13.08.01 – Reading File

July 2002

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

July 29, 2002

Guido R. Rahr, Chair
IUCN/SSC Salmon Specialist Group
The Wild Salmon Center
721 NW Ninth Avenue Suite 290
Portland, OR 97209

Re: Invitation to join the IUCN/SSC Salmon Specialist Group

Dear President Rahr:

Thank you for doing me the honor of inviting me to join the Salmon Specialist Group. I accept. The signed Membership Record form has been sent to the IUCN in Gland. I understand that the information may be made publicly available, with the exception of my private telephone numbers. My complete contact information is below my signature.

Look forward to working with you.

Sincerely,

Phillip R. Mundy, Science Director

Gulf of Alaska Ecosystem Monitoring and Research Program
Exxon Valdez Oil Spill Trustee Council
441 West 5th Avenue Suite 500
Anchorage, AK 99501-2340
907-278