and would be circulated immediately to independent scientists for peer review. The initial reviews would be completed in advance of the symposium so that following the meeting the revision of the manuscripts and production of the proceedings would be the sole agenda item.

Summary of June 27 Planning Meeting

Field Trips

We are not eager nor set up to get extensively into the field trip business. However, there undoubtedly will be requests from the news media and others for access to oiled (or formerly oiled) beaches and perhaps to restoration project sites. These requests may be accommodated by providing private operators (e.g., charter services) the chance to put together special outings to such areas. For those persons who want such outings, the Restoration Office can forward information from the operators without getting involved in the arrangements per se. There is the problem, however, of where to steer folks and how to provide interpretation of what is there. This still needs thought.

Beyond providing information about charter services and where to go to see what, we do envision offering a field trip, via train, to the Alaska SeaLife Center in Seward. This excursion could depart on Saturday, after the close of the symposium, and either come back Saturday night or Sunday morning.

Cosponsors and support

The Alaska Sea Grant Program will cosponsor the symposium with the Trustee Council. The Regional Citizens' Advisory Groups for Prince William Sound and Cook Inlet might also be appropriate. A professional society might be sought as a cosponsor of the proceedings (see above under Publications). Otherwise, we do not envision the need for cosponsors.

Registration Fees

The one-day summary symposium should be entirely free, although all guests would be asked to either preregister or to register at the entrance (for security and planning purposes). Abstract booklets could be provided free to all registrants, but anyone desiring a copy of the proceedings should be able to order an advance copy at a prepublication cost at the time of the symposium. For the technical symposium, preregistration would be encouraged. There was a strong sense that there should be a small charge (e.g., $35/person). This fee would partially recover costs, but, more importantly, participants will take the event and their registration more seriously (again, this will help with security and planning). This needs more discussion.

Advertising

Our discussion focused on advertising with respect to possible presenters as opposed to the general public. A call for papers will be circulated twice in FY 1997. Announcements will go to professional societies for inclusion in newsletters and calendars. Some paid display advertisements might be appropriate in key scientific journals. There is need for a symposium logo and standard design before any materials go out.

Summary of June 27 Planning Meeting

News media coordination

For the general news media, there will be need for information packets to be circulated a few weeks prior to the symposium. Science writers should get the call for papers, so that the symposium gets on their calendars early. It may be possible to arrange for key PIs and others to be available for interviews in advance of the technical meeting (e.g., on March 21 or 22). This should facilitate quality, in-depth interviews, though there will be plenty of hurried "sound bites" in the hallways too.

Working groups

These persons will lead or at least organize working groups as follow:

-Steering (Senner, Baxter, and Wright)
-Field trips (Thompson)
-News media (Hunt)
-Editorial/proceedings (Wright)
-Scientific program (Castellini and Rice)
-Day one summary symposium (Thomas)

Planning schedule and next meeting

An overall schedule with milestones will be developed. A second planning meeting will be held in the fall.

Habitat protection

Research

Recreation

Community

Subsistence

Commercial fishing

How do *Exxon Valdez* settlement funds benefit the Kenai Peninsula?

Alaskans who take part in outdoor activities on the Kenai Peninsula are starting to see the benefits from dozens of projects funded by the Exxon Valdez criminal and civil settlements. If you enjoy a wilderness retreat in Kachemak Bay State Park, take part in the bounty of the Kenai River, tour the Alaska Sea Life Center in Seward, or set up camp along the Anchor River, you will find better facilities, better success and more educational opportunities because of these funds.

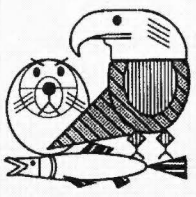
Civil Settlement

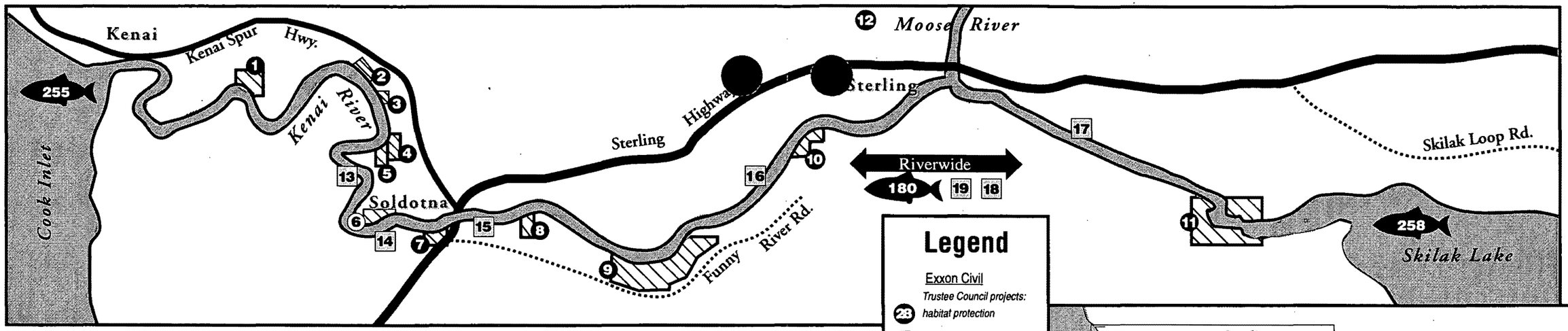
The Exxon Valdez Oil Spill Trustee Council, funded by the $900 million civil settlement with Exxon, was created to help restore natural resources injured by the spill through habitat acquisition and scientific studies. This fund is limited to restoration activities in the oil spill region.

Criminal Settlement

The State of Alaska received half of the $100 million criminal restitution resulting from the spill. This money has been designated for many uses in the spill region, including recreational facilities, interpretive programs and habitat improvements on the Kenai River.

Together, the Exxon criminal and civil settlements will help protect resources and ensure good recreational opportunities for generations to come.





Habitat protection, recreation and scientific research

Exxon civil, criminal penalties to provide long-term benefits for Kenai Peninsula

The following projects are in various stages of completion. Many acquisition projects depend on successful negotiations with the private land owners. Trustee Council projects (civil settlement) are in black. Alaska Division of Parks and Outdoor Recreation projects (criminal funds) are shaded in gray.

1 Cone Parcel $600,000
100 acres near the mouth of the river along the Kenai River flats. Acquistion complete.

2 Oberts Parcel (The Pillars)
30-35 acres with 1400 feet of undisturbed shorelline in vital habitat area. Appraisal under review.

3 Oberts Parcel (Honeymoon Cove)
4.22 acres of undisturbed shoreline in high-impact recreational area. Appraisal under review.

4 Oberts Parcel (Big Eddy)
31.7 acres with about 1,200 feet of riverbank adjacent to the Kobylarz Parcel. Appraisal under review.

5 Kobylarz Parcel $320,000
20 acres with 1100 feet of riverbank frontage located on the Kenai River at Big Eddy. Offer accepted.

6 Girves Parcel $1,835,000
110 acres in a high recreational use area of Soldotna. Acquisition complete.

7 Schilling Parcel
5.9 acres at confluence of the Kenai River and the Sterling Highway. Appraisal under review.

8 Patson Parcel $375,000
76 acres on the Kenai River by the Soldotna Airport with 1/4-mile of river frontage. Offer under consideration.

9 Salamatof Parcel $2,540,000
1,377 acres on the Kenai River with approximately 2 miles of riverbank frontage. Offer accepted.

10 River Ranch Parcel $1,650,000
146 acres with more than one mile of Kenai River Frontage. Offer under consideration.

11 Stephanka Parcel
803 acres with 2-3 miles of Kenai River frontage. Part of the KNA package below.

12 Kenai Native Association $4,000,000
To partially fund acquisition of 15,091 acres in the Kenai River/ Moose River drainage area north of the Sterling Highway. Currently under consideration by Congress.

13 Slikok Creek Access $265,000
Ladders and boardwalks to and along river for fishing access, interpretive displays.

14 Habitat Restoration $50,000
Contribution toward project to restore and protect severely damaged riparian habitat at Riverbend Campground.

15 Soldotna Creek Park $300,000
Restoration of heavily damaged park at Soldotna Creek. Includes elevated grate walk, vegetated biogrid, rootwad installation, bank revegetation.

16 Morgan's Landing Access $50,000
Ladders and boardwalks to and along river for fishing access, interpretive displays.

17 Bing's Landing Access $200,000
Ladders and boardwalks to [illegible]ng river for fish[illegible]ess, interpretive displays.

18 Private Waterfront Projects $60,000
Small-scale demonstration projects, restoration and protection of riparian habitat on Kenai River frontage parcels using elevated walks, bio-engineering, revegetation, with monitoring.

19 Public Lands Protection $250,000
Restoration of public riverbank damaged by use: Endicott sonar site, Kenai Keys site, Slikok Park, Centennial Park, the Sportsman's Lodge site, Ciechanski, and various campsites.

20 Coal Creek Moorage $260,000
53 acres located at the confluence of Coal Creek and Kasilof River. Offer accepted.

21 Cooper Parcel $ 48,000
The Ninilchik River flows through this 20 acre parcel two miles upstream from mouth. Offer under consideration.

22 Tulin Parcel $1,200,000
220 acres with 3/4 mile of shoreline and 1/4 mile along Diamond Creek. Ranked high for its recreational value. Acquisition complete.

23 Overlook Park $244,000
97 acres just below scenic overlook, with 3/4 mile of shoreline near tidal pools. Offer under consideration.

24 Kachemak Bay Sta[illegible] $7[illegible]00
Provided partial funding [illegible] million pac[illegible] acquire 23,800 acres of park inholdings. Acquisition complete. Criminal fund provided another $7 million.

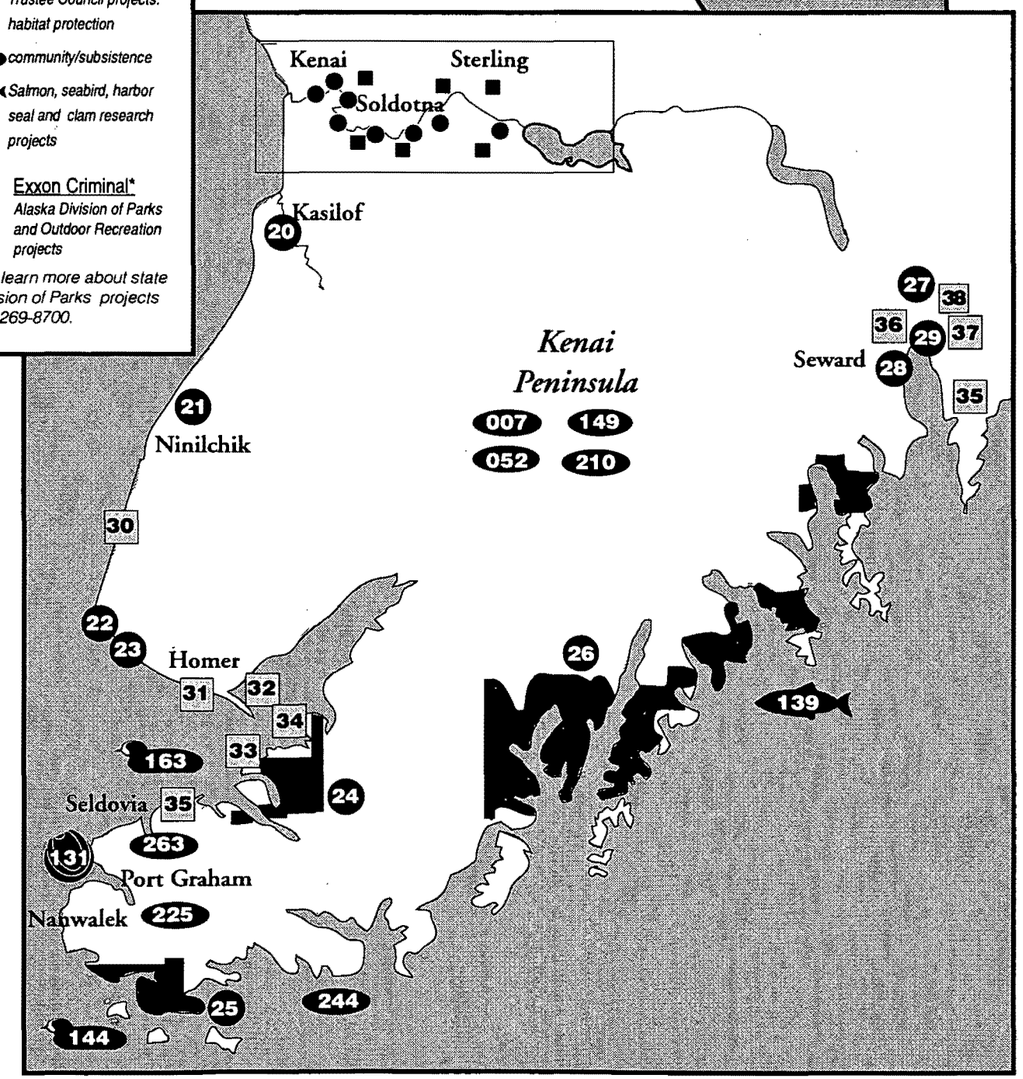
Continued on the back page

Legend

Exxon Civil
Trustee Council projects:
28 *habitat protection*
149 *community/subsistence*
Salmon, seabird, harbor seal and clam research projects

36 Exxon Criminal*
Alaska Division of Parks and Outdoor Recreation projects

** To learn more about state Division of Parks projects call 269-8700.*



Habitat Protection and Recreation Projects, continued

25 English Bay
Conservation easementsand purchase of 49,300 acres along the south shore of the Kenai Peninsula. Negotiations underway.

26 Port Graham
Conservation easements and purchase of 46,170 acres along the south shore of the Kenai Peninsula. Negotiations underway.

27 Grouse Lake $211,000
64 acre recreational site along western shore of Grouse Lake. Acquistion complete.

28 Lowell Point $531,000
19.4 acres includes 700 feet of shoreline popular for hiking, kayaking, beachcombing and fishing. Offer under review.

29 Alaska Sea Life Center $24,900,00
Partial funding of this $50.5 million center in Seward, due to open in 1998. Also $12.5 million from criminal funds.

30 Halibut Campground $300,000
New 20-unit campground in the Anchor River area.

31 Beluga Slough Trail $300,000
Trail construction for wildlife viewing, interpretation, benches in Homer slough.

32 *Mud Bay Boardwalk* *$150,600*
Construct boardwalk and viewing decks on Mud Bay at base of Homer Spit.

33 Kachemak Bay State Park Improvements

Campsites ***$60,000***
21 new campsites throughout the park with tent platforms, food caches, fire rings and toilets.

Public Use Cabins ***$200,000***
5 new public use cabins for Halibut Cove, Leisure Lake, Moose Valley, Sadie Cove.

Trail System ***$310,000***
Construct hiking trails in Kachemak Bay State Park.

Mooring Buoys ***$20,000***
New buoys in Tutka, China Poot, Mallard Bays and Halibut Cove areas.

Grewingk Creek Bridge ***$100,000***
Suspension bridge to link popular areas of the park and the trail system.

Cabin Acquisitions ***$350,000***
Acquire 5 private cabins suitable for public use.

34 Halibut Cove Lagoon Dock $190,000
Construct public dock in Halibut Cove for access to Kachemak Bay State Park.

35 Resurrection Bay Cabins $159,000
Construct cabins, buoys, trails and latrines in Thumb Cove.

36 Caines Head Alpine Trail $50,000
Construct hiking trail from North Beach to alpine.

37 Resurrection Bay Trail $200,000
Develop day use parking, beach trailhead and interpretive exhibits. Requires acquistion of 20 acres and is subject to negotiation with landowners.

38 Interpretive Displays $40,000
Construct interpretive exhibits at Kenai Fjords Visitor Center and at Sea Life Center.

Science, Subsistence and Archaeology

The following symbols represent science, subsistence and archaeology projects funded by the Trustee Council from Exxon civil funds. The numbers are the actual file numbers for each of the projects. More information about each of these projects can be obtained by calling the Oil Spill Public Information Center 278-8008 or toll free 800-478-7745.

007 Archaeological Site Monitoring
Monitoring of archaeological sites on public land injured by vandalism and oiling.

052 Community Involvement/Traditional Ecological Knowledge
Community facilitators in Port Graham, Nanwalek, Seldovia, Seward and six other communities in spill region serve as liaisons between the Trustee Council, researchers, and communities.

131 Clam Restoration
Pilot project to establish subsistence clam populations near Native villages in the oil spill region. The Qutekcak hatchery in Seward is rearing littleneck clams and cockles to be seeded near Nanwalek and Port Graham.

139 Port Dick Creek Restoration
Port Dick Creek restoration will improve habitat to strengthen native salmon stocks.

144 Common Murre Population Monitoring
Common murres were hit hard by the oil spill. This project will provide information about their recovery by counting murres at Barren Islands and, possibly, Chiswell Islands.

149 Archaeological Site Stewardship
Provides training and coordination for volunteers to monitor vandalized sites in the oil spill area. Vandalism was a serious problem after the spill. Long term protection and restoration will be most successful if undertaken by local people.

163 APEX - Alaska Predator Ecosystem Experiment
This project will compare reproductive abilities and diets of seabirds in Prince William Sound with similar data from Cook Inlet, considered a more suitable food environment.

180 Kenai Habitat Restoration/ Recreation Enhancement
Approximately 19 miles of the Kenai River's 166 miles of shoreline have serious habitat loss. Public lands have 5.4 miles of degraded shoreline. This 3-year project will restore and protect salmon habitat on public lands.

210 Youth Area Watch
Involves local youth with ongoing restoration projects, giving them the skill and knowledge to participate in restoration activities now and in the future.

225 Port Graham Pink Salmon Subsistence Project
Enhances the Port Graham hatchery's ability to produce pink salmon for subsistence purposes. Because local runs of coho and sockeye salmon are at low levels, subsistence users are relying more on pink salmon.

244 Community Based Harbor Seal Management
Biological sampling of harbor seals is being done in Prince William Sound and Lower Cook Inlet. Village technicians in Port Graham, Seldovia, Nanwalek and six other communities are trained by the Harbor Seal Commission to collect samples for analysis.

255 Kenai River Sockeye Salmon Genetics
Five-year project identified genetic differences in Cook Inlet sockeye salmon. Information provided by this project is being used by fisheries managers to modify fishing areas and openings in order to improve management of Kenai River and other Upper Cook Inlet sockeye salmon stocks.

258 Sockeye Salmon Overescapement
Four-year project has produced scientific evidence to help evaluate the effects of overescapement.

263 Assessment, Protection, Enhancement of Salmon Streams
Provides inventory and assessment of four major salmon streams in Lower Cook Inlet with intent to improve habitat for better spawning success.

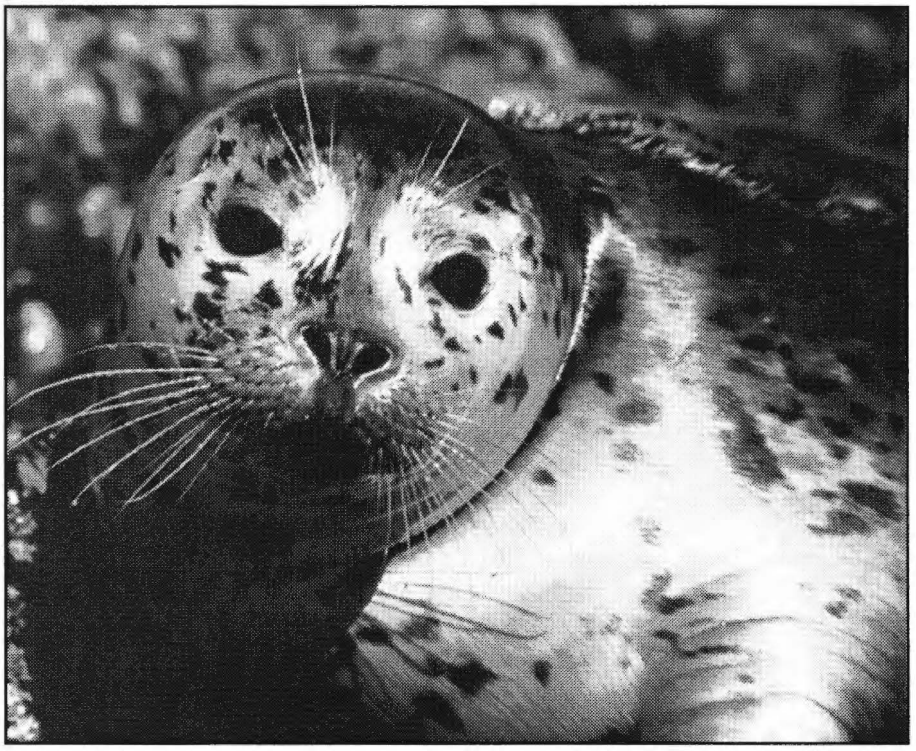
Restoration NOTEBOOK

DRAFT

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Harbor Seal

Phoca vitulina richardsi



By Kathryn J. Frost
Alaska Department of Fish and Game

Harbor seals, *Phoca vitulina richardsi*, are medium-sized "earless" seals belonging to the Family Phocidae.

They are usually found in nearshore coastal waters, often in estuaries or protected coves. They are commonly seen along the shores of the northern hemisphere. Harbor seals are found in both the North Atlantic and the North Pacific. In the eastern North Pacific, their distribution is nearly continuous from Baja, California to Bristol Bay, Alaska.

Harbor seals are one of the most common marine mammals in Prince William Sound (PWS) and the Gulf of Alaska (GOA), where they occur throughout the year. The exact number of harbor seals in these areas is unknown. In 1973 the Alaska Department of Fish and Game estimated there were about 125,000 seals in this area based on harvest data, observed densities, and the amount of available habitat.[1]

In the early 1990s, the National Marine Mammal Laboratory counted approximately 21,500 harbor seals in this same area.[2] If this number is adjusted for the seals that weren't counted because they were in the water (multiplied by 1.6, based on tagging studies), this would still result in a population estimate of only 34,400 -- a decline of over 70% in the last 20 years. Although these numbers are not exact, they indicate a large decline in harbor seal numbers in PWS and the GOA.

Counts at individual haulout sites or along survey routes established to monitor trends confirm this decline. At Tugidak Island, south of Kodiak, the average counts declined by 85% from 1976 to 1988 and have continued to decline since then.[2,3] In other parts of the Kodiak Archipelago, counts declined by 89% between 1978 and 1992.[2,4] In PWS, the number of seals at 25 indicator sites declined by 42% between 1984 and 1988.[5] In 1995, there were 65% fewer seals at these haulouts than there were in 1984.[6] The reasons for the decline are unknown and are the subject of ongoing studies by the Alaska Department of Fish and Game, the National Marine Fisheries Service, and the University of Alaska.

Harbor seals are found primarily in the coastal zone where

Vital Statistics

Population
Approx. 34,400 in GOA/PWS (1993)

Population Trend
70% decline during previous 20 years

Lifespan
30 years, maximum recorded age - 32

Adult Size
5 feet, 175 pounds

Mating Season
July, two weeks after previous pup weaned

Gestation Period
11 months,

Number of Pups
one per year

Size at Birth
30 inches, 26 pounds

Maturity
Pups weaned 3-6 weeks after birth; Sexual maturity at 3-7 years

Diet
Pollock, octopus, capelin, cod and herring

they feed, haul out to rest, give birth, care for their young, and molt. Hauling out areas include intertidal reefs, rocky shores, mud and sand bars, floating glacial ice, and gravel and sand beaches. Pups are born in the same general locations that are used as haulouts at other times of year.

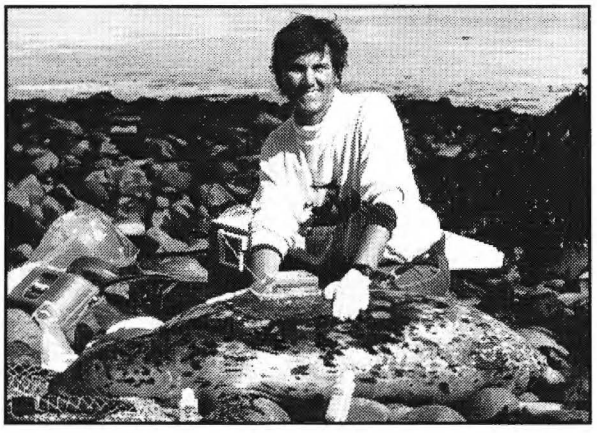
Harbor seals tend to use haulout sites where they have protection from predators approaching over land, direct access to deep water, proximity to food, and protection from strong winds and high surf.[7] Based on satellite tagging studies in PWS, most adult harbor seals use the same few sites for most of the year. During spring and summer, each tagged seal used an average of four different haulouts, while in fall and winter they used an average of only two. Over half the time, they used one "preferred" site for hauling out.[6]

Homebodies

The distribution and movements of harbor seals at sea are not as well understood. Recently, however, some information about at-sea behavior has become available through the use of satellite-tags. These tags allow scientists to track seals and monitor their diving behavior when they are in the water.

Most satellite-tagged seals did not travel far to feed. Generally, they stayed within about 20 miles of their haulouts. A few seals, especially juveniles, traveled long distances from the location where they were tagged.

One subadult seal tagged at Channel Island in PWS swam over 200 miles to Yakutat Bay where it spent the winter making repeated trips from there to the GOA, 60-100 miles away.[6] Another adult male traveled to Middleton Island and made feeding trips in the GOA all winter, returning to PWS in the spring.



Alaska Department of Fish and Game Biologist Kathy Frost glues an antennae on a harbor seal at Seal Island.

Within PWS, seals used particular areas. Seals in central PWS rarely used haulout areas in southern PWS, and vice versa. Similarly, seals in eastern PWS did not haul out in either central or southern PWS.

Reproduction

Harbor seal females give birth to single pups once a year, usually on land or glacial ice. In PWS and the GOA, peak pupping occurs in the first half of June, although some pups may be born in mid-May and some as late as July. Pregnant females usually move to isolated sites or to the edge of large groups to give birth and remain there while the pups are very young. Later, they rejoin the group at the main haulout area. Newborn harbor seal pups are born with their eyes open, with an adult-like coat, and are immediately able to swim. Pups are weaned when they are 3-6 weeks old.[7]

Adult females breed about two weeks after their pups are weaned. The embryo remains dormant for about 6-12 weeks after breeding, then implants in the uterus and begins to grow. Female harbor seals first become pregnant when they are about 3-7 years old and give birth about 11 months later. The age of sexual maturity varies depending on whether populations are high and close to the carrying capacity of their habitat (causing seals to mature later), or populations are low and there is plenty of food and other resources (causing seals to mature earlier).

Molting

Once each year, harbor seals shed their old hair and grow a new coat. During this molting period, the seals spend more time hauled out than they do at other times. This is probably because the new hair grows faster when the seals are out of the water and the skin is warmer.[7]

While seals are molting, their metabolism is almost 20% lower than it is at other times.[8] This lowers their food requirements and allows them to spend long hours hauled out. The shedding of hair takes about 4-6 weeks and occurs at slightly different times for seals of different ages and sex. Yearlings (which don't molt during their pup year) usually molt first, followed by mature females and then mature males.[9]

In PWS and the GOA, shedding seals are seen from late June to early October, with peak molting in late July and August.[4] Because seals spend more time hauled out during the molting period, it is a good time to do surveys and count seals to estimate population trends.

Predator/ Prey

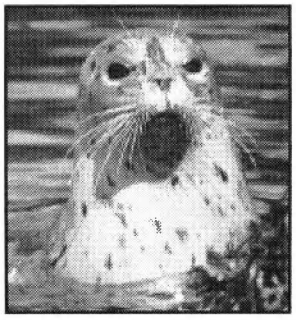
Most information about the foods of harbor seals in PWS and the GOA was collected in the mid-1970s and was based on stomach contents.[4] The major prey in both PWS and the GOA included pollock, octopus, capelin, Pacific cod, and herring. Pollock was eaten most often, but even so, over 50% of the samples contained prey items other than pollock. Young seals ate mostly pollock, capelin, eulachon, and herring.

Harbor seals are one of the top predators in the marine ecosystem of PWS and the GOA. They eat many of the same prey (e.g. pollock, capelin, herring) that are also eaten by seabirds, fishes, and other marine mammals. In addition, harbor seals become food for other species. Known predators include killer whales, Steller sea lions, and sharks.

The impact of these predators on harbor seal populations is unknown, but may be significant. In PWS alone, killer whales may eat up to 400 harbor seals per year.[10] The incidence of sharks caught on halibut longlines in the GOA has increased greatly in the last decade. The degree to which these sharks prey on harbor seals is unknown, but seals have been found in their stomachs.[10]

Human Factors

Harbor seals also compete with humans for food, and in turn are eaten for food. In PWS and the GOA, major fisheries occur for pollock, herring, and salmon. All of these also are food for seals. The interactions between seals and fisheries are poorly understood, but it is likely that each may affect the availability of certain fish to the other. In addition to competition for



Post-spill post mortem

In the first few months after the EVOS, 18 harbor seals were found dead or died in captivity. Fifteen of these were externally oiled and 3 were pups. Bleeding in internal organs was found in four seals, severe skin irritation in two, inflamed eyes in two, and symptoms of malnutrition in three. In three seals, pathologists found evidence of nerve damage in the brain. Firm conclusions about the degree and significance of brain damage in these recovered carcasses were not possible because of tissue breakdown between the time of death death and necropsy.

In 1989, 20 harbor seals were collected from PWS and the GOA to obtain complete, high-quality tissue samples to learn about the effects of the oil spill on seals. Of these, 11 were heavily oiled, 3 were lightly or moderately oiled, and 6 were not externally oiled. Thirteen were from oiled areas of PWS and the other seven from the GOA. In April 1990 six additional seals were collected in PWS; all were collected in areas that had been heavily oiled, but none showed external signs of oiling. Two seals were collected in the Ketchikan area in August 1990 to serve as reference specimens.

Bile from the gall bladders of 33 seals was analyzed for hydrocarbons.[13] Concentrations of hydrocarbon metabolites in the bile clearly indicated that most seals from oiled areas had been exposed to and had assimilated hydrocarbons. The mean concentration of phenanthrene equivalents was more than 70 times greater for oiled seals from PWS than for two seals collected near Ketchikan, and approximately 20 times greater than for unoiled PWS seals or those from the Gulf. The highest phenanthrene equivalent concentrations in oiled PWS seals were more than 1000 times greater than for unexposed seals. The low concentrations of hydrocarbon metabolites in GOA seals, and their similarity to levels recorded for seals from unoiled areas, suggests that either the GOA seals that were sampled had little exposure to oil, or that most of the aromatic fraction of the oil had evaporated by the time it reached the GOA.

All seals collected from the GOA and near Ketchikan had non-detectable or very low parts per billion (ppb) levels of polynuclear aromatic hydrocarbons (PAHs) in liver, blubber, muscle, and brain tissue. PAH values in seals from oiled areas of PWS were also non-detectable or low for all tissues except blubber. Total PAH values in blubber were greater than 100 ppb and ranged as high as 800 ppb in 8 of 17 seals sampled from oiled areas of PWS in April-June 1989, and one of 6 in April 1990. Milk from a pup had the highest PAH value of any tissue in any seal that we analyzed. There is little information available about the effects of hydrocarbons on seals. Health implications of these toxicological findings are unknown.

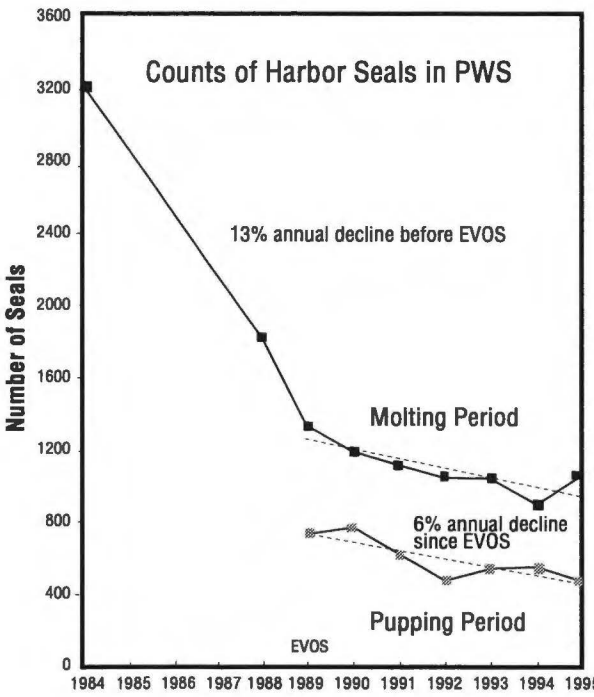
Microscopic examination of seal tissues (histopathology) revealed severe lesions in the midbrain of a heavily oiled seal collected 35 days after the spill.[14] Similar but milder lesions were found in the brains of seals collected three or more months after the spill. Lesions were not present in the Ketchikan seals or in the PWS seals collected in 1990. Overall, neurological lesions that may have been associated with oil toxicity were found in the brains of 9 of 12 oiled seals and 2 of 13 unoiled seals. These lesions are characteristic of hydrocarbon toxicity, and may explain the disorientation and lethargy observed in seals immediately following the spill. The thalamus where the lesions were located is responsible for relaying messages from sensory systems to other parts of the brain. If the lesions interfered with transmission of these messages, they may have caused abnormal behavior. Severe lesions may have caused the seals to have difficulty with such normal tasks as breathing, swimming, feeding, and diving.

the same fish, seals may be incidentally killed (e.g., tangled and drowned in nets) during commercial fisheries.

Harbor seals are an important food and handicraft resource for Native subsistence hunters in PWS and the GOA. The average annual harvest of harbor seals during 1992-1994, was approximately 450 seals in PWS and 350 for Kodiak, Cook Inlet-Kenai, and the south Alaska Peninsula combined.[11]

Effects of the spill

Following the *Exxon Valdez* oil spill (EVOS) in March 1989, harbor seals were exposed to oil both in the water and on land. In the early weeks of the spill they swam through oil and inhaled aromatic hydrocarbons as they breathed at the air/water interface. On haulout sites in oiled areas, seals crawled through oil and rested on oiled rocks and algae throughout the spring and summer. Oiling was most severe in central PWS, the region from Eleanor Island through the north part of Knight Island, and the west side of Knight Island Passage. More than 80% of the seals seen in these oiled areas in May 1989 were observed with oil on them.[12] Some seals also became oiled in the GOA west of PWS, but the degree of oiling was less well documented.



Harbor seal numbers have dropped dramatically since 1983 and have continued the decline since the oil spill.

Pups were born on haulout sites in May and June, when some of the sites still had oil on them, and many pups became oiled shortly after birth. In Bay of Isles and Herring Bay in PWS, 89%-100% of all seal pups seen were oiled.[12] Some of this contamination was probably from contact with oiled mothers. When pups were entirely coated with thick, heavy tar it probably came from oil on the rocks and seaweed. Mothers and their pups often hauled out high on the beach where popweed (*Fucus*) grows. Popweed remained oiled long after other seaweed and rocks appeared clean.

Abnormal behavior by oiled harbor seals in oiled areas was observed on many occasions in April-June 1989.[12] Oiled seals were reported to be sick, lethargic or unusually tame. Excessive tearing, squinting, and disorientation were also observed in oiled seals. The lethargy and disorientation may have led directly to the deaths of pups due to abandonment and of older seals due to drowning.

Post-spill aerial surveys

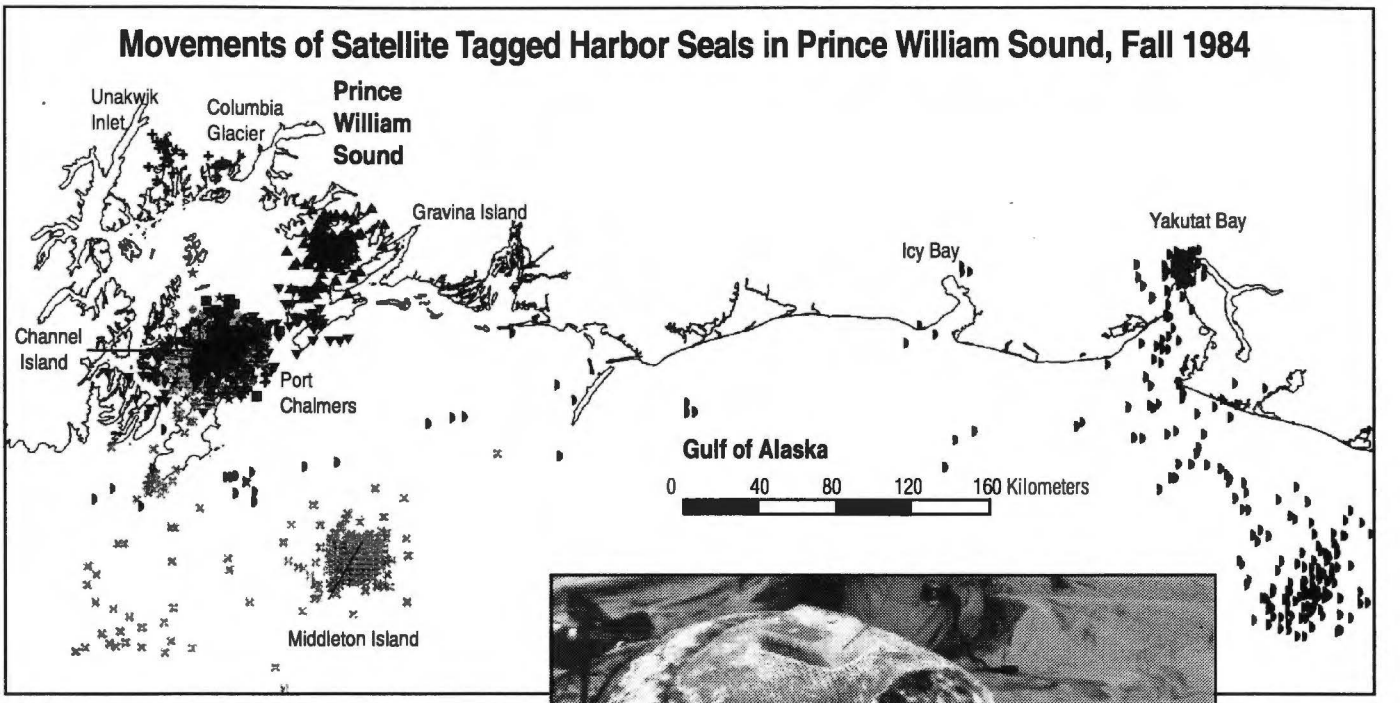
In August-September following the EVOS, the Alaska Department of Fish and Game conducted aerial surveys of harbor seals in oiled and unoiled areas of PWS.[15] Results of these surveys were compared to earlier surveys of the same haulouts conducted in 1983, 1984, and 1988. Before the EVOS, counts in oiled and unoiled areas of PWS were declining at a similar rate, about 12% per year. From 1988 to 1989, however, there was a 43% decline in counts of seals at oiled sites compared to 11% at unoiled sites. This difference was statistically significant.

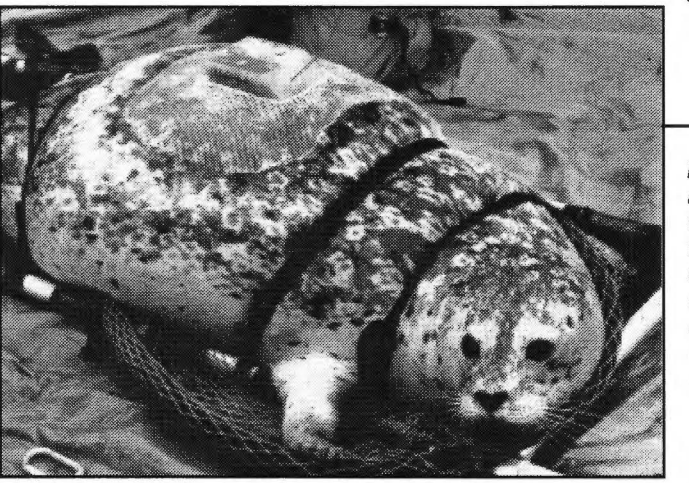
Aerial surveys were also conducted during the pupping season following the EVOS. In the spill year, pups made up a smaller percentage of seals in the oiled area than they did in later years. In the unoiled area, the percentage of pups did not differ significantly between 1989 and post-spill years. Together with the fetuses and dead pups found following the spill, this suggests that pup mortality was higher than normal in oiled areas in 1989.

Harbor seal biologists estimated that approximately 300 seals died in PWS due to the EVOS.[15] The number of deaths was estimated mathematically by comparing counts and proportions of seals at oiled and unoiled sites before and after the spill. Information such as the lack of sightings of oiled seals in unoiled areas, the strong fidelity of harbor seals to particular haulouts, the abnormal behavior of oiled seals, and the brain lesions found in oiled seals suggests that these seals died rather than leave the area.

Long-term effects

By early September 1989, many visible effects of the EVOS on harbor seals were gone. Less than 20% of the seals observed in the oiled area were oiled. Most seals older than pups had molted, shed-





By gluing antennaes to their backs, it is possible to track the movements of seals using satellites. Harbor seals tend to stick close to home, but occassionally wander great distances, as the Yakutat seal indicates.

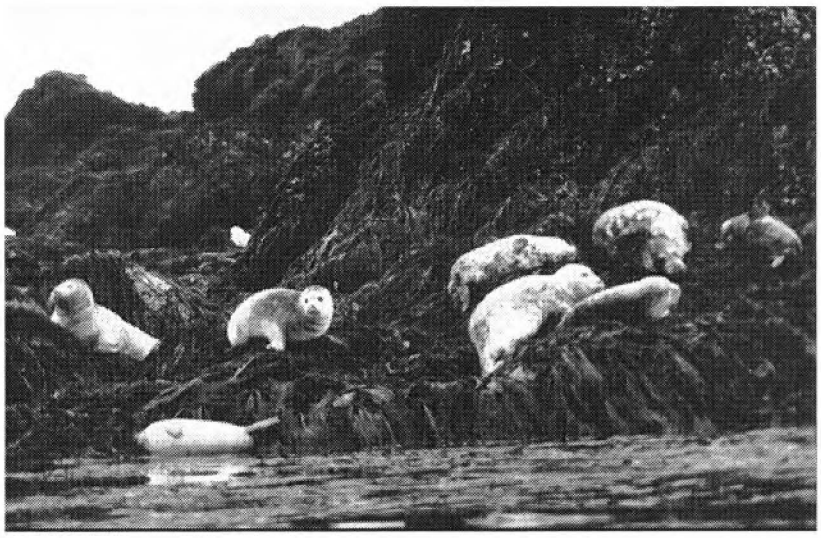
ding their oil-stained hair. They did not become re-oiled, since most of the oil was gone from the water and most major haulouts had been cleaned. By April and June 1990, no sign of external oiling was observed on any seals. During September 1989 and April 1990, seals were no longer observed acting lethargic and sick. They were noticeably more wary and difficult to approach than they had been immediately following the spill.

One year after the EVOS, none of the tissues from seals collected in the spill area showed significantly elevated concentrations of oil-related hydrocarbons.[13] However, average concentrations of hydrocarbon metabolites in bile were still significantly higher than they were in seals from the GOA, Ketchikan, or unoiled PWS areas. Since elevated levels of hydrocarbons in bile indicate recent exposure to oil, the higher levels found in spring 1990 suggest that seals were still encountering oil in the environment or that they were metabolizing stored fat reserves that had elevated levels of hydrocarbons. The effects of these elevated levels, if any, are unknown. Fish collected in PWS during spring 1990 also had elevated levels of hydrocarbon metabolites. The presence of hydrocarbon metabolites was not surprising, since shoreline surveys in spring 1990 documented oil remaining on many beaches.

Aerial surveys of harbor seals and their pups only detected differences in adult-to-pup ratios between oiled and unoiled locations in the spill year. In 1990-1995, the percentage of seal pups at oiled sites appeared to be normal. From 1990-1994, the population trend was similar in oiled and unoiled areas, as it was before the spill. During those four years, the harbor seal population continued to decline at about 6% per year in both oiled and unoiled areas.

Restoration activities

Since the oil spill in 1989, the EVOS Trustee Council has funded studies of harbor seals to monitor their status and to learn more about their habits. The continuing harbor seal decline in PWS and the GOA concerns researchers, managers, and the public. One of the goals of harbor seal restoration studies, as well as studies funded by other institutions, is to learn about the causes of the long-term decline. Possible causes include disease, food



Harbor seals spend more time at haulout sites during summer molting periods.

limitation, predation, or mortality caused by people.

Annual aerial surveys have been conducted since 1989 to monitor the status of harbor seals in PWS and to determine if and when the decline stops. The surveys cover the same 25 haulouts that ADF&G began monitoring in1984. Because these surveys have been done for nine years using consistent methods, researchers have been able to use the data to develop new ways to analyze survey data. These techniques will be useful not only in PWS, but for seal surveys around the world.

Tracking

As part of restoration studies funded by the EVOS Trustee Council, researchers are using satellite tags to learn about the distribution, movements, and diving behavior of harbor seals in PWS. For the first time it is possible to measure how deep and for how long seals dive and where they go when they leave their haulout sites.

Researchers have learned that harbor seals normally use only a few adjacent haulout sites and that they have very small home ranges. Some seals, especially young ones, may make longer trips away from home, but most of them eventually return to the location where they were tagged. This information is useful for determining how much interchange there is between seals in PWS and elsewhere, and whether seals from PWS should be managed as part of the same stock as other seals in Alaska. It also helps to identify important habitat for seals, such as feeding and haulout areas.

Biological Samples

As part of their field studies, researchers catch seals from PWS, the GOA, and southeast Alaska.[6,16] They measure and weigh each seal and take samples for studies of blood chemistry, blubber composition, disease, genetics, and diet.

Blood is being analyzed to determine whether or not seals are healthy, and so comparisons can be made between seals from declining and increasing populations.[17] Blood is also being analyzed to learn whether harbor seals in Alaska have been exposed to diseases like influenza, herpes, and distemper. So far, there is no indication that diseases are a problem in Alaskan harbor seals.

Genetics studies examine the DNA of seals from different parts of Alaska and around the world to learn about the population structure of harbor seals and how seals in different areas are related. So far they have discovered no major genetic differences between PWS and other Alaska seals.[16]

Measurements from seals in the 1990s are being compared to seals in the 1970s to look for any changes in body condition, which might affect survival. Researchers use ultra sound to measure the seal's blubber thickness.[17]

Diet

Researchers are using exciting new techniques to study the diets of harbor seals and to compare the diets of seals from different areas. One of these analyzes the fat in seal blubber. The fats can contains about 70 different fatty acid building blocks in different proportions. It is possible to match the fatty acid signature of the blubber with the fatty acids in prey species to estimate the seals' diets. "You are what you eat" as the saying goes. Early analysis of fatty acids show that harbor seals feed differently at each haulout.[6] Seals from haulout sites only a few miles apart may have very different diets.

Another new technique for studying diets and food webs involves the analysis of stable isotope ratios. Scientists analyze and compare the carbon and nitrogen in seal whiskers and different food items to learn if seals from different age groups or areas are eating different kinds of prey. This technique doesn't tell exactly what the seal eats, but gives information about whether they feed high or low on the food chain. For example, in Steller sea lions, stable isotopes have shown that young sea lions feed lower on the food chain than do the adults.

Subsistence hunting

Alaska Native hunters from PWS and the GOA are very concerned about harbor seals. The serious decline in the past 10-20 years has made it much more difficult for them to successfully hunt harbor seals, which are an important part of their diet and cultural traditions. Because of their interest and concern about harbor seals, Alaska Natives formed the Alaska Native Harbor Seal Commission (ANHSC) in May 1995. The purpose of the ANHSC is to increase the role of Alaska Natives in research and resource policy affecting harbor seals and their uses, and to address concerns about the harbor seal decline in PWS and the GOA.

Since 1995, the ANHSC has received funds from the EVOS Trustee Council to conduct a biosampling program in PWS and the GOA. Hunters collect samples from subsistence-caught seals and provide them to researchers to be analyzed for disease, genetics, fatty acids, and stable isotope ratios. They also contribute information about the distribution, abundance, and health of seals in areas where they live and hunt.

Conclusion

Studies of harbor seals conducted following the EVOS were the first detailed investigations of the effects of an oil spill on seals in the wild. These studies conclusively demonstrated that harbor seals did not avoid oil, but that they swam and surfaced to breathe in oil-covered waters and hauled out on oil-covered rocks and seaweed. Both pups and adults in oiled areas became coated with oil.

Many oiled seals acted sick and lethargic for the first few months after the spill. Based on aerial surveys, it was estimated that at least 300 seals died in PWS following the EVOS. Microscopic examination indicated that some oiled seals had brain damage that was probably caused by oil. It is likely this damage occurred in the first few days or weeks after the spill, and was due to breathing airborne hydrocarbons that evaporate quickly. This type of brain damage would likely interfere with normal functions such as breathing, swimming, diving, and feeding. In severe cases, seals probably died. Seals that survived the first few weeks probably recovered.

Marine mammals are very efficient at eliminating hydrocarbons from their system, and blubber was the only tissue that showed increased levels of hydrocarbons after the EVOS. However, the bile of oiled seals contained by-products of hydrocarbon metabolism as much as one year later, confirming that seals were still being exposed to oil. The effects of these hydrocarbon by-products, if any, are unknown.

Seal deaths caused by the oil spill contributed to a widespread decline of harbor seals in PWS and the GOA that began before the spill and has continued since. Any time a wildlife population declines it is a cause for concern. For harbor seals in PWS and the GOA, this concern is magnified because the causes for the decline are unknown. Seals are a key part of the marine ecosystem, and they are an important resource for Alaska Natives, for the tourism industry, and for everyone who enjoys watching wildlife. If the decline of harbor seals continues much longer, the fishing industry and others could be impacted by regulations designed to protect the seals and stop the decline.

For these reasons, the EVOS Trustee Council and NOAA are continuing to fund a variety of studies to monitor harbor seals in PWS and the GOA and to better understand the causes for the ongoing decline.

Kathy Frost has been a marine mammals biologist with the Alaska Department of Fish and Game for 20 years. She is affiliate faculty at the University of Alaska in Fairbanks and Anchorage. She has conducted research on a variety of marine mammals in Alaska, especially seals and beluga whales. Her studies have included the food habits, ecology, natural history and distribution and abundance of these species.

— REFERENCES

1 Pitcher, K. W. 1984. The Harbor seal (*Phoca vitulina richardsi*). Pages 65-70 *in* J. J. Burns, K. J. Frost, and L. F. Lowry, eds. Marine mammals species accounts. Alaska Dep. Fish and Game, Game Tech. Bull. 7.

2 Loughlin, T. R. 1993. Abundance and distribution of harbor seals (*Phoca vitulina richardsi*) in the Gulf of Alaska amd Prince William Sound in 1992. 1992 Annual Rep., MMPA Population Assessment Program. Office of Protected Resources, NMFS/NOAA, 1335 East-West highway, Silver Spring, MD 20910.

3 Pitcher, K. W. 1990. Major decline in number of harbor seals, *Phoca vitulina richardsi*, on Tugidak Island, Gulf of Alaska. Mar. Mamm. Sci. 6: 121-134.

4 Pitcher, K. W., and D. G. Calkins. 1979. Biology of the harbor seal, *Phoca vitulina richardsi*, in the Gulf of Alaska. U.S. Dep. Commerce/NOAA/OCSEAP, Environmental Assessment Alaskan Continental Shelf Final Rep. Principal Invest. 19(1983):231-310.

— REFERENCES

5 Pitcher, K. W. 1989. Harbor seal trend count surveys in southern Alaska, 1988. Final Rep. Contract MM4465852-1 submitted to U.S. Marine Mammal Commission, Washington, D.C. 15pp.

6 Frost, K. J., L. F. Lowry, R. J. Small, and S. J. Iverson. 1996. Monitoring, habitat use, and trophic interactions of harbor seals in Prince William Sound, Alaska. *Exxon Valdez* Oil Spill Restoration Project Annual Report (Restoration Projects 95064), Alaska Department of Fish and Game, Division Wildlife Conservation, Fairbanks, AK. 87 pp + appendices.

7 Hoover-Miller, A. A. 1994. Harbor seal (*Phoca vitulina*) biology and management in Alaska. Contract No. T75134749. Marine Mammal Commiassion, Washington, D. C. 45 pp.

8 Ashwell-Erickson, S. M., and R. Elsner. 1982. The energy cost of free existence for Bering Sea harbor and spotted seals. Pages 869-899 *in* D. W. Hood and J. A. Calder, eds. The eastern Bering Sea shelf: oceanography and resources. Vol. 2. U. S. Dep. Commer., NOAA, Off. Mar. Pollut. Assess., Juneau, Alaska.

9 Thompson, P., and P. Rothery. 1987. Age and sex differences in the timing of moult in the common seal, *Phoca vitulina*. J. Zool. Lond. 212:597-603.

10 Matkin, C., North Gulf Oceanic Society, P.O. Box 15244, Homer, AK 99603-6244.

11 Wolfe, R. J. and C. Mischler. 1995. The subsistence harvest of harbor seal and sea lion by Alaska Natives in 1994. Tech. Pap. No. 236. Alaska Dep. Fish and Game, Juneau, AK. 69 p.

12 Lowry, L. F., K. J. Frost, and K. W. Pitcher. 1994. Observations of oiling of harbor seals in Prince William Sound. Pages 209-226 *in* T. R. Loughlin, ed. Marine Mammals and the *Exxon Valdez*. Academic Press, Inc., San Diego, CA.

13 Frost, K. J., C-A Manen, and T. L. Wade. 1994. Petroleum hydrocarbons in tisuues of harbor seals from Prince William Sound and the Gulf of Alaska. Pages 331-358 *in* T. R. Loughlin, ed. Marine Mammals and the *Exxon Valdez*. Academic Press, Inc., San Diego, CA.

14 Spraker, T. R., L. F. Lowry, and K. J. Frost. 1994. Gross necropsy and histopathological lesions found in harbor seals. Pages 281-311 *in* T. R. Loughlin, ed. Marine Mammals and the *Exxon Valdez*. Academic Press, Inc., San Diego, CA.

15 Frost, K. F., L. F. Lowry, E. Sinclair, J. Ver Hoef, and D. C. McAllister. 1994. Impacts on distribution, abundance, and productivity of harbor seals. Pages 97-118 *in* T. R. Loughlin, ed. Marine Mammals and the *Exxon Valdez*. Academic Press, Inc., San Diego, CA.

16 Lewis, J. P. 1996. Harbor seal investigations in Alaska. Annual report, NOAA grant NA57FX0367. Alaska Dep. Fish and Game, Juneau, AK. 203pp.

17 Fadely, B. S., and M. A. Castellini. 1996. Recovery of harbor seals from EVOS: condition and health status. Exxon Valdez Oil Spill Restoration Project Annual report (Restoration Project 95001), University of Alaska, Fairbanks, Alaska. 39pp.

Community Involvement

August 5,1996 Teleconference with the Community Involvement Facilitators On FY 97 Work Plan

Molly McCammon, Executive Director of the EVOS Restoration Office, Martha Vlasoff, Community Involvement Coordinator, and other staff met with the Community Involvement Facilitators hired in nine of the oil spill communities through 96052 to review recommendations on the Draft FY 97 Work Plan. The following comments were made during that discussion:

Hank Eaton, Kodiak, said that he thought the canneries should be involved in a hatchery related project because the pink salmon prices are so low and it is hurting the economy of the communities.

Virginia Aleck, Chignik Lake, said that their pink salmon are stripped for roe and ground up to be dumped at sea because they are only getting six cents a pound.

Monica Riedel, Cordova, said that she too felt that it was because of the oil spill that the pink salmon prices had fallen so low. The commercial fishermen that seine pinks presently have a very difficult time making a living because the price per pound is so low.

Walter Meganack, Port Graham, mentioned that they don't get herring in the Port Graham area since the oil spill. He said that it was important because harbor seals depend on herring and he had brought it up before. Monica Riedel said they have not received any herring from the people in Tatitlek for quite a few years. Molly said she would have Rita Miraglia from the ADF&G get back to Walter about the herring populations in Lower Cook Inlet. Virginia Aleck said that the sea lion numbers were down in her area and they depend on the herring as their main food source, too.

Hank Eaton mentioned that Kodiak had requested to be in the Harbor Seal project and Molly explained two communities on Kodiak and Valdez will be included in 97244.

Hank talked about a survey that he sent around to the villages on Kodiak in regard to ducks. From the observations of the villagers they figured that there was a 20% loss of Sea quails and 50% loss of Eider ducks since the spill. Virginia Aleck, Chignik Lake, asked about Eiders as well because they are not listed on the injured species list. They only have approximately 80 observed this last spring compared to the big flocks that they had before. She wants more information from the researchers who are studying the ducks to contact the villages in regard to this decline in duck populations.

Monica Riedel requested a project description for 97163, the Apex study. Molly said she would see if

Monica could go on the research vessel for the APEX Project if she was interested. Monica said she is going out on Kathy Frost's survey flights in Prince William Sound the week of September 12, 1996.

Walter Meganack asked if all the Archeological projects are for artifacts that were found on public land and Molly McCammon assured him that they are. The village of Eyak sent a letter to Molly in regard to their interest in and their efforts to fund an archeological repository in Cordova.

Monica Riedel asked why there is so much indirect for ADF&G on 97052, the Community Involvement Project. She was told this was based on a standard formula. She also wanted to express her concern about more direct involvement in the review process of the projects from the oil spill communities. Can the Community Involvement Facilitators be included in the Core Review process? Molly said that the core reviewers meet separately from all the other review groups which include agency, staff, legal, and Public Advisory Group review. In addition there has been an anthropologist added to the peer review group at the request of the village residents. Molly said if there are any recommendations concerning the increased involvement of Facilitators in the review process that we are not already doing she would be open to ideas.

Walter Meganack asked about the Port Graham Floating Skiff Dock and Educational Harvest Trips Projects and he was told that those projects are still going through legal review and that the two projects proposals have been taken by Rita Miraglia to DCRA for consideration of funding the projects through the EVOS criminal funds if the EVOS Trustee Council is not able to fund the projects. Project 97276, which was a letter from the Chignik Lake Tribal Council in regard to funding a road for better access to the clam beaches in Donor Bay, is still under legal review. That project has been given to John Gliva at DCRA for consideration of funding from the EVOS criminal money if the EVOS Trustee Council can not fund the project. Virginia Aleck explained that the access to this area was very important to address the villages subsistence needs.

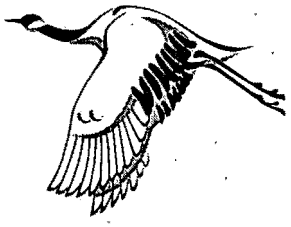
Monica Riedel asked that the transcripts for the Conference on Subsistence and the Oil Spill which was held September of 1995 be sent to her from ADF&G Subsistence Division. She commented that the 20 minute video tape produced at that conference did not provide enough indepth discussion from the conference to be helpful with planning of the next conference to be held in 1997. She suggested that the planning project funded in FY97 have all the video, written transcripts and audio tapes from that last conference. Rita Miraglia said they would provide all the materials Monica had requested.

On Project 97352, Traditional Ecological Knowledge, Patty Brown-Schwalenberg of Chugach Regional Resources Commission explained to the Community Facilitators about how the Traditional Ecological Knowledge (TEK) portion of 96052 will be set up as a separate project for FY 97 but will work in conjunction with 97052 as it has been revised in the latest Detailed Project Description. Patty explained that the Traditional Ecological Knowledge Project would hire a TEK specialist as a consultant to (1) compile a reference guide to existing TEK data on resources injured by the oil spill, (2) provide technical assistance to restoration project PI s who plan to use, or for whom it would be appropriate to use TEK, (3) serve as a contact point for spill area communities, the community facilitators and spill-area-wide coordinator hired under Project/052, and principle investigators on issues related to TEK, and (4) evaluate the feasibility of developing a comprehensive TEK database. The TEK Specialist will work under the guidance of an Advisory Group. Monica Riedel wanted to know who would be on the Advisory Group and wanted to make sure that the Community Involvement Facilitators and the tribal councils had representation on this group. Monica also stressed the importance of the AFN Guidelines for Research and the Protocols for Utilizing Traditional Knowledge that the Community Involvement Facilitators had worked on. We assured her both documents were a part of the detailed project description for /352.

Virginia Aleck asked how they could get a Native person on the EVOS Trustee Council. Martha explained that we should continue to work on efforts that we do have the opportunity to change, like developing technically sound project proposals from the communities, rather than to waste our efforts on circumstances that we can not change at this point. Monica Riedel wanted to let us know that the communities are working towards doing their own research projects as is the case in the /245 Community-Based Harbor Seal Research.

Gary Kompkoff, Tatitlek, had a question in regard to the Tatitlek land negotiations and Molly said there are ongoing discussions with the Tatitlek Corporation on a possible package.

Vol. No. 6 July 30, 1996



Community Involvement Report

July 30, 1996

Chenega Residual Oil Cleanup Project To Start This Year

The EVOS Trustee Council recently approved $1.9 million to clean up eight beaches in the vicinity of Chenega Bay, an effort community leaders have been calling for since 1993. The project proposal, written by the Alaska Department of Environmental Conservation (ADEC), was based on the outcome of a Residual Shoreline Oiling Workshop held in November of 1995 at which 14 Chenega Bay residents testified about their dissatisfaction with the condition of the environmental conditions in the surrounding area.

Larry Evanoff stated "How would you like it if the supermarket you shopped at was filthy and contaminated? Would you buy your food there?" He said the same is true of the beaches where they hunt and gather intertidal and marine subsistence foods.

The planning phase of the project will start with a Memorandum of Agreement between ADEC and the Prince William Sound Economic Development Council in Valdez. PWSEDC will initiate the planning phase of the project this summer and have a remediation plan ready to implement by December of 1996. An advisory committee of two Chenega Corporation and two Chenega Village Council representatives will be formed to work with PWSEDC on the remediation plan. In phase two, the advisory group will recommend a bonded contractor for the remediation work and local hire will be a key factor in this phase. After the clean up work is completed, the next phase will be to monitor and evaluate the results of the remediation efforts.

Teleconference Notice

A Community Involvement Facilitators' teleconference has been scheduled for August 5, 1996 at 11:00 AM to bring everyone up to date on what has happened during the past two months. Molly McCammon has asked me to set up a teleconference with the Community Involvement Facilitators before the Public Advisory Group meets on August 7,1996. Cherri Womac from the EVOS Restoration Office has contacted all the CI Facilitators to notify them of this meeting, but if you have questions call 1-800-478-7745. Some of the topics to be discussed: **1)** topics of concern to oil spill communities in regard to the EVOS Trustee Council, **2)** subsistence project recommendations for the FY 97 EVOS Trustee Council funding, **3)** the Traditional Knowledge Protocols, **4)** the Traditional

Ecological Knowledge Project 97352

A public hearing on the FY 97 Draft Work Plan has been scheduled for August 6,1996 at 7:00 PM, contact your local Legislative Information Office to participate (list enclosed). If you want to testify at the public hearing on Tuesday night or at the Public Advisory Group meeting on Wednesday, August 7,1996, call Cherri well in advance so she can assist you.

Local News

Tatitlek

Gary Kompkoff, Chief of Tatitlek, reported on the burst of activities that are proceeding throughout the spring and summer months.

"The new ferry dock was completed in 1996," Gary said. The state ferry "Bartlett" made its first stop in Tatitlek on May 16, 1996. "The extension of the existing 2200 foot airstrip to 4200 feet is scheduled to be completed by July 1996." The Army Corps of Engineers and the Alaska Department of Transportation recently completed the feasibility phase and will begin the design phase of a new boat harbor which is scheduled for construction within the next few years. Gary provided an extensive list of local resources including a list of trained local personnel, accommodations, facilities, and available equipment, vehicles, boats, and skiffs.

The village is very busy with many projects including a subsistence/mariculture processing facility, clinic construction, new teacher housing, and a new generator facility.

"It appears there will be a good salmon return, if indications prove correct. Many Elders and residents are already smoking salmon, and it's great to see this type of activity again."

The Tatitlek Mariculture Project has grown over the past few years to the point of the community constructing a subsistence/oyster processing facility funded through the State EVOS criminal funds with plans to expand to littleneck clams, scallops, mussels, and cockles. The project employs eight community members to care for the oyster seed until they reach marketable size, at which time they sort them and prepare them for market. Another component of this project is to expand upon the existing marketing plan to ensure continuous funding for the project.

Eyak

There has been a record sockeye run on the Copper River Delta but the seiners are reluctant to go out to the fishing grounds due to the low pink and dog salmon price. Most of the fishermen are either staying on the flats or going out to Esther Island to gillnet. An Interim Board of Directors was elected for the Copper River/Prince William Sound Native Fishermen's Association on April 22, 1996.

Bob Henrich, President of the Native Village of Eyak said there will be a Copper River Tribal Caucus later this summer.

On June 8,1996 the IKUMIT ALUTIIT Dance Group presented their premier performance at the Masonic Hall. Lydia Robart, from Port Graham was in Cordova the week of June 3-8, 1996, instructing youth and adults in the cultural art of Alutiiq dance. Lydia was assisted by her dance students from Tatitlek. Approximately 30 children and 6 adults danced to the delight of a packed audience, dressed in costumes embellished with beads and otter fur. They hope to continue dance meetings, and acquire additional funding to learn to make traditional headwear, including bentwood hats and beaded headdresses.

Port Graham

Walter Meganack, Jr. reports there are a number of projects happening this summer including work on the road to Windy Bay, which will increase

the local access to subsistence resources and help with tourism development plans. Port Graham Seafoods started buying fish on July 6,1996 and will operate a four pound can line throughout the summer. This is the first time the cannery has operated since the oil spill in 1989.Walter said that there are two local boats out fishing but most of the fleet is working on other local construction projects since the fish prices are so low. There was an archeological project near the cannery led by Bill and Karen Workmen of UAA, Robert McMullen was the project director and it employed four local students. The Port Graham Tribal Hatchery has been a great success to the community and to the local salmon stocks in the area. Pink salmon eggs are taken from the Port Graham River, raised in the hatchery and released in Port Graham Bay. The first successful pink salmon return was in 1995 and the tribe was able to take over 15,00 broodstock for future years. The tribal hatchery recently expanded their capabilities to include sockeye and coho salmon production. The long range plan is to produce enough fish to sell to the village corporation's cannery and to other markets as well.

Nanwalek

Hans Petersen who replaced Charles Moonin as the Community Facilitator for Nanwalek says the Village Council has already met to discuss the project proposals they want to work on for next year. He said, due to the lack of trust in the safeness of subsistence foods, they have been eating more processed, store-bought staples instead of relying on natural foods from the sea and the land. He also mentioned that locals cannot make a living off the fishing industry to support their families since fish prices crashed. Hans worked with Dr. Ken Brooks over the July 4th holiday to seed 900 littleneck clams, after three months he will help remeasure the clams to see how much they have grown. The Nanwalek Sockeye Enhancement Project is operated through a cooperative agreement between the Port Graham Tribal Hatchery and the Nanwalek Village Council for the production of Red Salmon to be placed in the lakes above Nanwalek. The eggs are taken from the salmon in Nanwalek, transported to Port Graham to be hatched and reared to fingerling size, then returned to the lakes in Nanwalek for further rearing in net pens in the lake system before they are released in late October. Due to this cooperative remote release program in 1995, the community was able to open the subsistence and commercial fishery for the first time in 10 years. The Chugach Regional Resources Commission provides this project with a professional fisheries biologist to assist with the technical and education aspects of the program. All other employees are local residents of Nanwalek. Ron Stanek, ADF&G Subsistence Division, reports that the Jukebox Project is moving along in Nanwalek and Port Graham. There will be one college intern, Sperry Ash (working on the Sugestun language) and two high school seniors, Leo Ash (working on music and dance) and Kaylyn Moonin (working on traditional foods), participating in the project. They will compile materials and do interviews.

Seward

The Qutekcak Tribal Shellfish Hatchery (QTSH) in Seward, began operation in 1992 to raise oyster spat for sale to the shellfish farms in the State of Alaska, it recently conducted research on raising littleneck clams. As a result, QTSH is the first and only hatchery in the nation to successfully spawn out and raise this species of clams. This project increased the activity and experience of the tribal hatchery staff, who

recently received a grant to investigate the possibility of raising rock scallops, and other shellfish species. CRRC is currently working with the State of Alaska to construct a new hatchery and research facility which will be operated, in part, by CRRC in cooperation with the Qutekcak Native Tribe.

Chigniks

Virginia Aleck reported that a new road is being built in to the old land fill. She wishes additional money could be received to lay a gravel trail to the clam digging beach they have used since the oil spill while the road crew is still there with their equipment. I have sent a copy of the request letter from Chignik Lake Village Council to John Gliva at DCRA, but they won't make a decision until the Trustee Council has made their final decision on August 28,1996. Toni Lind, the Chignik Lake Assistant Administrator, reported that during the closure of the old land fill some of the workers took old skiffs, hondas, trucks, and drums that had been lying around the village for years and disposed of them. The village looks cleaner, uncluttered.

They are waiting for the second run of fish to show up. There are no fish in the Lagoon right now. The second run has declined over the last 5 years and the locals are wondering if ADF&G will recognize the need to upgrade the amount of fish they are allowing through the weir. She did not say which species of salmon she was talking about, I assumed it was sockeye.

Valdez

Karen Goodberlet is Tina Wheeler's replacement at the Valdez Native Tribe (VNT). In her last report that Tina said she was resigning for health reasons. She noted some local observations she received from hunters. John Boone noticed they are still seeing sea otter with lesions. He will try to bring one in for sampling. Jesse Frank has noticed that the sea otters are eating seagulls which they do not normally eat. He theorized they have exhausted their normal food supply. He also stated his relatives in Southeast Alaska have noticed an increased number of sea otters, suggesting to him that sea otters from our region have migrated south for better food supplies. The VNT, with technical assistance from CRRC, has developed a Smoked and Dried Fish Operation which targets its sales to Native consumers. Initially, the VNT has been able to sell everything they produce proving the feasibility of such a venture. As a result, CRRC and the tribe are cooperatively seeking funding to expand the project.

Kodiak

Hank Eaton stated that he has been working on a duck survey that he sent to the villages. Based on local observations, he said that the number of Eider ducks are down 50 percent compared to before the oil spill. Black and harlequin ducks are down at least 20 percent. Sea Quail were also down as much as 50 percent. "The time it took to get all the responses back from the villages points dramatically to the need for a computer communication system that would facilitate responses from tribal groups." Hank said, "It was five weeks before I received all the return mail relating to the duck survey." Hank stated there is still concern about oil spill preparedness in the villages.

Thanks to every one who sent local news.

Chugach Regional Resources Commission

According to Patty Brown-Schwalenberg the EVOS Trustee Council funded the Clam Restoration Project that uses the expertise of the Qutekcak Shellfish Hatchery and Nursery and newly

recruited hatchery manager Jon Agosti, to raise littleneck clams to grow-out stage. Jon started work on June 10,1996. He has over ten years experience working at the Westcot Bay Sea Farms in Washington State developing hatchery and nursery techniques for oysters, clams, scallops, and cockles. Jon will serve as hatchery manager for two to three years as a mentor to Carmen Young who has directed the hatchery work prior to this season. Once Carmen receives more training and takes over as manager again, Jon will move into a research and development position so that Qutekcak Tribal Shellfish Hatchery can stay at the forefront of shellfish technology in Alaska.
Between June 29- July 6,1996 teams, headed by Dr. Ken Brooks, planted the littleneck clams that were produced and raised at Qutekcak at three village sites; Tatitlek, Port Graham and Nanwalek. In addition to the reseeding project, they also investigated predator control methods for razor clams in the Native Village of Eyak and predator control for littleneck clams in Tatitlek. They conducted beach surveys for Ouzinkie and Chenega Bay for future reseeding of those village beaches.

Kodiak Island Borough News

I talked to Linda Freed of the Kodiak Island Borough regarding their efforts to secure oil spill response equipment for the villages on Kodiak Island and the City of Kodiak. "ADEC is committed to providing funding in the amount of $300-500,000 for the acquisition of this spill response equipment. Industry as required by ADEC, will work to provide training and drills for the use of this equipment by community residents and personnel

Protocols for Traditional Knowledge Update

The Protocols that were written in April have been circulated to the agencies for comment and revised to incorporate those comments. A second draft will be circulated to agencies before distribution to the Community Involvement Facilitators for their review later this summer.

FY 97 Project Progress

If you have wondered why I haven't sent out the amount of information I did throughout the spring, it is because I have been working to get the community based projects through the review and evaluation process here at the Restoration Office. I am still working with others on rewrites for: Project 97052 Community Involvement Project to include one more CI Facilitator in Seldovia. Project 97352 Traditional Ecological Knowledge-A Consolidated Approach Project, this project will hire a consultant with expertise in traditional knowledge to lead this effort for the next few years. Project 97286 Elders/Youth Conference, fund a planning effort for the next oil spill community conference which will actually take place in the winter of 1997. Project 97263 Assessment Protection and Enhancement of Wildstock Salmon Streams in the Lower Cook Inlet.
There are continuing projects including 97127 and 97272 which are remote release projects to create replacement runs of salmon near Chenega Bay and Tatitlek. Project 97220 allows salmon stream enhancements near the Village of Eyak and Project 97225 will increase the availability of pink salmon near Port Graham until coho and sockeye runs return to normal. Six projects were differed until feasibility studies are completed: Project 97222: A fish pass on Anderson Creek near Chenega Bay. Project 97247: Habitat improvements on the Kametolook River near Perryville. Project 97256 A and B: Stocking Columbia Lake

(near Tatitlek). Then because of legal questions two new projects were differed. Project 97267: Build a float dock to improve access to subsistence resources for Port Graham residents and the other is to conduct educational subsistence harvest trips. These last two projects were submitted to John Gliva at DCRA, who is in charge of the EVOS criminal funds, for consideration if they do not pass review of the EVOS Trustee Council.

Alaska Native Harbor Seal Commission Report

Monica Reidel, Chair of the Alaska Native Harbor Seal Commission (ANHSC) reports that they are in their slow months for taking samples but they are still going to have their second workshop on the status of the harbor seal to bring the board up to date on the biosampling program. After consulting with the project co-director Jim Fall, ADF&G Subsistence Division, Monica said they agreed to hold their next meeting at the 47th Annual Arctic Science Conference. The conference will be held at Girdwood on September 19-21, 1996.

"Kate Wynne, UAF/Sea Grant, will be there with an update on the biosampling program as well as several of our Commissioners who will be on panels presenting their own local projects." Monica said, "I believe it is a good opportunity for our Native Leaders to participate in a world class convention."

Time line for FY 97 Work Plan

April 15, 1996-Restoration Office received 126 proposals requesting $38 million for FY 97.

May 16-18, 1996-Chief Scientist and core reviewers met to discuss the scientific merits of proposals.

May 23, 1996-Executive Director discussed proposals with agencies, Chief Scientist, and Public Advisory Group and drafted preliminary recommendations.

June 5, 1996-Public Advisory Group discussed proposals and preliminary recommendations and advised the Executive Director.

June 24, 1996-FY 97 Draft Work Plan is distributed for public comment.

August 5, 1996-Teleconference with the Community Involvement Facilitators at 11:00 AM.

August 6, 1996-Public hearing on the FY 97 Draft Work Plan.

August 7, 1996-Public Advisory Group meets to develop recommendations for the Trustee Council on FY 97 Final Work Plan.

August 28, 1996-Trustee Council is expected to decide on FY 97 Final Work Plan.

October 1, 1996-Fiscal year 1997 (FY97) begins.

Subsistence Resource Abnormalities Study Continues

Rita Miraglia has informed me that the ADF&G Subsistence Division still has the system in effect which enables subsistence harvesters to send in samples of abnormal resources to be examined by pathologists. The scientist's findings are reported to the communities, with an explanation of the results. The project began in 1995 in response to requests from the subsistence users in the oil spill area who noticed abnormalities but had no way to find out what caused the conditions. A total of 61 people were trained and work as volunteers to collect, preserve, and fill out forms in regard to, then package and ship the samples to ADF&G. Now that harvest activities are in full swing, Rita wanted to remind everyone that this service is still available. If you harvest any animal that appears abnormal and you would like to have it examined, contact one of the volunteers in your community or call their Hotline **1-800-267-2552**.

To obtain additional copies of or to be put on the mailing list to receive the Community Involvement Report please call Martha Vlasoff at 1-800-478-7745 or write EVOS Restoration Office, 645 G Street, Anchorage, Alaska 99501. Please send as many local news letters to me as possible so we can keep everyone informed of local issues.

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

MEMORANDUM

To: Trustee Council

From: Molly McCammon
Executive Director

Date: August 16, 1996

Subj: April 1996 Update on Injured Resources and Services

This past winter and spring Dr. Robert Spies, the Chief Scientist, and Mr. Stan Senner, the Science Coordinator, reviewed the status of injured resources and services listed in the Restoration Plan and, based on current information about their status, proposed changes to the list of injured resources and services and updated the injury and recovery summaries. These changes were reviewed by the Restoration Work Force and discussed with principal investigators and others at various times, including at the 1996 Restoration Workshop.

In addition, on April 10 we circulated for public comment an *Exxon Valdez* Oil Spill Restoration Plan Draft Update on Injured Resources and Services. The comment period closed on June 15. Eight public comments were received; copies are attached.

Seven of the comments did not directly address the proposed changes. These comments included: (04/21) a concern that there has been a lack of focus on EVOS impacts to hatchery-produced fish, (04/26) a concern about the lack of mention of the recovery status of Spot Shrimp (which has not been considered an injured resource), (05/02) a request that we continue to monitor the results of the oil spill as long as there is evidence of contamination, and (05/10, 05/15, 05/17, 06/12) a suggestion that we conduct a fertilization program at Eshamy Lake. In the eighth comment (04/25), it was suggested that it is inappropriate to classify all intertidal habitats as recovering, since only two of several types of intertidal habitats have been monitored since 1991.

Based on this last comment, we still propose to list intertidal habitats as recovering, but to add a footnote indicating that this classification is based primarily on monitoring of sheltered rocky habitats (mostly in Prince William Sound and some on the Kenai-Cook Inlet coast) and that the recovery status of other specific habitats is unknown. For purposes of this table, we are reluctant to split intertidal habitats into more than one classification. Given the results of intertidal monitoring studies sponsored by the Trustee Council, as well as those conducted by the NOAA HazMat (Alan Mearns)

group, and given the recovery objectives stated for intertidal habitats, the Chief Scientist believes that it is appropriate to generally characterize intertidal habitats as recovering.

This update on injured resources and services does not change or amend the Restoration Plan. The U.S. Forest Service has reviewed the proposal from the standpoint of compliance with the National Environmental Policy Act and has tentatively determined that no supplement to the environmental impact statement on the Restoration Plan is needed. When final, these revisions will be used for purposes of public information and for guidance in making decisions on future restoration actions.

If you concur with the proposed changes, with the additional change in regard to the characterization of intertidal habitats, I now seek your approval and permission to publish a final September 1996 Update on Injured Resources and Services.

There is a final related matter. On February 22 Dr. Alex Wertheimer and Mr. Mark Carls of the National Marine Fisheries Service sent me a letter requesting that chum salmon be added to the list of injured resources and services. Dr. Spies reviewed their request, and he has recommended against this action. Copies of the original letter and Dr. Spies reply are enclosed. I concur with Dr. Spies recommendation.

enclosures:

April 1996 draft
five public comments
letter from Wertheimer/Carls and reply from the Chief Scientist

mm/raw

Exxon Valdez Oil Spill
Restoration Plan
Draft Update on Injured Resources & Services
April 1996

Prepared by:

***Exxon Valdez* Oil Spill Trustee Council**

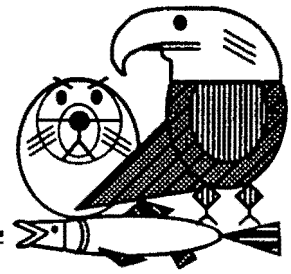
645 G Street, Suite 401
Anchorage, Alaska 99501-3451
907/278-8012

Toll-free in Alaska
1-800-478-7745

Outside Alaska
1-800-283-7745

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



April 1996

Dear Reader:

The Trustee Council adopted the *Exxon Valdez Oil Spill Restoration Plan* in November 1994 with the intent that the plan would be updated as needed to incorporate new scientific information.

The enclosed documents provide information to update two parts of the *Restoration Plan*: the List of Injured Resources and Services in Chapter 4 and the summaries of Injury and Recovery and the Recovery Objectives in Chapter 5. The Council invites public comment on the changes to the List of Injured Resources and Services and to the updated Recovery Objectives. To be most helpful, **please submit written comments on these drafts to: *Exxon Valdez* Oil Spill Trustee Council, 645 G Street, Suite 401, Anchorage, Alaska 99501 by June 15, 1996.**

List of Injured Resources and Services

Chapter 4 of the *Restoration Plan* indicates that the list of injured resources and services (p. 32, Table 2) will be reviewed as new information is obtained. The proposed revisions include changes to the recovery status of some resources (for example, moving Bald Eagles from the "recovering" category to "recovered") and additions to the list itself. In August 1995, the Council added Kittlitz's murrelets and common loons to the injured species list. In addition, the Council now proposes to add three species of cormorants (red-faced, pelagic, and double-crested). Requests to add scoters (three species) and black-legged kittiwakes to the list were recommended against by the Council's Chief Scientist. If you would like a copy of the Chief Scientist's recommendations, please call the Trustee Council office (see telephone numbers on second page).

Chapter 5: Goals, Objectives & Strategies

Chapter 5 of the *Restoration Plan* (pp. 33-56) discusses general goals and strategies for restoring injured resources and services and also provides specific information on the status, recovery objectives, and restoration strategies for individual resources and services. In the attached document, the Council now provides updated information on the status of injured resources and services. Based on these updated status reports, the Council also proposes and invites comments on revisions to the Recovery

Objectives for injured resources and services. Readers are referred to annual work plans and invitations to submit proposals (e.g., *Invitation to Submit Restoration Proposals for Federal Fiscal Year 1997*) for the most current information on the restoration strategies chosen by the Council to achieve its recovery objectives.

Your comments on the proposed changes to the List of Injured Resources and Services and the Recovery Objectives are invited. If you have questions about the proposed changes, or wish to request any of the documents mentioned above, please call 1-800-478-7745 (inside Alaska) or 1-800-283-7745 (outside Alaska). Thank you.

Sincerely,

Molly McCammon
Executive Director

enclosure

[Note to Readers: This draft updates information on Injury and Recovery status and Recovery Objectives in Chapter 5 (pp. 33-56) and the List of Injured Resources and Services (p. 32) in the *Restoration Plan*.]

RESOURCES

ARCHAEOLOGICAL RESOURCES

Injury and Recovery

The oil-spill area is believed to contain more than 3,000 sites of archaeological and historical significance. Twenty-four archaeological sites on public lands are known to have been adversely affected by cleanup activities or looting and vandalism linked to the oil spill. Additional sites on both public and private lands were probably injured, but damage assessment studies were limited to public land and not designed to identify all such sites.

Documented injuries include theft of surface artifacts, masking of subtle clues used to identify and classify sites, violation of ancient burial sites, and destruction of evidence in layered sediments. In addition, vegetation has been disturbed, which has exposed sites to accelerated erosion. The effect of oil on soil chemistry and organic remains may reduce or eliminate the utility of radiocarbon dating in some sites.

Assessments of 14 sites in 1993 suggest that most of the archaeological vandalism that can be linked to the spill occurred early in 1989, before adequate constraints were put into place over the activities of oil spill clean-up personnel. Most vandalism took the form of "prospecting" for high yield sites. Once these problems were recognized, protective measures were implemented that successfully limited additional injury. In 1993, only two of the 14 sites visited showed signs of continued vandalism, but it is difficult to prove that this recent vandalism was related to the spill. Oil was visible in the intertidal zones of two of the 14 sites monitored in 1993, and hydrocarbon analysis has shown that the oil at one of the sites was from the *Exxon Valdez* spill. Hydrocarbon levels at the second site were not sufficient to permit identification of the source or sources of the oil.

Monitoring of archaeological sites in 1994 and 1995 found no evidence of new damage from vandalism. The presence of oil is being determined in sediment samples taken from four sites in 1995.

None of the archaeological artifacts collected during the spill response, damage assessment, or restoration programs is stored within the spill area. These artifacts are stored in the University of Alaska Museum in Fairbanks and in the Federal Building in Juneau. Native communities in the spill area have expressed a strong interest in having them returned to the spill area for storage and display.

The Alutiiq Archaeological Repository in Kodiak, whose construction costs were partly funded by the Trustee Council, is the only physically appropriate artifact storage facility in the spill area. In 1995 the Trustee 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 within the spill area.

Recovery Objective

Archaeological resources are nonrenewable: they cannot recover in the same sense as biological

resources. Archaeological resources will be considered to have recovered when spill-related injury ends, looting and vandalism are at or below prespill levels, and the artifacts and scientific data remaining in vandalized sites are preserved (e.g., through excavation, site stabilization, or other forms of documentation).

BALD EAGLES

Injury and Recovery

The bald eagle is an abundant resident of coast lines throughout the oil-spill area. Following the spill a total of 151 eagle carcasses was recovered from the oil-spill area. Prince William Sound provides year-round and seasonal habitat for about 5,000 bald eagles, and within the Sound it is estimated that about 250 bald eagles died as a result of the spill. There were no estimates of mortality outside the Sound, but there were deaths throughout the oil-spill area.

In addition to direct mortalities, productivity was reduced in oiled areas of Prince William Sound in 1989. Productivity was back to normal in 1990 and 1991, and an aerial survey of adults in 1995 indicated that the population has returned to or exceeded its prespill level in Prince William Sound.

Recovery Objective

Bald eagles will have recovered when their population and productivity have returned to prespill levels. Based on the results of studies in Prince William Sound, this objective has been met.

BLACK OYSTERCATCHERS

Injury and Recovery

Black oystercatchers spend their entire lives in or near intertidal habitats and are highly vulnerable to oil pollution. Currently, it is estimated that 1,500-2,000 oystercatchers breed in south-central Alaska. Only nine carcasses of adult oystercatchers were recovered following the spill, but the actual number of mortalities may have been considerably higher.

In addition to direct mortalities, breeding activities were disrupted by the oil and clean-up activities. In comparison with black oystercatchers on the largely unoiled Montague Island, oystercatchers at heavily oiled Green Island had reduced hatching success in 1989 and their chicks gained weight more slowly during 1991-93. Interpretation of these data on reproductive performance, however, are confounded by lack of prespill data. Productivity and survival of black oystercatchers in Prince William Sound have not been monitored since 1993, and the recovery status of this species is not known.

Recovery Objective

Black oystercatchers will have recovered when the population returns to prespill levels and reproduction is within normal bounds. An increasing population trend and comparable hatching success and growth rates of chicks in oiled and unoiled areas, after taking into account geographic differences, will indicate that recovery is underway.

CLAMS

Injury and Recovery

The magnitude of impacts on clam populations varies with the species of clam, degree of oiling, and location. However, data from the lower intertidal zone on sheltered beaches suggest that little-neck clams and, to a lesser extent, butter clams were killed and suffered slower growth rates as a result of the oil spill and clean-up activities. In communities on the Kenai Peninsula, Kodiak, and the Alaska Peninsula and in Prince William Sound concern about the effects of the oil spill on clams and subsistence uses of clams remains high.

Recovery Objective

Clams will have recovered when populations and productivity have returned to levels that would have prevailed in the absence of the oil spill, based on prespill data or comparisons of oiled and unoiled sites.

COMMON LOONS

Injury and Recovery

Carcasses of 395 loons of four species were recovered following the spill, including at least 216 common loons. Current population sizes are not known for any of these species, but, in general, loons are long-lived, slow-reproducing, and have small populations. Common loons in the oil-spill area may number only a few thousand, including only hundreds in Prince William Sound. Common loons injured by the spill probably included a mixture of resident and migrant birds, and their recovery status is not known.

Recovery Objective

No realistic recovery objective can be identified without more information on injury to and the recovery status of common loons.

COMMON MURRES

Injury and Recovery

About 30,000 carcasses of oiled birds were picked up following the oil spill, and 74 percent of them were common and thick-billed murres (mostly common murres). Many more murres probably died than actually were recovered. Based on surveys of index colonies at such locations as Resurrection Bay, the Chiswell, Barren, and Triplet islands, and Puale Bay, the spill-area population may have declined by about 40 percent following the spill. In addition to direct losses of murres, there is evidence that the timing of reproduction was disrupted and productivity reduced. Interpretation of the effects of the spill, however, is complicated by incomplete prespill data and by indications that populations at some colonies were in decline before the oil spill.

Postspill monitoring of productivity at the colonies in the Barren Islands indicates that reproductive timing and success were again within normal bounds by 1993. Numbers of adult murres were last surveyed at those same colonies in 1994. At that time, the local population had not returned to prespill levels.

The Alaska Predator Ecosystem Experiment (APEX project), funded by the Trustee Council, is investigating the linkages among murre populations and changes in the abundance of forage fish, such as Pacific herring, sand lance, and capelin.

Recovery Objective
Common murres will have recovered when populations at index colonies have returned to prespill levels and when productivity is sustained within normal bounds. Increasing population trends at index colonies will be a further indication that recovery is underway.

CORMORANTS

Injury and Recovery
Cormorants are large fish-eating birds that spend much of their time on the water or perched on rocks near the water. Three species typically are found within the oil-spill area.

Carcasses of 838 cormorants were recovered following the oil spill, including 418 pelagic, 161 red-faced, 38 double-crested, and 221 unidentified cormorants. Many more cormorants probably died as a result of the spill, but their carcasses were not found.

No regional population estimates are available for any of the cormorant species found in the oil-spill area. The U.S. Fish and Wildlife Service Alaska Seabird Colony Catalog, however, currently lists counts of 7,161 pelagic cormorants, 8,967 red-faced cormorants, and 1,558 double-crested cormorants in the oil-spill area. These are direct counts, not overall population estimates, but they suggest that population sizes are small. In this context, it appears that injury to all three cormorant species may have been significant.

In addition, there were statistically-significant declines in the estimated numbers of cormorants (all three species combined) in Prince William Sound based on pre- and postspill July boat surveys (1972-73 v 1989-91). There were fewer cormorants in oiled than in unoiled parts of the Sound. More recent surveys (1993-94) did not show an increasing population trend since the oil spill. With support from the Trustee Council, these boat surveys will be repeated in 1996.

Recovery Objective
Pelagic, red-faced, and double-crested cormorants will have recovered when their populations return to prespill levels in the oil-spill area. An increasing population trend in Prince William Sound will indicate that recovery is underway.

CUTTHROAT TROUT

Injury and Recovery

Prince William Sound is at the northwestern limit of the range of cutthroat trout, and few stocks are known to exist within the Sound. Local cutthroat trout populations rarely number more than 1,000 each, and the fish have small home ranges and are geographically isolated. Cutthroat trout, therefore, are highly vulnerable to exploitation, habitat alteration, or pollution.

Following the oil spill, cutthroat trout in a small number of oiled index streams grew more slowly than in unoiled streams, possibly as a result of reduced food supplies or exposure to oil, and there is concern that reduced growth rates may have led to reduced survival. The difference in growth rates persisted through 1991. No studies have been conducted since then, and the recovery status of this species is not known.

Recovery Objective

Cutthroat trout will have recovered when growth rates within oiled areas are similar to those for unoiled areas, after taking into account geographic differences.

DESIGNATED WILDERNESS AREAS

Injury and Recovery

The oil spill delivered oil in varying quantities to the waters adjoining the seven areas within the spill area designated as wilderness areas and wilderness study areas by Congress. Oil also was deposited above the mean high-tide line in these areas. During the intense clean-up seasons of 1989 and 1990, thousands of workers and hundreds of pieces of equipment were at work in the spill area. This activity was an unprecedented imposition of people, noise, and activity on the area's undeveloped and normally sparsely occupied landscape. Although activity levels on these wilderness shores have probably returned to normal, at some locations there is still residual oil.

Recovery Objective

Designated wilderness areas will have recovered when oil is no longer encountered in these areas and the public perceives them to be recovered from the spill.

DOLLY VARDEN

Injury and Recovery

Like the cutthroat trout, there is evidence that Dolly Varden grew more slowly in oiled streams than in unoiled streams, and there is concern that reduced growth rates may have led to reduced survival. However, no data have been gathered since 1991. The recovery status of this species is not known.

Recovery Objective
Dolly Varden will have recovered when growth rates within oiled streams are comparable to those in unoiled streams, after taking into account geographic differences.

HARBOR SEALS

Injury and Recovery

Harbor seal numbers were declining in the Gulf of Alaska, including in Prince William Sound, before the oil spill. *Exxon Valdez* oil affected harbor seal habitats, including key haul-out areas and adjacent waters, in Prince William Sound and as far away as Tugidak Island, near Kodiak. Estimated mortality as a direct result of the oil spill was about 300 seals in oiled parts of Prince William Sound. Based on surveys conducted before (1988) and after (1989) the oil spill, seals in oiled areas had declined by 43 percent, compared to 11 percent in unoiled areas.

In a declining population deaths exceed births, and harbor seals in both oiled and unoiled parts of Prince William Sound have continued to decline since the spill. For the period 1989-1994, the average estimated annual rate of decline is about 6 percent. Changes in the amount or quality of food may have been an initial cause of this long-term decline. Although there is no evidence that such factors as predation by killer whales, subsistence hunting, and interactions with commerical fisheries caused the decline in the harbor seal population, these are among the on-going sources of mortality.

Harbor seals have long been a key subsistence resource in the oil-spill area. Subsistence hunting is affected by the declining seal population, and lack of opportunities to hunt seals has changed the diets of subsistence users who traditionally had relied heavily on these marine mammals.

Recovery Objective
Harbor seals will have recovered from the effects of the oil spill when their population is stable or increasing.

HARLEQUIN DUCKS

Injury and Recovery
Harlequin ducks feed in intertidal and shallow subtidal habitats where most of the spilled oil was initially stranded. More than 200 harlequin ducks were found dead in 1989, mostly in Prince William Sound. Many more than that number probably died throughout the spill area. Since the oil spill occurred in early spring, before wintering harlequins had left the oil-spill area, the impacts of the oil spill may have extended beyond the immediate spill area. The geographic extent of these impacts is not known.

Bile samples from harlequin ducks (combined with samples from Barrow's and common goldeneye) collected in eastern and western Prince William Sound and in the western Kodiak Archipelago in 1989-90 had higher concentrations of hydrocarbon metabolites than a small number of samples from harlequins and goldeneye collected at Juneau. Prespill data on harlequin populations and productivity are poor and complicated by possible geographic

differences in habitat quality. However, the summer population in Prince William Sound is small, only a few thousand birds. There continues to be concern about poor reproduction and a possible decline in numbers of molting birds in western versus eastern parts of the Sound.

Recovery Objective

Harlequin ducks will have recovered when breeding and postbreeding season densities and production of young return to prespill levels. A normal population age- and sex-structure and reproductive success, taking into account geographic differences, will indicate that recovery is underway.

INTERTIDAL COMMUNITIES

Injury and Recovery

Portions of 1,500 miles of coastline were oiled by the spill in Prince William Sound, on the Kenai and Alaska peninsulas, and in the Kodiak Archipelago. Both the oil and intensive clean-up activities had significant impacts on the flora and fauna of the intertidal zone, the area of beach between low and high tides. Intertidal resources are important to subsistence users, sea and river otters, and to a variety of birds, including black oystercatchers, harlequin ducks, surf scoters, and pigeon guillemots.

Impacts to intertidal organisms occurred at all tidal levels in all types of habitats throughout the oil-spill area. Many species of algae and invertebrates were less abundant at oiled sites compared to unoiled reference sites. Other opportunistic species, including a small species of barnacle, oligochaete worms, and filamentous brown algae, colonized shores where dominant species were removed by the oil spill and clean-up activities. The abundance and reproductive potential of the common seaweed, *Fucus gardneri* (known as rockweed or popweed), was also reduced following the spill.

On the sheltered, bedrock shores that are common in Prince William Sound, full recovery of *Fucus* is crucial for the recovery of intertidal communities at these sites, since many invertebrate organisms depend on the cover provided by this seaweed. *Fucus* has not yet fully recovered in the upper intertidal zone on shores subjected to direct sunlight, but in many locations, recovery of intertidal communities has made substantial progress. In other habitat types, such as estuaries and cobble beaches, many species did not show signs of recovery when they were last surveyed in 1991.

Recovery Objective

Intertidal communities will have recovered when community composition on oiled shorelines is similar to that which would have prevailed in the absence of the spill. Indications of recovery are the reestablishment of important species, such as *Fucus* at sheltered rocky sites, the convergence in community composition on oiled and unoiled shorelines, and the provision of adequate, uncontaminated food supplies for top predators in intertidal and nearshore habitats.

KILLER WHALES

Injury and Recovery

More than 80 killer whales in six "resident" pods regularly use Prince William Sound within their ranges. Other whales in "transient" groups are observed in the Sound less frequently. There has been particular concern in Prince William Sound about the resident AB pod, which numbered 36 animals prior to the spill. Fourteen whales disappeared from this pod in 1989 and 1990, during which time no young were recruited into the population. Although four calves were added to the AB pod during 1992-94, surveys in 1994 and 1995 indicate the loss of five more adult whales. The link between these losses and the oil spill is only circumstantial, but the likely mortality of killer whales in the AB pod in Prince William Sound following the spill far exceeds rates observed for other pods in British Columbia and Puget Sound over the last 20 years. In addition to the effects of the oil spill, there has been concern about the possible shooting of killer whales, pehaps due to conflicts with long-line fisheries.

The AB pod may never regain its former size, but overall numbers within the major resident killer whale pods in Prince William Sound are at or exceed prespill levels. There is concern, however, that a decline in resightings of individuals within the AT group of transient killer whales has accelerated following the oil spill.

Recovery Objective

Killer whales in the AB pod will have recovered when the number of individuals in the pod is stable or increasing relative to the trends of other major resident pods in Prince William Sound.

KITTLITZ'S MURRELET

Injury and Recovery

The Kittlitz's murrelet is found only in Alaska and portions of the Russian Far East, and a large fraction of the world population, which may number only a few tens of thousands, breeds in Prince William Sound. The Kenai Peninsula coast and Kachemak Bay are also important concentration areas for this species. Very little is known about Kittlitz's murrelets. However, they associate closely with tidewater glaciers and nest on scree slopes and similar sites on the ground.

Seventy-two Kittlitz's murrelets were positively identified among the bird carcasses recovered after the oil spill. Nearly 450 more *Brachyramphus* murrelets were not identified to the species level, and it is reasonable to assume that some of these were Kittlitz's. In addition, many more murrelets probably were killed by the oil than were actually recovered. One published estimate places direct mortality of Kittlitz's murrelets from the oil spill at 1,000-2,000 individuals, which would represent a substantial fraction of the world population.

Because of the highly patchy distribution of Kittlitz's murrelet, the difficulty of identifying them in the field, and the fact that so little is known about this species, the recovery status of the Kittlitz's murrelet is not known. The Trustee Council has funded an exploratory study on the ecology and distribution of this murrelet starting in 1996.

Recovery Objective

No recovery objective can be identified for Kittlitz's murrelet at this time.

MARBLED MURRELET

Injury and Recovery

The northern Gulf of Alaska, including Prince William Sound, is a key area of concentration in the distribution of marbled murrelets. The marbled murrelet is federally listed as a threatened species in Washington, Oregon, and California; it is also listed as threatened in British Columbia.

The marbled murrelet population in Prince William Sound had declined before the oil spill. The causes of the prespill decline are unknown, but may be related to changing food supplies. It is not known whether the murrelet population was still declining at the time of the oil spill, but the spill caused additional losses of murrelets. Carcasses of nearly 1,100 *Brachyramphus* murrelets were found after the spill, and about 90 percent of the murrelets that could be identified to the species level were marbled murrelets. Many more murrelets probably were killed by the oil than were found, and it is estimated that as much as 7 percent of the marbled murrelet population in the oil-spill area was killed by the spill.

Population estimates for murrelets are highly variable. Postspill boat surveys do not yet indicate any statistically significant increase in numbers of marbled murrelets in Prince William Sound, nor is there evidence of any further decline.

Recovery Objective

Marbled murrelets will have recovered when its population is stable or increasing. Stable or increasing productivity will be an indication that recovery is underway.

MUSSELS

Injury and Recovery

Mussels are an important prey species in the nearshore ecosystem throughout the oil-spill area, and beds of mussels provide physical stability and habitat for other organisms in the intertidal zone. For these reasons, mussel beds were purposely left alone during *Exxon Valdez* clean-up operations.

In 1991, high concentrations of relatively unweathered oil were found in the mussels and underlying byssal mats and sediments in certain dense mussel beds. The biological significance of oiled mussel beds is not known, but they are potential pathways of oil contamination for local populations of harlequin ducks, black oystercatchers, river otters, and juvenile sea otters, all of which feed to some extent on mussels and show some signs of continuing injury.

About 30 mussel beds in Prince William Sound are known still to have oil residue, and 12 of them were cleaned on an experimental basis in 1994. By August 1995, these beds showed a 98 percent reduction in oil in the replacement sediments, compared to what had been there before. Mussel beds along the outer Kenai Peninsula coast, the Alaska Peninsula, and Kodiak

Archipelago were surveyed for the presence of oil in 1992, 1993, and 1995. Hydrocarbon concentrations in mussels and sediments at these Gulf of Alaska sites is generally lower than for sites in the Sound, but at some sites substantial concentrations persist.

Subsistence users continue to be concerned about contamination from oiled mussel beds. The Nearshore Vertebrate Predator project is focusing on mussels as a key prey species and component of the nearshore ecosystem.

Recovery Objective
Mussels will have recovered when concentrations of oil in the mussels and in the sediments below mussel beds reach background levels, do not contaminate their predators, and do not affect subsistence uses.

PACIFIC HERRING

Injury and Recovery
Pacific herring spawned in intertidal and subtidal habitats in Prince William Sound shortly after the oil spill. A significant portion of these spawning habitats as well as herring staging areas in the Sound were contaminated by oil. Field studies conducted in 1989 and 1990 documented increased rates of egg mortality and larval deformities in oiled versus unoiled areas. Subsequent laboratory studies confirm that these effects can be caused by exposure to *Exxon Valdez* oil, but the significance of these injuries at a population level is not known.

The 1988 prespill year-class of Pacific herring was very strong in Prince William Sound, and, as a result, the estimated peak biomass of spawning adults in 1992 was at a record level. In 1993, however, there was an unprecedented crash of the adult herring population. A viral disease and fungus were the probable agents of mortality, and the connection between the oil spill and the disease outbreak is under investigation. Numbers of spawning herring in Prince William Sound remained depressed through the 1995 season. Preliminary results from the Sound Ecosystem Assessment (SEA) Project indicate the possible significance of walleye pollock as both competitors with and predators on herring, which may indicate that there is a connection between the lack of recruitment of strong year classes of herring and the presence of large numbers of pollock in Prince William Sound.

Pacific herring are extremely important ecologically and commercially and for subsistence users. Reduced herring populations could have significant implications for both their predators and their prey, and the closure of the herring fishery from 1993 through 1995 has had serious economic impact on people and communities in Prince William Sound.

Recovery Objective
Pacific herring will have recovered when the next highly successful year class is recruited into the fishery and when other indicators of population health are sustained within normal bounds in Prince William Sound.

PIGEON GUILLEMOT

Injury and Recovery

Although the pigeon guillemot is widely distributed in the north Pacific region, nowhere does it occur in large numbers or concentrations. Because guillemots feed in shallow, nearshore waters, the guillemots and the fish on which they prey are vulnerable to oil pollution.

Like the marbled murrelet, there is evidence that the pigeon guillemot population in Prince William Sound had declined before the spill. The causes of the prespill decline are unknown. It is estimated that 10-15 percent of the spill-area population may have died following the spill. Guillemot nesting on the Naked Islands was well-studied in 1978-81. Postspill surveys using the same methods indicated a decline of about 40 percent in guillemots in the Naked Islands. Based on boat surveys, the overall guillemot population in the Sound declined as well.

Numbers of guillemots recorded on boat surveys are highly variable, and there is not yet any statistically significant evidence of a postspill population increase. The factors responsible for the guillemot's prespill decline may negate or mask recovery from the effects of the oil spill.

The Alaska Predator Ecosystem Experiment (the APEX project), supported by the Trustee Council, is investigating the possible link between pigeon guillemot declines to the availability and abundance of forage fish, such as Pacific herring, sand lance, and capelin.

Recovery Objective

Pigeon guillemots will have recovered when their population is stable or increasing. Sustained productivity within normal bounds will be an indication that recovery is underway.

PINK SALMON

Injury and Recovery

About 75 percent of wild pink salmon in Prince William Sound spawn in the intertidal portions of streams and were highly vulnerable to the effects of the oil spill. Hatchery salmon and wild salmon from both intertidal and upstream spawning habitats swam through oiled waters and ingested oil particles and oiled prey as they foraged in the Sound and emigrated to the sea. As a result, three types of early life-stage injuries were identified: First, growth rates in juvenile pink salmon from oiled parts of Prince William Sound were reduced. Second, there was increased egg mortality in oiled versus unoiled streams. A possible third effect, genetic damage, is under investigation.

In the years preceding the spill, returns of wild pink salmon in Prince William Sound varied from a maximum of 21.0 million fish in 1984 to a minimum of 1.8 million in 1988. Since the spill, returns of wild pinks have varied from a high of about 14.4 million fish in 1990 to a low of about 2.2 million in 1992. There is a particular concern about the Sound's southwest management district, where returns of both hatchery and wild stocks have been generally weak since the oil spill. Because of the tremendous natural variation in adult returns, however, it is difficult to attribute poor returns in a given year to injuries caused by *Exxon Valdez* oil. For pink salmon, mortalities of eggs and juveniles remain the best indicators of injury and recovery.

Evidence of reduced juvenile growth rates was limited to the 1989 season, but increased egg mortality persisted in oiled compared to unoiled streams through 1993. The 1994 and 1995 seasons were the first since 1989 in which there were no statistically significant differences in egg mortalities in oiled and unoiled streams. These data indicate that recovery from oil-spill effects is underway.

The Sound Ecosystem Assessment (SEA) Project is exploring oceanographic and ecological factors that influence production of pink salmon and Pacific herring. These natural factors are likely to have the greatest influence over year-to-year returns in both wild and hatchery stocks of pink salmon.

Recovery Objective
Pink salmon will have recovered when population indicators, such as growth and survival, are within normal bounds and there are no statistically significant differences in egg mortalities in oiled and unoiled streams for two years each of odd- and even-year runs in Prince William Sound.

RIVER OTTERS

Injury and Recovery
River otters have a low population density and an unknown population size in Prince William Sound, and, therefore, it is hard to assess oil-spill effects. Twelve river otter carcasses were found following the spill, but the actual mortality is not known. Studies conducted during 1989-91 identified several differences between river otters in oiled and unoiled areas in Prince William Sound, including biochemical evidence of exposure to hydrocarbons or other sources of stress, reduced diversity in prey species, reduced body size (length-weight), and increased territory size. Since there were no prespill data and sample sizes were small, it is not clear that these differences are the result of the oil spill.

The Nearshore Vertebrate Predator project, now underway, will shed new light on the status of the river otter. In 1995 the Alaska Board of Game used its emergency authority to restrict trapping of river otters in western Prince William Sound to ensure that the results of this study are not compromised by the removal of animals from study areas on Jackpot and Knight islands.

Recovery Objective
The river otter will have recovered when biochemical indices of hydrocarbon exposure or other stresses and indices of habitat use are similar between oiled and unoiled areas of Prince William Sound, after taking into account any geographic differences.

ROCKFISH

Injury and Recovery

Very little is known about rockfish populations in the northern Gulf of Alaska. A small number of dead adult rockfish was recovered following the oil spill, and autopsies of five specimens indicated that oil ingestion was the cause of death. Analysis of other rockfish showed exposure to hydrocarbons and probable sublethal effects. In addition, closures to salmon fisheries apparently increased fishing pressures on rockfish, which may have adversely affected the rockfish population. However, the original extent of injury and the current recovery status of this species are unknown.

Recovery Objective

No recovery objective can be identified.

SEA OTTERS

Injury and Recovery

By the late 1800s, sea otters had been eliminated from most of their historical range in Alaska due to excessive fur harvesting by Russian and American fleets. Surveys of sea otters in the 1970s and 1980s, however, indicated a healthy and expanding population, including in Prince William Sound, prior to the oil spill. Sea otters are today an important subsistence resource for their furs.

About 1,000 sea otter carcasses were recovered following the spill, although additional animals probably died but were not recovered. In 1990 and 1991, higher-than-expected proportions of prime-age adult sea otters were found dead in western Prince William Sound, and there was evidence of higher mortality of recently weaned juveniles in oiled areas. By 1992-93, overwintering mortality rates for juveniles had decreased, but were still higher in oiled than in unoiled parts of the Sound.

Based on boat surveys conducted in Prince William Sound, there is not yet statistically significant evidence of an overall population increase following the oil spill (1990-94). This lack of a significant positive trend, however, may result from low statistical power in the survey, which will be repeated in 1996.

Based on observations by local residents, it is evident that the sea otter is abundant in much of Prince William Sound. There is no evidence that recovery has occurred, however, in heavily oiled parts of western Prince William Sound, such as around northern Knight Island. The Nearshore Vertebrate Predator project, which was started in 1995, should help clarify the recovery status of the sea otter in the western Sound.

Recovery Objective
Sea otters will have recovered when the population in oiled areas returns to its prespill abundance and distribution. An increasing population trend and normal reproduction and age structure in western Prince William Sound will indicate that recovery is underway.

SEDIMENTS

Injury and Recovery
Exxon Valdez oil penetrated deeply into cobble and boulder beaches that are common on shorelines throughout the spill area, especially in sheltered habitats. Cleaning and natural degradation removed much of the oil from the intertidal zone, but visually identifiable surface and subsurface oil persists at many locations.

The last comprehensive survey of shorelines in Prince William Sound, conducted in 1993, included 45 areas of shoreline known to have had the most significant oiling. Based on that survey, it was estimated that heavy subsurface oil had decreased by 65 percent since 1991 and that surface oil had decreased by 50 percent over the same time period. Surveys also have indicated that remaining shoreline oil in the Sound is relatively stable and, by this time, is likely to decrease only slowly. Oil also persists under armored rock settings on the Kenai and Alaska peninsulas, and this oil has undergone little chemical change since 1989.

In 1995, a shoreline survey team visited 30 sites in the Kodiak Archipelago that had measurable or reported oiling in 1990 and 1991. The survey team found no oil or only trace amounts at these sites. The oiling in the Kodiak area is not persisting as it is at sites in Prince William Sound due to the higher energy settings in the Kodiak area, the state of the oil when it came ashore, and the smaller concentrations of initial oiling relative to the Sound.

Following the oil spill, chemical analyses of oil in subtidal sediments were conducted at a small number of index sites in Prince William Sound. At these sites, oil in subtidal sediments reached its greatest concentrations at water depths of 20 meters below mean low tide, although elevated levels of hydrocarbon-degrading bacteria (associated with elevated hydrocarbons) were detected at depths of 40 and 100 meters in 1990 in Prince William Sound. By 1993, however, there was little evidence of *Exxon Valdez* oil and related microbial activity at most index sites in Prince William Sound, except at those associated with sheltered beaches that were heavily oiled in 1989. These index sites--at Herring, Northwest, and Sleepy bays--are among the few sites at which subtidal oiling is still known to occur.

Recovery Objective
Sediments will have recovered when there are no longer residues of *Exxon Valdez* oil on shorelines (both tidal and subtidal) in the oil-spill area. Declining oil residues and diminishing toxicity are indications that recovery is underway.

SOCKEYE SALMON

Injury and Recovery

Commercial salmon fishing was closed in Prince William Sound and in portions of Cook Inlet and near Kodiak in 1989 to avoid any possibility of contaminated salmon being sent to market. As a result, there were higher-than-desirable numbers (i.e., overescapement) of spawning sockeye salmon entering the Kenai River, Red and Akalura lakes on Kodiak Island, and other lakes on Afognak Island and the Alaska Peninsula. Initially these high escapements may have produced an overabundance of juvenile sockeye that overgrazed the zooplankton, thus altering planktonic food webs in the nursery lakes. Although the exact mechanism is unclear, the result was lost sockeye production as shown by declines in the returns of adults per spawning sockeye.

The effects of the 1989 overescapement of sockeye salmon have persisted in the Kenai River system through 1995. Although the overall escapement goal for that system was met in 1995, there is concern that the initial overescapement will continue to affect post-spill year-classes.

Production of zooplankton in both Red and Akalura lakes on Kodiak Island has rebounded from the effects of the overescapement at the time of the oil spill. There continues to be some problem in the rate of production of sockeye fry in Red and Akalura lakes. This problem may or may not be linked to the overescapement, and possible additional factors include low egg-to-fry survival, competition from other freshwater fishes, and the interception of adults in the mixed-stock fishery harvest offshore.

Recovery Objective

Sockeye salmon in the Kenai River system and Red and Akalura lakes will have recovered when adult returns-per-spawner are within normal bounds.

SUBTIDAL COMMUNITIES

Injury and Recovery

Oil that was transported down to subtidal habitats apparently caused changes in the abundance and species composition of plant and animal populations below lower tides. Different habitats, including eelgrass beds, kelp beds, and adjacent nearshore waters (depths less than 20 meters), were compared at oiled and unoiled sites. The concentration of oil in sediments in 1990 was more than twice as great at oiled sites. The greatest differences were detected at oiled sites with sandy sea bottoms in the vicinity of eelgrass beds, at which there were reduced abundances of eelgrass shoots and flowers and helmet crabs. The abundance and diversity of worms, clams, snails, and oil-sensitive amphipods (sand fleas) also were reduced. Organisms living in sediment at depths of 3-20 meters were especially affected. Some opportunistic (i.e., stress-tolerant) invertebrates within the substrate, mussels and worms on the eelgrass, and juvenile cod, were greater in numbers at oiled sites.

By 1993, oil concentrations in sediments had dropped considerably, so that there was little difference between oiled and unoiled sites. The eelgrass habitat, the only habitat examined in 1993, revealed fewer differences in abundances of plants and animals. As was true in 1990, however, some opportunistic species still were more abundant at oiled sites. These included the

opportunistic worms and snails, mussels and worms on the eelgrass, and juvenile cod.

Preliminary results from eelgrass habitats visited in 1995 revealed that natural recovery had occurred. No difference was detected in abundance of eelgrass shoots and flowers, mussels on eelgrass, amphipods, helmet crabs, and dominant sea stars between oiled and unoiled sites. The abundance of small green sea urchins, however, was more than 10 times greater at oiled sites. The possibility that urchins increased due to a reduction in numbers of sea otters, which prey on urchins, is being examined in the Nearshore Vertebrate Predator Project. Analyses of the recent oil concentrations in sediments and organisms that live within the substrate are not yet complete.

Recovery Objective
Subtidal communities will have recovered when community composition in oiled areas, especially in association with eelgrass beds, is similar to that in unoiled areas. Indications of recovery are the return of oil-sensitive species, such as amphipods, and the reduction of opportunistic species at oiled sites.

SERVICES

COMMERCIAL FISHING

Injury and Recovery
Commercial fishing is a service that was reduced through injury to commercial fish species (see individual resources) and also through fishing closures. In 1989, closures affected fisheries in Prince William Sound, lower Cook Inlet, upper Cook Inlet, Kodiak, and Chignik. These fisheries opened again in 1990. Since then, there have been no spill-related district-wide closures, except for the Prince William Sound herring fishery, which was closed in 1993 and has remained closed since then due to the collapse of the herring population and poor fishery recruitment since 1989. These closures, including the on-going closure of the herring fishery in Prince William Sound, harmed the livelihoods of persons who fish for a living and the communities in which they live. To the extent that the oil spill continues to be a factor that reduces opportunities to catch fish, there is on-going injury to commercial fishing as a service.

On this basis, the Trustee Council continues to make major investments in projects to understand and restore commercially important fish species that were injured by the oil spill. These projects include: supplementation work, such as fertilizing Coghill Lake to enhance its sockeye salmon run and construction of a barrier bypass at Little Waterfall Creek; development of tools that have almost immediate benefit for fisheries management, such as otolith mass marking of pink salmon in Prince William Sound and in-season genetic stock identification for sockeye salmon in Cook Inlet; and research such as the SEA Project and genetic mapping which will enhance the ability to predict and manage fisheries over the long-term.

Recovery Objective
Commercial fishing will have recovered when the commercially important fish species have recovered and opportunities to catch these species are not lost or reduced because of the effects of the oil spill.

PASSIVE USE

Injury and Recovery

Passive use of resources includes the appreciation of the aesthetic and intrinsic values of undisturbed areas, the value derived from simply knowing that a resource exists, and other nonuse values. Injuries to passive uses are tied to public perceptions of injured resources. Contingent valuation studies conducted by the State of Alaska for the *Exxon Valdez* oil spill litigation measured substantial losses of passive use values resulting from the oil spill.

Recovery Objective

Passive uses will have recovered when people perceive that aesthetic and intrinsic values associated with the spill area are no longer diminished by the oil spill.

RECREATION AND TOURISM

Injury and Recovery

The spill disrupted use of the spill area for recreation and tourism. Resources important for wildlife viewing and which still are injured by the spill include killer whale, sea otter, harbor seal, and various seabirds. Residual oil exists on some beaches with high value for recreation, and its presence may decrease the quality of recreational experiences and discourage recreational use of these beaches.

Closures of sport hunting and fishing also affected use of the spill area for recreation and tourism. Sport fishing resources include salmon, rockfish, Dolly Varden, and cutthroat trout. Since 1992, the Alaska Board of Fisheries has imposed special restrictions on sport fishing in parts of Prince William Sound to protect cutthroat trout populations. Harlequin ducks are hunted in the spill area. The Alaska Board of Game restricted sport harvest of harlequin ducks in Prince William Sound in 1991, and those restrictions remain in place.

Recreation was also affected by changes in human use in response to the spill. For example, displacement of use from oiled areas to unoiled areas increased management problems and facility use in unoiled areas. Some facilities, such as the Green Island cabin and the Fleming Spit camp area, were injured by clean-up workers.

In the years since the oil spill, there has been a general, marked increase in visitation to the spill area. However, there are still locations within the oil-spill area which are avoided by recreational users because of the presence of residual oil.

Recovery Objective

Recreation and tourism will have recovered, in large part, when the fish and wildlife resources on which they depend have recovered, recreation use of oiled beaches is no longer impaired, and facilities and management capabilities can accommodate changes in human use.

SUBSISTENCE

Injury and Recovery

Fifteen predominantly Alaskan Native communities (numbering about 2,200 people) in the oil-spill area rely heavily on harvests of subsistence resources, such as fish, shellfish, seals, deer, ducks, and geese. Many families in other communities, both in and beyond the oil-spill area, also rely on the subsistence resources of the spill area.

Subsistence harvests of fish and wildlife in most of these villages declined substantially following the oil spill. The reasons for the declines include reduced availability of fish and wildlife to harvest, concern about possible health effects of eating contaminated or injured fish and wildlife, and disruption of lifestyles due to clean-up and other activities.

Subsistence foods were tested for evidence of hydrocarbon contamination from 1989-94. No or very low concentrations of petroleum hydrocarbons were found in most subsistence foods. The U.S. Food and Drug Administration determined that eating foods with such low levels of hydrocarbons posed no significant additional risk to human health. Because shellfish can continue to accumulate hydrocarbons, however, the Oil Spill Health Task Force advised subsistence users not to eat shellfish from beaches where oil can be seen or smelled on the surface or subsurface. Residual oil exists on some beaches near subsistence communities. In general, subsistence users remain concerned and uncertain about the safety of fish and other wildlife resources.

The estimated size of the subsistence harvest in pounds per person now appears to have returned to pre-spill levels in some communities, according to subsistence users through household interviews conducted by the Alaska Department of Fish and Game. These interviews also indicated that the total subsistence harvest began to rebound first in the communities of the Alaska Peninsula, Kodiak Island, and the lower Kenai Peninsula, but that the harvest has lagged behind a year or more in the Prince William Sound villages. The interviews also showed that the relative contributions of certain important subsistence resources remains unusually low. The scarcity of seals, for example, has caused people in Chenega Bay to harvest fewer seals and more salmon than has been customary. Herring have been very scarce throughout Prince William Sound since 1993. Different types of resources have varied cultural and nutritional importance, and the changes in diet composition remain a serious concern to subsistence users. Subsistence users also report that they have to travel farther and expend more time and effort to harvest the same amount as they did before the spill, especially in Prince William Sound.

Subsistence users also point out that the value of subsistence cannot be measured in pounds alone. This conventional measure does not include the cultural value of traditional and customary use of natural resources. Subsistence users say that maintaining their subsistence culture depends on uninterrupted use of fish and wildlife resources. The more time users spend away from subsistence activities, the less likely that they will return to these practices. Continuing injury to natural resources used for subsistence may affect ways of life of entire communities. There is particular concern that the oil spill disrupted opportunities for young people to learn subsistence culture, and that this knowledge may be lost to them in the future.

Recovery Objective

Subsistence will have recovered when injured resources used for subsistence are healthy and productive and exist at prespill levels. In addition, there is recognition that people must be confident that the resources are safe to eat and that the cultural values provided by gathering, preparing, and sharing food need to be reintegrated into community life.

Table 2. Resources and Services Injured by the Spill

INJURED RESOURCES				LOST or REDUCED SERVICES
Recovered	**Recovering**	**Not Recovered**	**Recovery Unknown**	Commercial fishing
Bald eagle	Archaeological resources*	Cormorants (3 species)	Black oystercatcher	Passive uses
	Common murres	Harbor seal	Clams	Recreation and Tourism including sport fishing, sport hunting, and other recreation uses
	Intertidal communities	Harlequin duck	Common loon	
	Mussels	Killer whale (AB pod)	Cutthroat trout	Subsistence
	Pink salmon	Marbled murrelet	Designated Wilderness areas	
	Sediments	Pacific herring	Dolly Varden	
	Sockeye salmon	Pigeon guillemot	Kittlitz's murrelet	
	Subtidal communities	Sea otter (in oiled west. PWS)	River otter	
			Rockfish	

---

*Archaeological resources are not renewable in the same way that biological resources are, but there has been significant progress toward the recovery objective.

Amending the List of Injured Resources and Services. The list of injured resources and services will be reviewed as new information is obtained through research, monitoring, and other studies sponsored by the Trustee Council. In addition, information may be submitted to add to or otherwise change this list. This information can include research results, assessment of population trends, ethnographic and historical data, and supportive rationale. Information that has been through an appropriate scientific review process is preferable. If data have not been peer reviewed, they should be presented in a format that permits and facilitates peer review. Information to change the list will be reviewed through the Trustee Council's scientific review process.

Exxon Valdez Oil Spill Trustee Council
645 G Street, Suite 401
Anchorage, AK 99501-3451

PRINCE WILLIAM SOUND FISHERMEN–PLAINTIFFS' COMMITTEE

"Organizing for Fairness"

PO. Box 1249, Cordova, Alaska. 99574 Phone (907)424-3664 Fax (907)424-3937

Interim Officers:
Chairman: C. Ross Mullins, PO. Box 436, Cordova, Ak. 99574...Phone (907) 424-3664...Fax (907) 424-3937
ViceChair: Michael O'Leary, PO. Box 1052, Cordova, Ak. 99574...Phone (907) 424-7758
Secretary: Liz Senear, PO. Box 762, Cordova, Ak. 99574...Phone (907) 424-5611
Treasurer: John Renner, PO. Box 756, Cordova, Ak. 99574...Phone (907) 424-7563

Email: mullins@corcom.com

Cordova, Ak. April 21,1996

Dear Trustee Council Members:

I have just received your publication entitled Exxon Valdez Oil Spill Restoration Plan Draft Update on Injured Resources and Services April 1996. I read the document with some interest since I am also an injured resource- a commercial fisherman, along with many hundreds of other constituent commercial fishermen. While I'm not able to immediately identify the accuracy of your statistics, I am, like most of the readers who read your documents, assuming that the general numbers that your staff produces are accurate and grounded in reality.

I do believe, however, that the section on Pink Salmon beginning on page 13 should be qualified to reflect the ADF&G view point incorporate in a footnote found on page 120 of a table showing hatchery and wildstock production of PWS 1977-1994 on page 120 of the PWS Management Area 1994 Annual Finfish Management Report. In part that footnote states that "Prior to 1987, there was no definitive or statistically valid method of separating hatchery and wild stock composition in the commercial catch..." I would argue that even after 1987 the coded wire tag analysis that has been used leaves a fairly large question as to the accuracy of the wild stock estimates.

Additionally, I feel that the Trustees' emphasis on wild stock pinks and the virtually complete lack of focus upon the impact that the EVOS had upon hatchery produced fish is a mistake. This is particularly true now that the SEA studies have led Dr. Ted Cooney, one of the lead SEA scientists to conclude in the December 1995 SEA BULLETIN that: *(box below)*

> With the completion of SEA Phase I (FY94 and Fy95), investigators have a much more refined view of factors influencing the survival of the early life stages of pink salmon and herring in the Sound. It now seems likely that the spill, either directly or indirectly, shifted a balance among pelagic fish stocks including salmon, herring and pollock. These three species compete for many of the same plankton forage resources, and prey upon each other and themselves in complex trophic interactions that become expressed in changing patterns of dominance. The results of our work and that of other EVOS studies in the region indicate that walleye pollock is probably the dominant pelagic species now. *(underlining added for emphasis)*

The implication here is that there has been a shift in the balance of the PWS marine ecosystem. My experience as a commercial fisherman in the region and my observations of the past thirty three years leads me to confirm that conclusion. On page 14, paragraph two you categorize these changes as "natural factors." I believe that the ascendancy of the walleye pollock in western PWS is definitely not natural, but rather a direct result of the 1989 spill. I hope that in the future the EVOS Trustees will attempt to ensure a more comprehensive assessment and evaluation of the continuing problems that afflict the fisheries and the commercial fishermen of Prince William Sound. The general public looks to your publications to provide a comprehensive overview of the Sounds recovery. I personally would like to feel that this is the case.

Sincerely,

Ross Mullins

cc: Cordova District Fishermen United
Dr. Gary Thomas, PWS Science Center

Juneau Center
School of Fisheries and Ocean Sciences

University of Alaska Fairbanks
11120 Glacier Highway
Juneau, Alaska 99801

(907) 465-6441 Office
(907) 465-6447 FAX

25 April 1996

Dear Council Members,

In the revised list of injured resources, I was surprised to see that "intertidal communities" were listed under the "recovering" heading. At the meetings in January I argued, and I thought we agreed, that at least some intertidal communities should be classed as "recovery unknown".

There are several reasons why I feel that intertidal communities should listed under more than one column. First, bare in mind that the term intertidal communities encompasses at least nine different habitat types each with a more or less unique assemblage of species. In these nine habitat types we have found over 30 common species of plants and animals that were injured by the oil spill. In addition there are numerous rarer species contributing to the unique character of each community. The only other categories that encompassed more than one species were the subtidal communities and cormorants. If Pelagic cormorants were recovering and the other two species were not, would all cormorants then be placed under the recovering heading?

In 1991 some intertidal species and habitats were not recovering and some of those seemed to show more injury in 1991 compared to 1990. Only two of the nine intertidal habitat types have been examined since 1991, and these two have shown signs of recovery. The other seven habitat types have not been examined since 1991 and since some of those seemed to be showing more injury over time, I see no valid reason why these communities should be given recovering status. As it turns out, we do not know the recovery status of the majority of intertidal community types, so if I were to assign intertidal communities to one category it would have to be the recovery unknown category. It is clear, however, that the intertidal communities that have been studied are recovering, so there should be some representation in the recovering category.

It is my opinion that the current list of injured resources does not accurately represent the status of intertidal communities to the public. A more accurate representation would be to list some intertidal communities as recovering and some as recovery

unknown.

If you would like more information or would like to talk to me personally, feel free to call, write, e-mail me at the addresses given below.

Sincerely,

Dr. Peter van Tamelen
Juneau Center, School for Fisheries and Ocean Sciences
11120 Glacier Highway
Juneau, AK 99801
Phone: (907) 465-6557
E-mail: fnpvt@aurora.alaska.edu

April 26, 1996

EXXON VALDEZ OIL SPILL TRUSTEE CONCIL
645 G ST. SUITE 401
ANCHORAGE, AK. 99501

Ref.: Spot Shrimp in P.W.S.

Dear Sirs,

I would like to call to your attention that there is no mention of the recovery status of Spot Shrimp in Prince William Sound in your reports.

As you should know, the commercial harvesting of Spot Shrimp in the West side of Prince William Sound was closed and has remained closed since the 1989 Oil Spill, except for 2 short opening in 1990, 91 to test the condition of the stock. In both occasions the Opening was closed by an emergency order because the result was "alarmingly weak".

Today, this area remain closed and probably, will continue closed for a long time according to the Shellfish biologists of ADF&G. Mr. James Brady of the ADF&G said that they don't have the time and money to perform a full scale study of the collapse of the Spot Shrimp in the sound. They only perform one test per year by going to several pre-designated sites and put one set of traps to come out with a "catch per pot" number.

Although, the reasons for the disappearance of the Spot Shrimp in west side P.W.S. may be for other reason than the 1989 Oil Spill, nobody claims to know why. There is a strong possibility that the collapse of Spot Shrimp in P.W.S is attributed to the large amount of Pink Salmon fry released by the Hatcheries. This occurs at the same time when the Shrimp Larvae inhabitant the shallow water (zooplankton) in late March throughout April. This theory was mentioned to Mr. James Brady, but was played down because of the controversy of going against the multi-million dollar operation such as the P.W.S. Hatchery.

I would like very much to see somebody to look into this matter, as I am loosing hope that ADF&G can or will do anything to help us understand this situation.

Thank you

Ric Vrsalovic
P.O. Box 709
Whittier, AK. 99693

6417 USH 11
Canton, N.Y. 13617
May 2, 1996

Thank you for sending me the Draft Update on Injured Resources & Services.

I hope that you will continue to monitor the results of this irresponsible act as long as there is evidence of contamination.

There should be no question about the long term adverse impact and it's financial and environmental degregation.

Clarence Petty

Clarence Petty

Chpt. 5

May 10, 1996

Paul Owecke
W25376 Sullivan Rd.
Trempealeau, WI 54661

Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 G ST., Suite 401
Anchorage, Alaska 99501-3451

The Trustee Council is to be congratulated for its support of updating ~~recovery objectives~~ and in particular for participating in the fertilization project at Coghill lake in PWS. The positive benefits of this project are easily demonstrated, and the restoration of injured Coghill sockeye stocks and the commercial fishers has been dramatic and relatively immediate. This project also demonstrates that the knowledge and techniques could be expanded to benefit other injured sockeye stocks and fishers within PWS. Most notable are the Eshamy lake sockeye.

Eshamy Lake is located approximately thirty miles due south of Coghill lake, and since the 1989 spill there have been disrupted run numbers, and run timing of returning Eshamy sockeye have also been adversly affected. There is a set gillnet and drift gillnet fishery targeting the Eshamy stocks, and both have been severly impacted by the disrupted returns. Not only has there been lost harvest opportunity of Eshamy stocks, but there has also been, and will continue to be, time and area closures when fishing efforts target stocks returning to nearby Main Bay hatchery intercept the greatly diminished Eshamy stocks.

The seine fleet also receives time and area closures when Eshamy escapement is not met. All commercial salmon fishers of every gear type have to some degree suffered due to the impacts of the spill on Eshamy sockeye stocks. The setnet fishery, which we participate in, has been based since its inception on the health of the Eshamy sockeye stocks. Participants in the setnet fishery are only allowed to fish in the immediate vicinity of Eshamy lake and our futures are tied directly to the health of this stock of fish poised on the verge of collapse. This collapse could be mitigated with the assistance of the Trustee Council. It is crucial to mitigate this collapse in order to maintain this valuable sockeye stock which is important in and of itself, but also because of the negative repercussions that would ripple throughout the PWS fishing community if a collapse were to occur.

A fertilization program similar to the one conducted at Coghill lake has equally excellent prospects at Eshamy lake. Fortunate for all parties involved, there is an existing data base regarding past proposals to fertilize Eshamy Lake. The preliminary studies were conducted by Jeff Koenings of the Alaska Department of Fish and Game. This information along

with new data available from Prince William Sound Aquaculture Association could in short order delineate the parameters of a fertilization program for Eshamy Lake. As with Coghill, time is of essence if the full beneficial effect of fertilization is to occur. Your review of this request is greatly appreciated, and we believe fully appropriate, as the long term health of the Eshamy sockeye stocks have been compromised by post oil spill effects.

Hand in hand with this project is the funding and operation of the smolt and adult weir at Eshamy. The weir has been in continuous operation for many decades, but with recent cuts in the A.D.F.&G. budget the operation of the weir is in question. If the weir is not funded not only will all salmon fisheries on the western side of P.W.S. be adversly impacted, but should fisheries even occur the potential for overharvest and underescapement at Eshamy is guaranteed. This could spell the immediate demise of this sockeye stock. Even if the fertilization program is not implemented soon it is critical that funding and operation of the weir be a priority. Your careful consideration of this issue is essential.

Paul Owecke

Paul Owecke V.P. Prince William Sound Setnet Association

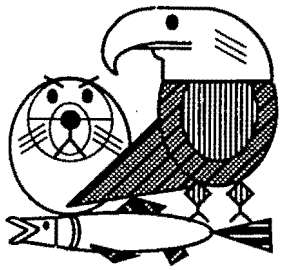
Tom Aberle

Tom Aberle Pres. Prince William Sound Setnet Association
P. O. Box 1472
Homer, Alaska 99603

cc
Tim Linley PWSAC
Howard Ferren PWSAC
James Brady ADF&G
Slim Morstad ADF&G
John Dorio Forest Service
Cordova District Fishermen United

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



August 6, 1996

Paul Owecke
W25376 Sullivan Road
Trempealeau, WI 54661

Tom Aberle
PWS Setnet Association
POB 1472
Homer, Alaska 99603

Dear Mr. Owecke and Mr. Aberle:

Thank you for your letter expressing support for a fertilization project at Eshamy Lake and requesting that the Trustee Council fund extended operation of the Eshamy weir.

As you may know, the Alaska Department of Fish and Game (ADF&G) has collected water samples at Eshamy Lake dating as far back as 1981. Zooplankton sampling also has been conducted off and on since 1981. According to ADF&G, the data indicate that Eshamy Lake is in the upper range in terms of zooplankton biomass compared to other sockeye producing lakes, and that the current zooplankton biomass reflects an underutilized forage base. Although the 1995 return to Eshamy Lake was the lowest since 1978, it is within the historical range of returns for that system. In addition, the highest escapement on record occurred in 1994, and there is no apparent decreasing trend in escapement since the *Exxon Valdez* oil spill (EVOS).

Enhancement of the Eshamy Lake sockeye system is the type of project that would be eligible for consideration as an EVOS restoration project as a means of replacing sockeye salmon injured by the oil spill. However, it is not clear that fertilization would enhance the run, especially since ADF&G data indicates that the current forage base is underutilized. In addition, prior to being submitted to the Trustee Council for consideration, a project of this nature would need to be reviewed by the Prince William Sound Regional Planning Team.

In regard to operation of the Eshamy weir, this is a normal management function of ADF&G. It is the policy of the Trustee Council that government agencies be funded

only for restoration projects that they would not have conducted had the oil spill not occurred. I am aware of the impact that declining state budgets have had on ADF&G, but the Trustee Council is not in a position to take over funding activities of this nature.

Thank you for taking the time to let me know of your interests. I have provided a copy of your letter to ADF&G as well as to each of the Trustees.

Sincerely,

Molly McCammon
Executive Director

cc: Bill Hauser, EVOS Project Manager, ADF&G
James Brady, Regional Management Biologist, ADF&G

mm/raw

5-15-96
P.O. Box 869
GIRDWOOD, AK.
99587

EVOS TRUSTEE COUNCIL
RESTORATION OFFICE
645 G. ST., SUITE 401
ANCHORAGE, AK. 99501-3451

DEAR COUNCILMEMBERS,

AS A SET GILLNET PERMIT HOLDER IN PRINCE WILLIAM SOUND, I FEEL THE NEGATIVE LONG TERM EFFECTS OF THE 1989 EXXON TANKER SPILL ARE STILL HAVING GREAT IMPACTS OF THE ESHAMY FISHERY SOCKEYE RUNS.

ONE ALARMING TREND IS A PROGRESSIVELY LATER ANNUAL RUN TIMING OF THE HISTORIC ESHAMY LAKE SOCKEYE STOCK. ESHAMY DISTRICT FISHERMAN ARE CONCERNED THAT THE STAFF AND OPERATION OF THE ESHAMY FISH WEIR, FUNDED BY A.D.F.+G IS OFTEN REMOVED BEFORE ALL THE FISH HAVE ESCAPED TO ESHAMY LAKE, DUE TO THIS LATER AND LATER RUN TIMING.

WHEN APPROACHED TO REQUEST THE WEIR BE LEFT IN PLACE LONGER, A.D.F.+G MANAGERS STATE THAT IT IS IMPOSSIBLE, "DUE TO LACK OF BUDGETED FUNDS."

ESHAMY DISTRICT FISHERS ARE CONCERNED THAT UNDOCUMENTED OVERESCAPEMENT COULD BE THE RESULT. IN BOTH PAST AND

FUTURE YEARS.

OUR SECOND CONCERN REVOLVES ON THE ISSUE OF DOCUMENTED HISTORICAL CARRYING CAPACITIES OF ESHAMY LAKE, AND WHETHER OUTMIGRATING SMOLT LEVELS HAVE BEEN MAINTAINED.

WE FEEL THE ONLY WAY TO DETERMINE THIS IS TO FIND OUT IF THE PLANKTON LEVELS AND BIOMASS ARE BEING MAINTAINED AT OPTIMUM LEVELS. IF NOT, THERE NEEDS TO BE RESEARCH DONE EXPLORING THE POSSIBLE BENEFITS OF ESHAMY LAKE FERTILIZATION.

MY REQUEST CENTERS UPON THE SUPPORT FOR FUNDING OF EXTENDED WEIR OPERATION SCHEDULES AT ESHAMY LAGOON, AND FUNDING OF ESHAMY LAKE CARRYING CAPACITY AND THE POSSIBLE FERTILIZATION RESEARCH. I SUPPORT FUNDING OF EITHER OF THESE OR BOTH; WITH THE PRIORITY ON FUNDING OF OPERATION OF THE ESHAMY WEIR EXTENDED SCHEDULE.

WITH THE CURRENT ALASKA STATE BUDGET SHRINKING, COMES THE THREAT OF ADF+G MANAGERS

JUST NOT FINDING THE MONEY TO OPERATE THE WEIR AT ALL, SO THIS IS A VERY GRAVE CONCERN FOR ALL COMMERCIAL SEINERS, GILLNETTERS, + SETNETERS WHICH HAVE HISTORICALLY TARGETED ESHIMT STOCKS.

FOLLOWING TRUSTEE COUNCILS CAREFUL CONSIDERATION OF THIS ISSUE, I WOULD APPRECIATE A WRITTEN REPLY

THANK YOU FOR YOUR CONCERN.

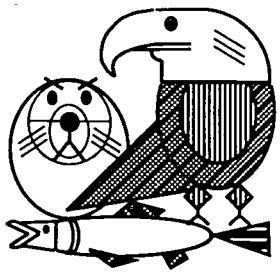
RESPECTFULLY,

Lauren E. Moss

LAUREN E. MOSS

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



August 6, 1996

Lauren E. Moss
POB 869
Girdwood, Alaska 99587

Dear Ms. Moss:

Thank you for your letter expressing support for a fertilization project at Eshamy Lake and requesting that the Trustee Council fund extended operation of the Eshamy weir.

As you may know, the Alaska Department of Fish and Game (ADF&G) has collected water samples at Eshamy Lake dating as far back as 1981. Zooplankton sampling also has been conducted off and on since 1981. According to ADF&G, the data indicate that Eshamy Lake is in the upper range in terms of zooplankton biomass compared to other sockeye producing lakes, and that the current zooplankton biomass reflects an underutilized forage base. Although the 1995 return to Eshamy Lake was the lowest since 1978, it is within the historical range of returns for that system. In addition, the highest escapement on record occurred in 1994, and there is no apparent decreasing trend in escapement since the *Exxon Valdez* oil spill (EVOS).

Enhancement of the Eshamy Lake sockeye system is the type of project that would be eligible for consideration as an EVOS restoration project as a means of replacing sockeye salmon injured by the oil spill. However, it is not clear that fertilization would enhance the run, especially since ADF&G data indicates that the current forage base is underutilized. In addition, prior to being submitted to the Trustee Council for consideration, a project of this nature would need to be reviewed by the Prince William Sound Regional Planning Team.

In regard to operation of the Eshamy weir, this is a normal management function of ADF&G. It is the policy of the Trustee Council that government agencies be funded only for restoration projects that they would not have conducted had the oil spill not occurred. I am aware of the impact that declining state budgets have had on ADF&G, but the Trustee Council is not in a position to take over funding activities of this nature.

Thank you for taking the time to let me know of your interests. I have provided a copy of your letter to ADF&G as well as to each of the Trustees.

Sincerely,

Molly McCammon
Executive Director

cc: Bill Hauser, EVOS Project Manager, ADF&G
James Brady, Regional Management Biologist, ADF&G

mm/raw

May 17, 1996
Homer, Alaska

Jim Preston
PWS Setnetter
Bx 394
Homer, AK 99603

To: Exxon Valdez Oil Spill Trustee Council
Restoration office
645 G. St., Ste. 401
Anchorage, AK 99501-2451

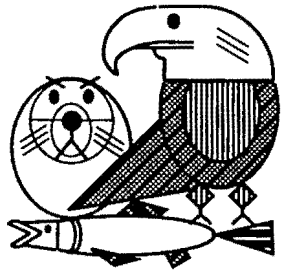
Please support funding for the Eshamy Weir and a fertilization project at Eshamy lake. This particular fish stock needs help. The Eshamy red salmon is one of the finest natural run reds in Alaska. I cannot think of a more direct benefit for the Sound than to use EVOS funding for the Eshamy Reds. Historically, it was the Eshamy Red that "caused" the P.W.S. setnetter to really become established - many years ago.

Sincerely
Jim Preston
Bx 394
Homer, AK 99603

cc: Paul Owecke
Tom Aberle

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



August 7, 1996

Jim Preston
POB 394
Homer, Alaska 99603

Dear Mr. Preston:

Thank you for your letter expressing support for a fertilization project at Eshamy Lake and requesting that the Trustee Council fund extended operation of the Eshamy weir.

As you may know, the Alaska Department of Fish and Game (ADF&G) has collected water samples at Eshamy Lake dating as far back as 1981. Zooplankton sampling also has been conducted off and on since 1981. According to ADF&G, the data indicate that Eshamy Lake is in the upper range in terms of zooplankton biomass compared to other sockeye producing lakes, and that the current zooplankton biomass reflects an underutilized forage base. Although the 1995 return to Eshamy Lake was the lowest since 1978, it is within the historical range of returns for that system. In addition, the highest escapement on record occurred in 1994, and there is no apparent decreasing trend in escapement since the *Exxon Valdez* oil spill.

Enhancement of the Eshamy Lake sockeye system is the type of project that would be eligible for consideration as an EVOS restoration project as a means of replacing sockeye salmon injured by the oil spill. However, it is not clear that fertilization would enhance the run, especially since ADF&G data indicates that the current forage base is underutilized. In addition, prior to being submitted to the Trustee Council for consideration, a project of this nature would need to be reviewed by the Prince William Sound Regional Planning Team.

In regard to operation of the Eshamy weir, this is a normal management function of ADF&G. It is the policy of the Trustee Council that government agencies be funded only for restoration projects that they would not have conducted had the oil spill not occurred. I am aware of the impact that declining state budgets have had on ADF&G, but the Trustee Council is not in a position to take over funding activities of this nature.

Thank you for taking the time to let me know of your interests. I have provided a copy of your letter to ADF&G as well as to each of the Trustees.

Sincerely,

Molly McCammon
Executive Director

cc: Bill Hauser, EVOS Project Manager, ADF&G
James Brady, Regional Management Biologist, ADF&G

mm/raw

P. O. Box 544
Cordova, Alaska 99574-0544
June 5, 1996

EXXON Valdez Oil Spill Trustee Council
Restoration Office
645 G. Street, Suite #401
Anchorage, Alaska 99501-3451

Dear Trustee Council:

We would like to request that the EXXON Valdez Oil Spill Trustee Council (EVOS) support the funding of the Eshamy weir and promote a fertilization project at Eshamy Lake.

The Trustee Council (EVOS) is congratulated for participating in the fertilization project of Coghill Lake in Prince William Sound. The positive benefits of that project are apparent and it is beginning to show an immediate response for the injured sockeye stock damaged by the EXXON Valdez Oil Spill.

The Coghill Project demonstrates that the knowledge and techniques could be expanded to benefit other injured sockeye stocks in Prince William Sound. Since the 1989 Oil Spill the Eshamy sockeye have been adversely affected. The sockeye run numbers and the run timing have been badly disrupted. The set gillnet and the drift gillnet fishery have been severely impacted by the disrupted returns. The time and the area closures have increased since the 1989 Oil Spill.

The seine fleet has also been affected by the area closures in Prince William Sound. All commercial salmon fishers of every gear type have suffered in some degree by the impacts of the Oil Spill on the Eshamy sockeye stocks.

The setnet fishery, in which we participate, has been based on the health of the Eshamy sockeye stocks. Participants in the setnet fishery are only allowed to fish in the Eshamy District of Prince William Sound. The health of the Eshamy sockeye is on the verge of collapse. With the help of the EVOS Council, this collapse could be turned around as it was in the Coghill District.

A fertilization project similar to the one conducted at Coghill Lake has excellent prospects at Eshamy Lake. The Alaska Department of Fish & Game has studies and information available, as well as new data available from Prince William Sound Aquaculture Corporation which could help set the parameters for a fertilization program for Eshamy Lake.

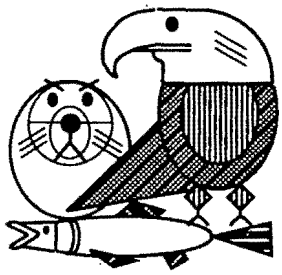
Your immediate response to this project request will be greatly appreciated.

Sincerely yours,

Byron L. Jones & Patricia L. Jones

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



August 7, 1996

Byron and Patricia Jones
POB 544
Cordova, Alaska 99574-0544

Dear Mr. and Mrs. Jones:

Thank you for your letter expressing support for a fertilization project at Eshamy Lake and requesting that the Trustee Council fund extended operation of the Eshamy weir.

As you may know, the Alaska Department of Fish and Game (ADF&G) has collected water samples at Eshamy Lake dating as far back as 1981. Zooplankton sampling also has been conducted off and on since 1981. According to ADF&G, the data indicate that Eshamy Lake is in the upper range in terms of zooplankton biomass compared to other sockeye producing lakes, and that the current zooplankton biomass reflects an underutilized forage base. Although the 1995 return to Eshamy Lake was the lowest since 1978, it is within the historical range of returns for that system. In addition, the highest escapement on record occurred in 1994, and there is no apparent decreasing trend in escapement since the *Exxon Valdez* oil spill (EVOS).

Enhancement of the Eshamy Lake sockeye system is the type of project that would be eligible for consideration as an EVOS restoration project as a means of replacing sockeye salmon injured by the oil spill. However, it is not clear that fertilization would enhance the run, especially since ADF&G data indicates that the current forage base is underutilized. In addition, prior to being submitted to the Trustee Council for consideration, a project of this nature would need to be reviewed by the Prince William Sound Regional Planning Team.

In regard to operation of the Eshamy weir, this is a normal management function of ADF&G. It is the policy of the Trustee Council that government agencies be funded only for restoration projects that they would not have conducted had the oil spill not occurred. I am aware of the impact that declining state budgets have had on ADF&G, but the Trustee Council is not in a position to take over funding activities of this nature.

Thank you for taking the time to let me know of your interests. I have provided a copy of your letter to ADF&G as well as to each of the Trustees.

Sincerely,

Molly McCammon
Executive Director

cc: Bill Hauser, EVOS Project Manager, ADF&G
James Brady, Regional Management Biologist, ADF&G

mm/raw

APPLIED
marine
SCIENCES

April 20, 1996

Molly McCammon
Executive Director
Exxon Valdez Oil Spill Trustee Council
645 G Street Ste.402
Anchorage, AK 99501

Dear Molly,

I have received a copy of the February 22, 1996 letter from Dr. Alex Wertheimer and Mr. Mark Carls of the NMFS Auke Bay Laboratory to you nominating chum salmon (*Oncorhynchus keta*) to the list of injured resources. The Restoration Plan for the *Exxon Valdez* Oil Spill allows amendment of the injured species list if new information is presented that a species of particular concern suffered damage. Only a portion of all the species affected by the spill have been included on the formal injured resources list.

Addition of the chum salmon to the injured resources list is based on an argument by analogy: that is, the chum salmon occupies a habitat that is very similar to that of the pink salmon, and since pink salmon eggs sustained injury from exposure to oil in intertidal gravels and in growing juveniles by exposure in the open waters of PWS (apparently from ingestion of oil particles), so too must have the chum salmon. Since the pink salmon is on the list of injured species, it is argued that the chum salmon should also be on the list.

Unfortunately the only evidence of a relationship between the chum salmon and the 1989 oil spill is from analysis of P450IA enzyme induction in juvenile chum salmon. These data show that chum salmon juveniles were exposed, but the data do not necessarily mean that this exposure caused significant harm. We have no direct evidence of adverse consequences of this exposure on chum salmon, neither were directed studies carried out to make such an assessment. While it is likely that chum salmon were exposed to oil similarly to that of pink salmon, due to the greatly variable sensitivity from species to species and without direct evidence of harm, it is difficult to argue persuasively that chum salmon were as sensitive to oil exposure as were pink salmon. Also, the monoclonal antibody used to measure the degree of induction of P450IA can vary in the strength of its binding from species to species, so we cannot even be sure that the stronger reaction seen in chum salmon juveniles necessarily means that exposure was greater than in pink salmon juveniles.

While I think it is more likely than not that chum salmon suffered some degree of injury from the spill, without direct evidence there remains a great deal of uncertainty. Even in the case of birds recently nominated to the

2155 Las Positas Court, Suite S Livermore, CA 94550 510.373.7142 FAX 510.373.7834

list, some species were not recommended in spite of irrefutable evidence of some harm--i.e., recovery of oiled carcasses. In the case of the chum salmon there is not even irrefutable evidence of harm to a small portion of the population, let alone evidence of a substantial impact to the population which has been the general standard in the past for amending the list. I therefore recommend against adding chum salmon to the list of injured resources.

Sincerely yours,

Robert B. Spies
Chief Scientist

CC: S. Senner
A. Wertheimer
M. Carls

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

NATIONAL MARINE FISHERIES SERVICE
ALASKA FISHERIES SCIENCE CENTER
AUKE BAY LABORATORY
11305 Glacier Hwy, Juneau, AK 99801-8626
(907) 789-6000

24 hour FAX (907) 789-6094

February 22, 1996

Ms. Molly McCammon
Executive Director
Exxon Valdez Oil Spill Trustee Council
645 G Street Suite 402
Anchorage, Alaska 99501

Dear Molly:

This letter is to request that chum salmon (*Oncorhynchus keta*) be included on the list of species injured by the oil spill. The emphasis of damage assessment for salmon in Prince William Sound following the oil spill was on pink salmon (*O. gorbuscha*). This was reasonable, given their high abundance and resulting biological and economic importance in the Sound. Both short-term and long-term damage have been well documented for pink salmon. We think that a strong case can be made that similar damage occurred to chum salmon in the oiled area, based on both direct evidence of exposure and on analogous life-history characteristics of pink and chum salmon. In general, it seems appropriate to include less studied species that are similar to well documented species on assessment lists; damage can be inferred, as can subsequent recovery.

Damage to juvenile pink salmon. The impact of the oil spill on juvenile pink salmon was clearly documented. One sublethal effect of the oil spill was to reduce the growth of juvenile pink salmon (Willette 1996; Wertheimer and Celewycz 1996). Exposure and contamination of juvenile pink salmon were observed in oiled areas (Carls et al. 1996b), and ingestion of oil or oiled contaminated prey was a likely route of contamination (Sturdevant et al. 1996). Laboratory experiments corroborated that ingestion of whole oil can indeed cause contamination and growth reduction (Carls et al 1996a). Geiger et al. (1996) estimated the lost productivity due to reduced growth during early marine rearing of juvenile pink salmon.

Damage to juvenile chum salmon. Chum salmon were also contaminated in the oiled area, based of cytochrome P450 induction. In fact, chum salmon had higher levels of induction than did pink salmon captured in the same general area (Carls et al. 1996b). Chum salmon could be more susceptible to contamination due to their foraging habits; chum salmon juveniles utilize lower

gradient beaches and more epibenthic prey than do pink salmon juveniles (Wertheimer and Celewycz 1996; Sturdevant et al. 1996), which could expose them to a greater degree to oil that accumulated in the sediments. So few juvenile chum salmon were captured in oiled areas that we could not test for reduced growth (Wertheimer et al. 1994). However, ingestion of oil-contaminated food has been shown to reduce growth of Atlantic salmon (*Salmo salar*) as well as pink salmon (Vignier et al. 1992). Because we have evidence of acute exposure of chum salmon juveniles, because the feeding ecology of chum salmon would make them more susceptible to contamination than pink salmon, and because effects of oil ingestion have been shown for more than one species of salmonids, we conclude that chum salmon juveniles in the oiled area suffered at least the degree of injury as did pink salmon.

Damage to reproductive viability. Increased mortality of pink salmon embryos has been documented in oiled streams compared to non-oiled control streams (Bue et al 1996). Between 50% and 75% of the pink salmon spawn intertidally, which resulted in exposure of many embryos to oil in 1989. This increased mortality has persisted for one - two generations after the initial exposures in 1989. Research is continuing on whether reduced viability in subsequent generations is heritable genetic damage, or to the effects of continued exposure of subsequent generations to persistent oil in the sediments.

A substantial proportion of chum salmon in PWS also spawn in intertidal zones (Thorsteinson et al. 1971), where their embryos could be exposed to contamination by oil from EVOS. In the western Sound, chum salmon utilize fewer watersheds than do pink salmon, especially in the oiled areas. Chum salmon are known to utilize less than 10 watersheds that drain into oiled shorelines, compared to more than 50 such watersheds utilized by pink salmon. Thus there was little opportunity to document damage done to spawning populations of chum salmon, and damage assessment research focused on pink salmon. However, chum salmon embryos were probably just as susceptible as pink salmon in the oiled streams that they utilize, and should be considered as having been damaged during this life history phase also.

We do not see any need to change restoration strategies or research due to listing chums as an injured species. Just as most of the rationale for the listing is by analogy to damage to pink salmon, the evidence of recovery for pink salmon can also be

assumed to apply to chum salmon. We propose including chum salmon on the list of injured species in order to more completely communicate the scientific consensus on damage to the public.

Sincerely,

Alex Wertheimer
Fishery Research Biologist

Mark Carls
Fishery Research Biologist

Attachment: references cited

cc: Wright
Rice
Spies

References Cited:

Bue, B. G., S. Sharr, S. D. Moffitt, and A. Craig. 1996. Injury to salmon eggs and preemergent fry due to the T/V *Exxon Valdez* oil spill. *In* S. D. Rice, R. B. Spies, D. A. Wolfe, and B. A. Wright (Eds.). *Exxon Valdez* Oil Spill Symposium Proceedings. American Fisheries Society Symposium Number 18.

Carls, M. G., L. Holland, M. Larsen, J. L. Lum, D. G. Mortensen, S. Y. Wang, and A. C. Wertheimer. 1996a. Growth, feeding, and survival of pink salmon fry exposed to food contaminated with crude oil. In Press. Growth and survival of pink salmon fry exposed to food contaminated with crude oil. *In* S. D. Rice, R. B. Spies, D. A. Wolfe, and B. A. Wright (Eds.). *Exxon Valdez* Oil Spill Symposium Proceedings. American Fisheries Society Symposium Number 18.

Carls, M. G., A. C. Wertheimer, J. W. Short, R. M. Smolowitz, and J. J. Stegeman. 1996b. Contamination of Juvenile Pink and Chum Salmon by Hydrocarbons in Prince William Sound after the *Exxon Valdez* Oil Spill. *In* S. D. Rice, R. B. Spies, D. A. Wolfe, and B. A. Wright (Eds.). *Exxon Valdez* Oil Spill Symposium Proceedings. American Fisheries Society Symposium Number 18.

Geiger, H. J., B. G. Bue, S. Sharr, A. C. Wertheimer, and T. M. Willette. 1996. A life history approach to the damage to Prince William Sound pink salmon from the Exxon Valdez oil spill. *In* S. D. Rice, R. B. Spies, D. A. Wolfe, and B. A. Wright (Eds.). *Exxon Valdez* Oil Spill Symposium Proceedings. American Fisheries Society Symposium Number 18.

Sturdevant, M. V., A. C. Wertheimer, and J. L. Lum. 1996. Diet of Juvenile Pink and Chum Salmon in Oiled and Non-Oiled Nearshore Habitats in Prince William Sound, 1989 and 1990. *In* S. D. Rice, R. B. Spies, D. A. Wolfe, and B. A. Wright (Eds.). *Exxon Valdez* Oil Spill Symposium Proceedings. American Fisheries Society Symposium Number 18.

Thorsteinson, F. V., J. H. Helle, and D. G. Birkholz. 1971. Salmon survival in intertidal zones of Prince William Sound streams in uplifted and subsided areas. Pages 194-219 *in* The great Alaska earthquake of 1964. National Academy of Science, Washington, D. C.

Vignier, V., J. H. Vandermeulen, and A. J. Fraser. 1992. Growth and food conversion by Atlantic salmon parr during 40 days' exposure to crude oil. Transactions of the American Fisheries Society 121:322-332.

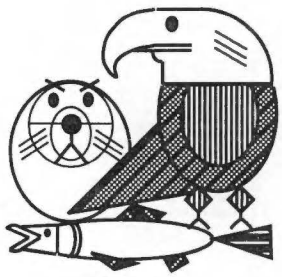
Wertheimer, A. C., and A. G. Celewycz. 1996. Abundance and Growth of Juvenile Pink Salmon in Oiled and Non-oiled Locations of Western Prince William Sound After the *Exxon Valdez* Oil Spill. *In* S. D. Rice, R. B. Spies, D. A. Wolfe, and B. A. Wright (Eds.). *Exxon Valdez* Oil Spill Symposium Proceedings. American Fisheries Society Symposium Number 18.

Wertheimer, A. C., A. G. Celewycz, M. Carls, and M. V. Sturdevant. 1994. Impact of the oil spill on juvenile pink and chum salmon and their prey in critical nearshore habitats. Exxon Valdez Oil Spill Trustee Council Status Report, Fish Study 4, NMFS Component. Final Report.

Willette, M. 1996. Impacts of the *Exxon Valdez* oil spill on the migration, growth, and survival of juvenile pink salmon in Prince William Sound. *In* S. D. Rice, R. B. Spies, D. A. Wolfe, and B. A. Wright (Eds.). *Exxon Valdez* Oil Spill Symposium Proceedings. American Fisheries Society Symposium Number 18.

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



MEMORANDUM

TO: Trustee Council

FROM: Molly McCammon
Executive Director

DATE: August 19, 1996

RE: Revised Operating and Financial Procedures

Please find enclosed the most current draft of the revised *Operating and Financial Procedures*. These procedures incorporate the "Operating Procedures" previously adopted by the Trustee Council on January 10, 1992, and the "Financial Operating Procedures" adopted by the Trustee Council on September 21, 1992.

Fundamentally, the revised procedures eliminate outdated references to committees and procedures that no longer exist and reflect the current organizational structure of the Trustee Council. The revised procedures also specifically address issues and recommendations identified in the recent audit, recognize the Restoration Plan, the Habitat Protection and Acquisition Program and the Restoration Reserve.

To address issues identified through the audit, the revised procedures require that general administration (GA) be segregated from direct costs and clarify that GA retained by the agency is in proportion to direct expenditures. The procedures also provide for lapsing prior year funding, a close-out period, and address controls over payroll and other expenditures.

Multiple drafts have been reviewed by the Restoration Work Force, and the Public Advisory Group has also been consulted. I want to highlight a few specific issues that have been identified through this process that are deserving of additional scrutiny by the Council. These include:

1. Emergency Action - The original "Operating Procedures" adopted by the Trustee Council in 1992 included a provision for "Interim Emergency Action". To my knowledge, this procedure has never been used by the Council. While it has been suggested that this sub-section could be deleted, retaining the sub-section provides the Council flexibility to respond in the event of an

emergency.

2. Meetings Materials - The question of whether the revised procedures should specify how far in advance briefing materials are to be provided to the Council has been raised. In practice, as you know, materials are generally provided to the Trustee members a week to ten days in advance of the meetings although in some cases, last minute changes or revisions to documents have resulted in shorter time frames.

3. Public Notice - The revised procedures require "reasonable public notice" be given for all meetings of the Trustee Council. The revised procedures provide guidance regarding what can be expected in terms of public notice (e.g., placement of advertisements in newspapers, radio public service announcements). The question has been raised as to whether a specific standard of public notice should be incorporated in the procedures. The Public Advisory Group felt comfortable with the current requirement for "reasonable" notice.

4. Public Review and Comment - The revised procedures require that there be a "reasonable" opportunity for public review and comment on the Restoration Work Plan, habitat protection and acquisition actions, and revisions to the Work Plan (e.g., a budget change in excess of $25,000 or 10% or a revision that changes the scope or objective of a project). As with the current procedures, no minimum period of review is specified. Again, the Public Advisory Group expressed its comfort with the current requirements.

5. General Administration Formula - The method used to determine the amount of general administration requires a calculation of fifteen percent on personnel costs, together with seven percent on contractual costs up to $250,000, and two percent on that portion greater than $250,000. It has been suggested that one formula (ie., a single flat rate) could be applied against the project total. An analysis of this approach has been prepared and reviewed by the Restoration Work Force. At this time, there is not consensus on whether a single rate would be an improvement over current practice. No change is recommended at this time.

6. Fiscal Year - The attached document continues the practice of authorizing funding on an annual basis. In the case of a project that continues over a number of years, agencies are required to control and account for each fiscal year authorization separately. Proposers are required to submit an annual proposal and budget and the prior year project must be closed out and the unexpended and unobligated balance lapsed.

The revised procedures are comprehensive and describe the current structure of the Trustee Council, the Restoration Program, public involvement, how the settlement

funds are disbursed, and uniform accounting requirements.

If approved by the Trustee Council, the procedures will be formatted and finalized for distribution throughout the agencies to ensure that they are available to individuals involved in the Restoration Program. As with the *Restoration Plan* itself, these procedures will be subject to on-going review and if further revisions are needed they will be brought back to the Council.

The revised procedures are a result of several drafts and revisions suggested by the Restoration Work Force and the PAG. One agency has recently indicated objections to the current draft and I have attached a copy of their comments.

I look forward to reviewing these procedures with you at the meeting on August 29th.

enclosure

MEMORANDUM State of Alaska

Department of Natural Resources - Office of the Commissioner (EVOS)

TO: Molly McCammon
Traci Cramer

DATE: August 14, 1996

FROM: Carol Fries

PHONE: 269-8425

SUBJECT: Review of "Revised Operating and Financial Procedures"

The Financial Operating Procedures continue to "grow." The current version of this document merely serves to provide another level of bureaucracy.

I previously suggested that the Restoration Office focus on those few issues that were unique to the Restoration Process and of primary importance to you. I strongly suggested that we capitalize/utilize existing agency structures, policies and procedures whenever possible. Clearly my points were either missed or ignored. Changing the title to include policies does NOT address my concerns. The best way to get people to comply with your wishes is to keep things short and simple. Addressing every detail, concern, situation, contingency, and perception addresses nothing if no one reads the document. By making everything "important" we have merely succeeded in making nothing important.

We have all of the following documents, rules, and regulations governing our actions:

- Memorandum of Agreement between the State of Alaska and the Federal Government.
- Settlement and Consent Decree
- The Restoration Plan
- Alaska Statutes
- Alaska Administrative Code
- State Departmental Regulations
- State Departmental Orders
- Code of Federal Regulations
- Federal Agency Policies and Regulations
- National Environmental Policy Act
- Budgetary Reduction Act

DNR is fully involved in an effort to streamline government, reducing paperwork, duplication, procedural steps, regulatory complications, and hopefully, bureaucratic red tape. We believe the proposed procedures are in conflict with this effort.

In managing Restoration projects and funds, DNR intends to continue imposing appropriate state procedures which seems reasonable given that our audit was clean. If the Restoration Office has concerns about other agencies' approach to items discussed in the audit perhaps the appropriate response would be to ensure those agencies abide by state procedures as well.

I would be happy to discuss this further however DNR is strongly opposed to complicating existing procedures.

cc: Craig Tillery
Marty Rutherford
John Shively

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL PROCEDURES

TABLE OF CONTENTS

INTRODUCTION

1. *Purpose*. Define the Policies and Procedures of the *Exxon Valdez* Oil Spill Trustee Council (Trustee Council) and provide guidance regarding the authorities and responsibilities of agencies that receive Joint Trust Funds approved by the Trustee Council.

2. *Supersession*. These procedures supersede the Operating Procedures adopted by the Trustee Council January 10, 1992, and the Financial Operating Procedures adopted by the Trustee Council September 21, 1992.

3. *Relationship*. The financial operating procedures of the Trustee Council augment state and federal procedures. Agencies receiving funding approved by the Trustee Council are responsible for ensuring that the procedures described in this document and the appropriate state or federal procedures are followed.

4. *Amendments*. These procedures may be modified by unanimous agreement of the Trustee Council.

5. *Authority*. The principles and processes stated herein are established pursuant to the Memorandum of Agreement and Consent Decree entered as settlement of United States of America v. State of Alaska, No. A91-081 Civil, U.S. District Court of Alaska. The Joint Trust Fund is comprised of all payments received in settlement of State of Alaska v. Exxon Corporation, el al., No. A91-083 CIV, and United States of America v. Exxon Corporation, el al., No. A91-082 CIV.

6. *Restoration Plan*. The *Exxon Valdez* Oil Spill Restoration Plan provides long-term guidance for restoring the resources and services injured by the oil spill. It contains policies for making restoration decisions and describes how restoration activities will be implemented. The Restoration Plan was adopted by the Trustees in November 1994 after completion of the Final Environmental Impact Statement. By unanimous consent, the Trustee Council may change the plan if the Council determines that the plan is no longer responsive to restoration needs.

OPERATING PROCEDURES

TRUSTEE COUNCIL

1. *Basic Governing Procedures.* The current edition of *Roberts Rules of Order* will govern the Trustee Council. All provisions of these rules of order will apply to Trustee Council deliberations unless the Council unanimously decides to proceed differently.

2. *Trustee Council Membership.* The following officials act on behalf of the public as trustees: the Attorney General of the State of Alaska; the Commissioner of the Alaska Department of Environmental Conservation; the Commissioner of the Alaska Department of Fish and Game; the Secretary of the United States Department of Agriculture; the Secretary of the United States Department of the Interior; and the Administrator of the National Oceanic and Atmospheric Administration, United States Department of Commerce. The State Trustees serve directly on the Trustee Council. The Federal Trustees have each appointed a representative to serve on the Council. These appointments include the Alaska Regional Forester, United States Department of Agriculture; the Assistant Secretary for Fish, Wildlife and Parks, United States Department of the Interior; and the Alaska Region Director, National Marine Fisheries Service, National Oceanic and Atmospheric Administration, United States Department of Commerce. In the event a Council member is precluded from attending a meeting or must be excused during a meeting, an alternate may exercise voting privileges on behalf of the Council member. Each Council member shall designate in writing an alternate member and the designation shall be maintained in the official record or an alternate may be identified at the meeting and so stated for the record.

3. *Quorum.* A quorum of two-thirds (2/3) of the total Council membership including at least two state members and two federal members shall be required to convene a meeting. All decisions shall be made by unanimous agreement of the six Council members or their designated alternates.

4. *Chair.* The Trustee Council shall designate a chair to preside at each meeting. The chair may participate in discussion and debate at the meetings and shall vote on all questions before the Trustee Council.

5. *Council Action.* All matters before the Trustee Council which require a vote, make a recommendation, approve or disapprove an item, or otherwise render a decision shall require the unanimous agreement of the six Council members or their designated alternates. All actions by the Trustee Council shall be taken at duly convened meetings except as provided in Section 10.

6. *Recusal.* In the event a Council member believes he or she must recuse himself or herself from voting, the Council member may request the decision be deferred until a designated alternate is available to vote.

7. *Meetings.* Meetings shall be held at times and locations determined by the Council. The Executive Director shall provide a proposed agenda and appropriate briefing materials to the Council members in advance of the meeting. The final agenda for the meeting will be determined by the Council and shall include a reasonable opportunity for public comment.

8. *Executive Sessions.* Executive sessions shall be kept to a minimum and shall be used only for discussion of matters concerning confidential personnel issues, litigation or legal advice, habitat acquisition negotiations, confidential archaeological information, confidential fisheries information or other matters included under AS 44.62.310 © or other applicable State or Federal laws.

9. *Minutes of Council Meetings.* All meetings shall be recorded electronically or by a court reporter, and said records shall, along with the written, approved meeting notes, constitute the official record of the Council's actions.

10. *Emergency Action.* In the event of an emergency requiring Council action before a meeting can be held in accordance with the procedures described herein, the Executive Director will poll the Trustee Council and take action by unanimous agreement. Any decisions of the Trustee Council shall be reflected in the official record of the Trustee Council along with justification regarding the need to take emergency action. In addition, any emergency action taken shall be summarized for the record at the next meeting of the Trustee Council.

STRUCTURE

1. *General.* Pursuant to the agreement between the State of Alaska and the United States, the Trustee Council has created the position of Executive Director and the Restoration Office to manage the day-to-day administrative functions of the Trustee Council and the overall restoration program. These activities are complemented by the agencies, which are responsible for agency management activities and the management of projects approved by the Trustee Council.

2. *Restoration Office.* Under supervision of the Executive Director, the Restoration Office is responsible for: (1) facilitating communication between the federal and state governments, the six Council members and the Public Advisory Group; (2) maintaining the official record of the Council's actions; (3) coordinating the annual project proposal solicitation and annual restoration work plans; (4) preparing and analyzing financial and project status information; (5) developing and implementing procedures to achieve the goals and objectives of the Trustee Council; (6) performing and/or overseeing special and on-going projects; and (7) public outreach and public participation.

3. *Agencies.* Under supervision of the agency's Council member, each agency is responsible for: (1) ensuring that the procedures described herein, and the appropriate state or federal procedures are followed, including compliance with the National Environmental Policy

Act; (2) ensuring that projects funded meet their stated goals, objectives and schedules, and are accomplished consistent with the funds authorized; (3) implementing, evaluating and monitoring approved projects; (4) obtaining information from or facilitating the exchange of information among the Restoration Office, the public, cooperating agencies, and principal investigators; (5) developing agency goals and objectives for the restoration program; (6) assisting in the preparation and review of project proposals and detailed budgets; (7) assisting in the development of the annual restoration work plan; and (8) representing their Council member in matters related to the restoration program.

RESTORATION WORK PLAN

1. *Invitation*. Annually the public, private sector, non-profit groups, and government agencies will be invited to submit proposals for funding based on identified restoration priorities and needs.

2. *Internal Review*. Proposals received will be subject to independent scientific review, as well as policy, budget, agency and legal review.

3. *Public Review and Comment*. Prior to Trustee Council action, a reasonable period of time shall be provided to the public to review and comment on the project proposals and the Work Plan.

4. *Approval*. After expiration of the period for public review and comment, the Trustee Council, in open session and with additional opportunity for public comment, will review the proposed Work Plan. The Trustee Council may make such changes to the Work Plan or include terms and conditions of funding as the Council deems appropriate. Upon unanimous approval, the Work Plan shall be adopted by the Trustee Council.

HABITAT PROTECTION AND ACQUISITION

1. *General*. Habitat Protection and Acquisition is an important means of restoring injured resources and the services that are dependent upon those resources. Habitat Protection and Acquisition may include the purchase of lands or interests in land such as conservation easements, mineral rights, or timber rights.

2. *Parcel Nomination and Sponsorship*. Only those parcels nominated by a willing seller will be considered for purchase. In addition, a federal or state land management agency must sponsor the parcel prior to evaluation and ranking.

3. *Parcel Evaluation and Ranking*. Parcels that have been nominated and sponsored will be evaluated and ranked according to the potential benefits that purchase and protection would provide to injured resources and services. The criteria and procedures for evaluating and ranking parcels shall be developed by the Executive Director and approved by the Trustee Council.

4. *Terms and Conditions.* By unanimous agreement of the six Trustees or their designated alternates, a resolution shall be adopted authorizing the purchase of land or ownership rights. The resolution shall set forth the terms and conditions appropriate for the identified parcel(s).

5. *Title and Management.* The title of any lands, or ownership rights, will be specified in the resolution adopted by the Trustee Council. All land acquired shall be managed in accordance with the terms and conditions of the Trustee Council.

6. *Public Review and Comment.* Prior to final Trustee Council action, reasonable public notice shall be given and the public shall be provided an opportunity to comment.

7. *Application for Disbursement of Joint Funds.* Upon certification from the Executive Director that the terms and conditions set forth in the resolution have been satisfied, the Alaska Department of Law and the United States Department of Justice shall be requested to petition the District Court for the withdrawal of funds.

RESTORATION RESERVE

1. *General.* The Trustee Council has established the Restoration Reserve. Pursuant to Court Order, the Restoration Reserve is a separate account within the Court Registry Investment System (CRIS) administered through the United States District Court for the Southern District of Texas.

2. *Payments.* The amount to be deposited on an annual basis will be determined by the unanimous agreement of the six Trustees or their designated alternates. Upon approval, the Alaska Department of Law and the United States Department of Justice shall petition the District Court to transfer the funds from the Joint Account to the Restoration Reserve.

3. *Investments and Interest.* The Restoration Reserve shall be invested with the intent of maximizing interest earnings and all such earnings shall be retained in the Restoration Reserve.

4. *Use.* While the Trustee Council intends that the principle and interest from the Restoration Reserve not be used prior to Exxon's last payment, the Trustee Council may, at any time by unanimous agreement of the six members, use the principle or interest before that time.

PUBLIC PARTICIPATION

1. *General.* The Trustee Council recognizes that public participation in the restoration program is an integral part of the process. To that end, the public is invited to review, comment and participate in the development and implementation of the restoration program.

2. *Exxon Valdez Oil Spill Public Advisory Group.* By order of the District Court for the District of Alaska, the Public Advisory Group is to advise the Trustees, appointed to administer the fund established in settlement of United States v. Exxon Corporation, Civil Action No. A91-082, and State of Alaska v. Exxon Corporation, Civil Action No. 091-083, both in the United States District Court for the District of Alaska, in all matters described in Paragraph V.A.1 of the MOA referenced above. The overall procedures for the Public Advisory Group are contained in the Charter unanimously approved by the Trustee Council and signed by the Secretary of the United States Department of the Interior. The Public Advisory Group consists of members recommended by the Trustee Council and appointed by the Secretary of the United States Department of the Interior.

3. *Public Notice.* Reasonable public notice shall be given for all meetings of the Trustee Council. The notice shall include, when possible, publication in one or more newspapers of general circulation in the following communities: Anchorage, Chenega, Cordova, Homer, Juneau, Kenai, Kodiak, Seward, Tatitlek, Valdez and Whittier and by distribution of the public notice to radio stations broadcasting to these communities. To the maximum extent possible, reasonable public notice shall also be provided to other communities within the spill area. The public notice shall identify the proposed agenda and include a reasonable opportunity for public comment.

4. *Access to Information.* The public shall have access to the official record of the Council's action and information regarding proposed or completed studies or other activities funded by Joint Trust Funds.

FINANCIAL PROCEDURES

SETTLEMENT FUNDS

1. *Joint Trust Fund.* Pursuant to Court Order and in accordance with the Terms of the Memorandum of Agreement and Consent Decree, all payments are placed in an interest-bearing account in the Court Registry Investment System (CRIS) administered through the United States District Court for the Southern District of Texas.

2. *Disbursement.* Upon joint application of counsel for the United States and the State of Alaska, the United States District Court for the District of Alaska orders the disbursement of funds for purposes consistent with the Memorandum of Agreement and Consent Decree. The joint application shall consist of legal documents required by the Court and documentation demonstrating the unanimous agreement of the Trustee Council. When appropriate, interest earned on the federal and state accounts and/or unobligated balances from prior years' Work Plans shall be subtracted from the disbursement.

3. *Authority to Spend.* No obligations shall be incurred until such time as a Court Order is entered by the United States District Court for the District of Alaska and any terms and conditions placed on the funding by the Trustee Council have been met. In the event the Trustee Council approves the expenditure of interest accrued on funds previously disbursed, no obligations shall be incurred until a Joint Notice is submitted to the United States District Court for the District of Alaska and any terms and conditions placed on the funding by the Trustee Council have been met.

4. *Federal Account.* In accordance with federal law, funds required for federal project implementation are deposited in the Natural Resource Damage Assessment and Restoration (NRDA&R) Fund.

5. *State Account.* In accordance with state law, funds required for state project implementation are deposited in the *Exxon Valdez* Oil Spill Settlement (EVOS) Fund.

AUTHORIZATION

1. *General.* Initial authorization shall be recorded consistent with the budgets approved by the Trustee Council.

2. *Fiscal Year.* Unless otherwise approved by the Trustee Council, the fiscal year begins on October 1 and ends on September 30. In the event the Trustee Council approves a project with a different fiscal year, the fiscal year must be clearly stated in the approval motion.

3. *Adjustments.* As long as an adjustment does not alter the underlying scope or objectives of the affected projects, agencies have the authority to move funds into or out of projects up to

the cumulative amount of $25,000 or up to 10% of the authorized level of funding for each affected project, whichever is less. In addition, as long as an adjustment does not alter the underlying scope or objectives of the project, agencies are authorized to move, within a single project, budgeted funds between line items and may change detailed items of expenditure to accommodate circumstances encountered during budget implementation. Justification and supporting documentation as to the reason for all such adjustments (both between projects and line-items) shall be maintained by the agencies. All adjustments between projects shall be reported to the Executive Director in the Quarterly Financial Report. For further information regarding the Quarterly Report, refer to the Reporting section of these procedures.

4. *Revisions.* Trustee Council action is required to move amounts greater than that authorized in section 3 above. Trustee Council action is also required if the revision changes the scope or objectives of a project, establishes a new project, or terminates an approved project during the fiscal year. In the event the proposed revision changes the scope or objectives of a project, establishes a new project, or terminates an approved project during the fiscal year, the public shall be given a reasonable opportunity to review and comment on the proposed change prior to action of the Trustee Council.

PROJECT COSTS

1. *Direct Project Costs.* Direct costs are those costs that can be identified with or linked to a specific project.

2. *Indirect Project Costs.* Indirect costs are those that are incurred for common or joint projects and therefore cannot be identified readily and specifically with a project. In the case of governmental agencies, indirect costs are covered through a general administration formula. The appropriate indirect rate for contractors will be approved on a case-by-case basis.

3. *General Administration Formula.* The general administration formula is used to reimburse governmental agencies for indirect project costs incurred in implementing the restoration program. Actual recovery shall be in proportion to actual direct costs and is limited to:

a. Fifteen percent of each project's actual personnel costs; and
b. Seven percent of the first $250,000 of each project's actual contractual costs, plus two percent of each project's actual contractual costs in excess of $250,000.

4. *Unallowable Costs.* Restoration funds shall not be used to support normal agency functions and activities. As such, costs that would have been incurred, absent the oil spill, are not eligible for reimbursement. This includes costs considered necessary for the management, supervision and administrative control of an agency.

ACCOUNTING

1. *General.* It is the responsibility of agency personnel and certifying officers to make certain that all actions are based on sound accounting and budgetary practices.

2. *Source Documentation.* Adequate justification and supporting documentation must be maintained for each project.

3. *Appropriateness.* Expenditures charged to a project must be directly attributable to or allocated to the project benefiting from the activity. Salaries and benefits may be charged for the time an individual is working directly on a project, when supported by time sheets and when work performed by such individuals is necessary to the project.

4. *Reasonableness.* Costs attributable to a project must be necessary and reasonable to achieve the objectives of the project and be consistent with the policies and procedures governing other activities of the agency.

5. *Segregation.* Accounts must be properly designed and maintained to ensure that funds are expended in accordance with Trustee Council approval. In addition, direct project costs must be segregated from indirect costs to ensure that restoration projects are assessed the general administration formula in proportion to direct costs.

6. *Expended (Outlays).* The term expended shall be defined as the actual outlay of funds through the issuance of checks or warrants, the disbursement of cash, or the electronic transfer of funds. The term expenditure shall be defined as the act of expending.

7. *Obligations (Encumbrances).* The term obligations shall be defined as a commitment to acquire goods or services during the fiscal year, or to accommodate contracts where the length of time for completion of the service extends into the following fiscal year. An obligation is a commitment to pay and should not be considered an expenditure until the goods or services have been received and the invoice paid. Funds approved for contracts in which the length of time for completion of the service extends into the following fiscal year, may be obligated at year end. To be valid, the length of time to complete the service should be identified in the Detailed Project Description and the budget approved by the Trustee Council. As a general rule, agencies shall have one year from the end of a project's approved fiscal year to satisfy all obligations.

LAPSE

1. *General.* The unexpended and unobligated balance of a project shall lapse on September 30 of the fiscal year for which the project was approved. However, an undisclosed obligation may be established and/or paid during the Close-Out Period.

2. *Close-Out Period.* During the months of October, November and December agencies may pay from prior year funds an expense that was undisclosed during the fiscal year just ended. In addition, agencies may establish obligations to accommodate an expense that was undisclosed during the fiscal year just ended. By January 31 of each year, agencies shall report to the Executive Director the total expended for each project, plus any obligations relating to the fiscal year just ended. For further information regarding the Annual Financial report, refer to the Reporting section of these procedures.

3. *Reimbursement for Prior Year Expenses.* Expenses discovered after the Close-Out Period may be charged to the subsequent year's project budget. In the event the agency determines that insufficient funds are available to charge the expense to the subsequent year's budget, or the expense relates to a completed project, authority to adjust a prior year Final Report is required. During the months of January through June, adjustments relating to a prior year Final Report may be approved by the Executive Director. All expenses discovered after June require Trustee Council action.

EQUIPMENT

1. *Title.* Subject to the conditions set forth in this section, title to equipment acquired with Joint Trust Funds is retained by the respective governmental agency. In the event equipment is transferred between governments, title to the equipment shall also be transferred.

2. *Use.* Equipment shall be used for the project for which it was acquired. When no longer needed for the original project, the equipment may be used in other activities for which funding was approved by the Trustee Council. The equipment may also be used for other agency purposes, providing that first preference is given to restoration projects for which funding is approved by the Trustee Council.

3. *Inventory.* Property records shall be maintained in accordance with agency procedures.

4. *Repair, Maintenance and Safeguarding.* The repair, maintenance and safeguarding of equipment purchased with joint funds shall be accomplished in accordance with agency procedures.

5. *Disposal.* Equipment that ceases to function or have value shall be disposed of in accordance with agency procedures.

PROFESSIONAL SERVICES CONTRACTS

1. *General.* Agencies shall ensure that professional services are accomplished in accordance with the terms, conditions, and specifications of the project approved by the Trustee Council. In the event the approved motion of the Trustee Council specifically identifies an entity to carry-out the project and the contracting agency determines that an award to an entity, different than that

specified by the Trustee Council, would better serve the restoration program, the basis of that determination shall be stated in writing to the Executive Director and forwarded to the Trustee Council for approval.

2. *Definition.* Professional services means contracts for professional, technical, or consultant services that result in the production of a report or the completion of a task, and include analysis, evaluation, prediction, planning, or a recommendation.

3. *Indirect Rates.* The appropriate indirect rate for contractors will be determined on a project by project basis or through a memorandum of understanding with a contractor that provides for a consistent rate and methodology.

4. *Equipment.* Equipment purchased by the contractor will remain the property of the contracting agency.

5. *Special Considerations.* All notes and other data developed by the contractor shall remain the sole property of the contracting agency.

REPORTING

1. *Joint Account.* Revenues, disbursements and fees associated with the Court Registry Investment System shall be reported to the Trustee Council on a monthly basis. This report shall include an analysis of the Joint Trust Fund Balance and the total estimated funds available.

2. *Quarterly Financial Reports.* Within thirty days following the end of each quarter, agencies shall report expenditures and obligations recorded at the end of the quarter to the Executive Director. The report shall include the total amount authorized for each project, any revisions approved by the Trustee Council, any adjustments between projects, the total expended by project, and the total of any outstanding obligations by project.

3. *Quarterly Status Reports.* Within thirty days following the end of each quarter, agencies shall submit a project status report to the Executive Director. The report submitted by the agencies shall communicate the project status in relationship to the project tasks that were identified in the proposal approved by the Trustee Council, any problems that are being encountered, and noteworthy accomplishments.

4. *Annual Financial Reports.* By January 31 of each year, agencies shall report to the Executive Director the total expended for each project, plus any valid obligations relating to the fiscal year just ended. The report shall reflect the total amount authorized by line-item, any revisions approved by the Trustee Council, any adjustments between projects, and any adjustments between line-items.

5. *Annual Project Reports.* Annually, agencies shall submit a report to the Executive Director for all continuing projects approved by the Trustee Council. To be considered continuing, a project must have been initiated with the expectation that it was multi-year. The report deadline and format shall be determined by the Executive Director.

6. *Final Project Reports.* Upon completion of a project or the determination by the Trustee Council to no longer fund a project, agencies shall submit a report to the Executive Director. The report deadline and format shall be determined by the Executive Director.

7. *Equipment Reports.* By December 31 of each year, agencies shall report equipment valued at a cost of $1,000 or more, and other sensitive items to the Executive Director. Sensitive items shall include firearms, audio/visual equipment, computers and cameras. The report shall include a listing of equipment purchased during the fiscal year just ended, the reassignment of equipment to other activities funded by the Trustee Council and any equipment currently being used for other agency purposes. Agencies shall also report all equipment that has ceased to function or have value and identify any equipment that was disposed of during the previous fiscal year.

AUDITS

1. *General.* The purpose of an audit is to ensure public trust and accountability regarding the use of settlement funds. An audit provides credibility to the information reported by or obtained from management by independently acquiring and evaluating the evidence.

2. *Definition.* The term audit includes both financial and performance audits.

3. *Readiness.* When an agency receives funding from the Trustee Council, the agency assumes certain responsibilities with those funds. These include ensuring that source documentation is organized and available for review, internal controls are documented and that individuals knowledgeable about the projects are available to answer questions.

4. *Professional Services Contracts.* Contractors who receive funding for professional, technical, or consultant's services are not automatically subject to an annual audit. However, this does not preclude the Trustee Council or the agency from making a determination that an audit is required in addition to an agency's review of expenditure documentation and work produced by a contractor.

5. *State and Federal Audits.* Each Federal agency and the State of Alaska have audit functions. In the event an audit is performed, a copy of the audit shall be provided to the Executive Director.

6. *External Audits.* All external audits shall be conducted in accordance with Governmental Auditing Standards. In addition, the firm and the staff assigned to conduct the audit shall be

independent of the Trustee Council, the funding agencies, the Court Registry Investment System, Exxon Corporation, Exxon Shipping Company and Exxon Pipeline Company.

APPENDIX A: FEDERAL INTERNAL PROCEDURES

NATURAL RESOURCES DAMAGE ASSESSMENT AND RESTORATION FUND

1. *Segregation.* All principal and interest shall be accounted for separately by the Department of the Interior, Fish and Wildlife Service, Division of Finance. Each disbursement shall be assigned an appropriate account, sub-activity and/or project number when deposited to the aggregate Fish and Wildlife Service account within the Federal Reserve Bank. Confirmation of the deposit shall be provided to the Treasury Department, which reconciles the deposit with the Federal Reserve Bank.

2. *Investments.* By law, the funds may only be invested in Treasury Securities and all ownership is maintained in the name of the Natural Resource Damage Assessment and Restoration Fund. Based on an estimate of cash flow requirements, the Department of the Interior, Office of the Secretary generates instructions for investment and forwards the instructions to the Division of Finance. The Division of Finance develops and submits an Investment Confirmation Letter that indicates which account investments are being purchased, the scheduled maturity dates and the investment type(s) to the Department of Treasury, which purchases the securities. At maturity, interest income is paid directly to the account.

3. *Reports.* Quarterly, the Department of the Interior shall report interest income to the Executive Director. In addition, all disbursements to the federal agencies shall be reported to the Executive Director.

AUTHORIZATION

1. *General.* Congress permanently appropriated funding approved by the Trustee Council in Section 207 of Public Law 102-227. However, all authorization is subject to compliance with any terms and conditions imposed by the Trustee Council.

2. *Budget and Reports.* Under Section 207, agencies are required to comply with directions published by the Federal Office of Management and Budget. This includes submitting a budget for the upcoming fiscal year and documentation associated with the current and prior fiscal year.

3. *Obligation Authority.* Prior to the obligation of any funds, agencies must first complete the allocation process required by their respective budget offices to establish codes for each project. The allocation process provides the authority, amount of funding and the guidance with which to obligate funds.

4. *Quarterly Instructions for Transfer*. On a quarterly basis, federal agencies are required to submit to the United States Department of the Interior, Office of the Secretary, Office of Budget instructions regarding the transfer of settlement funds. The instructions shall specify the purpose of the transfer, which account the funds are to be transferred, and an estimate of cash flow requirements. Unless the transfer represents a one-time payment, the cash flow estimate shall be structured on a quarterly basis. Any change in cash flow requirements during the fiscal year shall be reflected on subsequent quarterly instructions for transfer. A change is defined as a decrease in the cash flow requirement due to an unanticipated delay in a project or an increase in the cash flow requirement due to an unanticipated change in the schedule.

5. *Fund Transfers*. There are two types of fund transfers. The first type of transfer is internal to the Department of the Interior, Fish and Wildlife Service. The form used is the Allotment Advice, Form FWS 3-1951. The Allotment Advice is initiated and prepared by the Division of Budget, Fish and Wildlife Service and then sent to the Division of Finance, Fish and Wildlife Service where the funds are made available through the Work Activity Guidance (WAG) and the Control Schedule Process. The second type of transfer is to agencies/bureaus outside of the Fish and Wildlife Service. The form used is a SF1151, a non-expenditure transfer. The SF1151 is initiated, prepared, and approved by the Division of Budget, Fish and Wildlife Service and then sent to Treasury where the funds are transferred within the Treasury system.

6. *Return of Unexpended and Unobligated Balances*. On January 31 of each year, Federal Trustee Agencies shall return to the Natural Resource Damage Assessment and Restoration Fund the unexpended and unobligated balance for the fiscal year just ended. Concurrently, the agencies shall return any recovery of prior year obligations. Agencies have the option of either transferring the funds or using the unexpended and unobligated balance to off-set a subsequent fund transfer. Agencies are required to submit to the United States Department of the Interior, Office of the Secretary, Office of Budget a report reflecting the total unexpended and unobligated balance for the fiscal year just ended and the amount of funding recovered from prior year obligations. The report submitted shall also indicate the method the agency intends to use to return the funds. The Department of the Interior shall report the total unexpended and unobligated balance for the fiscal year just ended and the amount of funding recovered from prior year obligations to the Executive Director by February 15 of each year.

APPENDIX B: STATE INTERNAL PROCEDURES

EXXON VALDEZ OIL SPILL SETTLEMENT FUND

1. *Segregation.* All principal and interest shall be accounted for separately by the Alaska Department of Revenue, Division of Treasury. Each disbursement shall be deposited in a Department of Law sub-account. Confirmation of the deposit shall be provided by the bank to the Department of Revenue, at which time the funds are moved from the sub-account to the general investment pool within the Alaska State Accounting System. The Department of Law, Division of Administrative Services is notified of the deposit and allocates the funds to the *Exxon Valdez* Oil Settlement Fund.

2. *Investments.* The Alaska Department of Revenue, Division of Treasury will calculate the daily income amount and provide for daily compounding (including weekends and holidays) as follows: (a) using the weekly 180 day Treasury Bill Rates for the month based on the weekly auctions occurring during the month; and (b) the daily cash balance of the *Exxon Valdez* Oil Settlement Fund within the Alaska State Accounting System. The income shall be credited to the fund and posted in the Alaska State Accounting System on a monthly basis.

3. *Reports.* The Department of Revenue, Division of Treasury shall report income earned to the Executive Director on a monthly basis.

AUTHORIZATION

1. *General.* Pursuant to Alaska Statute 37.14.405(a), a state agency may not expend money received from the trust unless the expenditure is in accordance with an appropriation made by law. However, prior to the expenditure of funds, Trustee Council approval must be obtained, the Court Order signed, and any terms and conditions placed on the funding by the Trustee Council have been met.

2. *Budget and Reports.* To meet the requirements of Alaska Statute 37.14.415, agencies are required to comply with directions published by the State Office of Management and Budget, Division of Budget Review. Alaska Statute 37.14.415 states: The state trustees shall

(1) submit to the governor and the legislature by December 15 of each year a report setting out, for each object or purpose of expenditure, the amounts approved for expenditure from the trust during the preceding fiscal year and the amounts actually expended during the preceding fiscal year.

(2) prepare and submit, under AS 37.07, a budget for the next fiscal year setting out, for each object or purpose of expenditure, the trustees' estimate of the amounts that are, during the next fiscal year, to be funded by the trust and expended by state agencies; and

(3) prepare and submit to the legislature, at the same time the budget for state agency expenditures is submitted under (2) of this section, a proposal setting out, for each object or

purpose of expenditure, the trustees' estimate of the amounts that are to be funded by the trust in the next fiscal year and that are not included in the budget submitted under (2) of this section.

3. *Legislative Budget and Audit Committee*. Alaska Statute 37.14.405(b), allows agencies to meet the requirements of an appropriation conditioned on compliance with the program review provisions of AS 37.07.080(h). In accordance with the procedures of the Alaska Office of Management and Budget (OMB), agencies are required to submit a request to OMB for transmittal to the Legislative Budget and Audit Committee.

4. *Expenditure Authority*. Authorization to receive and expend shall be recorded in the Alaska State Accounting System within the *Exxon Valdez* Oil Spill Settlement Fund. Following legislative action, OMB will record the authorization by approving an Authorized Budget Transaction (AB).

United States Department of Agriculture | Forest Service | Alaska Region | P.O. Box 21628 Juneau, AK 99802-1628

August 21, 1996

EXXON VALDEZ RESTORATION PLAN EIS SUPPLEMENTATION EVALUATION

OBJECTIVES

This evaluation reviews the April 1996, Exxon Valdez Oil Spill Restoration Plan, Draft Update on Injured Resources and Services. A determination will be made on the significance of proposed changes to Chapters 4 (Injury) and 5 (Goals, Objectives and Strategies) of the Exxon Valdez Oil Spill Restoration Plan (EVOS Restoration Plan). Relative to the Restoration Plan Environmental Impact Statement of September 1994, the Record of Decision of October 31, 1994, and the EVOS Restoration Plan of November 1994, the Forest Service, as lead Federal Trustee agency, will determine whether a supplement to the Final Environmental Impact Statement is warranted.

The National Environmental Policy Act (NEPA) implementing regulations (40 CFR 1502.9 [c]) and Forest Service Handbook direction (1909.15-92-1, section 18.2) provide that agencies:

> (1) Shall prepare supplements to either draft or final environmental impact statements if:
>
> > (i) The agency makes substantial changes in the proposed action that are relevant to environmental concerns; or
> >
> > (ii) There are sufficient new circumstances or information relevant to environmental concerns and bearing on the proposed action or its impacts.
>
> (2) May also prepare supplements when the agency determines that the purposes of the Act will be furthered by doing so.

The Final Environmental Impact Statement (FEIS) contains evaluations and findings regarding impacts of restoration actions on injured resources and services. The Record of Decision (ROD) provides Trustee agencies and the public restoration decisions to include direct restoration actions, habitat acquisition and protection, research and monitoring. These include long-term actions utilizing a restoration reserve, administration of restoration activities, public involvement and science management. These actions are pursuant to the use of the $900 million settlement between Exxon Corporation and its subsidiary companies, and the United States and the State of Alaska. The EVOS Restoration Plan provides long-term guidance to the Trustee Council for using these funds in restoring the resources and services injured by the oil spill.

This paper presents and analyzes circumstances presented in the April 1996 Exxon Valdez Oil Spill Restoration Plan Draft Update on Injured Resource and Services (hereafter referred to as the Draft Update). The Draft Update

provides current information for two parts of the Restoration Plan: 1) Table 2. Resources and Services Injured by the Spill, p.32, in Chapter 4, and 2) the summaries of Injury and Recovery and the Recovery Objectives in Chapter 5.

BACKGROUND

The Federal and State governments, acting as Trustees for natural resources are responsible for taking actions necessary to restore resources, and the services they provide, that were injured by the Exxon Valdez oil spill (EVOS). The Federal Water Pollution Control Act (Clean Water Act) (33 U.S.C.@ 1321[f]) and Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) (42 U.S.C.@ 9607[f]) provided the legal basis for these responsibilities.

The ROD for the EVOS Restoration Plan Environmental Impact Statement was signed by the Federal Trustees and designates on October 31, 1994. The final EVOS Restoration Plan was completed in November 1994. It was modified to reflect the Trustees' decisions on restoration policies, strategies and actions.

The EVOS Restoration Plan is a programmatic document which the Trustee agencies and the public can use as long-term guidance for restoring the resources and services injured by the oil spill. It contains policies for making restoration decisions and describes how restoration activities will be implemented.

The EVOS Restoration Plan provides for information updates to be incorporated into the plan as acquired, reviewed and approved by the Trustee Council. More specifically, Chapter 4 of the Restoration Plan indicates that the list of injured resources and services (p.32, Table 2) would be reviewed as new information is obtained. The FEIS addressed injured resources and services provided by these resources by determining how restoration activities contribute to restoring injured resources and services, and how restoration actions directed at the injured resources and services affect other resources and services. It also provides for a restoration program which includes five categories of restoration activities. These are:

- General Restoration;
- Habitat Protection and Acquisition;
- Monitoring and Research;
- Restoration Reserve; and
- Public Information, Science Management, and Administration.

The decision reached in the ROD by the Trustees incorporates an ecosystem approach to restoration and provides for both scientific review and public participation in the process of defining restoration actions. Restoration is to be focused on the injuries to natural resources and the services provided by those natural resources.

The EVOS Restoration Plan calls for Chief Scientist's recommendations before adding injured species to the list, changing the status of a species on the list, and for removing species from the list. These peer reviewed recommendations are then acted upon by the Trustee Council.

Direction for changing the Restoration Plan (p.10, ch.1) is as follows:

> "The Trustee Council may change the plan if the Council determines the plan is no longer responsive to restoration needs. Changes may be made due to new scientific data, or to changing social and economic conditions. However, new scientific data will be incorporated into restoration decisions without the need to change the plan."

The ROD provides for an ecosystem approach to restoration. The Trustees may consider restoration activities for the injuries addressed by these specific excerpts from the ROD. They may consider restoration:

- for any injured resource or service;
- for resources and services not previously identified as injured ... if reasonable scientific or local knowledge obtained since the spill indicates a spill-related injury;
- for resources and services that have not recovered; and
- for resources for which there was no documented injury if these activities will benefit an injured resource or service.

PURPOSE AND NEED

The purpose of the EVOS Restoration Plan and FEIS is to "restore, insofar as possible, the injured natural resources and thereby the services they provide that were affected by the Exxon Valdez oil spill." Planning and decision guidance provides the Trustees with a broad platform from which to direct restoration actions. Through past and current restoration actions, research and monitoring of injured resources, the Trustees have determined which resources not previously, nor specifically, identified in planning documents should be considered for restoration, or their recovery status modified to update planning documents. This analysis will determine if there are extraordinary circumstances in these modifications which will cause the Forest Service to initiate a supplement to the FEIS.

The Draft Update provides for public review of the proposed changes and additions to the EVOS Restoration Plan. The information presented in the Draft Update is scientific in nature and appears not to substantially change the focus of the planned restoration actions. Although recovery objectives are presented in more detail than those in the EVOS Restoration Plan, the revised objectives are synonymous with current approved restoration objectives and actions.

DISCUSSION

The proposed revisions presented in the Draft Update include changing recovery status of some resources (for example, moving the bald eagle [Haliaeetus leucocephalus] from the "recovering" category to "recovered"), and adding to the list itself. In August 1995, the Trustee Council added Kittlitz's murrelet (Brachyramphus brevirostris) and common loons (Gavia immer) to the injured species list. In addition, the Council now proposes to add three species of cormorants (red-faced [Phalacrocorax urile], pelagic [P. pelagicus], and double-crested [P. auritus]). Requests to add scoters (Oidemia nigra and Melanitta sp.) and black-legged kittiwakes (Rissa tridactyla) to the list were not recommended by the Council's Chief Scientist.

As restoration activities occur, restoration managers and scientists have determined that the planned ecosystem approach to their work is very useful in understanding the injury and recovery status of resources and services. Annual peer-reviewed work plans are being incorporated into larger groupings (for example: Pink Salmon, Sound Ecosystem Assessment [SEA], Marine Mammals, Near-shore Ecosystem, Seabird/Forage Fish and Related Projects, Subsistence and others) to increase efficiency of effort and expenditures, and to accommodate collaborative understanding of research and monitoring results. These efforts have focused restoration needs. Incorporating the above mentioned resources into the restoration program does not materially change the recovery objective, the level of effort, or focus of the restoration activities being evaluated and approved by the Trustees from those anticipated in the EVOS Restoration Plan and FEIS. It does, however, accommodate understanding of species' predator/prey relationships, and hence is ecosystem based, and it corroborates the roles of restoration managers and scientists in defining injury, providing for effective restoration actions, and promoting recovery.

The Draft Update was sent to the Public Advisory Group, agencies and other publics in April 1996. Comments on the draft were solicited. When the June 15, 1996 due date for these comments arrived only five responses had been received. These are summarized as follows:

- an interest in having lake fertilization done in Eshamy Lake;
- an interest in having spot shrimp receive more attention to determine why the species remains in such low numbers in Prince William Sound;
- an interest in more restoration effort for pink salmon;
- an interest in splitting and studying components of the intertidal communities; and
- an interest in continuing monitoring programs.

These questions and concerns have been previously considered by the Chief Scientist for the Trustee Council. Additionally, the Executive Director of the Trustee Council has asked her science coordinator to respond to these

concerns. These responses summarize the Trustees' position on these issues. A summary of the science coordinator's comments include respectively:

1) There has been no injury linked to the EVOS that directly affected the Eshamy system, therefore no restoration actions have been approved for that system.

2) The spot shrimp population in western Prince William Sound was known to have declined prior to the 1989 oil spill. During damage assessment no injury from Exxon Valdez oil could be determined. No restoration actions have been approved for spot shrimp.

3) Salmon stocks, particularly pink salmon stocks within the spill area, are being studied in detail. Continuing studies, monitoring and data evaluation will produce a more complete picture of the pink salmon as a component of the oiled ecosystem.

4) The interrelationships of intertidal community components are currently being evaluated in a variety of studies. Splitting out and naming each component for individual study has not been deemed cost effective nor a good way to understand the intricate species interrelationships within the intertidal community.

5) Monitoring of recovery will continue.

CONCLUSION

The Trustee Council's desire to modify the listing of injured resources and services and to provide additional focus on recovery objectives for these injuries are within the current parameters of the EVOS Restoration Plan and FEIS. The public has had an opportunity to comment on the proposed changes. People have not expressed opposition to the proposed updates. They have not suggested other substantive changes. Public involvement continues on a regular basis to determine timely shifts in public desires. This is done through public notice of annual work plans, Public Advisory Group meetings, public comment periods at Trustee Council meetings, science workshops, and the Restoration Update newsletter. The proposed changes have been suggested as a result of these recurring processes, the need for scientific information, and restoration results.

As previously stated, the information presented in the Draft Update is scientific in nature and appears not to substantially change the focus of planned restoration actions. The proposed changes to the injury list and recovery objectives provide for non-substantive modifications to planning documents that are within the Trustees' decision authority and within the NEPA analysis completed for the EVOS Restoration Plan Final Environmental Impact Statement.

DETERMINATION

The Forest Service has reviewed National Environmental Policy Act and other requirements regarding supplementation of the Exxon Valdez Oil Spill FEIS. I have considered the proposed changes to the EVOS Restoration Plan in the Draft Update.

I have determined that supplementation of the EVOS FEIS is not warranted in relation to the changes proposed for Chapters 4 and 5 of the EVOS Restoration Plan in the Draft Update. The changes are primarily scientific in nature and do not substantially modify or restrict the Trustees' authority or scope of actions to effect restoration of injured resources and services. The purpose and need for restoration actions have not changed to a degree that warrants a supplement to the EVOS FEIS. The environmental consequences of the actions authorized by the ROD and displayed in the EVOS FEIS have not changed.

No further NEPA actions, including a supplement to the FEIS, are required to implement the changes proposed in the April 1996, Exxon Valdez Oil Spill Restoration Plan Draft Update on Injured Resources & Services.

PHIL JANIK
Trustee Council Member
USDA Forest Service

8/26/96
Date

Technical Budget Amendments

Exxon Valdez Oil Spill Trustee Council

Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178

TO: Trustee Council Members

FROM: Molly McCammon
Executive Director

DATE: August 19, 1996

RE: Technical Budget Amendment - SEA Program $93.4 Transfer Between Projects

---

The Prince William Sound Science Center has asked for authority to transfer funds between two FY 96 SEA projects in the amount of $93,400. The proposed action is a "net-zero" transfer between two projects (320-N and 320-J) and will not require any additional funds. This transfer requires Trustee Council authorization since the amount involved is greater than $25,000.

This transfer is in direct response to guidance from Dr. Ted Cooney, the SEA program lead scientist, and reflects the program's response to the Trustee Council's peer review process. The purpose of the transfer is to increase the SEA program's synthesis and modeling efforts in response to the SEA peer review session in January 1996. The SEA program is now at a point where field data collection is giving way to model development and information synthesis. The two projects affected by this transfer are 96320-N/Nekton and Plankton Acoustics (reduced) and 96320-J/Information Systems and Model Development (increased). A summary of the effects of the transfer is as follows:

	Current Budget	Reduce/Increase	Revised Budget
320-N/Nekton-Plankton Acoustics	461.2	(93.4)	367.8
320-J/Information-Model Development	452.0	+93.4	545.4

The Chief Scientist is aware of this proposed transfer and supports the effort to further strengthen the SEA modeling and synthesis emphasis. Pending approval of the transfer by the Trustee Council, the National Oceanic and Atmospheric Administration will amend the current BAA contracts with PWSSC to provide for the transfer of funds.

I recommend approval of the transfer.

cc: Byron Morris/NOAA
Bill Hauser/ADFG
Ted Cooney/UAF
Gary Thomas/PWSSC (attn: Penny Oswalt)
Dr. Robert Spies

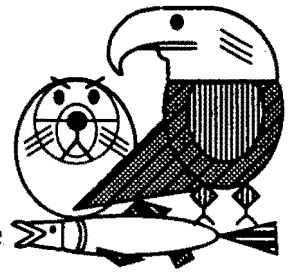
96320-J, NOAA Contract # 50ABNF600053 - Information and Modeling Development (SEA DATA)

Budget Category	Current CY Budget	Revised CY Budget	Difference
Salary	174,400.00	194,500.00	20,100.00
Travel	20,900.00	28,700.00	7,800.00
Services	172,300.00	218,300.00	46,000.00
Supplies	5,300.00	6,900.00	1,600.00
Equipment	3,800.00	6,000.00	2,200.00
Total Direct Costs	376,700.00	454,400.00	77,700.00
Indirect Costs	75,300.00	91,000.00	15,700.00
Total Costs	452,000.00	545,400.00	93,400.00

96320-N, NOAA Contract # 50ABFN600055 - Nekton and Plankton Acoustics (SEAFISH)

Budget Category	Current CY Budget	Revised CY Budget	Difference
Salary	311,300.00	244,000.00	(67,300.00)
Travel	35,200.00	28,800.00	(6,400.00)
Services	14,700.00	13,200.00	(1,500.00)
Supplies	9,300.00	10,300.00	1,000.00
Equipment	13,800.00	10,200.00	(3,600.00)
Total Direct Costs	384,300.00	306,500.00	(77,800.00)
Indirect Costs	76,900.00	61,300.00	(15,600.00)
Total Costs	461,200.00	367,800.00	(93,400.00)

Exxon Valdez Oil Spill Trustee Council
Restoration Office
645 G Street, Suite 401, Anchorage, Alaska 99501-3451
Phone: (907) 278-8012 Fax: (907) 276-7178



AGENDA: FY 97 WORK PLAN

Overview	Stan Senner
Ecosystem Projects and Major Scientific Themes	Bob Spies
Pink Salmon Cluster thru Seabird Cluster	Bob Spies
Archaeology Cluster	Veronica Christman
Subsistence Cluster	Sandra Schubert
Marine Pollution Cluster thru Public Information Cluster	Stan Senner Veronica Christman
Project Management Cluster and non-Work Plan Projects	Molly McCammon

ADDENDUM TO MEETING PACKET

- Revised totals page with list of deferred projects
- **Revised list of new projects**
- **Summary of changes to Executive Director's Recommendation since original meeting packet was distributed**
- **Revised spreadsheet that incorporates changes to Executive Director's Recommendation**
- **Additional public comment received on Draft Work Plan since original meeting packet was distributed**

DEFERRED PROJECTS
EXECUTIVE DIRECTOR'S FY 97 RECOMMENDATION

RECOMMEND FUND:		**$15,390.3**
RECOMMEND DEFER:		**$1,094.4**
	TOTAL:	**$16,484.7**

CONTINUING PROJECTS THAT ARE DEFERRED:

97012	Killer whales	$156.0	(pending November review)
97025	NVP	$115.7	(balance of avian predation)
97166	Herring natal habitats	$60.7	(hydroacoustics component)
97256A	Columbia Lake	$34.4	(feasibility complete November)
97256B	Solf Lake	$16.8	(feasibility complete November)
		$383.6	

NEW PROJECTS THAT ARE DEFERRED:

97169	Avian genetics	$67.3	
97230	Valdez Duck Flats	$67.8	
97239	Sockeye carcasses	$127.5	(request is $134.5)
97247	Kametolook R.	$18.9	(feasibility study underway; request is $46.2)
97248	Historical data/TEK	$40.0	
97251	Akalura Lake	$43.7	
97254	Delight/Desire	$123.1	(EDRec $122.2, if funded)
97275	UAA rural research	$37.5	(need commitments from PIs)
97281	Forest workshop	$50.0	(need funding commitments)
97301	TV pilot	$100.0	
97305	Seabird stable isotope	$35.0	(97170 may be able to accommodate this work)
		$710.8	

ADDITIONAL NEW PROJECTS THAT ARE DEFERRED -- OUTSIDE $16M WORK PLAN:

97277	Chenega Bay archaeological repository	$318.5

NEW PROJECTS
EXECUTIVE DIRECTOR'S FY 97 RECOMMENDATION

NEW PROJECTS:	**Fund**	**$879.7**		**Defer**	**$710.8**
CONTINUING PROJECTS:	**Fund**	**$14,510.6**		**Defer**	**$383.6**
		$15,390.3			**$1,094.4**

NEW PROJECTS THAT ARE RECOMMENDED FOR FUNDING:

97167	Seabird curation	$32.1
97194	Pink spawning habitat recovery	$138.3
97223	Publication of sea otter data	$43.0
97231	Marbled murrelet	$180.0
97263	P. Graham stream enhancement	$58.0
97286	Elders/Youth conference	$15.8
97300	Synthesis of scientific findings	$64.9
97302	Cutthroat/Dolly Varden inventory	$12.8
97304	Kodiak waste management plan	$267.5
97306	Ecology/demographics of sand lance	$32.8
97352	Traditional knowledge	$94.5
		$879.7

NEW PROJECTS THAT ARE DEFERRED:

97169	Avian genetics	$67.3
97230	Valdez Duck Flats	$67.8
97239	Sockeye carcasses	$127.5
97247	Kametolook R.	$18.9
97248	Herring: historical data/TEK	$40.0
97251	Akalura Lake	$43.7
97254	Delight/Desire	$123.1
97275	UAA rural research	$37.5
97281	Forest workshop	$50.0
97301	TV pilot	$100.0
97305	Seabird stable isotope	$35.0
		$710.8

ADDITIONAL NEW PROJECTS -- OUTSIDE $16M WORK PLAN:

97115	Sound Waste Management Plan	$1,167.9	Fund
97197	SeaLife Center fish pass	$545.6	Fund
97277	Chenega Bay archaeological repository	$318.5	Defer

CHANGES FROM SPREADSHEET IN TRUSTEE COUNCIL PACKET
August 28, 1996

Pink Salmon

97191A Oil-Related Embryo Mortalities
Change recommendation on genetics component from *defer* to *do not fund in FY 97*. Final report will be recommended for funding in FY 98.

Herring

97165 Genetic Discrimination of PWS Herring Populations
Change recommendation from *defer* to *fund*; reduce budget from $103.8 to $41.6. Funding is for completion of ongoing lab work; final data analysis and report writing is recommended for funding in FY 98.

Sockeye Salmon

97251 Akalura Lake Sockeye Salmon Restoration
Correct FY 97 project cost from $42.0 to $43.7.

Cutthroat Trout and Dolly Varden

97043B Habitat Improvement Monitoring
Clarify that FY 97 is final year of monitoring; close-out funds ($8.0) are recommended for FY 98.

Marine Mammals

97001 Harbor Seal Condition and Health Status
Identify FY 98 cost ($48.1).

Nearshore Ecosystem

97025 Nearshore Vertebrate Predator Program
Clarify that funding for avian copredator component is contingent on receipt of the report for Project 95320Q, as well as on further review.

Seabird/Forage Fish

97169 Genetics of Murres, Guillemots, Murrelets
Change lead agency from NOAA to DOI to reflect that project will be implemented through a DOI contract with the proposer rather than through NOAA's BAA process.

97231 Marbled Murrelet Productivity
Change recommendation from *defer* to *fund* to provide continued support for data analysis and publication. Funding for new field work contingent on the APEX review scheduled for this fall; reduce budget from $180.0 to $120.0.

Subsistence

97267 Port Graham Skiff Dock
Change recommendation from *defer* to *do not fund; restoration need not sufficiently demonstrated.*

97268 Port Graham Harvest Trips
Change recommendation from *defer* to *do not fund; insufficient link to restoration objectives.*

97276 Access Road to Donor Bay
Clarify that project is not recommended for funding because of an insufficient link to an injured resource.

97352 Traditional Knowledge
Change project number to 97052B to clarify that project will be closely coordinated with 97052/Community Involvement.

Ecosystem Synthesis

97300 Synthesis of Scientific Findings from EVOS
Clarify that project was submitted by the Chief Scientist at the request of the core scientific reviewers and the Executive Director.

Restoration Reserve

97424 Include in spreadsheet; recommend $12 million deposit in FY 97.

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
Pink Salmon		$3,360.6	**$1,921.7**		$966.3	$293.4	$32.0	$3,213.4	
97076	Effects of Oil on Straying and Survival	$618.8	**$618.8**		$234.6	$0.0	$0.0	$853.4	Fund
97093	Diversion of Harvest Effort	$484.7	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97139A1	Little Waterfall Barrier Bypass Improvement	$26.4	**$26.4**			$0.0	$0.0	$26.4	Fund
97139A2	Port Dick Spawning Channel	$76.5	**$76.5**		$49.7	$39.7	$32.0	$197.9	Fund
97139C1-CLO	Montague Riparian Rehabilitation Monitoring	$9.3	**$9.3**		$0.0	$0.0	$0.0	$9.3	Fund close-out
97186	Coded Wire Tag Recoveries	$273.8	**$273.8**		$279.4	$90.0	$0.0	$643.2	Fund
97188	Otolith Thermal Mass Marking	$120.1	**$120.1**		$108.4	$55.0	$0.0	$283.5	Fund
97190	Linkage Map for the Pink Salmon Genome	$254.5	**$254.5**					$254.5	Fund
97191A	Oil-Related Embryo Mortalities	$208.5	**$208.5**		$164.2	$58.7	$0.0	$431.4	Fund contingent
97194	Spawning Habitat Recovery	$138.3	**$138.3**			$0.0	$0.0	$138.3	Fund
97196	Genetic Structure	$195.5	**$195.5**		$130.0	$50.0	$0.0	$375.5	Fund contingent
97209	Examination of Straying	$123.9	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97228	Genetic Assessment of Offspring	$96.7	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97284	Test Fishery Project	$511.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97321-BAA	Model Integration	$221.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
Pacific Herring		$1,095.0	**$759.3**	**$100.7**	$683.8	$22.4	$0.0	$1,566.2	
97162	Disease Factors Affecting Declines	$517.7	**$517.7**		$437.6	$0.0	$0.0	$955.3	Fund
97165	Genetic Discrimination	$41.6	**$41.6**		$56.0	$0.0	$0.0	$97.6	Fund contingent

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
97166	Herring Natal Habitats	$260.7	**$200.0**	**$60.7**	$190.2	$22.4	$0.0	$473.3	Fund/Defer
97168-BAA	Social Ecology of Herring Fishery	$235.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97248	Collection Historical Data/Local Knowledge	$40.0		**$40.0**	$0.0	$0.0	$0.0	$40.0	Defer
SEA and Related Projects		$4,839.9	**$3,733.6**		$2,062.2	$115.0	$75.0	$5,985.8	
97195	Pristane Monitoring in Mussels	$115.3	**$115.3**		$115.0	$115.0	$75.0	$420.3	Fund contingent
97243	Water Resources of Prince William Sound	$814.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97303-BAA	Sentinel Program for Walleye Pollock	$120.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97320	Sound Ecosystem Assessment (SEA)	$3,618.3	**$3,618.3**		$1,947.2			$5,565.5	Fund
97322-BAA	Jellyfish as Predators and Competitors	$171.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
Sockeye Salmon		$752.3	**$419.1**	**$294.3**	$0.0	$0.0	$0.0	$713.4	
97048-BAA	Historical Analysis of Affected Sockeye	$31.9	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97239	Salmon Carcasses and Juvenile Chinook	$134.5		**$127.5**		$0.0	$0.0	$127.5	Defer
97251	Akalura Lake Restoration	$43.7		**$43.7**	$0.0	$0.0	$0.0	$43.7	Defer
97254	Delight and Desire Lakes Restoration	$123.1		**$123.1**		$0.0	$0.0	$123.1	Defer
97255-CLO	Kenai River Sockeye Restoration	$158.3	**$158.3**		$0.0	$0.0	$0.0	$158.3	Fund close-out
97258A-CLO	Overescapement Project	$214.0	**$214.0**		$0.0	$0.0	$0.0	$214.0	Fund contingent
97259-CLO	Restoration of Coghill Lake	$46.8	**$46.8**		$0.0	$0.0	$0.0	$46.8	Fund close-out

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
Cutthroat Trout and Dolly Varden		$934.2	**$266.5**		$108.0	$0.0	$0.0	$374.5	
97043B	Habitat Improvement Monitoring	$24.0	**$24.0**		$8.0	$0.0	$0.0	$32.0	Fund
97145	Anadromous and Resident Forms	$229.7	**$229.7**		$100.0	$0.0	$0.0	$329.7	Fund
97172	Recovery in Prince William Sound	$402.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97174	Restoration Project Support/Coordination	$0.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Withdrawn
97242	Characteristics of PWS Cutthroat	$265.4	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97302	PWS Inventory	$12.8	**$12.8**		$0.0	$0.0	$0.0	$12.8	Fund
Marine Mammals		$810.6	**$654.6**	**$156.0**	$308.1	$50.0	$0.0	$1,168.7	
97001	Harbor Seal Condition and Health Status	$192.0	**$192.0**		$48.1	$0.0	$0.0	$240.1	Fund
97012-BAA	Killer Whale Investigation	$157.5	**$1.5**	**$156.0**				$157.5	Fund/Defer
97064	Harbor Seal Monitoring, Habitat, Trophics	$317.8	**$317.8**		$150.0	$50.0	$0.0	$517.8	Fund
97170	Isotope Ratio Studies of Marine Mammals	$143.3	**$143.3**		$110.0	$0.0	$0.0	$253.3	Fund
Nearshore Ecosystem		$3,341.2	**$2,186.4**	**$115.7**	$1,753.7	$524.8	$224.4	$4,805.0	
97025	Nearshore Vertebrate Predators (NVP)	$1,821.5	**$1,705.8**	**$115.7**	$1,669.4	$450.0	$0.0	$3,940.9	Fund cont./Defer
97090-CLO	Mussel Bed Restoration	$10.0	**$10.0**		$0.0	$0.0	$0.0	$10.0	Fund contingent
97157-BAA	Intertidal Monitoring Using Isotope Indicators	$85.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97158	Monitoring in Katmai National Park	$56.4	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97161	Differentiation/Interchange of Harlequins	$98.8	**$98.8**		$9.5	$0.0	$0.0	$108.3	Fund

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
97181-BAA	Intertidal Recovery Monitoring	$299.4	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97223-BAA	Publication of Sea Otter Data	$43.0	**$43.0**		$0.0	$0.0	$0.0	$43.0	Fund
97227	Recovery of Intertidal Communities	$276.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97233	Body Condition of Sea Otters	$11.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97240	Clam Recruitment	$237.9	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97290	Hydrocarbon Database	$76.3	**$76.3**		$74.8	$74.8	$224.4	$450.3	Fund
97427	Harlequin Duck Monitoring	$252.5	**$252.5**					$252.5	Fund
97429	River Otters and Oil Contamination	$72.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
Seabird/Forage Fish and Related Projects		$2,887.7	**$2,292.3**	**$102.3**	$1,880.0	$1,820.0	$176.4	$6,271.0	
97142-BAA	Status and Ecology of Kittlitz's Murrelets	$188.5	**$188.5**			$0.0	$0.0	$188.5	Fund
97144	Common Murre Population Monitoring	$73.8	**$73.8**		$50.0	$0.0	$0.0	$123.8	Fund contingent
97159-CLO	Marine Bird Abundance Surveys	$45.1	**$45.1**					$45.1	Fund close-out
97163	Alaska Predator Ecosystem Experiment-APEX	$1,800.0	**$1,800.0**		$1,800.0	$1,800.0	$176.4	$5,576.4	Fund
97167-BAA	Curation of Seabirds Salvaged from EVOS	$32.1	**$32.1**		$0.0	$0.0	$0.0	$32.1	Fund
97169	Genetics of Murres, Guillemots, Murrelets	$67.3		**$67.3**				$67.3	Defer
97182-BAA	Phenology of Kittlitz's Murrelets	$247.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97224	Forage Fish in Oil/Gas Development Areas	$110.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97231	Marbled Murrelet Productivity	$120.0	**$120.0**					$120.0	Fund
97235	Sand Lance Literature Review	$42.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
97253-BAA	Seabird Recovery: Modeling	$93.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97305	Stable Isotope Analysis of Seabirds	$35.0		**$35.0**				$35.0	Defer
97306	Ecology and Demographics of Sand Lance	$32.8	**$32.8**		$30.0	$20.0	$0.0	$82.8	Fund
Archaeological Resources		$231.2	**$231.2**		$201.3	$158.9	$415.0	$1,006.4	
97007A	Archaeological Index Site Monitoring	$145.0	**$145.0**		$135.0	$145.0	$415.0	$840.0	Fund
97007B-CLO	Site Specific Archaeological Restoration	$19.9	**$19.9**		$0.0	$0.0	$0.0	$19.9	Fund contingent
97149	Archaeological Site Stewardship	$66.3	**$66.3**		$66.3	$13.9	$0.0	$146.5	Fund
Subsistence		$4,547.0	**$1,352.2**	**$120.1**	$1,175.1	$349.0	$825.0	$3,821.4	
97009D-CLO	Survey of Octopuses in Intertidal Habitats	$48.0	**$48.0**		$0.0	$0.0	$0.0	$48.0	Fund close-out
97052A	Community Involvement	$248.4	**$248.4**		$250.0	$250.0	$750.0	$1,498.4	Fund
97052B	Traditional Knowledge	$94.5	**$94.5**					$94.5	Fund
97127	Tatitlek Coho Salmon Release	$11.1	**$11.1**		$12.0	$12.0	$0.0	$35.1	Fund
97131	Clam Restoration	$365.0	**$365.0**		$365.0			$730.0	Fund
97156	Public Access and Education Program	$267.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97210	Youth Area Watch	$150.0	**$150.0**		$150.0			$300.0	Fund
97214-CLO	Harbor Seal Documentary	$12.1	**$12.1**		$0.0	$0.0	$0.0	$12.1	Fund close-out
97220	Eastern PWS Salmon Habitat Restoration	$115.0	**$115.0**		$12.0	$0.0	$0.0	$127.0	Fund
97222	Chenega Bay Salmon Habitat Enhancement	$0.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97225	Port Graham Pink Salmon Project	$74.4	**$74.4**		$75.0	$75.0	$75.0	$299.4	Fund

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
97244	Community Harbor Seal Sampling/Mgt.	$114.9	**$114.9**		$85.0	$0.0	$0.0	$199.9	Fund
97245-BAA	Community-Based Harbor Seal Research	$274.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97247	Kametolook River Coho Salmon	$46.2		**$18.9**				$18.9	Defer
97256A	Columbia Lake Sockeye Salmon Stocking	$34.4		**$34.4**				$34.4	Defer
97256B	Solf Lake Sockeye Salmon Stocking	$16.8		**$16.8**				$16.8	Defer
97261	Port Graham Land Stewardship	$443.6	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97262	Port Graham Shoreline Inventory/Protection	$595.7	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97263	Port Graham Salmon Stream Enhancement	$102.0	**$58.0**		$115.0	$12.0	$0.0	$185.0	Fund contingent
97264	Port Graham Wetlands Inventory/Protection	$417.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97265	Port Graham Moose Browse	$334.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97267	Port Graham Skiff Dock	$62.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97268	Port Graham Harvest Trips	$22.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97271	Status of Subsistence Marine Mammals	$116.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97272-CLO	Chenega Chinook Release Program	$45.0	**$45.0**		$0.0	$0.0	$0.0	$45.0	Fund close-out
97276	Chignik Lake Access Road	$10.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97281	Forest Workshops	$50.0		**$50.0**	$0.0	$0.0	$0.0	$50.0	Defer
97282	Sea Otter Population Monitoring	$287.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97286	Elders/Youth Conference	$15.8	**$15.8**		$111.1	$0.0	$0.0	$126.9	Fund
97295	Dissemination of Traditional Knowledge	$172.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
Reduction of Marine Pollution		$1,077.7	**$267.5**		$0.0	$0.0	$0.0	$267.5	
97260	Port Graham Marine Pollution Cleanup	$616.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97283	Eyak Beach Cleanup	$193.7	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97304	Kodiak Waste Management Plan	$267.5	**$267.5**		$0.0	$0.0	$0.0	$267.5	Fund
Habitat Improvement		$667.2	**$599.4**	**$67.8**	$759.6	$0.0	$0.0	$1,426.8	
97180	Kenai Habitat Restoration	$599.4	**$599.4**		$759.6	$0.0	$0.0	$1,359.0	Fund
97230	Valdez Duck Flats Restoration	$67.8		**$67.8**		$0.0	$0.0	$67.8	Defer
Ecosystem Synthesis		$738.0	**$64.9**		$260.0	$0.0	$0.0	$324.9	
97054-BAA	Mass-balance Model of Trophic Fluxes	$148.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97215-BAA	Modeling Trophic Webs	$75.6	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97234	Ecosystem Synthesis Model	$198.4	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97249	Ecosystem Synthesis and Modeling	$251.1	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97300	Synthesis of Scientific Findings from EVOS	$64.9	**$64.9**		$260.0			$324.9	Fund
Administration, Science Management, and Public Information		$2,613.7	**$0.0**	**$137.5**	$0.0	$0.0	$0.0	$137.5	
97183	Placement of Darkened Waters Exhibit		**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97221-BAA	Information Infrastructure	$214.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97232	Endowment of Engineering Research Center	$2,256.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
97275	Applied Field-Based Research Program	$37.5		**$37.5**			$0.0	$37.5	Defer
97301	Television Pilot	$105.7		**$100.0**			$0.0	$100.0	Defer
Research Facilities		$403.7	**$0.0**		$0.0	$0.0	$0.0	$0.0	
97171	Mariculture Technical Center	$271.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97238	Kachemak Bay Shellfish Nursery	$82.1	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97252	Planning for Genetics Lab at SeaLife Center	$49.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
Project Management		$641.6	**$641.6**		$560.0	$480.0	$960.0	$2,641.6	
97250	Project Management	$641.6	**$641.6**		$560.0	$480.0	$960.0	$2,641.6	Fund
	Total:	$28,941.6	**$15,390.3**	**$1,094.4**	$10,718.1	$3,813.5	$2,707.8	$33,724.1	

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / OUTSIDE OF FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
Archaeological Resources		$318.5		**$318.5**				$318.5	
97277	Chenega Bay Archaeological Repository	$318.5		**$318.5**				$318.5	Defer
Reduction of Marine Pollution		$2,086.2	**$1,167.9**		$75.0	$0.0	$0.0	$1,242.9	
97115	Sound Waste Management Plan	$1,167.9	**$1,167.9**		$75.0	$0.0	$0.0	$1,242.9	Fund
97229	Cordova Solid Waste Disposal	$918.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
Habitat Improvement		$1,282.6	**$1,282.6**		$770.0	$565.0	$215.0	$2,832.6	
97126	Habitat Protection/Acquisition Support	$1,282.6	**$1,282.6**		$770.0	$565.0	$215.0	$2,832.6	Fund
Administration, Science Management, and Public Information		$2,857.1	**$2,857.1**		$2,800.0	$2,500.0	$4,700.0	$12,857.1	
97100	Administration, Science Mgt., Public Info.	$2,857.1	**$2,857.1**		$2,800.0	$2,500.0	$4,700.0	$12,857.1	Fund
Research Facilities		$1,083.2	**$545.6**		$0.0	$0.0	$0.0	$545.6	
97151-BAA	PWSSC Facilities Improvement	$537.6							No rec.
97197	Alaska SeaLife Center Fish Pass	$545.6	**$545.6**		$0.0	$0.0	$0.0	$545.6	Fund contingent
Restoration Reserve		$12,000.0	**$12,000.0**		$12,000.0	$12,000.0	$12,000.0	$48,000.0	
97424	Restoration Reserve	$12,000.0	**$12,000.0**		$12,000.0	$12,000.0	$12,000.0	$48,000.0	Fund
	Total:	$19,627.6	**$17,853.2**	**$318.5**	$15,645.0	$15,065.0	$16,915.0	$65,796.7	

ADDITIONAL PUBLIC COMMENT RECEIVED
FY 97 DRAFT WORK PLAN

PROJECT NUMBER AND TITLE:		SUBMITTED WRITTEN COMMENTS:	NATURE OF COMMENTS:
97231	Marbled Murrelet Productivity	Pacific Seabird Group	Support
97254	Delight/Desire Lakes Restoration	Port Graham Corporation	Support
Various	Subsistence/community projects	B. Henrichs, Native Village of Eyak	Support

97231

Pacific Seabird Group

DEDICATED TO THE STUDY AND CONSERVATION OF PACIFIC SEABIRDS AND THEIR ENVIRONMENT

12 August 1996

Ms. Molly McCammon
Executive Director
Exxon Valdez Oil Spill Trustee Council
645 G Street, Suite 401
Anchorage, Alaska 99501

RE: Draft Fiscal Year 1997 Work Plan

Dear Ms. McCammon,

As you may be aware, The Pacific Seabird Group (PSG) is an international organization founded in 1972 to promote knowledge, study and conservation of Pacific seabirds. Among PSG's members are biologists who have educational or research interests in Pacific seabirds, state and federal officials who manage seabirds and the marine environment, and individuals who are interested in marine conservation.

PSG has regularly provided input to the Trustees regarding funding of restoration studies related to seabirds. In addition, during September 1995 we conducted the PSG/EVOS Seabird Restoration Workshop with at Aleyska with EVOS funding. Proceedings of the workshop are soon to be completed and will ultimately be published as a state-of the-art guide to seabird restoration.

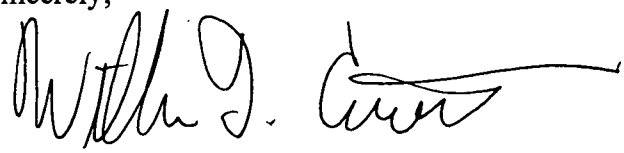
We wish to provide comments on the FY97 workplan proposals, drawing on the background of our members and the synthesis of expert opinion that came from the workshop. We are pleased that several of the injured seabird species are included in the plan, as part of the APEX ecosystem study. We also approve of the effort to investigate forage fish in the spill zone, which could lead to improved understanding of the ecosystem and recovery of injured species.

Our main concern is the future of studies on the Marbled Murrelet, which have been deferred, and which may be in jeopardy of not being funded at all. No Marbled Murrelet field work was funded in FY96, other than as a minor component of the APEX study. The proposed Marbled Murrelet productivity study would be an important step towards furthering the goals of the Trustees.

The depleted status of the Marbled Murrelet is a great concern throughout its range, and individuals within the spill zone represent a large portion of the world population. This species was injured in the oil spill, and it still faces problems in the spill zone similar to those which led to its being listed as Threatened in the lower 48 states under the Endangered Species Act. We appreciate the fact that the Trustees have supported murrelet studies in the past, and we believe the Trustees have benefitted from the results of these studies in the decision making process related to land acquisitions. Now that the emphasis is on the marine ecosystem, and since the murrelet is a significant avian component in Prince William Sound, it is important to continue this work. In particular, better understanding of the reproductive success of Marbled Murrelets and of their use of the marine environment will improve our chances of managing recovery of the species.

We appreciate the opportunity to provide this information for consideration by the Trustees, and hope the murrelet productivity study can be funded in addition to the important APEX work already underway. Please contact us if we can provide any additional information on this matter.

Sincerely,



William T. Everett, Chair
Pacific Seabird Group
Post Office Box 1085
La Jolla, California 92038
(619) 589-0870 Telephone
(619) 589-6983 Facsimile
Email: esrc@cts.com

WTE:la

Seward 97254

PORT GRAHAM CORPORATION

P.O. BOX 5569 • PORT GRAHAM, ALASKA 99603-5569 • (907) 284-2212 • FAX 284-2219

April 8, 1996

Ms. Molly McCammon
EVOS Trustee Council
645 G. St., Suite 402
Anchorage, AK 99501

Dear Molly,

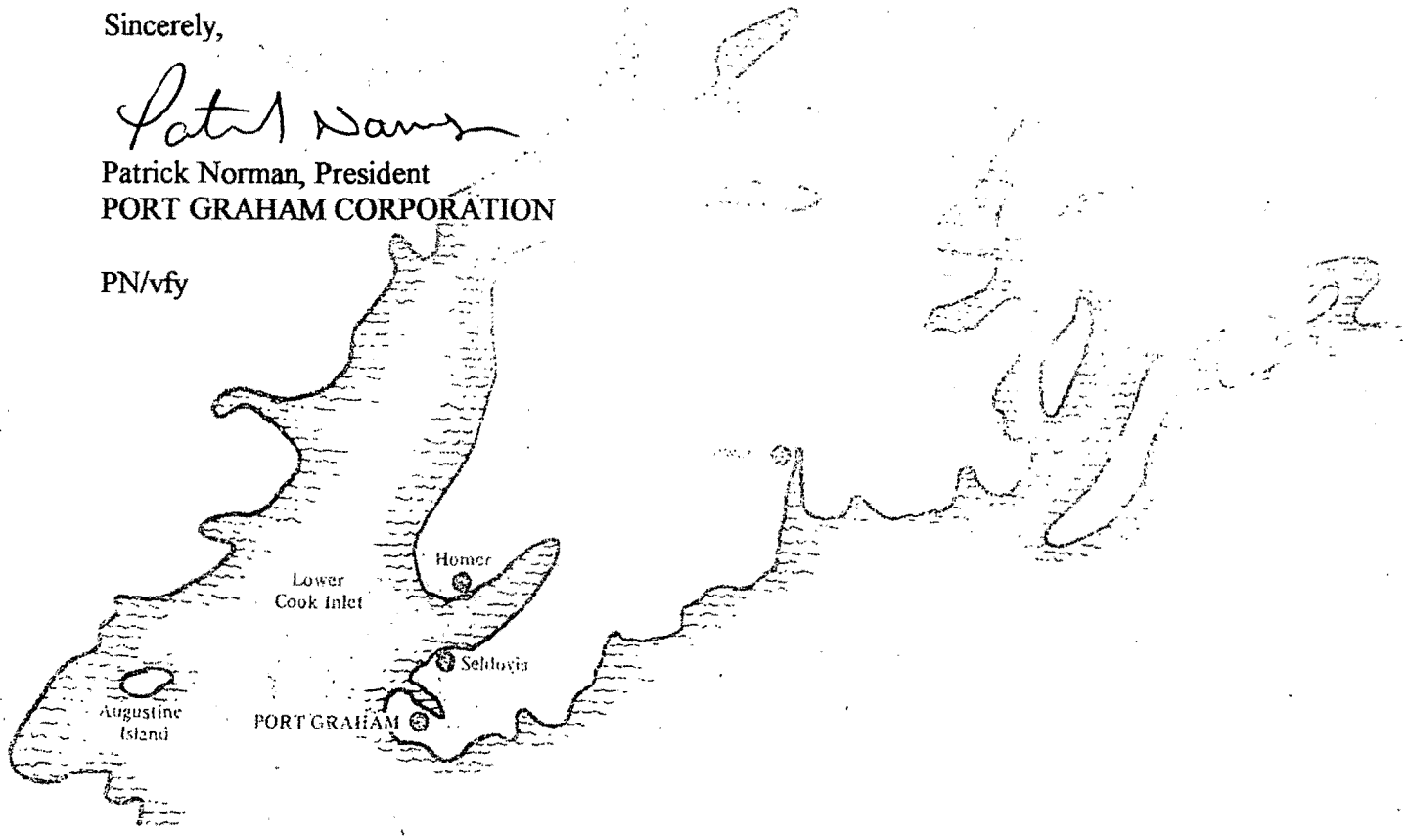
This letter is to express our support of a project developed by the Lower Cook Inlet Fisheries Development Corporation and the Alaska Department of Fish and Game to do studies on Delight and Desire lakes in the Nuka Bay area. This project will be extremely beneficial to the Lower Cook Inlet Sieners and sport fisherman in the future if fertilization of the lakes proves to be successful in increasing the numbers of adult red salmon that return to the two lake systems. This project is in an area directly affected by the Exxon Valdez Oil Spill.

Thank you for your time and if you have any questions, please call 284-2212.

Sincerely,

Patrick Norman, President
PORT GRAHAM CORPORATION

PN/vfy



NATIVE VILLAGE OF EYAK

P.O. Box 1388 • Cordova • Alaska • 99574

907-424-7738 907-424-7739

Date: Mon, Aug 19, 1996 Total # of pages including cover sheet: 1

To: Molly McCammon
EVOS Trustee Council Recipient Fax:

From: Bob Henrichs Sender Fax

Molly

Our Tribe requests support for the following proposals we submitted:

97264 Test Fishery Project
97052 Community Involvement/TEK
97220 Eastern PWS Salmon Habitat Restoration
97262 Sea Otter Population Monoriting
97286 Elder's/Youth Conference
97283 Eyak Beach Cleanup
97281 Forest Workshops

We also request support for Prince William Sound Science Center's 97151 Facilities Improvement to the PWS Science Center, and the City of Cordova's 97229, Solid Waste Disposal Site.

Please distribute this letter to all of the Trustees.

Sincerely yours

Bob Henrichs

Pink Salmon

Research and Monitor the Toxic Effects of Oil

- ➡ Continue 076--straying
- ➡ Continue 191A--egg mortality
- ➡ Start 194--habitat recovery (oiled rocks)

Provide Management Information

- ➡ Continue 186--coded-wire tags
- ➡ Continue 188--otolith marking
- ➡ Continue 190--genetic linkage map
- ➡ Continue 196--genetic stock identification

Supplement Populations

- ➡ Continue 139A1--Little Waterfall Creek
- ➡ Continue 139A2--Port Dick Creek
- ➡ Close-out 139C1--Montague riparian

Pacific Herring

Investigate Causes of the Crash

➡ Continue 162--herring disease

Provide Management Information

➡ Continue 166--herring natal habitats; defer hydroacoustics component

➡ Continue 165--genetic stock identification

⇨ Defer 248--historical data/local knowledge

Sound Ecosystem Assessment (SEA) and Related Projects

Investigate Ecological Factors

➡ Continue 320--Sound Ecosystem Assessment

Develop Monitoring Technique

➡ Continue 195--monitor pristane levels

Sockeye Salmon

Provide Management Information

- ➡ Close-out 255--Kenai in-season genetics

Research Overescapement

- ➡ Close-out 258A--Kenai/Kodiak overescapement
- ⇨ Defer 239--salmon carcasses and juvenile chinook
- ⇨ Defer 251--Akalura Lake

Supplement Populations

- ➡ Close-out 259--Coghill Lake fertilization
- ⇨ Defer 254--Delight & Desire lakes feasibility

Cutthroat Trout and Dolly Varden

Research and Monitor Populations

- ➡ Continue 145--anadromous and resident forms

Supplement Populations

- ➡ Continue 043B--monitoring improvement structures

Develop Restoration Strategies

- ➡ Start 302--inventory streams

Marine Mammals

Research and Monitor Populations

- ➡ Continue 001--harbor seal health
- ➡ Continue 064--harbor seal monitoring
- ➡ Continue 170--isotope ratios
- ⇨ Defer 012--killer whales

Nearshore Ecosystem

Research Mechanisms Limiting Recovery

- ➡ Continue 025--nearshore vertebrate predator; defer avian copredator component
- ➡ Continue 161--harlequin duck genetics
- ➡ Continue 427--harlequin duck recovery
- ➡ Close-out 090--mussel beds publications
- ➡ Start 223--sea otter publications

Shoreline and Subtidal Oil

- ➡ Continue 290--hydrocarbon data base

Seabird/Forage Fish and Related Projects

Research Mechanisms Limiting Recovery

- ➡ Continue 163--Alaska Predator Ecosystem Experiment
- ➡ Continue 231--marbled murrelet productivity
- ➡ Start 306--sand lance ecology
- ⇨ Defer 305--stable isotope analysis

Research and Monitor Populations

- ➡ Continue 142--Kittlitz's murrelet status and ecology
- ➡ Continue 144--common murres in Barren Islands
- ➡ Close-out 159--marine bird surveys in PWS
- ➡ Start 167--prepare seabird specimens
- ⇨ Defer 169--avian genetics

Archaeological Resources

Monitoring

- ➡ Continue 007A--index sites

Restoration and Protection

- ➡ Continue 007B--site restoration publications
- ➡ Continue 149--site stewardship

Subsistence

Restore Injured Resources

- ➡ Close-out 009D--octopus surveys

Enhance or Replace Injured Resources

- ➡ Continue 127--Tatitlek coho release
- ➡ Continue 131--Chugach clam restoration
- ➡ Continue 220--Eyak stream improvements
- ➡ Continue 225--Port Graham pink salmon
- ➡ Close-out 272--Chenega chinook release
- ➡ Start 263--Port Graham stream improvements
- ⇨ Defer 247--Kametolook River coho enhancement
- ⇨ Defer 256A--Columbia Lake feasibility
- ⇨ Defer 256B--Solf Lake feasibility

Increase Involvement of Subsistence Users

- ➡ Continue 052A--community involvement
- ➡ Continue 210--youth area watch
- ➡ Continue 244--community harbor seal sampling
- ➡ Close-out 214--harbor seal subsistence documentary
- ➡ Start 286--elder-youth conference
- ➡ Start 052B--integrated traditional knowledge project
- ⇨ Defer 281--forestry workshops

Marine Pollution

Reduce Marine Pollution

➡ Start 304--Kodiak area waste management planning

Habitat Improvement

Protect and Restore

➡ Continue 180--Kenai River restoration and enhancement

⇨ Defer 230--Valdez Duck Flats planning

Ecosystem Synthesis

Modeling

- ➡ Start 300--resource synthesis and ecological modeling

Public Information

Outreach

- ⇨ Defer 275 (university field based research program)
- ⇨ Defer 301 (pilot program for television series)

Not Part of Regular Work Plan

Assist Restoration Science

⇨ No recommendation--PWS Science Center addition

➡ Start 197--Alaska SeaLife Center fish pass

Reduce Marine Pollution

➡ Continue 115--Prince William Sound waste management plan implementation

DEFERRED PROJECTS
EXECUTIVE DIRECTOR'S FY 97 RECOMMENDATION

RECOMMEND FUND:		**$15,228.7**
RECOMMEND DEFER:		**$1,535.9**
	TOTAL:	**$16,764.6**

CONTINUING PROJECTS THAT ARE DEFERRED:

97012	Killer whales	$156.0	(pending Nov. 11 or 12 review)
97025	NVP	$115.7	(balance of avian predation)
97165	Herring genetics	$103.8	(need FY96 results)
97166	Herring natal habitats	$60.7	(hydroacoustics component)
97191A	Oiled embryos	$74.9	(close-out of molecular genetics)
97256A	Columbia Lake	$34.4	(feasibility complete November)
97256B	Solf Lake	$16.8	(feasibility complete November)
		$562.3	

NEW PROJECTS THAT ARE DEFERRED:

97169	Avian genetics	$67.3	
97230	Valdez Duck Flats	$67.8	
97231	Marbled murrelet	$180.0	
97239	Sockeye carcasses	$127.5	(request is $134.5)
97247	Kametolook R.	$18.9	(waiting for feasibility; request is $46.2)
97248	Historical data/TEK	$40.0	
97251	Akalura Lake	$42.0	
97254	Delight/Desire	$123.1	(EDRec $122.2, if funded)
97267	P. Graham skiff dock	$62.5	(legal review)
97268	P. Graham harvest trips	$22.0	(legal review)
97275	UAA rural research	$37.5	(need commitments from PIs)
97281	Forest workshop	$50.0	(need funding commitments)
97301	TV pilot	$100.0	
97305	Seabird stable isotope	$35.0	(97170 may be able to accommodate this work)
		$973.6	

ADDITIONAL NEW PROJECTS THAT ARE DEFERRED -- OUTSIDE $16M WORK PLAN:

97277	Chenega Bay archaeological repository	$318.5

NEW PROJECTS
EXECUTIVE DIRECTOR'S FY 97 RECOMMENDATION

NEW PROJECTS:	**Fund**	**$759.7**		**Defer**	**$973.6**
CONTINUING PROJECTS:	**Fund**	**$14,469.0**		**Defer**	**$562.3**
		$15,228.7			**$1,535.9**

FUND:

97167	Seabird curation	$32.1
97194	Pink spawning habitat recovery	$138.3
97223	Publication of sea otter data	$43.0
97263	P. Graham stream enhancement	$58.0
97286	Elders/Youth conference	$15.8
97300	Synthesis of scientific findings	$64.9
97302	Cutthroat/Dolly Varden inventory	$12.8
97304	Kodiak waste management plan	$267.5
97306	Ecology/demographics of sand lance	$32.8
97352	Traditional knowledge	$94.5
		$759.7

DEFER:

97169	Avian genetics	$67.3
97230	Valdez Duck Flats	$67.8
97231	Marbled murrelet	$180.0
97239	Sockeye carcasses	$127.5
97247	Kametolook R.	$18.9
97248	Herring: historical data/TEK	$40.0
97251	Akalura Lake	$42.0
97254	Delight/Desire	$123.1
97267	P. Graham skiff dock	$62.5
97268	P. Graham harvest trips	$22.0
97275	UAA rural research	$37.5
97281	Forest workshop	$50.0
97301	TV pilot	$100.0
97305	Seabird stable isotope	$35.0
		$973.6

ADDITIONAL NEW PROJECTS -- OUTSIDE $16M WORK PLAN:

97115	Sound Waste Management Plan	$1,167.9	Fund
97197	SeaLife Center fish pass	$545.6	Fund
97277	Chenega Bay archaeological repository	$318.5	Defer

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
Pink Salmon		$3,435.5	**$1,921.7**	**$74.9**	$966.3	$293.4	$32.0	$3,288.3	
97076	Effects of Oil on Straying and Survival	$618.8	**$618.8**		$234.6	$0.0	$0.0	$853.4	Fund
97093	Diversion of Harvest Effort	$484.7	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97139A1	Little Waterfall Barrier Bypass Improvement	$26.4	**$26.4**			$0.0	$0.0	$26.4	Fund
97139A2	Port Dick Spawning Channel	$76.5	**$76.5**		$49.7	$39.7	$32.0	$197.9	Fund
97139C1-CLO	Montague Riparian Rehabilitation Monitoring	$9.3	**$9.3**		$0.0	$0.0	$0.0	$9.3	Fund close-out
97186	Coded Wire Tag Recoveries	$273.8	**$273.8**		$279.4	$90.0	$0.0	$643.2	Fund
97188	Otolith Thermal Mass Marking	$120.1	**$120.1**		$108.4	$55.0	$0.0	$283.5	Fund
97190	Linkage Map for the Pink Salmon Genome	$254.5	**$254.5**					$254.5	Fund
97191A	Oil-Related Embryo Mortalities	$283.4	**$208.5**	**$74.9**	$164.2	$58.7	$0.0	$506.3	Fund cont./Defer
97194	Spawning Habitat Recovery	$138.3	**$138.3**			$0.0	$0.0	$138.3	Fund
97196	Genetic Structure	$195.5	**$195.5**		$130.0	$50.0	$0.0	$375.5	Fund contingent
97209	Examination of Straying	$123.9	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97228	Genetic Assessment of Offspring	$96.7	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97284	Test Fishery Project	$511.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97321-BAA	Model Integration	$221.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
Pacific Herring		$1,157.2	**$717.7**	**$204.5**	$627.8	$22.4	$0.0	$1,572.4	
97162	Disease Factors Affecting Declines	$517.7	**$517.7**		$437.6	$0.0	$0.0	$955.3	Fund
97165	Genetic Discrimination	$103.8		**$103.8**		$0.0	$0.0	$103.8	Defer

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
97166	Herring Natal Habitats	$260.7	**$200.0**	**$60.7**	$190.2	$22.4	$0.0	$473.3	Fund/Defer
97168-BAA	Social Ecology of Herring Fishery	$235.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97248	Collection Historical Data/Local Knowledge	$40.0		**$40.0**	$0.0	$0.0	$0.0	$40.0	Defer
SEA and Related Projects		$4,839.9	**$3,733.6**		$2,062.2	$115.0	$75.0	$5,985.8	
97195	Pristane Monitoring in Mussels	$115.3	**$115.3**		$115.0	$115.0	$75.0	$420.3	Fund contingent
97243	Water Resources of Prince William Sound	$814.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97303-BAA	Sentinel Program for Walleye Pollock	$120.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97320	Sound Ecosystem Assessment (SEA)	$3,618.3	**$3,618.3**		$1,947.2			$5,565.5	Fund
97322-BAA	Jellyfish as Predators and Competitors	$171.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
Sockeye Salmon		$750.6	**$419.1**	**$292.6**	$0.0	$0.0	$0.0	$711.7	
97048-BAA	Historical Analysis of Affected Sockeye	$31.9	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97239	Salmon Carcasses and Juvenile Chinook	$134.5		**$127.5**		$0.0	$0.0	$127.5	Defer
97251	Akalura Lake Restoration	$42.0		**$42.0**	$0.0	$0.0	$0.0	$42.0	Defer
97254	Delight and Desire Lakes Restoration	$123.1		**$123.1**		$0.0	$0.0	$123.1	Defer
97255-CLO	Kenai River Sockeye Restoration	$158.3	**$158.3**		$0.0	$0.0	$0.0	$158.3	Fund close-out
97258A-CLO	Overescapement Project	$214.0	**$214.0**		$0.0	$0.0	$0.0	$214.0	Fund contingent
97259-CLO	Restoration of Coghill Lake	$46.8	**$46.8**		$0.0	$0.0	$0.0	$46.8	Fund close-out

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
Cutthroat Trout and Dolly Varden		$934.2	**$266.5**		$100.0	$0.0	$0.0	$366.5	
97043B-CLO	Habitat Improvement Monitoring	$24.0	**$24.0**		$0.0	$0.0	$0.0	$24.0	Fund close-out
97145	Anadromous and Resident Forms	$229.7	**$229.7**		$100.0	$0.0	$0.0	$329.7	Fund
97172	Recovery in Prince William Sound	$402.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97174	Restoration Project Support/Coordination	$0.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Withdrawn
97242	Characteristics of PWS Cutthroat	$265.4	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97302	PWS Inventory	$12.8	**$12.8**		$0.0	$0.0	$0.0	$12.8	Fund
Marine Mammals		$810.6	**$654.6**	**$156.0**	$260.0	$50.0	$0.0	$1,120.6	
97001	Harbor Seal Condition and Health Status	$192.0	**$192.0**			$0.0	$0.0	$192.0	Fund
97012-BAA	Killer Whale Investigation	$157.5	**$1.5**	**$156.0**				$157.5	Fund/Defer
97064	Harbor Seal Monitoring, Habitat, Trophics	$317.8	**$317.8**		$150.0	$50.0	$0.0	$517.8	Fund
97170	Isotope Ratio Studies of Marine Mammals	$143.3	**$143.3**		$110.0	$0.0	$0.0	$253.3	Fund
Nearshore Ecosystem		$3,341.2	**$2,186.4**	**$115.7**	$1,753.7	$524.8	$224.4	$4,805.0	
97025	Nearshore Vertebrate Predators (NVP)	$1,821.5	**$1,705.8**	**$115.7**	$1,669.4	$450.0	$0.0	$3,940.9	Fund cont./Defer
97090-CLO	Mussel Bed Restoration	$10.0	**$10.0**		$0.0	$0.0	$0.0	$10.0	Fund contingent
97157-BAA	Intertidal Monitoring Using Isotope Indicators	$85.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97158	Monitoring in Katmai National Park	$56.4	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97161	Differentiation/Interchange of Harlequins	$98.8	**$98.8**		$9.5	$0.0	$0.0	$108.3	Fund

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
97181-BAA	Intertidal Recovery Monitoring	$299.4	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97223-BAA	Publication of Sea Otter Data	$43.0	**$43.0**		$0.0	$0.0	$0.0	$43.0	Fund
97227	Recovery of Intertidal Communities	$276.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97233	Body Condition of Sea Otters	$11.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97240	Clam Recruitment	$237.9	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97290	Hydrocarbon Database	$76.3	**$76.3**		$74.8	$74.8	$224.4	$450.3	Fund
97427	Harlequin Duck Monitoring	$252.5	**$252.5**					$252.5	Fund
97429	River Otters and Oil Contamination	$72.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
Seabird/Forage Fish and Related Projects		$2,947.7	**$2,172.3**	**$282.3**	$1,880.0	$1,820.0	$176.4	$6,331.0	
97142-BAA	Status and Ecology of Kittlitz's Murrelets	$188.5	**$188.5**			$0.0	$0.0	$188.5	Fund
97144	Common Murre Population Monitoring	$73.8	**$73.8**		$50.0	$0.0	$0.0	$123.8	Fund contingent
97159-CLO	Marine Bird Abundance Surveys	$45.1	**$45.1**					$45.1	Fund close-out
97163	Alaska Predator Ecosystem Experiment-APEX	$1,800.0	**$1,800.0**		$1,800.0	$1,800.0	$176.4	$5,576.4	Fund
97167-BAA	Curation of Seabirds Salvaged from EVOS	$32.1	**$32.1**		$0.0	$0.0	$0.0	$32.1	Fund
97169-BAA	Genetics of Murres, Guillemots, Murrelets	$67.3		**$67.3**				$67.3	Defer
97182-BAA	Phenology of Kittlitz's Murrelets	$247.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97224	Forage Fish in Oil/Gas Development Areas	$110.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97231	Marbled Murrelet Productivity	$180.0		**$180.0**				$180.0	Defer
97235	Sand Lance Literature Review	$42.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
97253-BAA	Seabird Recovery: Modeling	$93.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97305	Stable Isotope Analysis of Seabirds	$35.0		**$35.0**				$35.0	Defer
97306	Ecology and Demographics of Sand Lance	$32.8	**$32.8**		$30.0	$20.0	$0.0	$82.8	Fund
Archaeological Resources		$231.2	**$231.2**		$201.3	$158.9	$415.0	$1,006.4	
97007A	Archaeological Index Site Monitoring	$145.0	**$145.0**		$135.0	$145.0	$415.0	$840.0	Fund
97007B-CLO	Site Specific Archaeological Restoration	$19.9	**$19.9**		$0.0	$0.0	$0.0	$19.9	Fund contingent
97149	Archaeological Site Stewardship	$66.3	**$66.3**		$66.3	$13.9	$0.0	$146.5	Fund
Subsistence		$4,547.0	**$1,352.2**	**$204.6**	$1,175.1	$349.0	$825.0	$3,905.9	
97009D-CLO	Survey of Octopuses in Intertidal Habitats	$48.0	**$48.0**		$0.0	$0.0	$0.0	$48.0	Fund close-out
97052	Community Involvement	$248.4	**$248.4**		$250.0	$250.0	$750.0	$1,498.4	Fund
97127	Tatitlek Coho Salmon Release	$11.1	**$11.1**		$12.0	$12.0	$0.0	$35.1	Fund
97131	Clam Restoration	$365.0	**$365.0**		$365.0			$730.0	Fund
97156	Public Access and Education Program	$267.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97210	Youth Area Watch	$150.0	**$150.0**		$150.0			$300.0	Fund
97214-CLO	Harbor Seal Documentary	$12.1	**$12.1**		$0.0	$0.0	$0.0	$12.1	Fund close-out
97220	Eastern PWS Salmon Habitat Restoration	$115.0	**$115.0**		$12.0	$0.0	$0.0	$127.0	Fund
97222	Chenega Bay Salmon Habitat Enhancement	$0.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97225	Port Graham Pink Salmon Project	$74.4	**$74.4**		$75.0	$75.0	$75.0	$299.4	Fund
97244	Community Harbor Seal Sampling/Mgt.	$114.9	**$114.9**		$85.0	$0.0	$0.0	$199.9	Fund

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
97245-BAA	Community-Based Harbor Seal Research	$274.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97247	Kametolook River Coho Salmon	$46.2		**$18.9**				$18.9	Defer
97256A	Columbia Lake Sockeye Salmon Stocking	$34.4		**$34.4**				$34.4	Defer
97256B	Solf Lake Sockeye Salmon Stocking	$16.8		**$16.8**				$16.8	Defer
97261	Port Graham Land Stewardship	$443.6	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97262	Port Graham Shoreline Inventory/Protection	$595.7	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97263	Port Graham Salmon Stream Enhancement	$102.0	**$58.0**		$115.0	$12.0	$0.0	$185.0	Fund contingent
97264	Port Graham Wetlands Inventory/Protection	$417.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97265	Port Graham Moose Browse	$334.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97267	Port Graham Skiff Dock	$62.5		**$62.5**	$0.0	$0.0	$0.0	$62.5	Defer
97268	Port Graham Harvest Trips	$22.0		**$22.0**				$22.0	Defer
97271	Status of Subsistence Marine Mammals	$116.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97272-CLO	Chenega Chinook Release Program	$45.0	**$45.0**		$0.0	$0.0	$0.0	$45.0	Fund close-out
97276	Chignik Lake Access Road	$10.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97281	Forest Workshops	$50.0		**$50.0**	$0.0	$0.0	$0.0	$50.0	Defer
97282	Sea Otter Population Monitoring	$287.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97286	Elders/Youth Conference	$15.8	**$15.8**		$111.1	$0.0	$0.0	$126.9	Fund
97295	Dissemination of Traditional Knowledge	$172.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97352	Traditional Knowledge	$94.5	**$94.5**					$94.5	Fund

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
Reduction of Marine Pollution		$1,077.7	**$267.5**		$0.0	$0.0	$0.0	$267.5	
97260	Port Graham Marine Pollution Cleanup	$616.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97283	Eyak Beach Cleanup	$193.7	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97304	Kodiak Waste Management Plan	$267.5	**$267.5**		$0.0	$0.0	$0.0	$267.5	Fund
Habitat Improvement		$667.2	**$599.4**	**$67.8**	$759.6	$0.0	$0.0	$1,426.8	
97180	Kenai Habitat Restoration	$599.4	**$599.4**		$759.6	$0.0	$0.0	$1,359.0	Fund
97230	Valdez Duck Flats Restoration	$67.8		**$67.8**		$0.0	$0.0	$67.8	Defer
Ecosystem Synthesis		$738.0	**$64.9**		$260.0	$0.0	$0.0	$324.9	
97054-BAA	Mass-balance Model of Trophic Fluxes	$148.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97215-BAA	Modeling Trophic Webs	$75.6	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97234	Ecosystem Synthesis Model	$198.4	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97249	Ecosystem Synthesis and Modeling	$251.1	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97300	Synthesis of Scientific Findings from EVOS	$64.9	**$64.9**		$260.0			$324.9	Fund
Administration, Science Management, and Public Information		$2,613.7	**$0.0**	**$137.5**	$0.0	$0.0	$0.0	$137.5	
97183	Placement of Darkened Waters Exhibit		**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97221-BAA	Information Infrastructure	$214.0	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97232	Endowment of Engineering Research Center	$2,256.5	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
97275	Applied Field-Based Research Program	$37.5		**$37.5**			$0.0	$37.5	Defer
97301	Television Pilot	$105.7		**$100.0**			$0.0	$100.0	Defer
Research Facilities		$403.7	**$0.0**		$0.0	$0.0	$0.0	$0.0	
97171	Mariculture Technical Center	$271.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97238	Kachemak Bay Shellfish Nursery	$82.1	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
97252	Planning for Genetics Lab at SeaLife Center	$49.8	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
Project Management		$641.6	**$641.6**		$560.0	$480.0	$960.0	$2,641.6	
97250	Project Management	$641.6	**$641.6**		$560.0	$480.0	$960.0	$2,641.6	Fund
	Total:	$29,137.0	**$15,228.7**	**$1,535.9**	$10,606.0	$3,813.5	$2,707.8	$33,891.9	

SPREADSHEET A: EXECUTIVE DIRECTOR'S RECOMMENDATION / OUTSIDE OF FY 97 WORK PLAN

Proj. No.	Project Title	'97 Revised Request	Recommendation '97Fund	'97Defer	FY98	FY99	FY00-02	Total FY97-02	Recommendation
Archaeological Resources		$318.5		**$318.5**				$318.5	
97277	Chenega Bay Archaeological Repository	$318.5		**$318.5**				$318.5	Defer
Reduction of Marine Pollution		$2,086.2	**$1,167.9**		$75.0	$0.0	$0.0	$1,242.9	
97115	Sound Waste Management Plan	$1,167.9	**$1,167.9**		$75.0	$0.0	$0.0	$1,242.9	Fund
97229	Cordova Solid Waste Disposal	$918.3	**$0.0**		$0.0	$0.0	$0.0	$0.0	Do not fund
Habitat Improvement		$1,282.6	**$1,282.6**		$770.0	$565.0	$215.0	$2,832.6	
97126	Habitat Protection/Acquisition Support	$1,282.6	**$1,282.6**		$770.0	$565.0	$215.0	$2,832.6	Fund
Administration, Science Management, and Public Information		$2,857.1	**$2,857.1**		$2,800.0	$2,500.0	$4,700.0	$12,857.1	
97100	Administration, Science Mgt., Public Info.	$2,857.1	**$2,857.1**		$2,800.0	$2,500.0	$4,700.0	$12,857.1	Fund
Research Facilities		$1,083.2	**$545.6**		$0.0	$0.0	$0.0	$545.6	
97151-BAA	PWSSC Facilities Improvement	$537.6							No rec.
97197	Alaska SeaLife Center Fish Pass	$545.6	**$545.6**		$0.0	$0.0	$0.0	$545.6	Fund contingent
	Total:	$7,627.6	**$5,853.2**	**$318.5**	$3,645.0	$3,065.0	$4,915.0	$17,796.7	

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
Pink Salmon					$3,503.2	$3,435.5	**$1,921.7**	**$74.9**	$966.3	$293.4	$32.0	$3,288.3
97076	Effects of Oiled Incubation Substrate on Straying and Survival of Wild Pink Salmon	A. Wertheimer/NOAA	NOAA	Cont'd 3rd yr. 4 yr. project	$623.2	$618.8	**$618.8**		$234.6	$0.0	$0.0	$853.4

Abstract

This project examines the effects of oil exposure during embryonic development on the straying, marine survival, and gamete viability of salmon. The objectives are to conduct a related series of controlled experiments on straying of pink salmon to determine the role of oil and other factors so that field studies of straying in Prince William Sound after the oil spill can be interpreted; to determine if the return rate of pink salmon to adult is reduced when they have been exposed to oiled gravel during embryonic development; and to continue investigations into whether such exposure causes heritable damage to reproductive fitness of pink salmon.

Chief Scientist's Recommendation

The greatest value of this project is that it supports an understanding of the effects of oil on nominal straying rates, reproduction, and early developmental stages of pink salmon. The weaknesses identified by the reviewers still exist, i.e., the difficulty of projecting results obtained in Southeast Alaska, and the lack of a genetic component. If straying rates are in fact lower than projected, an even more expensive field effort will be needed to complete this project.

Executive Director's Recommendation

Fund. Although the Chief Scientist has raised questions about this project, NOAA has been responsive to prior concerns and funding this project in FY 97 will get the most return out of what has been a significant investment of Trustee Council dollars. This project will help with the interpretation of previous results on straying in relation to oil and should aid evaluation of when pink salmon recovery objectives are achieved. In addition, this project will provide useful information on marine survival of pink salmon that will have broad application to salmon management.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97093	Restoration of Prince William Sound Pink Salmon by Diversion of Harvest Effort	T. Linley/PWSAC	ADFG	New 1st yr. 5 yr. project	$484.7	$484.7	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Pink salmon egg mortality attributed to oiling of anadromous streams has contributed to a reduction in adult pink salmon returns. Natural populations of pink salmon are harvested with large numbers of hatchery pink salmon in mixed stock fisheries, which may limit escapement to damaged streams and thereby delay recovery. This project will be directed at changes in hatchery production to reduce exploitation of injured wild stocks. The project will focus on changing the location and timing of hatchery returns in western Prince William Sound.

Chief Scientist's Recommendation

It is not clear that this proposal would result in less exploitation of wild pink salmon stocks in western Prince William Sound, though it may have potential to do so if the run timing of the chums is selected to coincide with timing of wild pink stocks. Application of traditional harvest management strategies would probably be a more direct way to address problems with wild stocks in western Prince William Sound. A potential negative effect of establishing a terminal chum salmon fishery on the western side of Montague Island would be interference with the Nearshore Vertebrate Predator Project (/025), which uses this area as an experimental control. This proposal, however, does have the potential to help restore commercial fishing services. The proposing organization is well qualified to do this type of work, but there is confusion about the relationship with Project 97284. Given the current market value of pink and chum salmon and the large cost of this program, the Trustee Council may also wish to consider whether an investment in this project is worthwhile. Also, the risk to the NVP experiment from this project cannot be mitigated and is unacceptable. Do not fund.

Executive Director's Recommendation

Do not fund based on possible conflict with NVP (/025) and other ecosystem projects. There also is concern that a significant capital investment in hatchery equipment is not wise or timely. Finally, any Trustee Council support of this project would require compliance with the National Environmental Policy Act (NEPA), which could significantly delay implementation.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97139A1	Salmon Instream Habitat and Stock Restoration - Little Waterfall Barrier Bypass Improvement	S. Honnold/ADFG	ADFG	Cont'd 3rd yr. 4 yr. project	$26.4	$26.4	**$26.4**			$0.0	$0.0	$26.4

Abstract

This proposal will evaluate the barrier bypass improvement at Little Waterfall Creek, as indicated by pink and coho salmon use of the bypass. The renovation of the bypass (decreased grades and addition of resting pools) was completed in FY 96 and is expected to facilitate increased spawning habitat use by pink and coho salmon. Studies in FY 97 will include bypass inspections to document salmon passage, spawner enumeration, and juvenile salmon abundance monitoring.

Chief Scientist's Recommendation

This project will evaluate the effects of improvements to Little Waterfall Creek bypass, and it seems appropriate to determine the performance of the improvements. However, there is concern about the lack of attention to interspecific competition and interactions with other species. FY 98 funding is contingent on addressing these questions; funding in FY 99 is not recommended. Fund as requested in FY 97.

Executive Director's Recommendation

Fund FY 97 only. Project is intended to increase available spawning habitat and thus provide additional pink and coho salmon for harvest as a replacement for salmon lost due to the oil spill. FY 97 work will be monitoring and evaluation of the barrier bypass modification, as required by the Trustee Council's supplementation criteria. Funding for further monitoring in FY 98 will be considered only if questions raised by the Chief Scientist concerning interspecific competition and interaction with other species are addressed.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97139A2	Port Dick Creek Tributary and Development	N. Dudiak/ADFG	ADFG	Cont'd 2nd yr. 5 yr. project	$82.7	$76.5	**$76.5**		$49.7	$39.7	$32.0	$197.9

Abstract

The goal of this project is the restoration of the native Port Dick Creek salmon stocks. Actual restoration of the spawning habitat will take place in June 1996. If natural colonization rates are not adequate to fully seed the restored habitat, on-site fish culture techniques will be incorporated using the native pink and chum salmon stocks to maintain genetic integrity. Water temperature, water level, salinity and stream velocity will be monitored. Additional post construction substrate monitoring is proposed.

Chief Scientist's Recommendation

This is a continuing project in which it is important to evaluate the effects of improvements on Port Dick Creek. The increased funding to monitor bedload transport and salmon survival is appropriate given past peer review comments. Fund, including additional monitoring.

Executive Director's Recommendation

Fund, including new objectives related to bedload transport monitoring and increased salmon fry evaluation. This project is intended to increase available spawning habitat and thus provide additional pink and chum salmon for harvest as a replacement for salmon lost in the oil spill.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97139C1-CLO	Montague Riparian Rehabilitation Monitoring	D. Schmid/USFS	USFS	Cont'd 4th yr. 4 yr. project	$9.3	$9.3	**$9.3**		$0.0	$0.0	$0.0	$9.3

Abstract

This is a close-out of Project 96139C1. Originally, FY 96 was to be the close-out year, but some instream structures failed. In FY 96, the structures which failed will be repaired using better anchoring techniques. Crowded stands of Sitka spruce, which were thinned to accelerate growth, will also be monitored. In FY 97, the repaired structures will be monitored to make sure they have withstood the high flows associated with the spring runoff, the final data on spruce growth will be collected, and the final report will be written.

Chief Scientist's Recommendation

Final year of this project. Fund.

Executive Director's Recommendation

Fund project close-out. This project is designed to evaluate the results of a previous Trustee Council effort to improve habitat for pink salmon and chum salmon on Montague Island. FY 96 was to be the final year of funding for the project (monitoring and report writing). However, some of the instream structures failed and the FY 96 funds were reprogrammed to repair the structures. FY 97 funding will allow the desired monitoring to occur.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97186	Coded Wire Tag Recoveries From Pink Salmon in Prince William Sound	T. Joyce/ADFG	ADFG	Cont'd 9th yr. 11 yr. project	$275.1	$273.8	**$273.8**		$279.4	$90.0	$0.0	$643.2

Abstract

There is a growing body of evidence indicating that the oil spill has been at least partially responsible for weak pink salmon returns to Prince William Sound. Pink salmon runs are dominated by hatchery populations, and efforts to restore injured wild populations through selective harvesting of hatchery fish depend upon the availability of data pertaining to the spatial and temporal abundance of wild fish in the different fishing areas of the Sound. This project will provide accurate real-time and post-season estimates of hatchery and wild contributions to commercial harvests by date and fishing district and also to hatchery cost-recovery harvests. This information is important for fisheries managers who must anticipate the effects of fishing strategies on injured populations.

Chief Scientist's Recommendation

Highly valuable on-going project. Technically excellent. Fund.

Executive Director's Recommendation

Fund. Trustee Council funding will be provided again in FY 98 to ensure two years of overlap with the Otolith Thermal Mass Marking Project (/188). Only close-out funds will be provided in FY 99. The project provides information that allows fisheries managers to vary the timing and location of commercial harvest to protect injured wild stocks.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97188	Otolith Thermal Mass Marking of Hatchery Reared Pink Salmon In Prince William Sound	T. Joyce/ADFG	ADFG	Cont'd 3rd yr. 5 yr. project	$122.4	$120.1	**$120.1**		$108.4	$55.0	$0.0	$283.5

Abstract

This project will develop otolith marking as a stock separation tool. All hatchery-produced salmon will be marked using this technique. Recoveries of these marks from returning adults caught in mixed-stock fisheries in Prince William Sound will allow improved estimation of the hatchery/wild composition of the catch. Improved estimation will enhance the fishery manager's ability to protect damaged wild pink salmon stocks in mixed-stock fisheries. The project will be conducted over two pink salmon life cycles. Experience with two life cycles is needed to fully develop a program that integrates induced banding code quality, otolith processing rates and costs, and statistical designs for catch sampling.

Chief Scientist's Recommendation

This is an excellent ongoing project. The increased funds requested for purchase of equipment appear necessary to process otoliths in a timely manner. Fund at $120.1.

Executive Director's Recommendation

Fund. Trustee Council funding will be provided again in FY 98 to ensure two years of overlap with the Coded Wire Tag Project (/186). Only close-out funds will be provided in FY 99. The project provides information that allows fisheries managers to vary the timing and location of commercial harvest to protect injured wild stocks. Otolith marking is a more accurate and less expensive technology for providing the information now obtained through coded wire tags.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97190	Construction of a Linkage Map for the Pink Salmon Genome	F. Allendorf/Univ. Montana	ADFG	Cont'd 2nd yr. 5 yr. project	$267.5	$254.5	**$254.5**					$254.5

Abstract

This project will construct a detailed genetic linkage map for pink salmon by analyzing the genetic transmission of several hundred DNA polymorphisms. The ability to genetically map the location of oil-induced lesions will allow the thorough identification, description, and understanding of oil-induced genetic damage. This research will also aid other recovery efforts with pink salmon, including estimation of straying rates, description of stock structure, and testing whether marine survival has a genetic basis.

Chief Scientist's Recommendation

The project proposes sound technical approaches. However, there is inadequate description of the experimental design for application of the developed genetic markers to management questions. Long-term applications of the developed genetic markers could be very valuable, although a specific link to restoration objectives is not well established in proposal. The investigators are qualified and talented, but new to this line of work, and it will take time for them to get the new techniques implemented. No commitments should be made at present to funding beyond FY 97. Concrete evidence of cost sharing by non-EVOS sources is essential for future commitment of EVOS funds. Fund in FY 97 and then review again.

Executive Director's Recommendation

Fund. This project will provide fundamental information which will likely aid restoration of wild stocks of pink salmon and benefit pink salmon management in the future. It is a long-term project with national importance. Trustee Council commitment at this time is to provide funding through FY 97 only.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97191A	Field Examination of Oil-Related Embryo Mortalities that Persist in Pink Salmon Populations in PWS	M. Willette/ADFG J. Seeb/ADFG	ADFG	Cont'd 9th yr. 11 yr. project	$283.4	$283.4	**$208.5**	**$74.9**	$164.2	$58.7	$0.0	$506.3

Abstract

Elevated embryo mortalities were detected in populations of pink salmon inhabiting oiled streams following the oil spill. These increased rates of mortality persisted annually through the 1993 field season, suggesting that genetic damage may have occurred as a result of exposure to oil during early developmental life-stages. The consequences of this putative genetic damage include physiological dysfunction of individuals and reduced reproductive capacity of populations. The 1994 field results show no statistical difference in embryo mortality between oil-contaminated and reference streams. This project will continue to monitor the recovery of pink salmon embryos in the field and would verify and identify the occurrence of genetic damages.

Chief Scientist's Recommendation

The recovery of pink salmon streams is planned to be followed through two even-year and two odd-year life cycles, and thus objectives A and B of this proposal should go forward. However, the genetic objectives (C and D) were to be closed out in FY 96, and there is no compelling evidence to change this plan. The project should be funded at a reduced level that reflects elimination of objectives C and D.

Executive Director's Recommendation

Fund stream sampling and embryo mortality component contingent on approval of a revised Detailed Project Description. Defer decision on funding genetics portion (Objectives C and D), for which close out funds were provided in FY 96, pending more information on status of the closeout. This project represents the major monitoring project for the ongoing injury to and recovery of pink salmon.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97194	Pink Salmon Spawning Habitat Recovery	M. Murphy/NOAA	NOAA	New 1st yr. 2 yr. project	$138.3	$138.3	**$138.3**			$0.0	$0.0	$138.3

Abstract

This project will examine the level of oil contamination in pink salmon streams in 1989-90 and 1995 by analyzing sediment samples collected in 1989-90 by ADFG and similar samples collected in 1995 by the Auke Bay Laboratory/NOAA. Analysis and comparison of the 1989-90 and 1995 data will complete the understanding of the injury to pink salmon by documenting the initial exposure level and subsequent habitat recovery.

Chief Scientist's Recommendation

This is a good proposal and it may provide the final results that clarify the impact of the spill on early life stages of pink salmon. The proposal could have been stronger if there was a greater overlap between sediment samples and streams that were studied for embryo morality. However, comparison of the data from this project with similar data from laboratory experiments will allow greater understanding of whether field conditions in pink salmon streams in 1989 and 1990 were toxic to early life history stages of pink salmon. Fund.

Executive Director's Recommendation

Fund. This project will tie actual concentrations of oil obtained from field samples in 1989, 1990, and 1995 in pink salmon streams to embryo mortalities and will illuminate the role of direct exposure in potentially causing the observed multi-year effects in pink salmon embryos. The level of funding recommended includes funds for preparation of the final report in FY 97.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97196	Genetic Structure of Prince William Sound Pink Salmon	J. Seeb/ADFG	ADFG	Cont'd 4th yr. 6 yr. project	$236.0	$195.5	**$195.5**		$130.0	$50.0	$0.0	$375.5

Abstract

Wild-stock pink salmon suffered direct lethal and sublethal injuries as a result of the oil spill. An understanding of the population structure of pink salmon in Prince William Sound is essential to assess the impact of these injuries on a population basis and to devise and implement management strategies for restoration. This project is designed to delineate the genetic structure of populations of wild pink salmon inhabiting the Sound.

Chief Scientist's Recommendation

This is a good continuing project that potentially will contribute much to the restoration of pink salmon stocks in Prince William Sound. However, there is a need to define what level of genetic variability is important for management of the stocks. There is need for more information on the methods for analysis for the mitochondrial DNA work and to identify which of the 70 polymorphic loci are most useful or promising to pursue. The investigators are technically well qualified but application of the information would benefit from closer integration with agency managers. Fund.

Executive Director's Recommendation

Fund contingent on (1) approval of revised Detailed Project Description that addresses technical questions raised by Chief Scientist and (2) receipt of report on Project 95191A. This project is designed to determine geographic extent of genetic differences in Prince William Sound pink salmon. Knowledge of the location of pink salmon stocks and genetic differences among the stocks in Prince William Sound could help refine pink salmon management areas and goals, aiding in the recovery of wild stocks.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97209	Examination of Straying of Hatchery Pink Salmon into Wild Populations in Prince William Sound	T. Joyce/ADFG	ADFG	New 1st yr. 2 yr. project	$123.9	$123.9	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

There is a growing body of evidence indicating that the oil spill has been at least partially responsible for weak wild pink salmon returns to Prince William Sound. The most direct way to restore the wild pink salmon population is through intense fisheries management targeting hatchery fish while restricting the harvest of wild salmon. understanding of the straying rate of hatchery fish into wild salmon systems is important for the development of fishery management plans and the evaluation of remote release programs for hatchery fish.

Chief Scientist's Recommendation

The objectives of this study can be met by examining fish returning to hatcheries for lesser cost. The critical issue in straying, whether there is gene flow between salmon populations in different streams, is not addressed by the nominal straying measurements proposed for this project. This project seems more related to normal agency management and aquacultural operations than to the restoration program, and some of its objectives will likely be achieved by Project 97076.

Executive Director's Recommendation

Do not fund. Project is intended to provide additional information to fisheries managers. However, the project is closer to normal agency management than to restoration. In addition, some of the objectives duplicate efforts currently being funded under Project /076.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97228	Quantitative Genetic Assessment of Embryo Mortality and Developmental Stability in Offspring of Oiled Pink Salmon	B. Smoker/UAF	NOAA	New 1st yr. 3 yr. project	$96.7	$96.7	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

A quantitative genetic analysis of embryonic mortality and other measures of developmental stability will be carried out. Estimates of genetic parameters for mortality (heritability, genetic correlation, non-additive and maternal sources of variation) will be important for management of pink salmon resources during restoration because they predict the rate at which genetic change can be expected to occur. This project is an augmentation of Project /076 being carried out by NOAA.

Chief Scientist's Recommendation

Proposal should not be funded without further expansion of technical approach to discuss quantitative genetic methods and alternative approaches to measuring developmental instability. Do not fund.

Executive Director's Recommendation

Do not fund based on Chief Scientist's evaluation of the project's technical approach.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97284	Restoration of Prince William Sound Pink Salmon through Test Fishery Project	B. Henrichs/Native Village of Eyak	DOI	New 1st yr. 3 yr. project	$511.8	$511.8	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Pink salmon egg mortality attributed to oiling of anadromous streams has contributed to a reduction in adult pink salmon returns. Natural populations of pink salmon are harvested with large numbers of hatchery pink salmon in mixed stock fisheries, which may limit escapement to damaged streams and thereby delay recovery. This project will evaluate the feasibility of changes in hatchery production to reduce exploitation of injured wild stocks. Specific projects will focus on changing the location and timing of hatchery returns in western Prince William Sound.

Chief Scientist's Recommendation

This project would conduct surveys of salmon streams in Prince William Sound in order to locate populations of pink and chum salmon to use in developing hatchery runs with altered location and timing. Altered runs could alleviate harvest pressure on wild stocks in western Prince William Sound. An alternative approach would be to use aggressive time and area fishery closures. Until a policy decision is made on whether altered run timing and remote releases should be pursued, this proposal is premature. The proposers are qualified to carry out the work. To be most cost effective, any future proposals should indicate the extent to which existing information at ADFG can be used to identify the desired wild brood stock. Do not fund.

Executive Director's Recommendation

Do not fund based on Chief Scientist's recommendation.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97321-BAA	Model Integration of Pink Salmon Restoration	C. Coutant and W. VanWinkle/Oak Ridge National Laboratory	NOAA	New 1st yr. 2 yr. project	$221.8	$221.8	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will develop a population model of pink salmon to integrate field-based knowledge of oil-spill effects. The first year will develop a model to predict the recovery rate of pink salmon populations in response to oil spills and similar disturbances by integrating impacts on incubation success, straying, adult mortality, and changes in food web dynamics. The second year will use the model to evaluate restoration and management strategies including variation in the size of hatchery smolt releases, supplementation of spawning habitat, and regulation of fishing.

Chief Scientist's Recommendation

This is a technically sound proposal to integrate much of the available information from ADFG studies into a pink salmon production model for Prince William Sound. This model should provide some of the synthesis effort needed to bring the results of past studies to bear on future management of this important resource. This project will make its greatest contribution if it can be coordinated with other synthesis efforts planned for 1998 and beyond. Do not fund at this time.

Executive Director's Recommendation

Do not fund. It may be appropriate to consider this project in the future.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
Pacific Herring					$1,222.7	$1,157.2	**$717.7**	**$204.5**	$627.8	$22.4	$0.0	$1,572.4
97162	Investigations of Disease Factors Affecting Declines of Pacific Herring Populations in Prince William Sound	G. Marty/UC Davis; R. Kocan/Univ. Wash., C. Kennedy & A. Farrell, Simon Fraser Univ.	ADFG	Cont'd 3rd yr. 4 yr. project	$538.3	$517.7	**$517.7**		$437.6	$0.0	$0.0	$955.3

Abstract

Field and controlled laboratory studies will focus on viral hemorrhagic septicemia virus and *Ichthyophonus hoferi*, a thogenic fungus, to determine their role in the disease(s) and ortality observed in Prince William Sound herring since 1993. Herring will be monitored throughout the year for signs of disease and immune status, while specific pathogen-free herring will be used to determine the degree of mortality, blood chemical changes, and pathogenicity produced by these organisms alone and in combination with exposure to stressors such as petroleum hydrocarbons, temperature and crowding.

Chief Scientist's Recommendation

This is a technically excellent ongoing project that is contributing greatly to our understanding of the causes of the population crash of herring in 1993-94, and the recovery of the population from pathogenic effects. The investigators are well qualified, with laudable publication records. The project appears to be cost-effective. Fund.

Executive Director's Recommendation

Fund. This project investigates the potential link between oil exposure and disease in herring, and between disease and the herring population decline in Prince William Sound. Understanding the causes of the decline and the lack of recovery is important for restoration of the herring population in Prince William Sound and resumption of the herring fishery.

97165	Genetic Discrimination of Prince William Sound Herring Populations	J. Seeb/ADFG	ADFG	Cont'd 3rd yr. 4 yr. project	$121.9	$103.8		**$103.8**		$0.0	$0.0	$103.8

Abstract

The Prince William Sound herring fishery has been in catastrophic decline since 1992. The Alaska Department of Fish and Game recovery effort includes incorporating knowledge of genetically-derived population structure into harvest management. This continuing project is delineating the structure of Prince William Sound population(s) and related North Pacific populations using both nuclear and mitochondrial DNA analyses. Tests for temporal and spatial diversity within years and temporal stability across years will be conducted.

Chief Scientist's Recommendation

Similar to the pink salmon genetics project (/196), there is a need to identify at what level genetic variability is important for application of these results to management. This is a good proposal and it should go forward. However, the proposal does not provide enough detail on how the microsatellite data will be analyzed. This project appears to be more expensive than necessary. Fund, but at a reduced level.

Executive Director's Recommendation

Defer until FY 96 results have been analyzed. If continuation of the project is recommended, funding will be contingent on receipt of the report due on Project 95191A. Project 97165 is intended to address basic questions about the genetic composition of Prince William Sound herring in relation to other North Pacific populations. When setting harvest limits, it is important to know whether there exists one or more genetically distinct populations.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97166	Herring Natal Habitats	M. Willette/ADFG	ADFG	Cont'd 4th yr. 6 yr. project	$260.7	$260.7	**$200.0**	**$60.7**	$190.2	$22.4	$0.0	$473.3

Abstract

The oil spill coincided with the spring migration of Pacific herring to spawning grounds in Prince William Sound. Studies of oil spill injuries to herring documented damage from oil exposure in adult herring, reduced hatching success of embryos, and elevated levels of physical and genetic abnormalities in newly hatched larvae. The Prince William Sound herring spawning population has drastically declined since 1993, and pathology studies have implicated viral hemorrhagic septicemia (VHS) and *ichthyophonus* as potential sources of mortality as well as indicators of stress. This project will monitor the abundance of the herring resource in Prince William Sound using SCUBA and hydroacoustic techniques.

Chief Scientist's Recommendation

This project has been carried out for several years since the oil spill to provide basic information about the spawning biomass of Pacific herring in Prince William Sound. The proposal for FY 97 would compare egg-based estimates of biomass with biomass estimates obtained from acoustic methods. This may be desirable to identify the most cost-effective and useful measure of herring stock abundance in Prince William Sound. However, a method for predicting or developing an index for future stock strength, based on juvenile abundance, may also come out of the herring research being carried out under the SEA project (/320). In the absence of a benchmark measure of abundance, it is not clear for how many years hydroacoustic and egg-based biomass estimates of stock should be carried out. I recommend delaying a decision on funding the hydroacoustic estimates for FY 97 until a more extensive examination can be made of the relationship between the two estimators and its value to future herring management.

Executive Director's Recommendation

Fund herring spawn deposition survey. Defer a decision on the hydroacoustics component pending further review. This project continues basic spawn deposition work on Pacific herring, which has not had a commercial opening in Prince William Sound since 1993. The PI has been responsive to reviewer concerns, and ADFG has now provided a plan to take over full support of this work after FY 98. [NOTE: FY 98 budget includes hydroacoustic component. If a decision is made to discontinue this component, the budget will be reduced accordingly.]

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97168-BAA	Restoration of Commercial Fishing Services: Social Ecology of the Herring Fishery in Prince William Sound	M. Downs/Impact Assessment, Inc.	NOAA	New 1st yr. 1 yr. project	$235.0	$235.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Commercial fishing was disrupted by the oil spill. This project addresses the restoration of that service by developing data about pre- and post-spill commercial fishing activity, focusing on the Prince William Sound herring fishery. The working hypothesis of this proposal is that restoration of commercial herring fishing services is based on socioeconomic as well as biological factors. Statistical data about the fishery will profile the pre- and post-spill patterns of fishing. Interview data with fisheries participants will describe the dynamics of the fishery and the social and economic factors that affect restoration of the herring fishery and commercial fishery services.

Chief Scientist's Recommendation

The socioeconomic impact of the collapsed herring fishery in Prince William Sound is of interest. However, the Trustee Council has chosen to restore the resources themselves as the primary means of restoring services, such as commerical fishing. Although this project's methods seem reasonably sound, the reviewers were not persuaded that a project of this depth and scope is necessary. Indeed, its primary value is to document the socioeconomic history of the herring fishery with respect to the oil spill and to aid in the evaluation of whether the service of commercial fishing is restored following restoration of the herring resource (when that happens). However, this project would do nothing to directly restore either the resource or the service. Do not fund.

Executive Director's Recommendation

Do not fund. This project would investigate factors affecting the recovery of the herring fishery, including adaptations that fishers and processors have made to the lack of a harvestable resource, but would not contribute significantly to the restoration of either the herring resource or the commercial fishery.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97248	Collection of Historical Data and Local Environmental Knowledge of Forage Fish and Herring	J. Seitz	ADFG	New 1st yr. 1 yr. project	$66.8	$40.0		**$40.0**	$0.0	$0.0	$0.0	$40.0

Abstract

Using personal interviews, surveys, and mapping, this project will collect historical and contemporary knowledge about the ecology of herring and other forage fish and map information on their distribution; create an ascii file of mapped data; and create a subject index of textual information on the ecology and life cycle of the fish by species. Data and reports will be provided to participating projects -- SEA (/320) and APEX (/163).

Chief Scientist's Recommendation

This project could contribute to the redevelopment of confidence in fish resources by subsistence users, and possibly provide information on recovery using traditional and local knowledge of pre-spill abundance. The institutional arrangements and project management responsibilities are inadequately defined, and it may be beneficial to formally link this project with other efforts attempting to develop traditional ecological knowledge. Reconsider revised proposal after assessment of all traditional ecological knowledge projects.

Executive Director's Recommendation

Defer decision on funding until Project 97352/Traditional Ecological Knowledge is underway and a determination has been made as to how the objectives of this project can best be achieved. This project is designed to address restoration objectives for herring and seabirds by contributing indigenous and local knowlege on herring and other forage fish.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
SEA and Related Projects					$4,834.8	$4,839.9	**$3,733.6**		$2,062.2	$115.0	$75.0	$5,985.8
97195	Pristane Monitoring in Mussels	J. Short/NOAA	NOAA	Cont'd 2nd yr. 5 yr. project	$115.3	$115.3	**$115.3**		$115.0	$115.0	$75.0	$420.3

Abstract

This project will continue to monitor pristane in mussels as an indirect index of potential year-class strength for pink salmon and herring and to identify critical pink salmon and herring marine habitat in Prince William Sound.

Chief Scientist's Recommendation

This is an excellent proposal that holds good promise for development of a measurement for the annual importance of copepod production in the Prince William Sound food web, and therefore in interannual variability of larval fish (Pacific herring and pink salmon) production. The investigator has a good track record in the EVOS process and the work promises to be publishable in a first line journal. Progress to date has been excellent. The cost of the work is very reasonable. Fund, but commit to five rather than six years of Trustee Council support, pending subsequent evaluations of progress.

Executive Director's Recommendation

Fund contingent on submittal of the report on Project ST8 (due 9/30/96). Collecting and measuring pristane in mussels may provide a simple measure of marine productivity, thus allowing predictions about future fisheries production and harvest levels. Project has good community involvement component, working with the participants in the Youth Area Watch (Project /210) and producing an informational brochure.

97243	Water Resources of Prince William Sound	J. Dorava/USGS	DOI	New 1st yr. 4 yr. project	$814.5	$814.5	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will provide a baseline of existing water resource conditions using an integrated hydrology, water chemistry and biological health indicators approach. This information will permit analysis of long-term trends of both water quantity and quality in order to monitor recovery of streams that may have been affected by the oil spill. Along with assessing present conditions and establishing a baseline for monitoring trends, this study will provide information needed for damage assessment and restoration.

Chief Scientist's Recommendation

While some of the results of this work might be useful for some restoration projects, much of this proposal is not directly related to EVOS objectives. The results that are related to EVOS objectives are not critical to these projects. This project is very expensive, and there are questions about sample and analytical design. Do not fund.

Executive Director's Recommendation

Do not fund. This project, which would assess the quantity and quality of freshwater discharging into Prince William Sound, is not clearly linked to restoration of an injured resource. In addition, the project is very expensive and the Chief Scientist has raised questions about its technical design.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97303-BAA	Sentinel Program for Walleye Pollock in the Greater Prince William Sound Area	G. Thomas, T. Kline/Prince William Sound Science Center	NOAA	New 1st yr. 5 yr. project	$120.5	$120.5	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will improve stock assessment information on walleye pollock in Prince William Sound. Improved stock information will reduce the risk of over-exploitation, promote sustainable harvests, and examine the possibility of setting multiple species exploitation rates as a recovery tool for injured resources. A hydroacoustic-midwater trawl survey will be conducted in the late winter to estimate the pollock biomass in locations that have been previously recognized as spawning areas. By using commercial vessels as partners to assess the biomass of spawning concentrations of fish, the people fishing will be involved in the decision-making process. Local knowledge and scanning sonars will be used to locate and map the walleye pollock stocks.

Chief Scientist's Recommendation

The personnel and institutions are well qualified, and the concept of a sentinel fishery of this nature is a good idea. Although this project is basically sound, there are a number of technical questions, such as likely difficulties in detecting among-survey differences and in comparing the efficacy of the fishery against the acoustic survey. There also is fundamental concern that basic stock assessment for pollock should be a normal agency management function and there is little connection between this project and restoration objectives identified by the Trustee Council. Do not fund.

Executive Director's Recommendation

Do not fund. This project, which would conduct population assessments of adult walleye pollock, is not clearly linked to the restoration objectives identified by the Trustee Council. In addition, the Chief Scientist raised questions about the project's technical efficacy.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97320	Sound Ecosystem Assessment (SEA)	T. Cooney, et al.	ADFG	Cont'd 4th yr. 6 yr. project	$3,613.2	$3,618.3	**$3,618.3**		$1,947.2			$5,565.5

Abstract

This project is describing mechanisms of mortality for juvenile populations of pink salmon and Pacific herring in Prince William Sound. This information is being used to create a series of dynamic numerical models and an attendant nominal monitoring program to ~ffect the restoration of these species through management ions. The mechanisms influencing the distribution and growth ~tes of juveniles are being investigated by oceanographic studies. Mechanisms of predation and starvation are being studied by fisheries scientists and marine ecologists.

Chief Scientist's Recommendation

This is an excellent program that has undergone independent and thorough technical review annually. The program should better articulate the practical benefits and applications to be derived from the research, including a schedule for production of potential management tools. Key parameters for routine monitoring of the system to determine likely productivity of pink salmon and herring need to be identified. Continued improvement of the interaction between the modelers and the field scientists is required, as is a plan to integrate the results of SEA with the work of APEX(/163) and NVP(/025). In terms of the long-range scope of the program, resolution of the major hypotheses will be necessary over the next year prior to decisions about funding after the FY 99 closeout.

Executive Director's Recommendation

Fund. Significant progress has been made to address the central SEA hypotheses. The program is now at a point when field work is transitioning to modeling and analysis. FY 98 will be the final year for most of the present SEA projects and only modest closeout funding is anticipated in FY 99 as a final synthesis year. Further herring research beyond FY 98 is uncertain and must be reevaluated in the context of other herring work and other restoration proposals. A key issue to be addressed in FY 97 is ensuring that SEA predictive models are useful to/used by resource managers. Further interaction between SEA investigators and resource managers appears needed. Clarification of any long-term data collection and monitoring to support predictive models is also critical to ensure that models can be maintained over time. On-going efforts to integrate the major ecosystem research projects (SEA, NVP and APEX) should be pursued during FY 97 and used to guide future funding decisions. In recognition of funds included in the FY 97 recommendation for additional data/modeling work ($207.0) and for PWSSC's FY 98 report writing of FY 97 results ($445.8), total SEA funding in FY 98 is projected to be $1,947.2 (including agency administrative costs).

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97322-BAA	Jellyfish as Predators and Competitors of Age-0 Fishes	T. Kline/Prince William Sound Science Center, J. Purcell/U of Maryland	NOAA	New 1st yr. 4 yr. project	$171.3	$171.3	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

At high densities, jellyfish can seriously affect populations of zooplankton and ichthyoplankton, and may be detrimental to fisheries through direct predation on the eggs and larvae of fish as well as by competition for food with fishes. This project would examine the roles of jellyfish as predators and competitors of fishes, especially Pacific herring and pink salmon, whose populations have not recovered from injury due to the oil spill. This will be accomplished by participating in ongoing SEA research cruises in Prince William Sound in which zooplankton, ichthyoplankton, and gelatinous zooplankton distributions and densities will be determined.

Chief Scientist's Recommendation

This is a good project, but there are significant questions about sample design. The importance of jellyfish as a predator on juvenile pink salmon and juvenile herring is highly speculative, and there is not sufficient evidence presented in this proposal to justify a full-scale investigation. A more limited preliminary survey might be justified, but is a lesser priority in FY 97. Do not fund.

Executive Director's Recommendation

Do not fund. The justification for investigating the role of jellyfish as a predator on juvenile pink salmon and juvenile herring is not clear. In addition, the Chief Scientist has raised questions about the project's technical design.

Sockeye Salmon					$1,390.1	$750.6	**$419.1**	**$292.6**	$0.0	$0.0	$0.0	$711.7
97048-BAA	Analysis of Historical Sockeye Salmon Growth Among Populations Affected by Overescapement in 1989	G. Ruggerone/Natural Resources Consultants, Inc.	NOAA	Cont'd 2nd yr. 1 yr. project	$31.9	$31.9	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Overescapement of sockeye salmon occurred in several areas of Alaska following the oil spill. Overescapement appears to have reduced salmon growth, leading to reduced survival in freshwater. However, the lack of information on marine survival of salmon confounds the interpretation of oil spill effects on adult sockeye returns. Research has shown that scale growth of Chignik sockeye salmon during the first and second years at sea is correlated with adult returns. This project will analyze marine growth of nine populations, including five populations affected by the oil spill, in an effort to separate freshwater and marine effects on adult returns.

Chief Scientist's Recommendation

This project is a continuation of a program that was highly rated on technical merit at its initiation and provides benefits in terms of understanding damages to sockeye salmon populations. However, this project was proposed only for a single year of funding, and any additional support should be a lower priority. Do not fund.

Executive Director's Recommendation

Do not fund. This project, which is synthesizing information on overescapement of sockeye salmon, was funded by the Trustee Council as a one-year project in FY 96. Although the project has worthwhile objectives, the funds requested for FY 97 are primarily to cover cost overruns experienced since the Trustee Council took action in FY 96 and should be covered by other funding sources.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97239	Salmon Carcasses and Juvenile Chinook Salmon Production in the Kenai River Ecosystem	D. Schmidt/ADFG	ADFG	New 1st yr. 2 yr. project	$136.8	$134.5		**$127.5**		$0.0	$0.0	$127.5

Abstract

This project will investigate the role sockeye salmon carcasses play in primary and secondary production within the Kenai River and the potential symbiotic role sockeye salmon escapements have on nutrients and secondary productivity. An ecosystem approach to restoration of this system requires examination of the role salmon carcasses play in freshwater life history of other species. Chinook salmon production may be positively influenced by nutrient additions to the Kenai River. An important feature of the Kenai River studies is to ascertain if there are significant benefits to chinook salmon juveniles with increased escapements.

Chief Scientist's Recommendation

This is an innovative proposal that would examine the sources of carbon and nitrogen for juvenile chinook salmon production in the Kenai River system. The proposal hypothesizes that the nutrients released from sockeye salmon carcasses may provide a significant source of nutrients for juvenile chinook salmon. This approach may provide insight into the importance of sockeye carcasses to the Kenai River ecosystem, but it is somewhat narrowly focused on one species. Although the project would evaluate the broad effects of large sockeye escapements, which may benefit the economically important chinook fishery, the management value of the project is not clear. Defer decision.

Executive Director's Recommendation

Defer decision on funding until December, pending re-evaluation of funding priorities in the fall. If funded, funding should be contingent on approval of a reduced budget not to exceed $127.5. This project is intended to contribute to an ecosystem-level understanding of the Kenai River system by examining the benefits of sockeye escapement to other in-river processes, for example production of chinook salmon. The results of this project potentially would aid fisheries managers in the restoration of injured sockeye stocks and in the enhancement of recreation and commercial fishing services.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97251	Akalura Lake Sockeye Salmon Restoration	C. Swanton/ADFG	ADFG	New 1st yr. 1 yr. project	$388.7	$42.0		**$42.0**	$0.0	$0.0	$0.0	$42.0

Abstract

This project will substantiate that the Akalura Lake sockeye salmon stock is naturally recovering from damage caused by the oil spill through continued increased production of sockeye salmon smolts. This will be accomplished if the size of the 1997 smolt emigration is at or above approximately 200,000 fish. Funding will be for a single year of field studies identical to what was conducted during 1996 and a report coupling previous findings (Project /258-Sockeye Overescapement) with those of the 1997 field studies.

Chief Scientist's Recommendation

This project is appropriate for sustained salmon management. However, it is not clear that the current low escapements to Akalura Lake are related to the spill. Zooplankton levels and smolt production in the lake are at good levels as is marine survival of sockeye from Kodiak Island. Fund only if sufficient funds are available.

Executive Director's Recommendation

Defer decision on funding until December, pending reevaluation of funding priorities in the fall. If funding for this work is approved, FY 97 would be the final year, inclusive of a final report.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97254	Delight and Desire Lakes Restoration	N. Dudiak/ADFG	ADFG	New 1st yr. 2 yr. project	$129.3	$123.1		**$123.1**		$0.0	$0.0	$123.1

Abstract

The project is intended to accelerate the recovery of the currently depressed wildstock sockeye salmon of Delight and Desire lakes through lake fertilization. Application of liquid fertilizer would increase the forage base for rearing sockeye salmon fry through nutrient enrichment. The expected result would be larger, more numerous sockeye smolt with a corresponding increase in marine survival rates.

Chief Scientist's Recommendation

This appears to be, in theory, a reasonable resource replacement proposal. However, there is a risk that the fertilizationm ay not work and the fish may not actually be harvestable at a time that would make them suitable replacements. Funding may be appropriate if enough questions can be answered to reduce the risk of project failure.

Executive Director's Recommendation

Defer decision on funding until December, pending reevaluation of funding priorities in the fall. If funded, the Trustee Council's role will be to fund the pre-fertilization study only (one year of funding, plus report writing costs in FY 98), with the lake fertilization phase itself to be funded from other sources. The project is designed to restore Delight and Desire lakes to their former roles in the commercial and sport fisheries in lower Cook Inlet. The lakes are located on Port Graham Corporation lands, and the project has been endorsed by the corporation.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97255-CLO	Kenai River Sockeye Salmon Restoration	L. Seeb, J. Seeb, K. Tarbox/ADFG	ADFG	Cont'd 6th yr. 6 yr. project	$193.3	$158.3	**$158.3**		$0.0	$0.0	$0.0	$158.3

Abstract

This is the close-out of a five-year project to restore Kenai River sockeye salmon through improved stock assessment capabilities and more accurate regulation of spawning levels. Results from this study are currently being used in the management and restoration of Kenai River sockeye salmon injured in the oil spill.

Chief Scientist's Recommendation

This is a technically sound proposal. However, the stock assessment and stock identification products are those which salmon harvest management programs routinely require. The Trustee Council has supported the development of the tools being applied by this project over several years on the theory that their application would be essential to harvest management of depressed and damaged salmon stocks. At this time, the risk of catastrophically low salmon runs which warrant further restoration efforts would appear extremely remote. Do not fund.

Executive Director's Recommendation

Fund project close-out (completion of data analysis and preparation of final report/manuscript). This concludes a 5-year effort to more accurately regulate spawning levels using improved sockeye salmon stock assessment capabilities. Continuation of effort should be taken over by the Alaska Department of Fish and Game as part of its normal management responsibility. The information provided by this project is being used by fisheries managers to modify fishing areas and openings in order to improve management of Kenai River and other Upper Cook Inlet sockeye salmon stocks, which were injured when escapement goals were greatly exceeded following the oil spill.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97258A-CLO	Sockeye Salmon Overescapement Project	D. Schmidt/ADFG	ADFG	Cont'd 4th yr. 4 yr. project	$289.9	$214.0	**$214.0**		$0.0	$0.0	$0.0	$214.0

Abstract

This proposal will close out the sockeye salmon overescapement work. Tasks include final report preparation, including analysis of samples collected in FY 96 for the Kenai River only. The Kenai studies will focus on evaluation of the existing data. Funding will be directed at completing the FY 96 sample analysis and evaluation of existing database. The 1996 Kodiak samples will not be processed. These studies are developing production models for restoration of the system being evaluated.

Chief Scientist's Recommendation

This project has produced much scientific evidence relevant to the evaluation of the effects of overescapement. Our ability to gain additional understanding is limited by the uncertainty of estimates achieved with state-of-the-art data acquisition technologies. Development of a production model for the Kenai River sockeye salmon that accounts for trophic interactions is not relevant to restoration objectives. Harvest management control of the system appears to be adequate in the absence of the work products identified in this proposal. The strategy for the recovery and restoration effort of the Trustee Council was to develop enhanced management capabilities for damaged resources; that goal has been achieved. Do not fund.

Executive Director's Recommendation

Fund project close-out only (analysis of FY 96 Kenai samples, and preparation of final report on Kenai and Kodiak studies) contingent on approval of a revised budget. This concludes a 3-year effort to examine the effects of sockeye overescapement in the Kenai River system and in Red and Akalura lakes on Kodiak Island. The project has met its primary objective, which was to develop enhanced management capabilities for sockeye populations injured by the oil spill.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97259-CLO	Restoration of Coghill Lake Sockeye Salmon	G. Kyle/ADFG	ADFG	Cont'd 5th yr. 5 yr. project	$220.2	$46.8	**$46.8**		$0.0	$0.0	$0.0	$46.8

Abstract

Coghill Lake has been historically the major producer of sockeye salmon in Prince William Sound and a mainstay of commercial and sport fisheries. Beginning in 1993, the Trustee Council has funded a program to fertilize Coghill Lake to increase zooplankton levels, which in turn benefits juvenile sockeye growth and survival. After three years of lake fertilization, primary and secondary productivity have increased, the smolt migrations have increased five-fold, and the escapement goal in 1995 was achieved. This does not constitute a complete recovery as the zooplankton density is lower than desired. However, sockeye production in this lake has increased to attain adequate escapement. A fifth year of lake fertilization originally envisioned and two years of post-fertiliztaion assessment will not be completed, as the Chief Scientist has recommended that this project be closed out in FY 97.

Chief Scientist's Recommendation

This program was initiated in 1993 to restore the sockeye salmon run in Coghill Lake through fertilization and supplementation. Primary and secondary productivity in the lake are now at acceptable levels; smolt production is at an acceptable level; and adult escapements within the optimum range are being produced. Restoration objectives have therefore been achieved. In addition, the harvest of high levels of returning adults (see Table 1 in project's 1995 annual report), which compromises the restoration benefits, continues to be a major concern. Do not fund.

Executive Director's Recommendation

Fund project close-out (preparation of final report). This concludes a 4-year effort to increase the productive capacity of Coghill Lake. Although the Trustee Council originally planned to fund five years of fertilization, the project has met its primary objectives -- primary and secondary productivity in Coghill Lake are at acceptable levels; smolt production is at an acceptable level; and adult escapements within the optimum range are being produced.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
Cutthroat Trout and Dolly Varden					$1,113.1	$934.2	**$266.5**		$100.0	$0.0	$0.0	$366.5
97043B-CLO	Monitoring of Cutthroat Trout and Dolly Varden Habitat Improvement Structures	D. Gillikin/USFS	USFS	Cont'd 4th yr. 4 yr. project	$24.0	$24.0	**$24.0**		$0.0	$0.0	$0.0	$24.0

Abstract

This project provides for monitoring of habitat improvement structures and their effects on cutthroat trout and Dolly Varden pulations. These structures were installed in 1995 under Project 043B. There has been concern raised that habitat structures may inadvertently increase coho salmon populations, and thereby increase competition stress on Dolly Varden and cutthroat trout populations. This monitoring will seek to address those questions and concerns.

Chief Scientist's Recommendation

FY97 funding for this project will complete this multi-year study and allow determination of the performance of habitat improvements made to restore injured fish species. Fund.

Executive Director's Recommendation

Fund project close-out. This project monitors the effectiveness of cutthroat trout and Dolly Varden habitat improvement structures installed in FY 95. The structures were monitored in FY 96 and should be monitored one additional year.

97145	Cutthroat Trout and Dolly Varden: Relation Among and Within Populations of Anadromous and Resident Forms	G. Reeves/USFS, Pacific Northwest Research Station	USFS	Cont'd 2nd yr. 3 yr. project	$229.7	$229.7	**$229.7**		$100.0	$0.0	$0.0	$329.7

Abstract

This project will determine the relation between resident and anadromous forms of Dolly Varden and cutthroat trout within the same watershed and between watersheds in Prince William Sound. It will examine genetic, meristic, and life-history features of each group in FY 96 and FY 97. Results from this study will allow development of a long term, comprehensive and ecologically sound restoration strategy for these fish.

Chief Scientist's Recommendation

This project is extremely critical for developing a restoration strategy for cutthroat trout and Dolly Varden. Several other very good proposals have been made for work on these species, but they cannot be implemented until their relationship to an overall recovery strategy is identified. Therefore, this project's contribution to the development of this strategy is important. It will be important to review results obtained after FY 96 field work and data analysis are complete. Fund.

Executive Director's Recommendation

Fund. This project defines relationships among stocks and life history forms (e.g., anadromous and resident), refines understanding of the nature and extent of oil spill injury and may confirm whether recovery has occurred. The results of this study will be used to develop a restoration strategy for cutthroat trout and Dolly Varden. This information has direct implications for management of sport fisheries in Prince William Sound and nationwide, and the USFS is providing significant support for this project.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97172	Cutthroat Trout and Dolly Varden Recovery in Prince William Sound	A. Hoffman/ADFG	ADFG	New 1st yr. 4 yr. project	$402.3	$402.3	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will evaluate recovery of stocks of cutthroat trout and Dolly Varden exposed to petrogenic hydrocarbons through estimation of growth and survival at oiled and unoiled sites in Prince William Sound. A study conducted by Hepler, et al. showed statistically significant reductions in growth at oiled sites, but did not demonstrate statistically significant differences in survival. This study will examine fewer oiled sites than Hepler and will separately address both marine and fresh water components of annual growth and survival that were not addressed in earlier studies.

Chief Scientist's Recommendation

This is a good proposal that should be reconsidered once information on the population structure of cutthroat trout and Dolly Varden has been used to devise an overall strategy for restoration of these injured species. Do not fund.

Executive Director's Recommendation

Do not fund in FY 97. Reconsider after a restoration strategy for cutthroat trout and Dolly Varden has been developed. The restoration strategy, which depends on the results of Project \145, will be developed during FY 97.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97174	Cutthroat Trout and Dolly Varden in PWS: Restoration Project Support and Coordination	A. Hoffman/ADFG	ADFG	New 1st yr. 4 yr. project	$157.5	$0.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will conduct field work to collect data required to support other Trustee Council projects and work to coordinate the development and implementation of cutthroat trout and Dolly Varden restoration strategies. Involvement and information has been requested from ADFG on previous studies on cutthroat trout and Dolly Varden funded by the Trustee Council. There is currently no mechanism for coordinating these projects or integrating the results into a management plan.

Chief Scientist's Recommendation

Strategic planning portion of this project (objective 1) would be very useful during FY 97 as plans for recovery actions for field seasons in FY 98 and beyond are formulated. Objective 2 is a good proposal that should be reconsidered once information on population structure of cutthroat trout and Dolly Varden has been used to devise an overall strategy for restoration of these injured species. Fund, but only objective 1.

Executive Director's Recommendation

Proposal withdrawn.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97242	Characteristics of the Cutthroat Trout Resources of Prince William Sound	J. Dorava & B. Black/USGS	DOI	New 1st yr. 3 yr. project	$265.4	$265.4	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

The characteristics of the cutthroat trout population and the available habitat in Prince William Sound will be investigated following the protocols of the National Water Quality Assessment (NAWQA) program. Twenty sites around the Sound will be investigated during the first year of this project as a supplement to a water resources monitoring program proposed as part one of a two-part NAWQA-style study. Additional characterization of seasonal variations in cutthroat trout populations and habitat will be investigated at five index sites in the second and third years.

Chief Scientist's Recommendation

This is a good proposal that could be reconsidered once information on population structure of cutthroat trout and Dolly Varden has been used to devise an overall strategy for restoration of these injured species. Do not fund.

Executive Director's Recommendation

Do not fund in FY 97. Reconsider after a restoration strategy for cutthroat trout and Dolly Varden has been developed. The restoration strategy, which depends on the results of Project /145, will be developed during FY 97.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97302	Prince William Sound Cutthroat Trout, Dolly Varden Char Inventory	K. Hodges/USFS	USFS	New 1st yr. 1 yr. project	$34.2	$12.8	**$12.8**		$0.0	$0.0	$0.0	$12.8

Abstract

The status of anadromous Dolly Varden char and cutthroat trout populations in Prince William Sound is not known. Consultation with local residents revealed that these species are more widespread than previously believed. This project will investigate a number of remote stream and lake systems to determine whether these species are present and their relative abundance. If these species are more widespread or abundant than previously believed, additional enhancement efforts may not be necessary. This project will also provide information for ongoing genetics studies by determining how isolated the populations are from each other and whether interbreeding is likely.

Chief Scientist's Recommendation

This project contains good ideas, but it is competing with far more sophisticated proposals to do the same type of work. The site determination phase of this proposal, if coordinated with other concerned state and federal entities, could make a valuable contribution to development of a recovery strategy during FY 97. Consider funding the other element of the project later at a reduced level.

Executive Director's Recommendation

Fund the site determination element. Local knowledge will be used to determine which streams in Prince William Sound are known to have populations of cutthroat trout and Dolly Varden. This information could be useful in developing a restoration strategy for these species. The restoration strategy, which depends on the results of Project \145, will be developed during FY 97. Reconsider the other element of the project, estimation of the relative abundance of cutthroat trout and Dolly Varden, after a restoration strategy for these species has been developed.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
Marine Mammals					$814.1	$810.6	**$654.6**	**$156.0**	$260.0	$50.0	$0.0	$1,120.6
97001	Recovery of Harbor Seals From EVOS: Condition and Health Status	M. Castellini/UAF	ADFG	Cont'd 3rd yr. 4 yr. project	$195.5	$192.0	**$192.0**			$0.0	$0.0	$192.0

Abstract

This project focuses on the health of harbor seals, a marine mammal species that is not recovering in Prince William Sound. ersonnel from the University of Alaska in cooperation with the aska Department of Fish and Game will continue and expand work with harbor seals to assess their health, blood metabolites, blubber chemistry and size in relation to their ecological and nutritional requirements. The project addresses potential health and nutritional problems that may be impeding harbor seal recovery. In FY 97, the project greatly expands collaborative work with Native hunters through the Alaska Native Harbor Seal Commission and will initiate work in FY 98 at the Alaska SeaLife Center.

Chief Scientist's Recommendation

This ongoing project is measuring the body condition and health of harbor seals in the oil spill area. Considerable progres is being made and an additional year of data in FY 97 is needed. Fund.

Executive Director's Recommendation

Fund. This project will document the body condition and nutritional status of harbor seals to help explain the decline in the Prince William Sound harbor seal population. This project complements Project /064 and will enable managers, subsistence hunters, and others to focus their concerns and efforts on the most probable sources of population decline. In FY 97, the focus of this project will shift to the health of juvenile harbor seals.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97012-BAA	Comprehensive Killer Whale Investigation in Prince William Sound	C. Matkin/North Gulf Oceanic Society	NOAA	Cont'd 5th yr. 5 yr. project	$157.5	$157.5	**$1.5**	**$156.0**				$157.5

Abstract

This project continues the monitoring of the damaged AB pod and other Prince William Sound killer whales that has occurred on a yearly basis since 1984. It provides further analysis of a GIS database on killer whales. When coupled with genetic and acoustic data, the analysis will evaluate recovery of killer whales, recognize changes in behavioral ecology, estimate killer whale predation on harbor seals, and estimate impacts of the harbor seal decline on the potential recovery of killer whales. Year round residency of killer whales will be assessed using a remote hydrophone system. Environmental contaminant levels in the blubber of specific whales will be determined and potential effects on recovery evaluated.

Chief Scientist's Recommendation

This proposal is excellent, combining well-established techniques and some innovative methods. The publication record of the principal investigator is improving. In keeping with the recommendations of the Chief Scientist in FY 96, a review of killer whale recovery is necessary before committing additional funds. Defer decision on funding until after review in fall of 1996.

Executive Director's Recommendation

Defer decision on funding all but interim amount until a review of the recovery status of killer whales has been completed (expected November 1996). Interim funds will continue the remote hydrophone monitoring effort by the residents of Chenega Bay.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97064	Monitoring, Habitat Use, and Trophic Interactions of Harbor Seals in PWS	K. Frost/ADFG	ADFG	Cont'd 3rd yr. 5 yr. project	$317.8	$317.8	**$317.8**		$150.0	$50.0	$0.0	$517.8

Abstract

This project will monitor the status of harbor seals in Prince William Sound and investigate the possible causes for the ongoing decline. Aerial surveys will be conducted to determine whether the population continues to decline, stabilizes, or increases. Seals will be satellite-tagged to describe their movements, use of haulouts, and hauling out and diving behavior. Samples of blood, blubber, whiskers, and skin will be collected to study diet, health and condition, and genetic relationships to other harbor seal populations.

Chief Scientist's Recommendation

This project continues to investigate the decline of harbor seals in the oil spill area. The research addresses the most potentially useful lines of investigation. The investigators are well qualified and the costs of the research appear reasonable. Fund.

Executive Director's Recommendation

Fund. This study explores reasons for the long-term decline in harbor seals: food limitations, disease, reproduction and killer whale predation. The results of this study will enable resource managers, subsistence users, and others to focus their efforts and concern on the most probable causes of harbor seal population decline. In FY 97, the focus of this project will shift to the survival and health of juvenile harbor seals.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97170	Isotope Ratio Studies of Marine Mammals in Prince William Sound	D. Schell/UAF Institute of Marine Science	ADFG	Cont'd 2nd yr. 3 yr. project	$143.3	$143.3	**$143.3**		$110.0	$0.0	$0.0	$253.3

Abstract

This project uses natural stable isotope ratios to assess trophic structure and food webs in Prince William Sound and contributes to the studies by ADFG personnel to determine the reasons for the decline of harbor seal populations. Through a mix of captive animal studies, comparison of isotope ratios in archived and current marine mammal tissues and their potential prey species in Prince William Sound, insight into environmental changes causing the decline may be possible. In addition, by providing analytical services for mass spectrometry the project contributes to the SEA (/320) program's effort to describe the food chains supporting commercial fishes impacted by the oil spill.

Chief Scientist's Recommendation

This is an excellent proposal that holds good promise for an independent perspective on structure of the Prince William Sound food web supporting Pacific herring, pink salmon, harbor seals, and other injured species. This work is by its nature highly integrated with many other ecological projects being conducted in the oil spill area, including the harbor seal work in Project /244. The investigator has a good track record in the EVOS process and the work promises to be publishable in top-notch journals. Progress up to now is excellent. The cost of the work is very reasonable, given the costs for commercial analyses of stable isotopes. Fund.

Executive Director's Recommendation

Fund. This project provides technical support for 97064, which may help explain why harbor seal populations have declined. The project will also assist the SEA program (/320) by describing the food chains that support important commercial fisheries in Prince William Sound.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
Nearshore Ecosystem					$3,616.8	$3,341.2	**$2,186.4**	**$115.7**	$1,753.7	$524.8	$224.4	$4,805.0
97025	Mechanisms of Impact and Potential Recovery of Nearshore Vertebrate Predators (NVP)	L. Holland-Bartels, et al/NBS-DOI	DOI	Cont'd 3rd yr. 5 yr. project	$2,044.8	$1,821.5	**$1,705.8**	**$115.7**	$1,669.4	$450.0	$0.0	$3,940.9

Abstract

The Nearshore Vertebrate Predator project (NVP) makes an integrated assessment of trophic, health, and demographic factors ross a suite of apex predators injured by the spill to determine echanisms constraining recovery and to improve knowledge of the status of recovery. Primary hypotheses are: 1) Recovery of nearshore resources injured by EVOS is limited by recruitment processes; 2) Initial and/or residual oil in benthic habitats and in or on benthic prey organisms has had a limiting effect on the recovery of benthic foraging predators; and 3) EVOS-induced changes in populations of benthic prey species have influenced the recovery of benthic foraging predators.

Chief Scientist's Recommendation

This project uses an ecosystem approach to examine recovery of injured species in the nearshore ecosystem. It was reviewed in depth at a workshop in February 1996. Requests for funding the avian copredator component should be deferred until the first-year data can be examined to determine if copredation effects are significant. In addition, funds to prepare pre-NVP sea otter publications should be contingent on acceptance by the Chief Scientist of outstanding reports from Project MM6. Budget increases over previous projections for on-going components (i.e., not including the avian copredator component) were substantial, but the project proposers have reduced these budgets. Fund.

Executive Director's Recommendation

Fund all components except avian copredator (USFS $115.7) contingent on submittal of the final report on Project 95106 (due 9-30-96). In addition, funding for preparation of sea otter publications ($10.0) is contingent on acceptance by the Chief Scientist of the oustanding reports from Project MM6. Defer decision on funding avian copredator component until FY 96 data has been examined; if funded, funding will be contingent on submittal of the final report on Project 95320Q. The researchers conducting sea otter surveys under this project should explore ways of involving local sea otter hunters in their research/monitoring efforts (see Project 97282). In general, the nearshore ecosystem, including intertidal habitat and organisms, was the area hardest hit by the oil spill. This project monitors recovery of intertidal organisms and closely linked vertebrate predators and addresses the question of whether continuing contamination is slowing recovery of vertebrate predators.

97090-CLO	Mussel Bed Restoration and Monitoring	M. Babcock/NOAA	NOAA	Cont'd 6th yr. 6 yr. project	$17.6	$10.0	**$10.0**		$0.0	$0.0	$0.0	$10.0

Abstract

This proposal is for finalizing three additional manuscripts from the four-year, comprehensive final report due September 30, 1996.

Chief Scientist's Recommendation

This is a solid proposal to publish the results of important work on oiled mussel beds. The investigator has a good record of producing results and publications. Recommend funding at $10.0.

Executive Director's Recommendation

Fund contingent on receipt of report on 95090 (due 9-30-96). This project will complete reporting/publication requirements for the five years of studies funded by the Trustee Council on the persistence of oiling in mussel beds in Prince William Sound and the Gulf of Alaska and restoration of 12 of these beds.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97157-BAA	Intertidal Monitoring Using Carbon and Oxygen Isotope Indicators of Bivalve Impact and Recovery in Nearshore Ecosystem Habitats	M. Morgenstein and D. Shettel/Geosciences Mgt., Inc.	NOAA	New 1st yr. 5 yr. project	$85.3	$85.3	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will develop a method to assess the AMS and standard 14, 13, 12C and 18, 16O isotope compositions of selected bivalve species from three different shoreline sensitivity-type environments within Prince William Sound to acquire a direct measure of the degree and duration of injury to mussels and clams. If the method developed in the first year is successful, the second to fifth years will acquire impact and recovery data on more species and in a wider area of nearshore environments including the Kenai Peninsula and Kodiak Archipelago.

Chief Scientist's Recommendation

This is an interesting idea, but one that is unproven in concept. Funding this exploratory work, even if it were to yield an historical record of the spill in the shells of bivalves, does not appear to be an investment that will pay off for the on-going restoration program. Do not fund.

Executive Director's Recommendation

Do not fund. Weak link to restoration objectives adopted by Trustee Council. In addition, Chief Scientist raised concerns about project's technical approach.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97158	Monitoring Nearshore Ecosystems in Katmai National Park, Alaska Peninsula	B. Goatcher/Katmai National Park	DOI	New 1st yr. 4 yr. project	$56.4	$56.4	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Nearshore ecosystems of the Alaska Peninsula have not recovered seven years after the oil spill. Understanding basic aspects of key nearshore species' life histories is critical to interpreting ongoing studies, assessing recovery, and prescribing further restoration activities. This proposal focuses on development of integrated monitoring protocols for several nearshore species injured by the oil spill.

Chief Scientist's Recommendation

Since we do not have solid prespill data from the Katmai coast, it is unclear how recovery can be gauged in this area. The sampling and analysis of prey could be greatly improved, and the details of a power analysis are not presented. Do not fund.

Executive Director's Recommendation

Do not fund. The primary value of this project is as an inventory and status assessment of coastal resources, and this work is largely a normal agency responsibility. In addition, because there are no prespill data from the Katmai coast, it is unclear how recovery can be measured in this area.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97161	Differentiation and Interchange of Harlequin Duck Populations Within the North Pacific	B. Goatcher/Katmai National Park	DOI	Cont'd 2nd yr. 3 yr. project	$104.4	$98.8	**$98.8**		$9.5	$0.0	$0.0	$108.3

Abstract

Restoration efforts for harlequin ducks require an assessment of spatial population structuring and movements among geographic regions to understand the extent of past and ongoing injury, to interpret measures of recovery, and to determine limitations to recovery and restoration strategies. This project will use genetic analyses and color-marking to determine the degree of spatial population structuring among harlequin ducks from broad geographic regions throughout their North Pacific molting and wintering ranges, including areas directly affected by the oil spill.

Chief Scientist's Recommendation

This is a promising attempt to determine population differentiation in harlequin ducks in the northern Gulf of Alaska using two complementary techniques (genetics and banding). I am interested in successful completion of this two-year project. Fund, but there may be need for additional guidance based on a review of FY 96 results.

Executive Director's Recommendation

Fund. This project will improve understanding of the population differentiation and movement among geographically separate groups of harlequin ducks in the northern Gulf of Alaska. This information will contribute to restoration and management goals in Prince William Sound and elsewhere in the spill area.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97181-BAA	Prince William Sound Intertidal Recovery Monitoring	J. Houghton/Pentec Environmental, Inc.	NOAA	New 1st yr. 4 yr. project	$299.4	$299.4	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

By the end of FY 96, eight years of data on the recovery of intertidal assemblages will have been collected at various beaches in Prince William Sound under an ongoing NOAA program. This program provides significant insight into the bio-physical factors affecting recovery and has documented considerable instability in community structure on hot-water washed beaches. This project will extend the sampling protocol of the NOAA program to intertidal areas sampled under the 1990-1991 Coastal Habitat Restoration Project (R102). This approach would establish the state of recovery over a broader area of Prince William Sound and increase the ability to generalize about factors affecting recovery rates and processes.

Chief Scientist's Recommendation

This project could add to our understanding of the status and processes of recovery in the intertidal area, but there is a question of whether the likely results are cost effective at a price exceeding $1.2 million over four years. In addition, the non-random design and difficulty in establishing the treatment history of the NRDA sites make interpretation of the results difficult. This project is strong on synthetic integration, but is not as rigorous as the competing proposal, 97227. Do not fund.

Executive Director's Recommendation

Do not fund. Proposal was submitted in response to Invitation and would contribute to the understanding of injury and recovery in intertidal areas. However, the Chief Scientist has technical concerns, including the difficulty in establishing the treatment history of NRDA sites. An intertidal proposal will be solicited again in the FY 98 Invitation, at which time more direction will be provided regarding the structure of the desired study.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97223-BAA	Analysis, Integration and Publication of Pre- and Post-Spill Data on Sea Otter Reproduction, Survival, Development, and Health	L. Rotterman and C. Monnett/Enhydra Research	NOAA	New 1st yr. 1 yr. project	$79.0	$43.0	**$43.0**		$0.0	$0.0	$0.0	$43.0

Abstract

This project will result in new analyses, integration, and comparison of pre- and post-spill data, and the publication of four papers needed to understand spill damage to sea otters and assess the current status of affected sea otter populations. These four papers result in a) data on the reproduction, development, and survival sea otter females, pups, and weanlings; b) generation of benchmarks against which to gauge sea otter population status relative to recovery; and c) information key to evaluating response strategies.

Chief Scientist's Recommendation

Demographic information already existing in final reports delivered by the PIs represents a potentially valuable contribution to the literature on population biology of sea otters in Alaska. Therefore, it is recommended that a modest amount of funds be provided to convert these reports into peer-reviewed publications. Funding levels should be at 1.5 months/publication for manuscripts #1, #2, #4, and #5, with progess payments made upon completion of each manuscript.

Executive Director's Recommendation

Fund data analysis and preparation of four manuscripts (Health, development, and survival of sea otter pups and weanlings; Length-mass relationships in sea otters; Survival and reproduction of female sea otters; and Age-specific reproduction of female sea otters) for publication in the peer-reviewed literature. Analysis of these data will directly aid interpretation of current studies (NVP-Project /025).

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97227	Status and Recovery of Intertidal Communities	M. Stekoll and R. Highsmith/UAF	ADFG	New 1st yr. 4 yr. project	$276.0	$276.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Two major studies involving intertidal organisms impacted by the oil spill have been carried out by the University of Alaska (Project CHIA) and by NOAA. This proposed study will investigate the current recovery status of intertidal communities impacted by the oil spill through integration and comparison analyses of these existing databases for Prince William Sound and through supplemental monitoring of selected oiled habitats in Prince William Sound, Kenai-Cook Inlet, and Kodiak-Alaska Peninsula regions.

Chief Scientist's Recommendation

This project will help document injury and recovery status in intertidal areas, which were hit hard by the oil spill. The project would set up two parallel databases of intertidal injury and recovery and assess whether these can be integrated. While this would be valuable, there is concern that this would be a risky investment without first assessing the compatibility of the data sets. In addition, the on-going NOAA Hazmat monitoring does provide insight into intertidal recovery processes in Prince William Sound. This is clearly a rigorous, well conceived project, but I cannot recommend funding at this time. Reconsider in FY 98 if costs can be reduced for assessing data compatibility between the two intertidal programs.

Executive Director's Recommendation

Do not fund. Proposal was submitted in response to Invitation and would help document injury and recovery in intertidal areas. However, the Chief Scientist has concluded that there would be questionable benefit in conducting the work as proposed. An intertidal proposal will be solicited again in the FY 98 Invitation, at which time more direction will be provided regarding the structure of the desired study .

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97233	Body Condition of Sea Otters in Prince William Sound	L. Rotterman and C. Monnett/Enhydra Research	NOAA	New 1st yr. 1 yr. project	$11.8	$11.8	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will result in acquisition of data on the body condition of sea otters in Prince William Sound, acquisition of samples to evaluate whether sea otters continue to be exposed to EVOS hydrocarbons, and acquisition of samples to evaluate sea otters' overall health. Because of pre-spill baseline information on body condition from the proposers' previous studies, body condition information will be a useful index of whether sea otters in the spill-affected area are recovering.

Chief Scientist's Recommendation

Athough the authors have extensive experience with sea otters, this proposal presents little in the way of methods to be evaluated. In addition, there apparently is considerable overlap with work on sea otter body condition in NVP (Project /025), and this proposal would rely on NVP for costs of sample analysis. Do not fund.

Executive Director's Recommendation

Do not fund. Project objectives are currently being funded under Project /025.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97240	Clam Recruitment: Investigation of Settlement Limitation and Mechanisms Related to Successful Recruitment	G. Irvine/NBS-DOI	DOI	New 1st yr. 5 yr. project	$237.9	$237.9	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project proposes, as a companion to the Nearshore Vertebrate Predator project (/025), to examine whether clams are settlement and/or recruitment limited and to determine what environmental and ecological factors promote successful recruitment. Clams are very highly preferred prey of sea otters and some sea ducks, and their recovery from the oil spill is unknown. This project also has linkages to the SEA project (/320) and should support restoration activities aimed at increasing local populations of clams for subsistence.

Chief Scientist's Recommendation

This proposal contains several good ideas, including gathering more information on the life history of little-neck clams in the spill area and linking the variability in the pelagic and nearshore ecosystems. However, the effort required in physical oceanography and understanding recruitment processes is likely to be much greater than estimated in the proposal, and critical details of the research plan are missing. A more limited proposal, closely tied to the NVP project (/025) to understand supply of juvenile clams, could be considered in FY 98. Do not fund.

Executive Director's Recommendation

Do not fund. The Chief Scientist has concerns about the project's technical design and the relationship of its objectives to the clam studies currently being funded through the Nearshore Vertebrate Predator project (/025). A more limited proposal more closely tied to /025 could be considered for FY 98.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97290	Hydrocarbon Data Analysis, Interpretation, and Database Maintenance	B. Nelson/NOAA	NOAA	Cont'd 6th yr. 11 yr. project	$77.3	$76.3	**$76.3**		$74.8	$74.8	$224.4	$450.3

Abstract

This project is a continuation of the NRDA and restoration database management, hydrocarbon interpretation and sample storage service. Subsistence, response and restoration data will continue to be incorporated into the Trustee Council hydrocarbon database. A summary report for investigators and managers will be produced along with an electronic copy of the database that will allow easier access to this information.

Chief Scientist's Recommendation

This is an essential project for overall success of the Restoration Program. Fund.

Executive Director's Recommendation

Fund. Project is on-going analysis of hydrocarbon data for other Trustee Council funded studies. This project will make these data available to the scientific community and the public, including "on-line" via the computer Internet.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97427	Harlequin Duck Recovery Monitoring	D. Rosenberg/ADFG	ADFG	Cont'd 4th yr. 4 yr. project	$254.6	$252.5	**$252.5**					$252.5

Abstract

Harlequin duck populations have not recovered from injuries sustained from the oil spill. Proposed surveys are designed to assess the extent of recovery of ducks inhabiting oiled areas and determine if low reproductive success has resulted in changes in population structure and productivity that may limit recovery. Shoreline boat surveys will be used to compare population age and sex structure, distribution, abundance, and productivity between oiled and unoiled areas in Prince William Sound in late-winter, spring, and late-summer. Changes in population size, structure, and production in oiled and unoiled areas within and between years will be compared. Continued population monitoring and brood surveys will allow us to assess trends and suggest factors limiting recovery.

Chief Scientist's Recommendation

There continues to be concern about the status of harlequin ducks, especially in regard to reproduction and survival, and this is an important project to track populations of harlequin ducks in Prince William Sound. The additional cost for winter surveys that have the potential to increase knowledge of the dynamics of different sectors of the population is a justified effort that may help explain population dynamics in western Prince William Sound.

Executive Director's Recommendation

Fund. This project continues basic assessment of the recovery status of harlequin ducks in Prince William Sound, and includes funds for soliciting traditional knowledge from local residents. In the future (FY 98 and beyond), work on harlequin ducks needs to be more tightly integrated and consolidated into one or two projects.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97429	Responses of River Otters to Oil Contamination: Controlled Study of Biological Stress Markers and Foraging Efficiency	T. Bowyer/UAF	DOI	New 1st yr. 2 yr. project	$72.3	$72.3	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project is designed to experimentally explore the effects of oil contamination on physiological and behavioral responses of river otters. Fifteen captive otters will be exposed to three levels of oil contamination under controlled conditions. Samples of blood, tissues, and feces will be collected for analysis of biomarkers and immunological and pathological examination. In addition, behavioral observations on foraging efficiency will be conducted to explore the effects of oil contamination on foraging success.

Chief Scientist's Recommendation

This is a technically good proposal to validate the use of biomarkers in river otters. It would be desirable to investigate the necessity of sacrificing animals in order to validate previous non-lethal work done in the field. The foraging efficiency portion of the work seems quite weak both methodologically and conceptually. It is likely that the Alaska SeaLife Center will not be able to accommodate this proposal until FY 98, and we invite the investigators to resubmit this proposal at that time with attention to the above comments.

Executive Director's Recommendation

Do not fund in FY 97. The Chief Scientist has raised technical questions about this project, which could help interpret contaminant-biomarker data coming from the NVP project (/025). This project should be reconsidered for possible funding in FY 98 when the Alaska SeaLife Center will be available, provided that the technical questions can be resolved.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
Seabird/Forage Fish and Related Projects					$3,655.8	$2,947.7	**$2,172.3**	**$282.3**	$1,880.0	$1,820.0	$176.4	$6,331.0
97142-BAA	Status and Ecology of Kittlitz's Murrelets in Prince William Sound	R. Day/ABR, Inc.	NOAA	Cont'd 2nd yr. 3 yr. project	$188.5	$188.5	**$188.5**			$0.0	$0.0	$188.5

Abstract

This proposal would fund a second year of investigations on the status and ecology of Kittlitz's murrelet, a rare seabird breeding in ·ciated fjords of Prince William Sound. The study would continue evaluate the abundance, distribution, habitat use, productivity, and trophic position of this little-known seabird in northwestern Prince William Sound. Given uncertainty about the effects of the oil spill on this species, a better understanding of its status and ecology is required to ensure its long-term conservation.

Chief Scientist's Recommendation

This is a continuing project gathering basic information on a species recently added to the injured species list, which is also being considered for listing under the U.S. Endangered Species Act. The proposal has been supplemented to describe the nature of correction factors to be applied to survey data and the rationale for the statistical model (paired t-test) to be used. Fund, but additional recommendations for this project may be provided after review of FY 96 results.

Executive Director's Recommendation

Fund. The project may be further modified after review of FY 96 results. This study will gather basic information on the Kittlitz's murrelet, which is a rare, poorly known seabird. According to one estimate, a substantial fraction of the world population of this species was killed in the spill. The results of this study may lead to identification of restoration measures.

97144	Common Murre Population Monitoring	D. Roseneau/DOI-FWS	DOI	Cont'd 2nd yr. 3 yr. project	$73.8	$73.8	**$73.8**		$50.0	$0.0	$0.0	$123.8

Abstract

This project continues a population monitoring study that will be conducted in 1996. Murres will be counted at Barren Islands nesting colonies during FY 96 and FY 97. An optional third year of census work at the Chiswell Islands murre colonies is also proposed to supply complementary data from another injured nesting location that will help evaluate the overall recovery status of common murres in the spill area.

Chief Scientist's Recommendation

This project would continue monitoring murre colony attendance in the Barren Islands. This is a solid, continuing project, and the researchers are very strong. This work will help bring closure to the recovery status of common murres, which were hit hard by the spill. The proposers recommend visiting the Chiswell Islands in FY 98, and I endorse this recommendation. The reviewers also attach great importance to a population trends manuscript slated for preparation in FY 98. This project complements and aids the APEX project (/163). Fund.

Executive Director's Recommendation

Fund contingent on submittal to Chief Scientist of revised report on Project 94039. This project will monitor common murre populations on the Barren Islands. Population censuses at the Barren Islands will be very helpful in terms of the APEX study (/163), as well as to track murre recovery at this critical group of colonies. Murre colonies on the Chiswell Islands should be monitored in FY 98.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97159-CLO	Surveys to Monitor Marine Bird Abundance in Prince William Sound During Winter and Summer: Report and Publication Writing	B. Agler/DOI-FWS	DOI	Cont'd 4th yr. 9 yr. project	$83.0	$45.1	**$45.1**					$45.1

Abstract

In FY 97, this project will fund report and publication writing. Data collected since 1989 will be used to examine trends by determining whether populations in the oiled zone changed at the same rate as those in the unoiled zone. Overall population trends for Prince William Sound from 1989-96 will also be examined.

Chief Scientist's Recommendation

This project is developing a valuable long-term dataset regarding recovery status of injured species, and the statistical power to detect trends in these highly variable datasets should be reached with FY 96 data. The out-year budgets seem excessive, and any future commitments must be considered annually. Fund at level of revised request.

Executive Director's Recommendation

Fund preparation of a final report (including 1 month to conduct regression analysis) and two manuscripts (# 4 and #6 in the proposal). The surveys provide basic information on the status and recovery of seabirds (and sea otters) in Prince William Sound and should now be adequate to detect trends in seabird populations. The need for future surveys should be determined after review of the final report.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97163	APEX: Alaska Predator Ecosystem Experiment in Prince William Sound and the Gulf of Alaska	D. Duffy, et al/UAA	NOAA	Cont'd 2nd yr. 6 yr. project	$2,287.8	$1,800.0	**$1,800.0**		$1,800.0	$1,800.0	$176.4	$5,576.4

Abstract

This project will compare the reproductive and foraging biologies, including diet, of seabirds in Prince William Sound with similar measurements from Cook Inlet, an area with apparently a more suitable food environment. These measurements will be compared with hydroacoustic and net samples of fish to calibrate seabird performance with fish distribution and abundance, in an effort to determine the extent to which food limits the recovery of seabirds. Fish will be sampled to determine whether competitive and predatory interactions or different responses to the environment may be favoring the abundance of one fish species over another.

Chief Scientist's Recommendation

The APEX project is an important, innovative project examining the relationship between the availability of forage fish and productivity in marine birds. The study is fundamental to the restoration strategy adopted by the Trustee Council. The PIs are highly qualified and the project has strong leadership. The cost of this project has been reduced in response to earlier concerns, and the modeling component (from Project 97253) has been included as requested. There are still several issues which need to be addressed, but these can only be considered following a review of 1996 results. These issues include the retention of the forage fish diet overlap component (subproject C). In addition, recommendations on related, new projects -- 97231/Marbled Murrelets and 97305/Stable Isotopes -- may need to be revised in light of APEX priorities following the review this fall or winter.

Executive Director's Recommendation

Fund; project incorporates the modeling effort proposed in 97253-BAA ($69.8). Funding for the field sampling component of subproject C (forage fish diet overlap) is contingent on the results of the APEX review session, scheduled for fall 1996 or winter 1997. Funding for subproject H (proximate composition of forage fish) is contingent on submittal of the report on Project 95121. Funding for subprojects J (Barren Island murres and kittiwakes) and K (fish as samplers) is contingent on submittal of the late report on Project 94039. The APEX project investigates the link between forage fish and seabird productivity. This work may yield results that will benefit the marine ecosystem in Prince William Sound and the northern Gulf of Alaska.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97167-BAA	Preparation and Curation of Seabirds Salvaged from the *Exxon Valdez* Spill	S. Rohwer/University of Washington Burke Museum	NOAA	New 1st yr. 1 yr. project	$41.0	$32.1	**$32.1**		$0.0	$0.0	$0.0	$32.1

Abstract

In 1992 the Burke Museum received emergency funds from the National Science Foundation to salvage about 1,500 of the most valuable bird carcasses from the oil spill. A year later the museum received another NSF grant to support the preparation, curation and storage of these specimens; unfortunately, that funding was not adequate to complete these tasks. This proposal seeks funds to complete the preparation and curation of the remaining birds salvaged from the spill for the Burke Museum.

Chief Scientist's Recommendation

The project will establish a biological legacy that could be very valuable to restoration studies that require a sampling of birds killed by EVOS. Potential applications of genetic and other techniques to these samples could uncover additional information about injured bird populations. If there are not enough funds to salvage all of the specimens, as many as possible should be salvaged, giving priority to a combination of carcasses that has the greatest value to the restoration program. Fund at approximately $30.0.

Executive Director's Recommendation

Fund. This project will complete the preparation, cataloging and labeling of a sample of bird carcasses from the spill. This collection has value for restoration studies, including studies under consideration in this Work Plan (e.g., Project 97169) that require a sample of birds that died in the spill. If the reduced budget is not sufficient to salvage all of the carcasses, as many as possible will be salvaged giving priority to those with the greatest value to the restoration program. If these carcasses are destroyed, there will be an irretrievable loss of materials to aid restoration studies.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97169-BAA	A Genetic Study to Aid in Restoration of Murres, Guillemots, and Murrelets to the Gulf of Alaska	V. Friesen/Queen's University, J. Piatt/DOI-FWS	NOAA	New 1st yr. 4 yr. project	$153.0	$67.3	**$67.3**					$67.3

Abstract

Populations of common murres, pigeon guillemots, and marbled and Kittlitz's murrelets from the Gulf of Alaska are failing to recover from the oil spill. This project will use state-of-the-art genetic techniques to aid in their restoration by 1) determining the geographic limits and structure of populations, i.e., the extent to which colonies are genetically isolated or comprise metapopulations, 2) detecting cryptic species and subspecies, 3) identifying sources and sinks, 4) providing genetic markers for the identification of breeding populations of birds killed by the spill, 5) identifying appropriate reference or control sites for monitoring or reintroductions, and 6) determining the role of inbreeding and small effective population sizes in restricting recovery.

Chief Scientist's Recommendation

The Trustee Council is interested in application of genetic techniques to questions about seabird biology. This project has been revised in response to peer review comments with regard to narrowing the objectives, clarifying use of various genetic methods, and reducing travel costs. This project is now recommended for funding.

Executive Director's Recommendation

Defer decision until December, pending reevaluation of funding priorities in the fall. The Invitation encouraged proposals on the genetics of common murres, marbled murrelets, and pigeon guillemots in order to better understand the relationship between different populations of these species. This proposal was responsive to the Invitation and the PIs have responded to concerns about the objectives and methodologies of the study.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97182-BAA	Phenology of Kittlitz's Murrelets in Prince William Sound	R. Burns and L. Prestash/Pelagic Environmental Services	NOAA	New 1st yr. 1 yr. project	$247.0	$247.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Kittlitz's murrelets will be captured and radio tagged from June through August, 1997 in Prince William Sound. Radio tracking individual murrelets during the breeding season will identify the relationship between the murrelets' nesting and foraging habitats. Radio tracking after the breeding season will determine murrelet dispersal patterns out of Prince William Sound. Spatial data obtained through radio tracking will be analyzed using GIS.

Chief Scientist's Recommendation

The investigators have pioneered work on the capture and radio-tagging of murrelets. As a stand-alone effort, however, this project is not strong. It could be a useful complement to Project 97142, the core project on Kittlitz's murrelets, but this new work is not a priority at this time. Do not fund.

Executive Director's Recommendation

Do not fund. Complete Project \142 and develop a restoration strategy for Kittlitz's murrelets before considering new proposals to study this species.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97224	Forage Fish Assessment of the Cook Inlet, Shelikof Strait, and Gulf of Alaska Oil and Gas Development Assessment Areas	V. Elliott/DOI-MMS, A. Bennett/DOI-NPS	DOI	New 1st yr. 3 yr. project	$110.0	$110.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will provide a means for collecting and collating information on the abundance, density, distribution and stock/population status of forage fishes in the nearshore areas of western Gulf of Alaska, Shelikof Strait and Cook Inlet adjacent to National Park Service areas. Additional inventory and monitoring of forage fish biomass and quality will be done to establish a trend index for ecological change and provide a baseline. Subsequent long-term monitoring could enable the differentiation between natural fluctuations of forage fish biomass and nutrient quality and large or abrupt changes that may occur from local human disturbances, such as oil spills.

Chief Scientist's Recommendation

The purpose and technical approach of this proposal are vague, with no apparent linkage to identified restoration objectives. It is unlikely that this project would provide useful information to the Trustee Council. Do not fund.

Executive Director's Recommendation

Do not fund. This project would contribute little to achieving restoration objectives.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97231	Marbled Murrelet Productivity Relative to Forage Fish Availability and Environmental Parameters	K. Kuletz/FWS	DOI	New 1st yr. 4 yr. project	$217.7	$180.0		**$180.0**				$180.0

Abstract

This project investigates the hypothesis that forage fish abundance is limiting marbled murrelet reproductive success and thus recovery. It compares forage fish abundance, as determined by APEX (/163) and SEA (/320) studies, to an index of murrelet productivity. Intra- and inter-annual comparisons will be made among six sites in Prince William Sound and between the Sound and Kachemak Bay. Data on terrestrial and marine habitat use will be integrated to make a descriptive model of adult and juvenile murrelet distribution. Historical data will be examined for changes in the present distribution of murrelets indicative of ecosystem-level changes.

Chief Scientist's Recommendation

This project investigates the hypothesis that forage fish abundance is limiting marbled murrelet reproductive success and recovery. This work would complement the APEX project (/163) and is important in its own right, given the EVOS injury to murrelets. This is a good project from a solid investigator, but I am uncertain whether there is need for a four-year project. The PI has reduced the cost of the project. Defer decision on funding pending review of APEX and priorities.

Executive Director's Recommendation

Defer decision on funding this project until incorporation of the project into the APEX project (/163) is explored. This project would investigate the link between forage fish and marbled murrelet productivity and thereby help explain why the population is not recovering. The proposal is responsive to the Invitation, which encouraged proposals that would integrate marbled murrelet field work with the APEX project. If Project 97231 is funded as a separate project, the funding level should not exceed $180.0 in FY 97, $180.0 in FY 98, and $50.0 in FY 99.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97235	Sand Lance Literature Review and Synthesis	B. Nelson and S. Rice/NOAA	NOAA	New 1st yr. 1 yr. project	$42.3	$42.3	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

The SEA (/320) , APEX (/163) and NVP (/025) programs are predicated on understanding how the Prince William Sound ecosystem functions. Sand lance have been identified as an important prey item in the nearshore environment, but these programs have not focused on the abundance and distribution of this species. This proposal would summarize the existing literature on sand lance into a comprehensive review and identify datasets which may contain information on sand lance distribution and abundance in the spill area. An electronic annotated bibliography will be produced.

Chief Scientist's Recommendation

This is a reasonably good proposal for documenting the biology of the sand lance in the northern Gulf of Alaska. However, there are several competing proposals that could incorporate a thorough literature review on a more cost effective basis. The TEK component is also addressed elsewhere. Do not fund.

Executive Director's Recommendation

Do not fund. Project 97306 proposes a more cost effective study of sand lance.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97253-BAA	Factors that Limit Seabird Recovery in the EVOS Study Area: A Modeling Approach	D. Ainley/H.T. Harvey & Associates, R. Ford/Ecological Consulting, Inc.	DOI	New 1st yr. 1 yr. project	$93.8	$93.8	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will use models to assess ways in which food supply could be affecting recovery of seabirds in the EVOS study area. Models of foraging effort and success as it relates to breeding productivity will be developed. Results will test the degree to which food limitation is affecting recovery, indicate the mechanisms by which this could come about, and identify the scale at which interactions are occurring between food availability and the colonies being studied by APEX (Project /163). Moreover, results should help to "aim" the APEX research effort so that sufficient data are collected to fulfill the overriding APEX objective: to understand the ways in which food supply is limiting seabird recovery.

Chief Scientist's Recommendation

This technically sound proposal would augment the APEX project (/163) by creating a model to integrate the observations of APEX investigators and develop predictions that can be tested. Investigators are highly qualified, although labor costs are high. This proposal should only go forward as a portion of the APEX program, and at least some funds have already been made available in APEX budget for this purpose. Do not fund as separate project, but fold into APEX (subject to concurrence of APEX leadership and proposers).

Executive Director's Recommendation

Do not fund as a separate project. This project has been incorporated into the APEX project (/163).

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97305	Monitoring Response of Seabirds to Changing Prey Availability Using Stable Isotope Analysis	J. Piatt/DOI-NBS	DOI	New 1st yr. 4 yr. project	$90.1	$35.0		**$35.0**				$35.0

Abstract

A key component of the ecosystem-level study (APEX-/163) designed to evaluate the response of seabirds to fluctuations in forage fish density following the oil spill is the accurate evaluation of seabird diet through time. Recent advances in the use of naturally occurring stale isotopes of carbon and nitrogen to trace food webs can be applied to seabird communities. This technique will allow trophic dynamics and location of feeding to be traced in association with intra- and inter-seasonal changes in seabird prey. Moreover, the measurement of several tissues of seabirds, including those of their eggs, will be used to establish diet of birds integrated over various time periods.

Chief Scientist's Recommendation

Stable isotope measurement of seabird tissues could contribute much to our understanding of declines of seabird populations relative to food sources. It is recommended that samples gathered in the APEX program in 1995 and 1996 be initially analyzed under Project /170. The intepretation of these data will provide a basis for future work in this area.

Executive Director's Recommendation

Defer decision on funding this project. Review whether samples gathered in the APEX project (/163) are being analyzed under Project 97170 using stable isotope analysis. Consider in context of overall APEX priorities following completion of FY 96 field season.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97306	Ecology and Demographics of Pacific Sand Lance in Lower Cook Inlet	J. Piatt/DOI-NBS	DOI	New 1st yr. 3 yr. project	$27.8	$32.8	**$32.8**		$30.0	$20.0	$0.0	$82.8

Abstract

The purpose of this project is to characterize the basic ecology, distribution and demographics of sand lance in lower Cook Inlet. Recent declines of upper trophic level species in the Gulf of Alaska have been linked to decreasing availability of forage fish. Sand lance is the most important forage fish in most nearshore areas of the northern Gulf. Despite its importance to fish, seabirds, and marine mammals, little is known or published on the basic biology of this key prey species.

Chief Scientist's Recommendation

This is a novel and exceptionally useful contribution to understanding of a forage fish species that is very important to injured resources and the marine ecosystem. The project relies on a graduate student under good supervision and is very cost effective. Fund, including a literature review on sand lance biology.

Executive Director's Recommendation

Fund. This project would study sand lance, an important forage fish in the northern Gulf of Alaska. Sand lance populations have been in decline in recent years and should be studied in order to understand marine ecosystems as they may affect injured seabirds and marine mammals.

Archaeological Resources					$633.2	$549.7	**$231.2**	**$318.5**	$201.3	$158.9	$415.0	$1,324.9
97007A	Archaeological Index Site Monitoring	D. Reger/ADNR	ADNR	Cont'd 3rd yr. 8 yr. project	$192.2	$145.0	**$145.0**		$135.0	$145.0	$415.0	$840.0

Abstract

Monitoring of archaeological sites on public land injured by vandalism and oiling will concentrate on a sample of index sites in the three regions of the spill. Oiled sites will be tested for reintroduced oil. The project will end in FY 99 if monitoring shows no continued injury.

Chief Scientist's Recommendation

Conceptually, this is a good project that continues to address "recovery" at injured archaeological sites. This project should be funded as now proposed.

Executive Director's Recommendation

Fund continuation of index site monitoring program, which provides for monitoring of archaeological sites injured by vandalism and oiling. The original proposal also included monitoring an additional four sites on Kodiak and Shuyak islands newly acquired through the Trustee Council's habitat protection program. This concept has merit, but warrants further deliberation.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97007B-CLO	Site Specific Archaeological Restoration	L. Yarborough/USFS	USFS	Cont'd 3rd yr. 3 yr. project	$27.2	$19.9	**$19.9**		$0.0	$0.0	$0.0	$19.9

Abstract

This project will provide funding for an additional phase of the Forest Service's archaeological restoration at sites SEW-440 and SEW-488. The final report on the restoration project having been completed in FY 96, this phase of the project will complete ·resentation of the results to the professional and general public. e Principal Investigator will disseminate the findings of the ·xcavations of SEW-440 and SEW-488 through a peer-reviewed journal article and presentations of results at a major professional conference and to community groups.

Chief Scientist's Recommendation

This is an on-going and successful project to assess and extract information from archaelogical sites. This project deserves continued support. Fund.

Executive Director's Recommendation

Fund contingent on receipt of the final report for Project 95007B (due 8-31-96). This project will disseminate the findings of the excavations of SEW-440 and SEW-488 through a peer-reviewed journal article and presentations of results at a major professional conference and to community groups. These excavations provided significant insights into early occupants of Prince William Sound.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97149	Archaeological Site Stewardship	D. Reger/ADNR	ADNR	Cont'd 2nd yr. 4 yr. project	$95.3	$66.3	**$66.3**		$66.3	$13.9	$0.0	$146.5

Abstract

The archaeological site stewardship program will provide training and coordination for a cadre of volunteers to monitor vandalized sites in the oil spill area beyond the ability of agency monitoring. Volunteer site stewards will protect damaged sites on the Kenai Peninsula, Kachemak Bay, Uganik Bay, Uyak Bay and the Chignik area of the Alaska Peninsula. Further protection will come from increased local awareness of harm from site vandalism.

Chief Scientist's Recommendation

Vandalism of archaeological sites was a serious concern in the aftermath of the oil spill. Long-term protection and restoration of injured sites will be most successful if undertaken by local people. This successful project is testing and fostering this approach, and it should be continued. Fund.

Executive Director's Recommendation

Fund. This is a pilot project that provides training and coordination for volunteers to monitor vandalized archaeological sites in the oil spill area. This effort is currently beyond the ability of normal agency monitoring. After FY 98, expenses will be assumed either by volunteer stewards or agency budgets, except for a small amount of closeout funds in FY 99.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97277	Archaeological Repository and Cultural Facility in Chenega Bay	C. Totemoff/Chenega Corporation	USFS	New 1st yr. 3 yr. project	$318.5	$318.5		**$318.5**				$318.5

Abstract

This project will fund an archaeological repository in Chenega Bay. Additional programming under the project will include stewardship of the facility, preservation and curation of artifacts, and educational/cultural programs. During 1997, the work planned for the period includes site control, architectural and engineering final proposals, and program development (in league with Chugach Heritage Foundation), as well as artifact and site inventorying, cataloging, and collecting. Completion of the operations and maintenance plan is also expected during this phase.

Chief Scientist's Recommendation

Although this project would contribute to archaeological restoration objectives with respect to Chenega Bay, there are major long-term issues to be resolved in regard to operation of the facility. This raises both financial and policy questions, which must be addressed by others. Based on this limited proposal and the unresolved long-term issues, I cannot recommend funding at this time.

Executive Director's Recommendation

Defer decision on funding until after completion of the comprehensive community plan for archaeological restoration (96154). If the Trustee Council subsequently issues an invitation for local heritage preservation projects (see p. 42 of the Invitation), submission of a more detailed proposal will be invited through a process separate from the FY 97 work plan process.

Subsistence					$6,386.3	$4,547.0	**$1,352.2**	**$204.6**	$1,175.1	$349.0	$825.0	$3,905.9
97009D-CLO	Survey of Octopuses in Intertidal Habitats	D. Scheel/Prince William Sound Science Center	USFS	Cont'd 3rd yr. 3 yr. project	$53.3	$48.0	**$48.0**		$0.0	$0.0	$0.0	$48.0

Abstract

This project addresses concerns that octopus and chiton have been depleted by EVOS and that subsistence uses are impaired. In this proposal, close-out costs are requested for FY 97, the third year of the project. The first year (FY 95) was to establish the feasibility of working with octopus in Prince William Sound, identify suitable study sites, and evaluate techniques. The second year (FY 96) is focusing on the factors in nearshore habitats that are important to octopus, and on the turnover rates of octopus in those habitats.

Chief Scientist's Recommendation

This is a good project to analyze and report data on a two-year study of octopus in PWS. It has addressed the concerns of local people about the abundance of octopus and chitons and has identified octopus habitat in Prince William Sound. Fund.

Executive Director's Recommendation

Fund. This project provides close-out funds for a two-year survey of octopus designed to address the concern that octopus stocks were depleted by the oil spill and that subsistence use of this resource is impaired. Funding is including for providing study results to communities who participated in the study.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97052	Community Involvement	P. Brown/Chugach Regional Resources Commission	ADFG	Cont'd 3rd yr. 8 yr. project	$378.8	$248.4	**$248.4**		$250.0	$250.0	$750.0	$1,498.4

Abstract

This project will increase community involvement in the restoration process. The Spill Area-Wide Coordinator 's work will continue through a contract with the Chugach Regional Resources Commission (CRRC). Through direct communication with a network of local facilitators, the Spill Area-Wide Coordinator will continue to actively involve local residents in the restoration program, particularly ongoing scientific studies.

Chief Scientist's Recommendation

This is a key program for fostering participation of local residents of the oil spill area in the EVOS restoration program. The program is successfully organized and functioning and needs to turn its attention to concrete achievements in FY 97. Fund.

Executive Director's Recommendation

Fund, including addition of a community facilitator in Seldovia and additional travel for community facilitators to EVOS workshops. The proposal has been revised to eliminate funding of a computer network (a decision on this should be deferred until the communities and their regional organizations -- in particular, Chugach Regional Resources Commission, Chugach Heritage Foundation, Kodiak Area Native Association, and Kodiak Island Borough -- come forward with a collaborative plan to establish a network, train communities to use the network, and provide for maintenance and other operational costs of the network). In addition, the traditional knowledge component of the project is now included in Project 97352/TEK. Project 97052 continues a program to facilitate communication and interaction among the Trustee Council, scientists, and residents of communities impacted by the oil spill.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97127	Tatitlek Coho Salmon Release	G. Kompkoff/Tatitlek IRA Council	ADFG	Cont'd 3rd yr. 5 yr. project	$12.0	$11.1	**$11.1**		$12.0	$12.0	$0.0	$35.1

Abstract

This project will create a coho salmon return to Boulder Bay near Tatitlek village. Enough coho eggs to produce 50,000 smolt will be collected from an ADFG approved stream, incubated and reared to smolt at the Solomon Gulch Hatchery, transported, and held for two weeks in net pens in Boulder Bay before release. Release will produce a 2,000 to 3,000 adult return to Boulder Bay for harvest in a subsistence fishery.

Chief Scientist's Recommendation

This is a good replacement resource project. Fund.

Executive Director's Recommendation

Fund. Fund through FY 99 (one coho life cycle). Project will create a coho salmon run near Tatitlek as a replacement resource for subsistence resources injured by the oil spill.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97131	Chugach Native Region Clam Restoration	D. Daisy/Chugach Regional Resources Commission	ADFG	Cont'd 3rd yr. 5 yr. project	$401.4	$365.0	**$365.0**		$365.0			$730.0

Abstract

This project's objective is to establish safe, easily accessible subsistence clam populations near Native villages in the oil spill region. The Qutekcak hatchery in Seward will annually provide about 800,000 juvenile littleneck clams and cockles. Historical information, local and agency expertise, and research will be used to identify areas to seed and what method to use. Total seeded area during the project will not exceed five hectares. Development work will be confined to areas near the Native villages of Eyak, Tatitlek, Nanwalek, and Port Graham.

Chief Scientist's Recommendation

FY 1997 is the third year of a 5-year project. The proposers have shown that they can spawn and grow little-neck clams in a nursery environment. There are substantial concerns about the grow-out phase of the project, but the proposers have been responsive to these concerns. Fund.

Executive Director's Recommendation

Fund. This project is intended to establish subsistence clam populations as replacement for subsistence resources injured by the oil spill.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97156	EVOS Restoration Public Access & Education Program	H. Tomingas/Ocean Explorers	ADFG	New 1st yr. 6 yr. project	$267.5	$267.5	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will provide funds for traditional knowledge holders, educators, coastal community representatives, and the like to be aboard research vessels contracted for use on EVOS projects.

Chief Scientist's Recommendation

It is not possible to determine if this project is feasible or will contribute to recovery objectives. High costs are not justified, and no presentation of the proposer's TEK qualifications or experience is made. Do not fund.

Executive Director's Recommendation

Do not fund. In general, this project would pay for community members to be transported to and stay aboard research vessels under contract to EVOS projects. Such participation of spill-area residents in ongoing research projects should be coordinated with individual EVOS principal investigators and the Community Involvement Coordinator (Project /052).

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97210	Youth Area Watch	R. Sampson/Chugach School District	ADFG	Cont'd 2nd yr. 3 yr. project	$203.4	$150.0	**$150.0**		$150.0			$300.0

Abstract

This project links students within the oil spill impacted area with research and monitoring projects funded through the Trustee Council. The goal is to involve students in the restoration process and give them the skills to participate in restoration activities now and in the years to come. Youth conduct activities identified by principal investigators who have indicated interest in working with students.

Chief Scientist's Recommendation

The Youth Area Watch is an outstanding project for fostering community participation in the EVOS restoration program. The proposal is well thought out and sufficient detail is present to see that this will likely be a successful project. Fund.

Executive Director's Recommendation

Fund, including expansion of program to Whittier, Seward, Valdez, and Cordova. This project is designed to involve local youth in ongoing restoration projects.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97214-CLO	Documentary on Subsistence Harbor Seal Hunting in PWS	B. Simeone/ADFG	ADFG	Cont'd 2nd yr. 2 yr. project	$12.1	$12.1	**$12.1**		$0.0	$0.0	$0.0	$12.1

Abstract

This is a close-out of a project begun in FY 96. The video will document all facets of harbor seal hunting, including the ecological and biological knowledge hunters use to hunt seals. In FY 96, Taylor Productions of Anchorage was awarded the contract to produce the documentary, which will be completed by February 97. Funds requested for FY 97 will supplement a subcontract with Tatitlek to support village participation in the project and one month of ADFG staff time to assist with review of the project and final report completion. Funds will also support participation by Tatitlek residents in a public screening in Anchorage of the completed documentary.

Chief Scientist's Recommendation

These funds are for close-out of a project to document subsistence use of harbor seals. This promises to be a very successful video that will have great educational value. It will be popular among the rural residents of Alaska, and will contribute to the restoration of subsistence services. With these funds, the principal investigators should make sure that the video receives extensive distribution.

Executive Director's Recommendation

Fund. This project is designed to contribute to the restoration of harbor seals and subsistence uses by transmitting local knowledge and observations about harbor seals to the scientific community.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97220	Eastern PWS Wildstock Salmon Habitat Restoration	D. Schmid/USFS	USFS	Cont'd 2nd yr. 3 yr. project	$118.0	$115.0	**$115.0**		$12.0	$0.0	$0.0	$127.0

Abstract

This project will replace lost subsistence services resulting from the oil spill by increasing wild salmon production in eastern Prince William Sound. Instream fisheries habitat improvement techniques, primarily the installation of log structures, will be employed by local subsistence users to increase the capability of selected streams to produce additional salmon. The project is being developed and implemented cooperatively by the Native Village of Eyak and the USFS.

Chief Scientist's Recommendation

This is a continuation of an ongoing project to provide replacement subsistence fish resources. Fund.

Executive Director's Recommendation

Fund continuation of work on Eyak-area streams. A separate proposal to enhance streams near Tatitlek may be considered in FY 98. This project is designed to replace subsistence services lost due to the oil spill by increasing wild salmon production in Prince William Sound.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97222	Chenega Bay Salmon Habitat Enhancement (Stream 667 Fish Pass)	D. Gillikin/USFS	USFS	Cont'd 2nd yr. 3 yr. project	$78.8	$0.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project seeks to help the recovery of subsistence in Chenega Bay by installing a fish pass in Stream 667 (known also as Anderson Creek). This creek flows through the community of Chenega Bay but is inaccessible to salmon because of a waterfall just above the upper intertidal zone. Installation of a fish pass at the waterfall will allow chum and coho salmon access to spawning and rearing habitats in the creek and will increase the number of salmon available for subsistence use.

Chief Scientist's Recommendation

The feasibility study has reported that Anderson Creek now flows through a garbage dump. This situation can be changed by rerouting the stream. Until such time, do not fund.

Executive Director's Recommendation

Do not fund. The investigation of feasibility conducted by the USFS in July 1996 resulted in the discovery of serious hazardous material contamination within Anderson Creek. The USFS cannot participate with instream activities until the stream contaminants are properly cleaned up and the stream certified as safe. There is additional concern of direct contamination to the fish within the stream.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97225	Port Graham Pink Salmon Subsistence Project	E. Anahonak, Port Graham IRA Council	ADFG	Cont'd 2nd yr. 5 yr. project	$80.4	$74.4	**$74.4**		$75.0	$75.0	$75.0	$299.4

Abstract

This project will provide pink salmon for subsistence use in the Port Graham area while maintaining the Port Graham hatchery's broodstock development schedule. Because local runs of coho and sockeye salmon, the more traditional salmon subsistence resource, are at low levels, pink salmon are being heavily relied on for subsistence. The project will supplement ADFG monitoring of the Port Graham hatchery's pink salmon return, and will enhance the juvenile-to-adult survival of hatchery-produced pink salmon through an extended rearing program.

Chief Scientist's Recommendation

This proposal will generate replacement pink salmon subsistence resources. This version is much improved over the previous proposal (FY 96), as close attention to the reviewer's comments has produced a well thought out proposal with very good probability of success. Fund.

Executive Director's Recommendation

Fund. Project is intended to increase the availability of pink salmon for subsistence use, replacing runs of coho and sockeye salmon depleted since the oil spill.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97244	Community-Based Harbor Seal Management and Biological Sampling	M. Reidel/Alaska Native Harbor Seal Commission	ADFG	Cont'd 2nd yr. 3 yr. project	$155.7	$114.9	**$114.9**		$85.0	$0.0	$0.0	$199.9

Abstract

This project will expand the biological sample collection program funded by the Trustee Council in FY 96 in Prince William Sound and lower Cook Inlet to two Kodiak Island communities and Valdez. Village-based technicians will be selected by the Alaska Native Harbor Seal Commission (ANHSC) and trained to collect samples and transport the samples for analysis. The traditional knowledge database distributed in FY 96 will be updated and produced on CD-ROM. Maps depicting harbor seal subsistence harvest areas will be prepared. The ANHSC will organize a workshop and produce and distribute a newsletter.

Chief Scientist's Recommendation

The technical approach for this project is very clear; it seems feasible, and makes excellent use of local residents' talents that have been historically underutilized. Good collaboration with Youth Area Watch project (/210). Proposers need to follow through on plan to find non-Trustee Council funding. Fund.

Executive Director's Recommendation

Fund. This pilot project will serve as a prototype for a long-term sampling program that will involve Native hunters in the management of harbor seals. In the near term, this project will enable Native hunters to provide harbor seal samples for projects 97001, 97064, and 97170, which seek to explain why harbor seals are not recovering. In FY 97, the biosampling program will be expanded to include Valdez and two sites in Kodiak.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97245-BAA	Community-Based Harbor Seal Research	M. Reidel/Alaska Native Harbor Seal Commission	ADFG	New 1st yr. 4 yr. project	$274.3	$274.3	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will aid restoration of harbor seals and subsistence by developing fundamental data sets needed to (1) evaluate factors affecting the harbor seal decline and (2) strengthen monitoring of subsistence takes. This project involves the knowledge and expertise of subsistence users and other community members to survey seasonal changes in harbor seal distribution during the fall-winter-spring, develop detailed annotated harbor seal distribution maps, and work with the Community Involvement project (/052) to record observations of local marine occurrences and summarize observations in regional newsletters.

Chief Scientist's Recommendation

This project addresses significant community concerns about what is happening to the harbor seal population in the spill area. It proposes to train and use local residents in surveying harbors seals, particularly in the winter months. The level of experience of the investigators is good, and the proposed collaboration with local residents is desirable. However, this proposal does not address the extensive existing database and how these data would be utilized. It is not explicitly stated how the results of this project will augment the understanding of seal declines or aid in their recovery. Do not fund, but consider revision in FY 98 after overall assessment of harbor seal program.

Executive Director's Recommendation

Do not fund in FY 97. Reconsider this proposal in FY 98 after the assessment of the recovery status of harbor seals and continuing research needs.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97247	Kametolook River Coho Salmon Subsistence Project	J. McCullough & L. Scarborough/ADFG	ADFG	New 1st yr. 7 yr. project	$46.2	$46.2		**$18.9**				$18.9

Abstract

This project is a continuation of a project funded in 1996 through the EVOS criminal settlement. The 1996 work is an assessment of what method would be best suited to restore the Kametolook River's coho run to historic levels. This project will provide funding through FY 2002 for ADFG to try conservative and safe enhancement methods. Instream incubation boxes and habitat improvements for spawning and rearing habitat will be evaluated.

Chief Scientist's Recommendation

This proposal does not have a proper technical foundation in relation to EVOS supplementation policy and ADFG genetics policy and needs additional planning.

Executive Director's Recommendation

Defer decision on funding until evaluation phase of project, which was funded through the state's criminal settlement with Exxon Corporation, is complete. Future funding of implementation phase of project would be contingent on approval of (1) a revised Detailed Project Description that addresses technical concerns raised by the Chief Scientist and (2) a reduced budget (this same proposal was also submitted to the criminal settlement fund, and the cost identified was $18.9). This project is designed to enhance a coho salmon run near Perryville as a replacement for subsistence resources injured by the oil spill.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97256A	Sockeye Salmon Stocking at Columbia Lake	D. Gillikin/USFS	USFS	Cont'd 2nd yr. 7 yr. project	$34.4	$34.4		**$34.4**				$34.4

Abstract

This project is designed to benefit subsistence users of northern Prince William Sound by stocking sockeye salmon in Columbia Lake. The lake is a predominantly clearwater lake that has recently become accessible to anadromous fish as Columbia Glacier has retreated. There are two phases to this project. The feasibility phase of the project (FY 96 and FY 97) will determine the ability of Columbia Lake to support a resident population of sockeye salmon. Phase 2 of the project will be to stock the lake with sockeye salmon. If the project is found to be feasible, stocking of the lake could begin in 1999. The stocking program will take five years to establish a self-sustaining run.

Chief Scientist's Recommendation

This project is relatively inexpensive, although potentially substantial out-year costs are not identified. If habitat is suitable, sockeye will colonize the lakes anyway. Defer until review of the feasibility report from Project 96256A.

Executive Director's Recommendation

Defer decision on funding until feasibility work being conducted in FY 96 (the ability of the lake to support a sockeye salmon population) is evaluated and out-year costs are identified. If feasible, this project could provide sockeye salmon as a replacement for subsistence and sport fishing resources injured by the oil spill, particularly for the residents of Tatitlek and Valdez.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97256B	Sockeye Salmon Stocking at Solf Lake	D. Gillikin/USFS	USFS	Cont'd 2nd yr. 7 yr. project	$16.8	$16.8		**$16.8**				$16.8

Abstract

This project is designed to benefit subsistence users of Prince William Sound and especially residents of Chenega Bay. Habitat improvements were made in 1978, 1980 and 1981 to provide access to Solf Lake for anadromous fish. Investigations suggest that the lake is fishless and has adequate zooplankton biomass to support a salmon population. There are two phases to this project. The feasibility phase (FY 96) will verify the ability of Solf Lake to support a population of sockeye salmon. Phase 2 will stock the lake with sockeye salmon and ensure adequate anadromous access to the lake. If the project is found to be feasible, stocking of the lake could begin in 1998.

Chief Scientist's Recommendation

Defer until review of the feasibility report from Project 96256B.

Executive Director's Recommendation

Defer decision on funding until feasibility work being conducted in FY 96 (the ability of the lake to support a sockeye salmon population and what type of habitat improvements might be necessary to ensure salmon have access to the lake) is evaluated and out-year costs are identified. If feasible, this project could provide sockeye salmon as a replacement for subsistence and sport fishing resources injured by the oil spill, particularly for the residents of Chenega Bay.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97261	Port Graham Landowners Resource Ethic and Stewardship Subsistence Enhancement	W. Meganack, Jr./Port Graham Village Council	ADFG	New 1st yr. 3 yr. project	$443.6	$443.6	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

The Port Graham Village Council will serve as a leader to develop a cooperative land ethic and resource stewardship plan for the 36 parcels of private land (native allotments) and village council lands that total 5,300 acres, as well as for Seldovia Native Association, state, and Port Graham Corporation lands and the land within the Port Graham village itself. This plan will be designed to protect and enhance the subsistence resources that will substitute for the subsistence resources lost and damaged due to the oil spill.

Chief Scientist's Recommendation

This proposal puts forth an important idea that has the potential to make a positive contribution to subsistence resources. However, the proposal is vague with few concrete or measurable objectives and an inadequate presentation of methods. In addition, the proposal has not made an adequate link to restoration program objectives, and lacks adequate justification for proposed costs. Do not fund.

Executive Director's Recommendation

Do not fund. The link to restoration is weak and the high cost is not justified.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97262	Shoreline Inventory, and Protection and Enhancement of Shorelines on PGC Lands	W. Meganack, Jr./Port Graham Corporation	ADFG	New 1st yr. 3 yr. project	$595.7	$595.7	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will inventory and assess all shorelines on Port Graham Corporation lands (210 miles) on the coastline from the Ailalik Peninsula to the Port Graham drainage in Kachemak Bay. The project will assess damaged shoreline habitat, study methods of enhancement and recovery of damaged populations, determine protection needs, determine productivity and value, and prepare special land use plans for protection and enhancement and increasing subsistence resources for Port Graham residents. The study area will be on Port Graham Corporation lands which total 112,000 acres, all of which have important shorelines.

Chief Scientist's Recommendation

This project proposes to inventory and assess biological resources and classify shorelines in the Port Graham area. While this is an excellent idea that will support the efficient and intelligent use of resources, the proposal lacks sufficient detail to determine if objectives can be achieved. The proposal is vague, particularly with reference to use of existing data and how protection and enhancement recommendations will be developed. High costs are poorly justified. Do not fund.

Executive Director's Recommendation

Do not fund. The link to restoration is weak and the high cost is not justified.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97263	Assessment, Protection and Enhancement of Salmon Streams on Port Graham Corporation Lands	W. Meganack, Jr./Port Graham Corporation	ADFG	New 1st yr. 3 yr. project	$1,404.6	$102.0	**$58.0**		$115.0	$12.0	$0.0	$185.0

Abstract

This project will replace lost subsistence services resulting from the oil spill by conducting an inventory and assessment for ehhancement projects on the four major salmon streams in the Lower Cook Inlet spill area. In FY 98 and FY 99, protection and enhancement projects will be implemented using instream fisheries habitat improvement techniques, primarily creation of spawning channels, removal of natural barriers to spawning, and construction of wall-based rearing structures. Local subsistence users will be employed as technical assistants during field surveys and construction. Port Graham Corporation will share costs of this project.

Chief Scientist's Recommendation

This project will survey major salmon streams on Port Graham lands and develop protection and enhancement projects for pink, chum, and coho salmon on four streams. It is unlikely that the instream enhancement methods would have negative effects overall, and the project should achieve some of its goals with respect to enhanced fisheries. Fund.

Executive Director's Recommendation

Fund contingent on approval of a reduced budget. This project will protect and enhance salmon streams important to the restoration of subsistence in the Port Graham area. This project will also serve as a model for protection of other salmon streams that cross land owned by Port Graham Corporation.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97264	Inventory, Assessment, Protection & Enhancement of Wetlands & Riparian Areas on PGC Lands	W. Meganack, Jr./Port Graham Corporation	ADFG	New 1st yr. 3 yr. project	$417.8	$417.8	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will inventory all wetlands on Port Graham Corporation lands on the Ailalik Peninsula to the Port Graham drainage in Kachemak Bay, assess wetland riparian habitat, and study methods of enhancement and recovery of wetland riparian areas. The study area will be on Port Graham Corporation lands which total 112,000 acres, all of which have important wetlands and lakes.

Chief Scientist's Recommendation

While this proposal might contribute to the efficient and intelligent use of resources, the proposal lacks sufficient detail to determine if objectives can be achieved. The proposal is vague, particularly with reference to use of existing data, survey methods, and how protection and enhancement recommendations will be developed. There is no indication that proposers have the experience or qualification to do the work, and high costs are poorly justified. Do not fund.

Executive Director's Recommendation

Do not fund. The link to restoration is weak and the high cost is not justified.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97265	Subsistence Enhancement on Port Graham Corporation Uplands: Planting of Willows for Moose Browse	W. Meganack, Jr./Port Graham Corporation	ADFG	New 1st yr. 3 yr. project	$334.0	$334.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will inventory all moose habitat on Port Graham Corporation lands from the Rocky and Windy rivers to the Port Graham drainage in Kachemak Bay. The planting of specific willow species will increase the moose browse on the fall-winter and spring range of the moose. Plantings will be along the existing logging road system, which totals over 100 miles. The enhancement of moose habitat will increase the moose population for subsistence users, and will allow Port Graham residents to substitute this resource for the lost and damaged marine subsistence resources caused by the oil spill.

Chief Scientist's Recommendation

No cogent argument is presented that the project will actually increase subsistence resources, and the potential ecological implications of the planting program have not been considered. The lack of detail in the proposal makes it impossible to judge feasibility. The link to restoration objectives is poor, and the high cost of the program is poorly justified. Do not fund.

Executive Director's Recommendation

Do not fund. The link to restoration is weak and the high cost is not justified. The objective of replacing subsistence resources lost or diminished because of the spill is an important one. However, two continuing projects seem to be more effective than the proposed project in replacing subsistence resources identified as important for Port Graham. The objective of Project /131 is to supply a safe, easily accessible source of clams for subsistence use near Port Graham and the objective of Project /225 is to ensure that pink salmon are available for subsistence use until coho and sockeye salmon runs are rejuvenated.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97267	Port Graham Floating Skiff Dock for Subsistence Harvesters	W. Meganack, Jr./Port Graham Village Council	ADFG	New 1st yr. 1 yr. project	$62.5	$62.5		**$62.5**	$0.0	$0.0	$0.0	$62.5

Abstract

This project will fund a floating skiff dock for the residents of Port Graham to store skiffs used for subsistence activities. At present, skiffs must be stored on land, often far from the water. This makes it difficult for residents to take advantage of good harvesting weather. This further limits subsistence use, which was injured by the oil spill. Storing skiffs on the water, where they are ready for use, will allow subsistence users to make better use of harvesting opportunities. This will partially mitigate the local impacts of the spill on subsistence resources and uses.

Chief Scientist's Recommendation

This proposal would allow more efficient use of skiffs, allowing access to replacement subsistence resources further from the village of Port Graham. This is consistent with restoration objectives, and proposers appear to be well qualified to complete the project. It also appears to be cost-effective. Fund.

Executive Director's Recommendation

Defer decision on funding until this project's legal permissibility is reviewed. Providing a skiff dock in Port Graham Bay is intended to allow more efficient use of skiffs, thereby improving residents' access to replacement subsistence resources farther from the village and reducing the harvest pressure on injured subsistence resources near the village, such as clams.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97268	Funding for Educational Harvest Trips: Port Graham	W. Meganack, Jr./Port Graham Village Council	ADFG	New 1st yr. 3 yr. project	$22.0	$22.0		**$22.0**				$22.0

Abstract

Since the oil spill, there is a scarcity of some key resources close to Port Graham. Subsistence users have been forced to travel farther to harvest sufficient resources. Because such trips are expensive, participation in these trips has been limited to the most experienced and productive harvesters. Youths have had less of a chance to participate and gain experience than was the case before the oil spill. This project would provide funding for additional trips, which will reduce the pressure to harvest as much as possible on each trip and provide for the inclusion of youths on harvesting trips.

Chief Scientist's Recommendation

This project has merit, but the technical approach lacks sufficient detail to evaluate. Some budgeted expenses seem unnecessary, and more in-kind contributions appear warranted.

Executive Director's Recommendation

Defer decision on funding until this project's legal permissibility is reviewed. The project is intended to increase access by residents of Port Graham to alternate subsistence resources as a replacement for resources injured by the oil spill.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97271	Status of Subsistence Marine Mammals in the Lower Cook Inlet/Kachemak Bay Region	F. Elvsaas/Seldovia Village Tribe	ADFG	New 1st yr. 3 yr. project	$116.0	$116.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project is directed toward marine mammals in the Lower Cook Inlet/Kachemak Bay region of Alaska - specifically sea otters, Steller sea lions and harbor seals. While there have been several studies conducted since the oil spill attempting to document its environmental impact, there have been few studies conducted in Seldovia area. Under this proposal, Seldovia Village Tribe, in association with Nanwalek and Port Graham communities, will conduct a comprehensive population study of marine mammals in their region with the view to managing the resource on a sustainable basis.

Chief Scientist's Recommendation

This proposal has the potential to develop a good community-based program, and follows a model that has been used successfully in many regions of the US and Canada to develop natural resource management programs by cooperation between scientists and local communities. Inadequate support is provided, however, for the hypothesis that sea otter populations are declining in the region, which makes the project's relationship to restoration objectives questionable. The technical approach for the surveys is not well developed. The Trustee Council is already funding harbor seal harvest monitoring, bio-sampling, and community involvement under Project /244. Do not fund.

Executive Director's Recommendation

Do not fund. The Chief Scientist has raised significant technical concerns about the objectives and methodology of this project.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97272-CLO	Chenega Chinook Release Program	J. Milton/Prince William Sound Aquaculture Corporation	ADFG	Cont'd 5th yr. 5 yr. project	$45.0	$45.0	**$45.0**		$0.0	$0.0	$0.0	$45.0

Abstract

Chinook salmon incubated and reared at the Wally Noerenberg Hatchery will be released in Crab Bay, adjacent to the Native community of Chenega. Adult salmon returning to the site of release will provide replacement resources and associated services injured by the oil spill. Two releases have taken place (1994, 1995) as part of this multi-year project. Adult salmon will begin returning in 1996 and 1997, with larger numbers projected at nearly 1,000 adult fish returning in 1998 and thereafter.

Chief Scientist's Recommendation

This is a continuing project with a sound technical approach. The annual report looked good, and the program is likely to produce 1,000-2,000 adult fish through 2002 as replacement subsistence resources for the village of Chenega Bay. Fund.

Executive Director's Recommendation

Fund final year of Trustee Council contribution. Project is designed to provide replacement resources for subsistence salmon injured by the oil spill.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97276	Access Road to Donor Bay as Replacement for Chignik Lake Subsistence Clam Harvest	J. Lind/Chignik Lake Village Council	ADFG	New 1st yr. 1 yr. project	$10.0	$10.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will construct a road from the Chignik villages to Donor Bay for subsistence use. Subsistence clamming in the Chignik Lagoon area is no longer occurring because of recent incidents of shellfish poisoning.

Chief Scientist's Recommendation

This proposal would upgrade a rough access track to subsistence resources (clams) at Donor Bay, which is on the Alaska Peninsula. The residents had previously dug clams at Chignik Lagoon, but the clams there have made people sick and the residents believe that there is a linkage to the oil spill. If it is appropriate to provide increased access to subsistence resources, it may be appropriate to support this proposal. However, there would need to be a more detailed proposal and budget. Do not fund.

Executive Director's Recommendation

Do not fund unless project is found to be legally permissible and more detailed information is provided that demonstrates a link to restoration of injured resources. This proposal is for construction of a 15-mile road in place of an existing rough track. The intent of the proposal is to provide residents of Chignik Lake easier access to subsistence resources at Donor Bay.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97281	Habitat Improvement Through Redesigned Forest Workshops	R. Ott/Native Village of Eyak Tribal Council	USFS	New 1st yr. 1 yr. project	$115.8	$50.0		**$50.0**	$0.0	$0.0	$0.0	$50.0

Abstract

This project will promote habitat improvement by providing Alaska Natives and community leaders with tools for self determination of culturally appropriate economic development of forested lands. These tools will be provided through a series of facilitated workshops that will reexamine all possible land use options in light of the effects of logging on the ecosystem. Cultural needs of the traditional and customary users of the natural resources associated with those lands will be prioritized at the same time as recognizing the priority for maintaining a strong economic base for the land owners. These land use options will provide a much more cost effective way to provide habitat improvement than outright acquisition.

Chief Scientist's Recommendation

While reforestation and sustained uses of forests have a link to habitat protection as a restoration objective, this proposal gives little detail as a basis for technical evaluation. To be successful, any work along the lines of what is proposed would need full support and participation of the Eyak Village Corporation and the Chugach Native Corporation, which are the land owners/managers. Based on the merits of the proposal as presented, the reviewers cannot recommend funding.

Executive Director's Recommendation

Defer decision on funding this project until the project proposer confirms joint sponsorship by key stakeholders (e.g., Chugach Alaska Corporation, the village corporations, and other village councils). The project consists of a 3-day conference in Cordova, followed by two workshops. These sessions would bring together people from spill-affected Chugach region villages and four residents from the Chignik Area and Ivanoff Bay to develop a vision for the future development of private land and communities in the spill area. The results of the workshop may increase protection of habitat for resources and services injured by the spill and complement the Trustee Council's land acquisition efforts.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97282	Sea Otter Population Monitoring	Native Village of Eyak	DOI	New 1st yr. 5 yr. project	$287.5	$287.5	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will involve Alaska Natives in monitoring the sea otter population in Prince William Sound. While sea otters appear to be recovering region-wide, during the past two years the sea otter population in the Cordova area has experienced reduced population viability. Native hunters believe the problem is due to reduced resource availability. Local monitoring of population distribution and abundance will be accomplished through boat surveys. In addition, hunters are organizing a local permitting system to monitor harvests.

Chief Scientist's Recommendation

This proposal is an attempt to deal with an apparent sea otter population management problem near the city of Cordova. The problem is real. However, it is unrelated to the EVOS restoration program. It is outside the directly oiled area. Further, the technical design of the surveys is weak. Do not fund.

Executive Director's Recommendation

Do not fund. The sea otter population proposed for study is outside of the area that was directly oiled. In addition, its decline appears to be related to the inability of prey populations to sustain such a large number of sea otters. However, the project proposer and the researchers conducting sea otter surveys under Project /025 should explore ways of involving local sea otter hunters in the Trustee Council's ongoing sea otter monitoring/research efforts.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97286	Elders/Youth Conference on Subsistence and the Oil Spill	B. Henrichs/Native Village of Eyak	DOI	New 1st yr. 2 yr. project	$131.7	$15.8	**$15.8**		$111.1	$0.0	$0.0	$126.9

Abstract

Building on the recommendations from the Community Conference on Subsistence and the Oil Spill sponsored by the Trustee Council in October 1995, this project will bring together elders and youth from all of the oil spill-affected communities to focus on the positive outcomes of the first conference's action items. FY 97 funds are for preliminary planning. Funds requested in FY 98 will be for holding the conference itself, which is scheduled to be held in Cordova in the fall of 1997.

Chief Scientist's Recommendation

The Trustee Council has sponsored previous conferences on subsistence and the oil spill, and is continuing to implement community interactions through Project /052 and other projects. The need for another conference should be evaluated in FY 97 based on a survey of what has been accomplished since the last conference. Fund at reduced request.

Executive Director's Recommendation

Fund conference planning in FY 97; the conference itself will be recommended for funding in FY 98. The conference, which will involve subsistence users from throughout the spill area and EVOS researchers, will focus on means to assist in the recovery of injured resources. The Trustee Council sponsored a similar conference in October 1995.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97295	Dissemination of Traditional Knowledge	D. Mortenson/ADNR	ADNR	New 1st yr. 1 yr. project	$172.5	$172.5	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will work with the Community Involvement Project (/052) to provide technical training, software, and information to enable local communities to collect and present local and traditional ecological knowledge in a geographic information system. The project will provide tools useful for increased communication and exchange of information between local residents, the scientific community, and the Trustee Council.

Chief Scientist's Recommendation

This is a very creative idea to put GIS information within the reach of local residents. This proposal is unproven, however, and is proposed on a scale that seems unrealistic and unwarranted. If this proposal were submitted on a limited pilot basis, it may be appropriate to consider a revised proposal. However, as written, I cannot recommend funding.

Executive Director's Recommendation

Do not fund in FY 97. Recommendations on the Trustee Council's role in development of a TEK database will be forthcoming in FY 97 under Project 97352. In addition, the spill-area communities and their regional organizations (in particular, Chugach Regional Resources Commission, Chugach Heritage Foundation, Kodiak Area Native Association, and Kodiak Island Borough) are discussing a collaborative effort to establish a computer network, train communities to use the network, and provide for maintenance and other operational costs of the network. Any decision on the Trustee Council's involvement in a computer information system should await this local plan.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97352	Traditional Ecological Knowledge	P. Brown-Schwalenberg/CRRC	ADFG	New 1st yr.	$94.5	$94.5	**$94.5**					$94.5

Abstract

This project will hire a Traditional Ecological Knowledge (TEK) Specialist to (1) compile a reference guide to existing TEK data on resources injured by the oil spill, (2) provide technical assistance to restoration project PIs who plan to use, or for whom it would be appropriate to use, TEK, (3) serve as a contact point for spill area communities, the community facilitators and spill-area-wide coordinator hired under Project /052, and principal investigators on issues related to TEK, and (4) evaluate the feasibility of developing a comprehensive TEK database. The TEK Specialist will work under the guidance of an Advisory Group.

Chief Scientist's Recommendation

It is desirable to combine the traditional ecological knowledge elements of the various natural resource projects into one project that can coordinate the way in which this information is gathered and treated. This project will accomplish that goal. The emphasis of the project should be on how traditional knowledge and that from scientific studies can inform each other. Fund.

Executive Director's Recommendation

Fund. This project would continue work begun under Project /052 to explore and facilitate the use of traditional knowledge in the restoration of injured resources.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
Reduction of Marine Pollution					$3,233.1	$3,163.9	**$1,435.4**		$75.0	$0.0	$0.0	$1,510.4
97115	Implementation of the Sound Waste Management Plan: Environmental Operations and Used Oil Management System	P. Roetman/Prince William Sound Economic Development Council	ADEC	New 3rd yr. 4 yr. project	$1,167.9	$1,167.9	**$1,167.9**		$75.0	$0.0	$0.0	$1,242.9

Abstract

This project will help prevent marine pollution that is generated from ıd-based sources within the five Prince William Sound ımmunities. The Sound Waste Management Plan was developed ıo address community-based sources of marine pollution. This project will provide a portion of the funding needed to implement two of the five recommendations contained in the plan: 1) construction of Environmental Operation Stations to improve the overall management of solid and oily wastes; and 2) creation of a comprehensive used oil management system in each community. The communities will provide substantial funding to help implement the recommendations.

Chief Scientist's Recommendation

This is a logical and effective proposal to implement the planning work on management of chronic wastes that affect the marine ecosystem and injured species. The communities involved have done an outstanding job, and they propose to contribute significant in-kind resources to this project. Further justification of costs and more specifics that link personnel to identified objectives are needed before funding should be reviewed. Fund after further review of budget.

Executive Director's Recommendation

Fund. This project will decrease pollution entering Prince William Sound by providing a sheltered space and equipment necessary to safely collect and store used oil, household hazardous wastes and recyclable solid wastes in Valdez, Cordova, Tatitlek, Chenega and Whittier. Environmental Operations Stations ("EVOS" stations) will be modular structures erected in convenient locations in each community to encourage residents and visitors to properly dispose of wastes. By reducing chronic pollution, this project will reduce stress on recovering resources and services. *NOTE: This is a capital project that will be funded outside of the regular FY 97 work plan of research, monitoring, and general restoration projects.*

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97229	City of Cordova - Solid Waste Disposal Site	S. Janke/City of Cordova	ADEC	New 1st yr. 1 yr. project	$918.3	$918.3	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will prevent wastes generated in the city of Cordova from entering Prince William Sound. This project will provide funding needed by Cordova to realize one of its primary waste management goals (as articulated in the recently completed Sound Waste Management Plan): to determine how and where the community's municipal solid waste will be disposed of over the long term. Based on the Sound Waste Management Plan's findings, and in consultation with resident experts, Cordova leaders determined that ıe community's most cost-effective and responsible solid waste ıisposal option is to develop a new landfill site at Mile 17 of the Copper River Highway. The proposed project covers capital costs for the first year of that public works venture.

Chief Scientist's Recommendation

No scientific review conducted.

Executive Director's Recommendation

Do not fund. Although this project has restoration value and would reduce potential marine pollution, solid waste management and disposal would appear to be a municipal responsibility. This does not appear to be an appropriate use of Trustee Council funds. *NOTE: This is a capital project which, if funded, will be funded outside of the regular FY 97 work plan of research, monitoring, and general restoration projects.*

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97260	Reduction and Cleanup of Marine Pollution in Port Graham	W. Meganack, Jr./Port Graham Village Council	ADFG	New 1st yr. 3 yr. project	$616.5	$616.5	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Under this project, the Port Graham Village Council will supervise the complete cleanup of the existing and potential pollution of the marine ecosystem of Port Graham. This cleanup will include out-of-use boats and vessels, cars, trucks, construction equipment and the associated waste material. Port Graham Village residents will be the main work force. All of the material will be transported to Kenai Peninsula Borough Approved Sanitation Sites.

Chief Scientist's Recommendation

Although the concept has some merit, the proposal is not strongly linked to marine pollution and injured resources. The dimensions of the problem, the means of proceeding to rectify the problem, and justifications of cost are not well presented. Do not fund.

Executive Director's Recommendation

Do not fund. The link to restoration is weak and the high cost is not justified. However, the long-term reduction of marine pollution in lower Cook Inlet may have value for restoration. If the communities of lower Cook Inlet (Homer, Seldovia, Port Graham and Nanwalek) are interested in developing a regional waste management plan, a proposal should be considered in FY 98.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97283	Native Village of Eyak: Cordova Beach Cleanup and Restoration	B. Henrichs/Native Village of Eyak	ADEC	New 1st yr. 6 yr. project	$193.7	$193.7	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project has two parts. One part is the gathering of fishing nets through a beach cleanup. The beach cleanup will gather the debris during a one-month period. The second part is establishment of a year-round center so that nets and other recyclable items can be brought to the center to be sorted and prepared for transport to an urban recycling plant.

Chief Scientist's Recommendation

This project would clean up beaches and construct and operate a recycling facility in Cordova. The proposers have not demonstrated the magnitude of the problem, and, therefore, the benefits to injured marine resources are uncertain. Further, the recycling component of the project is covered under the Sound Waste Management Plan (Project /115). Do not fund.

Executive Director's Recommendation

Do not fund. The proposal identifies a potential problem, entanglement of wildlife in fishing nets and other marine debris. However, this debris poses the greatest danger in marine waters and not once it reaches shore. Consequently, the proposed beach cleanup and recycling would not significantly improve the survival rate or condition of injured resources.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97304	Kodiak Island Borough Master Waste Management Plan	J. Selby/Kodiak Island Borough	ADEC	New 1st yr. 1 yr. project	$336.7	$267.5	**$267.5**		$0.0	$0.0	$0.0	$267.5

Abstract

This project will develop an island-wide waste management plan for Kodiak Island in order to remove chronic sources of marine pollution and solid waste that may be affecting recovery of resources and services injured by the oil spill. The plan will focus on the six remote coastal villages which currently do not have adequate waste management practices and facilities. The master plan will be oriented towards achieving practical, measurable results through a project approach that involves the villages working together with the Kodiak Area Native Association and the Kodiak Island Borough to identify and implement opportunities for cost-effectively reducing sources of marine pollution.

Chief Scientist's Recommendation

There is need to reduce sources of chronic marine pollution in the Kodiak area, as was done for communities in Prince William Sound. Those types of waste that end up in the marine environment and which conceivably could affect injured species are most appropriate for Trustee Council action. Fund.

Executive Director's Recommendation

Fund. This project would reduce chronic pollution in the marine environment near communities on Kodiak Island and thereby reduce stress on recovering resources and services. The focus of the project will be the six remote villages on the island. The waste streams that will be addressed in this regional plan are used oil generated by vessels and communities, household hazardous waste, solid waste, and sewage.

Habitat Improvement					$2,088.0	$1,949.8	**$1,882.0**	**$67.8**	$1,529.6	$565.0	$215.0	$4,259.4
97126	Habitat Protection and Acquisition Support	C. Fries/ADNR, D. Gibbons/USFS	ADNR	Cont'd 4th yr.	$1,195.6	$1,282.6	**$1,282.6**		$770.0	$565.0	$215.0	$2,832.6

Abstract

This project provides negotiation support to the Trustee Council in order to reach closure on habitat protection priorities. This support includes title reports, appraisals, on-site inspections, hazardous materials surveys, surveys, timber cruises and reviews, and other services necessary for the successful completion of habitat protection negotiations.

Chief Scientist's Recommendation

This project is intended to provide baseline data that enables comparison of resource values on different lands under possible consideration for acquisition by the Trustee Council. This support is essential to the Trustee Council's small parcel acquisition program. The budget should receive additional review, and the on-going role of the Habitat Work Group, if any, needs clarification. Fund after further review.

Executive Director's Recommendation

Fund. This project provides funds to support the habitat protection program, i.e., negotiation staff, appraisals, closing costs, etc. *NOTE: Funds for this project will be provided through the Trustee Council's habitat protection program, not through the regular FY 97 work plan of research, monitoring, and general restoration projects.*

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97180	Kenai Habitat Restoration & Recreation Enhancement	M. Rutherford/ADNR, M. Kuwada/ADFG	ADNR	Cont'd 2nd yr. 3 yr. project	$621.8	$599.4	**$599.4**		$759.6	$0.0	$0.0	$1,359.0

Abstract

Adverse impacts to the banks of the Kenai River total approximately 19 miles of the river's 166 mile shoreline. Included in this total are 5.4 river miles of degraded shoreline on public land. Riparian habitats have been impacted by trampling, vegetation loss and structural development. This riparian zone provides important habitat for pink salmon, sockeye salmon and Dolly Varden, species injured by the oil spill. The project's objectives are to restore injured fish habitat, protect fish and wildlife habitat, enhance and direct recreation, and preserve the values and biophysical functions that the riparian habitat contributes to the watershed.

Chief Scientist's Recommendation

This is a concrete, on-going proposal for habitat restoration on degraded portions of the Kenai River, which are important for recreational services in the oil-spill area. The personnel appear to be well-qualified to do the work, though professional personnel costs seem high relative to the number of sites to be addressed in this project. Fund.

Executive Director's Recommendation

Fund. This project will aid restoration of habitat along the Kenai River for the benefit of sockeye salmon and other fish species of commercial and recreational importance.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97230	Valdez Duck Flats Restoration Project	J. Winchester/PWS Economic Development Council	ADNR	New 1st yr. 2 yr. project	$270.6	$67.8		**$67.8**	$0.0	$0.0	$0.0	$67.8

Abstract

The Alaska Department of Natural Resources has identified the waters of Valdez Duck Flats and nearshore waters east to the mouth of the Lowe River as crucial estuarine habitat in the Prince William Sound Area Plan. Wildlife species injured by the oil spill are threatened by crowding, disturbance, plastics pollution, and active human disturbance. The area provides important habitat for water birds, anadromous fish, and other estuarine and intertidal species. This proposal will further identify injured resources, aid in the recovery of spill impacted populations, mitigate effects of visitor traffic, design a local volunteer monitoring program, and educate the public about the value of tidelands.

Chief Scientist's Recommendation

The apparent goal is to prevent loss of habitat values on the Valdez Duck Flats, an area which has some link to injured resources, including pink and sockeye salmon. Several tracts on the Duck Flats are under consideration for possible small-parcel acquisitions by the Trustee Council. The proposal has a heavy up-front emphasis on engineering and construction, but the proposers will first assess wildlife habitat needs and alternative ways of addressing those needs in the face of increasing development and visitor pressures. To their credit, the proposers seem to have the interest and cooperation of a number of key agencies and constituencies. Defer decision on funding.

Executive Director's Recommendation

Defer decision on funding until December, pending reevaluation of funding priorities in the fall and the status of small parcel acquisition efforts. If funds are available at that time, consider funding development of a concept plan for protection of habitat on the Valdez Duck Flats. The Valdez Duck Flats are a large and complex intertidal mudflat and salt marsh that offer valuable habitat to several injured resources and services. A locally developed plan for protecting habitat on the Duck Flats will increase the probability that future use of the flats will promote the recovery of injured resources and services given increased public usage.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
Ecosystem Synthesis					$738.0	$738.0	**$64.9**		$260.0	$0.0	$0.0	$324.9
97054-BAA	A Mass-balance Model of Trophic Fluxes in Prince William Sound	D. Pauly/University of British Columbia	NOAA	New 1st yr. 2 yr. project	$148.0	$148.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will construct, validate, and disseminate a model of trophic interactions among the organisms of Prince William Sound, required to synthesize the vast amount of information gathered fore and after the oil spill, and to evaluate its impact at the ecosystem level. Project components are: 1) an initial workshop devoted to model specification by Prince William Sound researchers, 2) an extended study by project staff, and 3) a dissemination phase consisting of a training workshop for potential users of the software implementing the model, and the production of a CD-ROM for the public domain, incorporating an interactive graphic version of the software and an extensive database on the biology and local/traditional knowledge of the fishes of Prince William Sound.

Chief Scientist's Recommendation

This is a two-year project which would integrate ecosystem-level data being generated from EVOS projects and present it in an understandable format. This is an excellent proposal and the investigators are among the best in the world at modeling fisheries ecosystems based on energetics. This proposal deserves further consideration as the Trustee Council develops an overall approach to modeling and synthesis needs. I recommend that it receive partial funding to enable continued participation in and development of a modeling program.

Executive Director's Recommendation

Do not fund as a separate project. Efforts to develop ecological models that integrate the enormous amount of information gathered in EVOS studies will be initiated under Project 97300.

97215-BAA	Modeling Trophic Webs to Achieve Synthesis in SEA, NVP, and APEX Ecosystems	S. Pimm/University of Tennessee	NOAA	New 1st yr. 2 yr. project	$75.6	$75.6	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will formulate simple, large-scale trophic models of, and uniting, the communities of the APEX (/163), SEA, (/320) and NVP (/025) projects. Using the data they gather and data from the literature, the project seeks a broad synthesis of the larger Prince William Sound and Gulf of Alaska ecosystems and the complex changes within them. It asks how do the changes in species' densities interact to produce the short- to long-term changes in species' densities that we observe? To what extent do different components resist changes elsewhere in the food web? How far nd how quickly can we expect the effect of a change in one species' density to stretch through the food web?

Chief Scientist's Recommendation

This project would integrate information from most EVOS projects and provide a means of understanding how well we can predict cause-and-effect ecosystem interactions. This ability is at the heart of management needs at an ecosystem scale. This project deserves further consideration in relation to certain other of the ecosystem modeling proposals, in particular, Project 97054. Ideally, it should be possible to initiate modeling work in FY 97 on a modest basis, involving several key participants, including Dr. Pimm. I recommend that it receive partial funding to enable continued participation in and development of a modeling program.

Executive Director's Recommendation

Do not fund as a separate project. Efforts to develop ecological models that integrate the enormous amount of information gathered in EVOS studies will be initiated under Project 97300.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97234	Ecosystem Synthesis Model of EVOS Restoration Findings for Resource Management	A. Hooten/ Environmental Services Corporation of the Americas	NOAA	New 1st yr. 1 yr. project	$198.4	$198.4	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Previous research has generated considerable data on the abundance and distribution of species and the productivity of ecological communities throughout the spill-affected area. This project will integrate study results into a model (SYNOPSYS) to provide an ecosystem-level assessment capability. The approach discussed here builds on previously supported work and synthesizes results from various damage assessment and restoration studies, combined with expert analysis and interpretation.

Chief Scientist's Recommendation

This proposal unsuccessfully responds to the request for a broad ecological synthesis, as it is vague and expensive. Do not fund.

Executive Director's Recommendation

Do not fund, based on Chief Scientist's recommendation.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97249	Ecosystem Synthesis and Modeling	I. Show/SRA, Inc.	NOAA	New 1st yr. 6 yr. project	$251.1	$251.1	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will bring field results and local, traditional knowledge together in a single model. The modeling effort will progress through a logical sequence of steps, including verbal conceptual modeling, static and dynamic numerical modeling, and stochastic modeling. The final model will be a coupled physical-chemical-biological model; it will be driven by the physical environment and have parallel chemical and biological sub-models addressing interactions between petroleum hydrocarbons and the biota. The model will be designed to serve as a platform for description, prediction, and hypothesis development and testing.

Chief Scientist's Recommendation

This project proposes to build a single model that would couple physical, chemical and biological processes. The emphasis on the effects of petroleum hydrocarbons is probably not appropriate for understanding how the ecosystem is operating presently unless there is another spill in the near future. The proposer has wide experience but his peer reviewed publication record could be stronger. Do not fund.

Executive Director's Recommendation

Do not fund, based on Chief Scientist's recommendation.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97300	Synthesis of the Scientific Findings from the *Exxon Valdez* Oil Spill Restoration Program	R. Spies/Applied Marine Sciences	ADNR	New 1st yr. 3 yr. project	$64.9	$64.9	**$64.9**		$260.0			$324.9

Abstract

There have been numerous in-depth studies of injured species since 1989, on single species as well as the pelagic ecosystem (SEA/320), forage fish (APEX/163), and the nearshore ecosystem (NVP/025). Their results constitute an enormous amount of information on the northern Gulf of Alaska. This information should be synthesized for the public and management agencies. It is the goal of this project to carry out such a synthesis.

Chief Scientist's Recommendation

The Trustee Council's research program is at a stage where efforts to synthesize information on the injury and recovery of injured species are strongly needed. This project would work with PIs that have done restoration projects and with ecological modelers to facilitate synthesis of existing information into both mathematical and written descriptions of the spill area ecosystem and how it changes in response to anthropogenic and natural events.

Executive Director's Recommendation

Fund. The core peer reviewers feel strongly that a synthesis effort needs to occur. A consolidated approach seems to make the most sense.

Administration, Science Management, and Public Information					$5,594.7	$5,470.8	**$2,857.1**	**$137.5**	$2,800.0	$2,500.0	$4,700.0	$12,994.6
97100	Administration, Science Management, and Public Information	All Trustee Council Agencies	ALL	Cont'd Annual	$2,857.1	$2,857.1	**$2,857.1**		$2,800.0	$2,500.0	$4,700.0	$12,857.1

Abstract

This project provides overall support for administration and implementation of the restoration program through the Restoration Office. It includes funding for the Trustee Council's core staff working at the direction of the Executive Director, management of the scientific peer review process, public involvement efforts including the 17-member Public Advisory Group (PAG), and support for Trustee agency participation in the restoration program process as part of the Restoration Work Force.

Chief Scientist's Recommendation

Proposal not reviewed.

Executive Director's Recommendation

Fund. This project provides overall support for administration and implementation of the restoration program. The budget has been significantly reduced from the FY 96 authorization of $3,439.6.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97183	Placement of "Darkened Waters: Profile of an Oil Spill" in a Permanent, Alaska Exhibition Site	M. O'Meara/Pratt Museum	ADFG	New 1st yr. 2 yr. project			**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will result in acquisition and placement of the traveling version of "Darkened Waters: Profile of an Oil Spill" in a permanent, Alaskan exhibition site.

Chief Scientist's Recommendation

"Darkened Waters" was a fine exhibit that deserves a permanent home. The exhibition could have on-going value by increasing awareness of and participation in the restoration process. However, this proposal does not shed much light on what is required in the way of a permanent home, nor the feasibility of actually finding such a home. There is no cost estimate. Apparently the Pratt Museum is not in a position to serve as home for this exhibit. Based on the information provided here, no funding can be recommended.

Executive Director's Recommendation

Do not fund. Although "Darkened Waters" is an excellent exhibit on the history of the spill, its link to restoration is weak. Furthermore, the cost of this project is unknown because it relies on negotiation over the cost of purchasing the exhibit.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97221-BAA	Developing a Trustee Council Information Infrastructure	L. Thomas/Mitretek Systems	ADNR	New 1st yr. 1 yr. project	$214.0	$214.0	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will develop an information framework and infrastructure that will serve the needs of the researchers, resource managers, educators, and local citizens involved in and affected by the restoration effort resulting from the oil spill. The purpose of this information infrastructure is to help maximize the benefit from the Trustee Council's investment in research, monitoring, restoration, and public education directed at understanding and restoring the northern Gulf of Alaska and Prince William Sound region affected by the oil spill.

Chief Scientist's Recommendation

The management and maintenance of EVOS data in ways that are useful and accessible to researchers and the public is an important problem. This type of project would probably be beneficial and the approach outlined in this proposal seems appropriate. The cost is very expensive, however, and does not include on-going costs. The proposers also do not demonstrate any awareness of existing data management efforts funded by the Trustee Council. Do not fund.

Executive Director's Recommendation

Do not fund. This proposal has some overlap with the Trustee Council's Information Management System that began in FY 95 as part of Project 95089 and continues to be funded in Project /100.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97232	Endowment of an Engineering Research Center at the University of Alaska Anchorage	G. Baker, H. Schroeder, C. Woodard/UAA	ADFG	New 1st yr. 1 yr. project	$2,256.5	$2,256.5	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Proposed is a plan for the establishment of an endowed engineering research and community education center at the University of Alaska Anchorage. The program will be created within the Environmental Quality Engineering program of the School of Engineering. Establishing the center will achieve two goals. First, it will provide a mechanism for funding continuing recovery work and community education long after 2002 when funds are no longer received by the Trustee Council. Such activities will help Alaska develop local expertise and permanent solutions for the protection and restoration of areas affected by the oil spill. Funding the center at UAA will also serve as a test program for endowed academic centers and chairs.

Chief Scientist's Recommendation

This proposal is premature, as there are legal and policy questions about creation of endowments, and this proposal will do nothing to resolve them. In addition, the substance of the proposal is oriented toward engineering issues, such as oil spill response and prevention, not restoration of living resources and ecosystems. The proposed subject of the endowment would also seem to conflict with the mission of the Oil Spill Recovery Institute, which was established by Congress. Do not fund.

Executive Director's Recommendation

Do not fund. Although the Engineering Research Center may benefit restoration, its primary purpose appears to be preparation for future spills and student education, uses which are not eligible for restoration funding. Previous proposals for endowments have been rejected by the Trustee Council.

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97275	Rural Development Applied Field-Based Research Program in Oil Spill Affected Areas	G. Pullar/UAF-College of Rural Alaska	ADFG	New 1st yr. 6 yr. project	$161.4	$37.5		**$37.5**			$0.0	$37.5

Abstract

Human resources will be strengthened through an interdisciplinary Bachelor's degree program in Rural Development and community restoration through applied research, distance education, and mentoring. Trustee Council priorities will be addressed integrating western science and indigenous knowledge. Students will be provided with a broad understanding of rural development in a global economy and a mastery of specific tools for effective community leadership. Specialization in one of five areas is linked to jobs in communities. Coursework will be delivered through interactive video and other distance delivery techniques and intensive rural development seminars.

Chief Scientist's Recommendation

This proposal is an excellent idea with a sound technical approach. However, it is justified based on an implied lack of leadership in the community, which does not seem to be apparent. There would be more incentive to fund this proposal if village leaders had requested it from the Trustee Council. In addition, the proposal lacks sufficient relationship to restoration objectives. Do not fund.

Executive Director's Recommendation

Defer decision on funding pending further review of the revised Detailed Project Description and commitments from PIs to incorporate student research into specific restoration projects.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97301	The Alaska Laboratory Series Television Pilot	G. Bolar/Alaska Public Telecommunications, Inc.	ADFG	New 1st yr. 3 yr. project	$105.7	$105.7		**$100.0**			$0.0	$100.0

Abstract

This project will create a television program that will document ongoing restoration and rehabilitation efforts in Prince William Sound and other spill affected areas. This program will be a pilot to launch The Alaska Laboratory, a national science education series on science and research in Alaska. Many episodes, including the pilot, will center on marine research, rehabilitation, and restoration efforts in Prince William Sound, the Kenai Peninsula and the Gulf of Alaska. APTI, in cooperation with the Alaska SeaLife Center, will produce and distribute the series through national networks, cable, and on Alaska's PBS stations.

Chief Scientist's Recommendation

The proposed television program could increase awareness, both within and beyond Alaska, about the restoration program. This particular proposal is more of an idea than a full proposal. I do not know what priority the Trustee Council wants to give to educational projects such as this television program, but the idea does have merit and may deserve going forward. If deemed appropriate by the Trustee Council, a more complete proposal should be invited. As written, however, I cannot recommend funding.

Executive Director's Recommendation

Defer decision on funding until December, pending reevaluation of funding priorities in the fall. This project would develop a one-hour television program about the restoration and recovery of the spill area, distribute copies of the program throughout Alaska, and distribute the program nationally. An in-depth television program could be an effective means of informing the general public about the restoration effort and would complement other components of the Trustee Council's information program, which includes OSPIC, written reports, radio spots, an automated database, and a website. Because several firms are capable of producing these programs, a request for proposals would be issued and a contract would be competitively awarded.

Research Facilities					$1,686.4	$1,486.9	**$545.6**		$0.0	$0.0	$0.0	$545.6
97151-BAA	Facilities Improvement to the Prince William Sound Science Center	G. Thomas/Prince William Sound Science Center	NOAA	New 1st yr. 3 yr. project	$537.6	$537.6						

Abstract

This project will expand the Prince William Sound Science Center facility to include more office and laboratory space, and additional rooms for educational activities. Phase 1 of the expansion will result in consolidation of all current staff in one building and can be completed by the end of 1997. The Center has 27 people working at three different sites in Cordova; organizational efficiency and annual operating costs are impaired by this fragmentation. Phase 2 will enhance the facility to meet the needs of the Oil Spill Recovery Institute.

Chief Scientist's Recommendation

Phase I of the proposed construction would both expand and consolidate office and meeting space used by the Science Center investigators for Project /320 (SEA). In some measure, construction of this facility could duplicate the investment already made at the Alaska SeaLife Center in Seward. However, the facilities have substantially different purposes. A decision to fund this proposal is largely a policy matter best addressed by others. However, it does appear that this facility would be beneficial to the productivity of the SEA project if it can be constructed before the end of the program in FY 98.

Executive Director's Recommendation

No recommendation. Because the Sound Ecosystem Assessment (/320), which is the primary EVOS work being conducted by the Prince William Sound Science Center, is winding down, the benefit to restoration of the additional space that this project would provide is questionable. If funded, only that part of the Phase I expansion necessary to improve working conditions for SEA researchers should be funded by the Trustee Council (estimated cost $380.0). *NOTE: This is a capital project which, if funded, will be funded outside of the regular FY 97 work plan of research, monitoring, and general restoration.*

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97171	Alaska Department of Fish and Game Mariculture Technical Center Operational Funding	T. Rutz/ADFG, J.Cochran/ADFG	ADFG	Cont'd 1st yr. 5 yr. project	$271.8	$271.8	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will operate a facility where bivalve shellfish and aquatic plant research can take place. The ability of the Mariculture Technical Center to hold large culture phytoplankton and to rear large numbers of bivalve shellfish will be unique within the State of Alaska. This capability will open new avenues for research and ding beneficial to the restoration of subsistence shellfish sources lost or diminished as a result of the oil spill.

Chief Scientist's Recommendation

This is a good project that is difficult to judge by the mainly scientific criteria used to evaluate the FY 97 proposals. Defining a common set of criteria to judge this and other nonresearch proposals requires a venture into the policy arena. In my judgment, success in aquaculture requires momentum that builds with success. My concern is that if the Mariculture Technical Center never gets off the ground with solid achievements, and is therefore unable to attract other long-term sources of revenue, the Trustees may be saddled with operational support of this facility for many years. The reviewers cannot recommend either substantial or extended funding of facility operations. Do not fund as proposed.

Executive Director's Recommendation

Do not fund. General funding of operation of the state's mariculture facility is not related to the restoration objectives adopted by the Trustee Council.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97197	Alaska SeaLife Center Fish Pass	J. Seeb/ADFG	ADFG	New 1st yr. 1 yr. project	$745.1	$545.6	**$545.6**		$0.0	$0.0	$0.0	$545.6

Abstract

This project will design, construct, and install a fish pass at the Alaska SeaLife Center in Seward. The fish pass will be used to propagate experimental runs of Pacific salmon for new and ongoing genetic studies to be conducted at the Center. A cooperative agreement, similar to the agreement for the SeaLife Center, will be written by ADFG with the City of Seward to implement this project.

Chief Scientist's Recommendation

This is a technically excellent idea that will benefit basic research on genetics of salmon and provide an experimental run that is not available in this portion of the state. It also has significant positive benefits for public education. The Trustee Council should fund through non-work plan sources after engineering review.

Executive Director's Recommendation

Fund contingent on approval of a revised budget. A fish pass at the SeaLife Center will enhance EVOS research and improve the restoration of injured resources and services. It will allow the effects of variables experienced during early life history to be studied throughout the life cycle of salmonids. Research on the long-term effects of oil, hatchery-wildstock interactions, ecology, disease, genetics, and conservation biology of salmonids requires experimental runs of fish. Without a fish pass, such studies cannot be done efficiently and effectively at the SeaLife Center. The Trustee Council contribution to this project is for the research components of the structure only. Visitor enhancements to the structure should be paid for with other funds. *NOTE: This is a capital project which, if funded, will be funded outside of the regular FY 97 work plan of research, monitoring, and general restoration.*

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97238	Kachemak Bay Shellfish Nursery Culture Project	M. Bradley/Kachemak Shellfish Mariculture Association	ADFG	New 1st yr. 2 year project	$82.1	$82.1	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

Through shellfish nursery research at aquatic farms and other facilities in Kachemak Bay, this project will aid in the restoration of subsistence resources or services lost or diminished by the oil spill. This project will complement the shellfish hatchery being constructed in Seward as a component of the Mariculture Technical Center. The project will construct an upwell nursery facility and develop techniques specific to Alaska to improve the survival and growth rates of hatchery produced bivalves.

Chief Scientist's Recommendation

This proposal would build and test a floating, electrically powered bivalve nursery system. In the on-going Project 97131, the Trustee Council already is supporting testing of a tidally-driven facility at Tatitlek. In addition, as proposed, this project has little to do with EVOS restoration objectives, since it would experiment primarily with oysters, which are not an injured resource. Do not fund.

Executive Director's Recommendation

Do not fund. This project has a weak link to restoration objectives adopted by the Trustee Council and, to a degree, duplicates other work already supported by the Trustee Council.

SPREADSHEET B: EXECUTIVE DIRECTOR'S RECOMMENDATION/FY 97 WORK PLAN

DRAFT

Proj.No.	ProjectTitle	Proposer	Lead Agency	New or Cont'd	FY97 Request	FY97 Revised Request	FY97 Recommended Fund	FY97 Recommended Defer	FY98 Rec.	FY99 Rec.	FY00-02 Rec.	Total FY97-02 Rec.
97252	Investigations of Genetically Important Conservation Units of Species Inhabiting the EVOS Area	J. Seeb, L. Seeb/ADFG	ADFG	New 1st yr. 7 yr. project	$49.8	$49.8	**$0.0**		$0.0	$0.0	$0.0	$0.0

Abstract

This project will plan the consolidation of all of the Trustee Council-funded projects of the ADFG Genetics Laboratory into the facilities at the Alaska SeaLife Center in Seward. This project will eventually become the principal project into which all other oil spill-related studies conducted by the ADFG Genetics Laboratory will be integrated. The Genetics Laboratory developed through this project will also provide core facilities for the genetic analysis of populations of marine fish and non-fish vertebrates and invertebrates for principal investigators conducting research at the SeaLife Center.

Chief Scientist's Recommendation

The Trustee Council has made a major investment in fisheries genetics because of the benefits to long-term restoration and mangement. The Trustee Council has also made a major investment in construction of a state-of-the-art marine research facility in Seward. This proposal, which is to plan for the consolidation of Trustee Council sponsored genetics work at the Alaska SeaLife Center, has merit, though some of what is proposed here would appear to be normal agency management. The products are not well defined. Some funding seems appropriate. Fund at 3 months and modest expenses. No commitments to out -year funding should be made until a better plan for consolidation of the genetics program is presented. It would be particularly appropriate for the PI to discuss in some detail how the most promising new tools in this rapidly evolving field can be folded into this program in a cost-effective manner given the capabilities of present ADFG staff and subcontractors.

Executive Director's Recommendation

Do not fund. The proposal for FY 97 is to plan for the transfer of ADFG genetics studies to the Alaska SeaLife Center and to plan for future genetics investigations. These planning efforts are worthwhile and responsive to the FY 97 Invitation, but upon further consideration appear to be a normal agency responsibility.

Project Management					$641.5	$641.6	**$641.6**		$560.0	$480.0	$960.0	$2,641.6
97250	Project Management	All Trustee Council Agencies	ALL	Cont'd Annual	$641.5	$641.6	**$641.6**		$560.0	$480.0	$960.0	$2,641.6

Abstract

Project management represents those costs incurred by the state and federal trustee agencies in fulfilling their responsibility to ensure that individual projects are managed consistent with the Memorandum of Agreement and Consent Decree, the Restoration Plan, and Trustee Council authorization. Prior to FY 97, the costs associated with project management were included in each individual project's budget.

Chief Scientist's Recommendation

Proposal not reviewed.

Executive Director's Recommendation

Fund. Project management provides essential accountability and oversight of projects funded through the work plan. The FY 97 funding will be allocated as follows:
Alaska Department of Fish and Game - $304.9
Alaska Department of Natural Resources - $41.9
National Oceanic and Atmospheric Administration - $153.4
U.S. Department of the Interior - $89.9
U.S. Forest Service - $51.5
The recommendations for future years' funding reflect a reduction in project management effort consistent with the decline in the annual funding targets for the overall work plan.

DRAFT

Table 1. EXECUTIVE DIRECTOR'S RECOMMENDATION / FY 97 WORK PLAN
History of Project Costs

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
Pink Salmon	$1,834.7	$847.6	$1,512.6	$2,374.7	$1,985.5	**$1,921.7**	**$966.3**	**$293.4**	**$32.0**	$8,555.1	**$3,213.4**	$11,768.5
076 / Effect of Oil on Straying and Survival	$0.0	$0.0	$0.0	$189.8	$377.8	**$618.8**	**$234.6**	**$0.0**	**$0.0**	$567.6	**$853.4**	$1,421.0
093 / Diversion of Harvest Effort	$0.0	$0.0	$0.0	$57.8	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$57.8	**$0.0**	$57.8
139 / Salmon Instream Habitat Restoration	$0.0	$0.0	$222.1	$31.4	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$253.5	**$0.0**	$253.5
139-A1 / Little Waterfall Barrier Bypass Improvement	$0.0	$0.0	$0.0	$96.7	$55.0	**$26.4**		**$0.0**	**$0.0**	$151.7	**$26.4**	$178.1
139-A2 / Port Dick Spawning Channel	$0.0	$0.0	$0.0	$32.9	$230.5	**$76.5**	**$49.7**	**$39.7**	**$32.0**	$263.4	**$197.9**	$461.3
139-C1 / Montague Riparian Rehabilitation Monitoring	$0.0	$0.0	$0.0	$49.3	$9.7	**$9.3**	**$0.0**	**$0.0**	**$0.0**	$59.0	**$9.3**	$68.3
186 / Coded-wire Tagging and Recovery	$1,421.8	$148.6	$237.7	$254.6	$254.9	**$273.8**	**$279.4**	**$90.0**	**$0.0**	$2,317.6	**$643.2**	$2,960.8
188 / Otolith Thermal Mass Marking	$0.0	$0.0	$48.9	$637.2	$93.2	**$120.1**	**$108.4**	**$55.0**	**$0.0**	$779.3	**$283.5**	$1,062.8
190 / Linkage Map for the Pink Salmon Genome	$0.0	$0.0	$0.0	$0.0	$167.7	**$254.5**				$167.7	**$254.5**	$422.2
191 / Oil-Related Embryo Mortalities	$412.9	$699.0	$823.5	$798.6	$618.2	**$208.5**	**$164.2**	**$58.7**	**$0.0**	$3,352.2	**$431.4**	$3,783.6
194 / Spawning Habitat Recovery	$0.0	$0.0	$0.0	$0.0	$0.0	**$138.3**		**$0.0**	**$0.0**	$0.0	**$138.3**	$138.3
196 / Genetic Structure	$0.0	$0.0	$180.4	$226.4	$178.5	**$195.5**	**$130.0**	**$50.0**	**$0.0**	$585.3	**$375.5**	$960.8

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
209 / Examination of Straying	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
228 / Genetic Assessment of Offspring	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
284 / Test Fishery Project0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
321-BAA / Model Integration	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Herring	$0.0	$0.0	$514.5	$1,280.2	$1,323.0	$759.3	$683.8	$22.4	$0.0	$3,117.7	$1,465.5	$4,583.2
074 / Herring Reproductive Impairment	$0.0	$0.0	$0.0	$397.5	$140.0	$0.0	$0.0	$0.0	$0.0	$537.5	$0.0	$537.5
162 / Disease Affecting Declines	$0.0	$0.0	$85.5	$389.5	$635.0	$517.7	$437.6	$0.0	$0.0	$1,110.0	$955.3	$2,065.3
165 / Genetic Discrimination	$0.0	$0.0	$6.4	$98.4	$103.9	$41.6	$56.0	$0.0	$0.0	$208.7	$97.6	$306.3
166 / Herring Natal Habitats	$0.0	$0.0	$422.6	$394.8	$444.1	$200.0	$190.2	$22.4	$0.0	$1,261.5	$412.6	$1,674.1
168-BAA / Social Ecology of Herring Fishery	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
248 / Collection of Historical Data / Local Knowledge	$0.0	$0.0	$0.0	$0.0	$0.0		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Sound Ecosystem Assessment	$0.0	$0.0	$5,759.8	$4,520.6	$5,229.2	$3,733.6	$2,062.2	$115.0	$75.0	$15,509.6	$5,985.8	$21,495.4
195 / Pristane Monitoring in Mussels	$0.0	$0.0	$0.0	$0.0	$106.7	$115.3	$115.0	$115.0	$75.0	$106.7	$420.3	$527.0
243 / Water Resources of Prince William Sound	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
303-BAA / Sentinel Program for Walleye Pollock	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
320 / Sound Ecosystem Assessment (SEA)	$0.0	$0.0	$5,759.8	$4,520.6	$5,122.5	$3,618.3	$1,947.2			$15,402.9	$5,565.5	$20,968.4
322-BAA / Jellyfish as Predators and Competitors	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
Sockeye Salmon	$1,052.6	$1,466.3	$1,624.7	$1,446.5	$1,300.2	$419.1	$0.0	$0.0	$0.0	$6,890.3	$419.1	$7,309.4
048-BAA / Historical Analysis of Sockeye Salmon Growth	$0.0	$0.0	$0.0	$0.0	$109.0	$0.0	$0.0	$0.0	$0.0	$109.0	$0.0	$109.0
239 / Salmon Carcasses and Juvenile Chinook	$0.0	$0.0	$0.0	$0.0	$0.0			$0.0	$0.0	$0.0	$0.0	$0.0
251 / Akalura Lake Restoration	$0.0	$0.0	$0.0	$0.0	$0.0		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
254 / Delight and Desire Lakes Restoration	$0.0	$0.0	$0.0	$0.0	$0.0			$0.0	$0.0	$0.0	$0.0	$0.0
255 / Kenai River Sockeye Salmon Restoration	$687.4	$405.2	$358.7	$455.1	$307.0	$158.3	$0.0	$0.0	$0.0	$2,213.4	$158.3	$2,371.7
258 / Sockeye Salmon Overescapement	$0.0	$621.9	$762.3	$724.8	$596.6	$214.0	$0.0	$0.0	$0.0	$2,705.6	$214.0	$2,919.6
259 / Restoration of Coghill Lake Sockeye Salmon	$0.0	$145.1	$240.8	$266.6	$287.6	$46.8	$0.0	$0.0	$0.0	$940.1	$46.8	$986.9
504 / Genetic Stock ID of Kenai River Sockeye	$310.9	$294.1	$262.9	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$867.9	$0.0	$867.9
R113 / Red Lake Sockeye Salmon Restoration	$54.3	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$54.3	$0.0	$54.3
Cutthroat and Dolly Varden	$132.1	$0.0	$0.0	$136.9	$229.6	$266.5	$108.0	$0.0	$0.0	$498.6	$374.5	$873.1
043-B / Habitat Improvement Monitoring	$0.0	$0.0	$0.0	$136.9	$29.6	$24.0	$8.0	$0.0	$0.0	$166.5	$32.0	$198.5

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
145 / Anadromous and Resident Forms	$0.0	$0.0	$0.0	$0.0	$200.0	$229.7	$100.0	$0.0	$0.0	$200.0	$329.7	$529.7
172 / Recovery in Prince William Sound	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
174 / Restoration Project Support/Coordination	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
242 / Characteristics of PWS Cutthroat	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
302 / PWS Inventory	$0.0	$0.0	$0.0	$0.0	$0.0	$12.8	$0.0	$0.0	$0.0	$0.0	$12.8	$12.8
R106 / Dolly Varden Restoration	$37.9	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$37.9	$0.0	$37.9
R90 / Dolly Varden Char Monitoring	$94.2	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$94.2	$0.0	$94.2
Marine Mammals	$24.7	$332.8	$293.6	$895.1	$812.9	$654.6	$308.1	$50.0	$0.0	$2,359.1	$1,012.7	$3,371.8
001 / Harbor Seal Condition and Health Status	$0.0	$0.0	$0.0	$170.2	$214.1	$192.0	$48.1	$0.0	$0.0	$384.3	$240.1	$624.4
012 / Killer Whale Investigation	$0.0	$113.5	$30.8	$289.3	$101.1	$1.5				$534.7	$1.5	$536.2
064 / Harbor Seal Monitoring, Habitat Use, Trophic Interactions	$24.7	$219.3	$262.3	$341.0	$347.3	$317.8	$150.0	$50.0	$0.0	$1,194.6	$517.8	$1,712.4
117-BAA / Harbor Seal Blubber and Lipids	$0.0	$0.0	$0.0	$94.6	$0.0	$0.0	$0.0	$0.0	$0.0	$94.6	$0.0	$94.6
170 / Isotope Ratio Studies of Marine Mammals	$0.0	$0.0	$0.0	$0.0	$150.4	$143.3	$110.0	$0.0	$0.0	$150.4	$253.3	$403.7
425 / Marine Mammal Book Publication	$0.0	$0.0	$0.5	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.5	$0.0	$0.5

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
Nearshore Ecosystem	$1,725.4	$2,756.3	$2,678.8	$2,994.8	$3,292.6	**$2,186.4**	**$1,753.7**	**$524.8**	**$224.4**	$13,447.9	**$4,689.3**	$18,137.2
025 / Nearshore Vertebrate Predators (NVP)	$0.0	$0.0	$0.0	$710.4	$1,865.2	**$1,705.8**	**$1,669.4**	**$450.0**	**$0.0**	$2,575.6	**$3,825.2**	$6,400.8
026 / Hydrocarbon Monitoring	$0.0	$0.0	$0.0	$143.1	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$143.1	**$0.0**	$143.1
027 / Kodiak Shoreline Assessment	$0.0	$0.0	$0.0	$180.9	$35.2	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$216.1	**$0.0**	$216.1
034 / Pigeon Guillemot Recovery Monitoring	$0.0	$165.9	$225.7	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$391.6	**$0.0**	$391.6
035 / Black Oystercatcher Recovery Monitoring	$0.0	$109.1	$75.3	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$184.4	**$0.0**	$184.4
038 / PWS Shoreline Assessment	$0.0	$316.8	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$316.8	**$0.0**	$316.8
043 / Sea Otter Demographics and Habitat	$0.0	$144.1	$188.6	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**		$332.7	**$0.0**	$332.7
086-C / Herring Bay Experimental and Monitoring Studies	$0.0	$504.6	$697.9	$734.1	$173.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$2,109.6	**$0.0**	$2,109.6
090 / Mussel Bed Restoration	$769.3	$318.6	$446.0	$436.5	$199.9	**$10.0**	**$0.0**	**$0.0**	**$0.0**	$2,170.3	**$10.0**	$2,180.3
106 / Eelgrass Monitoring	$0.0	$0.0	$0.0	$197.4	$253.1	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$450.5	**$0.0**	$450.5
157-BAA / Intertidal Monitoring Using Isotope Indicators	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
158 / Monitoring in Katmai National Park	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
161 / Differentiation/Interchange of Harlequins	$0.0	$0.0	$0.0	$0.0	$87.4	**$98.8**	**$9.5**	**$0.0**	**$0.0**	$87.4	**$108.3**	$195.7
181-BAA / Intertidal Recovery Monitoring	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
223-BAA / Publication of Sea Otter Data	$0.0	$0.0	$0.0	$0.0	$0.0	$43.0	$0.0	$0.0	$0.0	$0.0	$43.0	$43.0
227 / Recovery of Intertidal Communities	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
233 / Body Condition of Sea Otters	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
240 / Clam Recruitment	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
266 / Experimental Oil Removal	$0.0	$0.0	$185.8	$146.9	$0.0	$0.0	$0.0	$0.0	$0.0	$332.7	$0.0	$332.7
285 / Subtidal Monitoring	$0.0	$882.8	$583.4	$117.7	$0.0	$0.0	$0.0	$0.0	$0.0	$1,583.9	$0.0	$1,583.9
290 / Hydrocarbon Database	$0.0	$120.1	$113.5	$154.9	$113.3	$76.3	$74.8	$74.8	$224.4	$501.8	$450.3	$952.1
292 / Chenega Area Shoreline Residual Oiling Reduction	$0.0	$0.0	$0.0	$0.0	$293.0	$0.0	$0.0	$0.0	$0.0	$293.0	$0.0	$293.0
326 / Data Re-Analysis for MM6	$0.0	$0.0	$0.0	$0.0	$11.4	$0.0	$0.0	$0.0	$0.0	$11.4	$0.0	$11.4
427 / Harlequin Duck Monitoring	$470.5	$194.3	$162.6	$172.9	$261.1	$252.5				$1,261.4	$252.5	$1,513.9
429 / River Otters and Oil Contamination	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
R102 / Coastal Habitat Restoration	$485.6	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0		$485.6	$0.0	$485.6
Seabird/Forage Fish and Related Projects	$743.4	$441.7	$1,193.4	$2,086.4	$2,373.1	$2,292.3	$1,880.0	$1820.0	$176.4	$6,838.0	$6,168.7	$13,006.7
021 / Seasonal Movements by Common Murres	$0.0	$0.0	$0.0	$53.9	$0.0	$0.0	$0.0	$0.0	$0.0	$53.9	$0.0	$53.9
029 / Population Survey of Bald Eagles in PWS	$0.0	$0.0	$0.0	$49.3	$0.0	$0.0	$0.0	$0.0	$0.0	$49.3	$0.0	$49.3
031 / Reproductive Success of Murrelets in PWS	$0.0	$0.0	$0.0	$246.0	$77.6	$0.0	$0.0	$0.0	$0.0	$323.6	$0.0	$323.6

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
038 / Symposium/Publication on Seabird Restoration	$0.0	$0.0	$0.0	$74.5	$22.2	$0.0	$0.0	$0.0	$0.0	$96.7	$0.0	$96.7
039-B / Common Murre Productivity Monitoring	$0.0	$0.0	$0.0	$27.4	$0.0	$0.0	$0.0	$0.0	$0.0	$27.4	$0.0	$27.4
041 / Introduced Predator Removal	$0.0	$0.0	$77.0	$66.5	$0.0	$0.0	$0.0	$0.0	$0.0	$143.5	$0.0	$143.5
101 / Removal of Introduced Foxes from Islands	$0.0	$0.0	$0.0	$0.0	$8.4	$0.0	$0.0	$0.0	$0.0	$8.4	$0.0	$8.4
102 / Murrelet Prey and Foraging Habitat	$428.5	$0.0	$239.7	$53.1	$0.0	$0.0	$0.0	$0.0	$0.0	$721.3	$0.0	$721.3
121 / Fatty Acid Signatures of Forage Fish	$0.0	$0.0	$0.0	$29.7	$0.0	$0.0	$0.0	$0.0	$0.0	$29.7	$0.0	$29.7
142-BAA / Status and Ecology of Kittlitz's Murrelet	$0.0	$0.0	$0.0	$0.0	$160.8	$188.5		$0.0	$0.0	$160.8	$188.5	$349.3
144 / Common Murre Population Monitoring	$314.9	$181.0	$250.0	$0.0	$70.5	$73.8	$50.0	$0.0	$0.0	$816.4	$123.8	$940.2
159 / Marine Bird Abundance Surveys	$0.0	$260.7	$142.8	$0.0	$262.9	$45.1				$666.4	$45.1	$711.5
163 / Alaska Predator Ecosystem Experiment (APEX)	$0.0	$0.0	$483.9	$1,486.0	$1,770.7	$1,800.0	$1,800.0	$1800.0	$176.4	$3,740.6	$5,576.4	$9,317.0
167-BAA / Curation of Seabirds Salvaged from EVOS	$0.0	$0.0	$0.0	$0.0	$0.0	$32.1	$0.0	$0.0	$0.0	$0.0	$32.1	$32.1
169 / Genetics of Murres, Guillemots, Murrelets	$0.0	$0.0	$0.0	$0.0	$0.0					$0.0		$0.0
182-BAA / Phenology of Kittlitz's Murrelets	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
224 / Forage Fish in Oil/Gas Development Areas	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
231 / Marbled Murrelet Productivity	$0.0	$0.0	$0.0	$0.0	$0.0	**$120.0**				$0.0	**$120.0**	$120.0
235 / Sand Lance Literature Review	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
253-BAA / Seabird Recovery: Modeling	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
305 / Stable Isotope Analysis of Seabirds	$0.0	$0.0	$0.0	$0.0	$0.0					$0.0		$0.0
306 / Ecology and Demographics of Sand Lance	$0.0	$0.0	$0.0	$0.0	$0.0	**$32.8**	**$30.0**	**$20.0**	**$0.0**	$0.0	**$82.8**	$82.8
Archaeological Resources	$123.3	$1,581.9	$246.7	$274.5	$504.2	**$231.2**	**$201.3**	**$158.9**	**$415.0**	$2,730.6	**$1,006.4**	$3,737.0
007-A / Archaeological Index Site Monitoring	$0.0	$81.9	$246.7	$162.5	$145.1	**$145.0**	**$135.0**	**$145.0**	**$415.0**	$636.2	**$840.0**	$1,476.2
007-B / Site Specific Archaeological Restoration	$0.0	$0.0	$0.0	$112.0	$78.4	**$19.9**	**$0.0**	**$0.0**	**$0.0**	$190.4	**$19.9**	$210.3
066 / Alutiiq Archaeological Repository	$0.0	$1,500.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$1,500.0	**$0.0**	$1,500.0
149 / Archaeological Site Stewardship	$0.0	$0.0	$0.0	$0.0	$74.4	**$66.3**	**$66.3**	**$13.9**	**$0.0**	$74.4	**$146.5**	$220.9
154 / Archaeological Resource Restoration Plan	$0.0	$0.0	$0.0	$0.0	$206.3	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$206.3	**$0.0**	$206.3
R104-A / Site Stewardship	$123.3	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$123.3	**$0.0**	$123.3
Subsistence	$0.0	$241.7	$430.4	$896.7	$1,352.2	**$1,352.2**	**$1,175.1**	**$349.0**	**$825.0**	$2,921.0	**$3,701.3**	$6,622.3
009-D / Survey of Octopuses in Intertidal Habitats	$0.0	$0.0	$0.0	$125.0	$142.3	**$48.0**	**$0.0**	**$0.0**	**$0.0**	$267.3	**$48.0**	$315.3
052A / Community Involvement	$0.0	$0.0	$0.0	$79.0	$271.0	**$248.4**	**$250.0**	**$250.0**	**$750.0**	$350.0	**$1,498.4**	$1,848.4

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
052B / Traditional Knowledge	$0.0	$0.0	$0.0	$0.0	$0.0	**$94.5**				$0.0	**$94.5**	$94.5
127 / Tatitlek Coho Salmon Release	$0.0	$0.0	$0.0	$4.8	$26.6	**$11.1**	**$12.0**	**$12.0**	**$0.0**	$31.4	**$35.1**	$66.5
131 / Clam Restoration	$0.0	$0.0	$0.0	$223.6	$274.9	**$365.0**	**$365.0**			$498.5	**$730.0**	$1,228.5
138 / Elders/Youth Conference	$0.0	$0.0	$0.0	$75.1	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$75.1	**$0.0**	$75.1
156 / Public Access and Education Program	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
210 / Youth Area Watch	$0.0	$0.0	$0.0	$0.0	$115.0	**$150.0**	**$150.0**			$115.0	**$300.0**	$415.0
214 / Harbor Seal Documentary	$0.0	$0.0	$0.0	$0.0	$77.4	**$12.1**	**$0.0**	**$0.0**	**$0.0**	$77.4	**$12.1**	$89.5
220 / Eastern PWS Salmon Habitat Restoration	$0.0	$0.0	$0.0	$0.0	$92.0	**$115.0**	**$12.0**	**$0.0**	**$0.0**	$92.0	**$127.0**	$219.0
222 / Chenega Bay Salmon Habitat Enhancement	$0.0	$0.0	$0.0	$0.0	$16.1	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$16.1	**$0.0**	$16.1
225 / Port Graham Pink Salmon Project	$0.0	$0.0	$0.0	$0.0	$95.3	**$74.4**	**$75.0**	**$75.0**	**$75.0**	$95.3	**$299.4**	$394.7
244 / Community Harbor Seal Sampling/Management	$0.0	$0.0	$44.9	$76.2	$128.5	**$114.9**	**$85.0**	**$0.0**	**$0.0**	$249.6	**$199.9**	$449.5
245-BAA / Community-Based Harbor Seal Research	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
247 / Kametolook River Coho Salmon	$0.0	$0.0	$0.0	$0.0	$0.0					$0.0		$0.0
256 / Columbia and Solf Lakes Sockeye Salmon Stocking	$0.0	$0.0	$0.0	$0.0	$60.8					$60.8		$60.8
261 / Port Graham Land Stewardship	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
262 / Port Graham Shoreline Inventory/Protection	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
263 / Port Graham Salmon Stream Enhancement	$0.0	$0.0	$0.0	$0.0	$0.0	$58.0	$115.0	$12.0	$0.0	$0.0	$185.0	$185.0
265 / Port Graham Moose Browse	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
267 / Port Graham Skiff Dock	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
268 / Port Graham Harvest Trips	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
271 / Status of Subsistence Marine Mammals	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
272 / Chenega Chinook Release Program	$0.0	$10.7	$55.4	$43.4	$52.3	$45.0	$0.0	$0.0	$0.0	$161.8	$45.0	$206.8
276 / Chignik Lake Access Road	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
279 / Food Safety Testing	$0.0	$231.0	$272.2	$175.7	$0.0	$0.0	$0.0	$0.0	$0.0	$678.9	$0.0	$678.9
281 / Forest Workshops	$0.0	$0.0	$0.0	$0.0	$0.0		$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
282 / Sea Otter Population Monitoring	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
286 / Elders/Youth Conference	$0.0	$0.0	$0.0	$0.0	$0.0	$15.8	$111.1	$0.0	$0.0	$0.0	$126.9	$126.9
295 / Dissemination of Traditional Knowledge	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0
428 / Community Planning Project	$0.0	$0.0	$57.9	$93.9	$0.0	$0.0	$0.0	$0.0	$0.0	$151.8	$0.0	$151.8
Recreation	$0.0	$40.8	$75.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$115.8	$0.0	$115.8
065 / Prince William Sound Recreation Project	$0.0	$40.8	$75.0	$0.0	$0.0	$0.0	$0.0	$0.0	$0.0	$115.8	$0.0	$115.8

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
Reduction of Marine Pollution	$0.0	$0.0	$0.0	$1.4	$0.0	**$267.5**	**$0.0**	**$0.0**	**$0.0**	$1.4	**$267.5**	$268.9
260 / Port Graham Marine Pollution Cleanup	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
283 / Eyak Beach Cleanup	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
304 / Kodiak Waste Management Plan	$0.0	$0.0	$0.0	$0.0	$0.0	**$267.5**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$267.5**	$267.5
417 / Waste Oil Disposal Facilities	$0.0	$0.0	$0.0	$1.4	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$1.4	**$0.0**	$1.4
Habitat Improvements	$382.9	$1,098.8	$965.6	$267.6	$560.6	**$599.4**	**$759.6**	**$0.0**	**$0.0**	$3,275.5	**$1,359.0**	$4,634.5
051 / Habitat Assessments	$382.9	$942.0	$527.7	$15.7	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$1,868.3	**$0.0**	$1,868.3
058 / Landowner Assistance Program	$0.0	$0.0	$0.0	$90.7	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$90.7	**$0.0**	$90.7
059 / Habitat Identification Workshop	$0.0	$23.1	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$23.1	**$0.0**	$23.1
060 / Accelerated Data Acquisition	$0.0	$43.9	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$43.9	**$0.0**	$43.9
060 / Spruce Bark Beetle Impacts	$0.0	$0.0	$0.0	$26.8	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$26.8	**$0.0**	$26.8
064 / Imminent Threat Habitat Protection	$0.0	$89.8	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$89.8	**$0.0**	$89.8
110 / Habitat Data Acquisition and Support	$0.0	$0.0	$437.9	$134.4	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$572.3	**$0.0**	$572.3
180 / Kenai Habitat Restoration	$0.0	$0.0	$0.0	$0.0	$560.6	**$599.4**	**$759.6**	**$0.0**	**$0.0**	$560.6	**$1,359.0**	$1,919.6
230 / Valdez Duck Flats Restoration	$0.0	$0.0	$0.0	$0.0	$0.0			**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
Ecosystem Synthesis	$0.0	$0.0	$0.0	$0.0	$0.0	**$64.9**	**$260.0**	**$0.0**	**$0.0**	$0.0	**$324.9**	$324.9
054-BAA / Mass-balance Model of Trophic Fluxes	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
215-BAA / Modeling Trophic Wastes	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
234 / Ecosystem Synthesis Model	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
249 / Ecosystem Synthesis and Modeling	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
300 / Synthesis of Scientific Findings from EVOS	$0.0	$0.0	$0.0	$0.0	$0.0	**$64.9**	**$260.0**	**$0.0**	**$0.0**	$0.0	**$324.9**	$324.9
Admin./Sci.Mgt./Pub.Info.	$0.0	$0.0	$69.4	$0.0	$35.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$104.4	**$0.0**	$104.4
183 / Placement of Darkened Waters Exhibit	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
221-BAA / Information Infrastructure	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
232 / Endowment of Engineering Research Center	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
275 / Applied Field-based Research Program	$0.0	$0.0	$0.0	$0.0	$0.0				**$0.0**	$0.0	**$0.0**	$0.0
301 / Television Pilot	$0.0	$0.0	$0.0	$0.0	$0.0				**$0.0**	$0.0	**$0.0**	$0.0
507 / EVOS Symposium Publication	$0.0	$0.0	$69.4	$0.0	$35.0	**$0.0**	**$0.0**	**$0.0**		$104.4	**$0.0**	$104.4

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
Research Facilities	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
171 / Mariculture Technical Center	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
238 / Kachemak Bay Shellfish Nursery	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
252 / Planning for Genetics Lab at SeaLife Cemter	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
Project Management	$0.0	$0.0	$0.0	$0.0	$105.4	**$641.6**	**$560.0**	**$480.0**	**$960.0**	$105.4	**$2,641.6**	$2,747.0
250 / Project Management	$0.0	$0.0	$0.0	$0.0	$0.0	**$641.6**	**$560.0**	**$480.0**	**$960.0**	$0.0	**$2,641.6**	$2,641.6
600 / NOAA Program Management	$0.0	$0.0	$0.0	$0.0	$105.4	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$105.4	**$0.0**	$105.4
Total Cost :	$6,019.1	$8,807.9	$15,364.5	$17,175.4	$19,103.5	**$15,390.3**	**$10,718.1**	**$3,813.5**	**$2,707.8**	$66,470.4	**$32,629.7**	$99,100.1

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.

DRAFT

Table 2. EXECUTIVE DIRECTOR'S RECOMMENDATION / OUTSIDE OF FY 97 WORK PLAN
History of Project Costs

Project	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00-02	Subtotal FY92-96	Subtotal FY97-02	Total FY92-02
100 / Administration, Science Management, Public Information	$4,293.9	$2,659.3	$4,037.9	$3,174.3	$3,418.5	**$2,857.1**	**$2,800.0**	**$2,500.0**	**$4,700.0**	$17,583.9	**$12,857.1**	$30,441.0
115 / Sound Waste Management	$0.0	$0.0	$0.0	$260.8	$49.7	**$1,167.9**	**$75.0**	**$0.0**	**$0.0**	$310.5	**$1,242.9**	$1,553.4
126 / Habitat Prot./Acq. Support	$0.0	$0.0	$2,031.1	$1,301.9	$3,304.1	**$1,282.6**	**$770.0**	**$565.0**	**$215.0**	$6,637.1	**$2,832.6**	$9,469.7
151-BAA / PWSSC Improvements	$0.0	$0.0	$0.0	$0.0	$0.0					$0.0		$0.0
197 / SeaLife Center Fish Pass	$0.0	$0.0	$0.0	$0.0	$0.0	**$545.6**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$545.6**	$545.6
229 / Cordova Mi. 17 Landfill	$0.0	$0.0	$0.0	$0.0	$0.0	**$0.0**	**$0.0**	**$0.0**	**$0.0**	$0.0	**$0.0**	$0.0
277 / Chenega Bay Repository	$0.0	$0.0	$0.0	$0.0	$0.0					$0.0		$0.0
424 / Restoration Reserve	$0.0	$0.0	$12,000.0	$12,000.0	$12,000.0	**$12,000.0**	**$12,000.0**	**$12,000.0**	**$36,000.0**	$36,000.0	**$72,000.0**	$108,000.0
Total Cost :	$4,293.9	$2,659.3	$18,069.0	$16,737.0	$18,772.3	**$17,853.2**	**$15,645.0**	**$15,065.0**	**$40,915.0**	$60,531.5	**$89,478.2**	$150,009.7

NOTES: 1) Figures for FY 92-95 are expenditures on restoration projects; an additional $6.8 million was spent on damage assessment studies in FY 92.
2) Costs projected for FY 97-02 are for planning purposes and have not yet been approved by the Trustee Council.
3) A blank space means the Trustee Council has not yet forecast anticipated funding for that year.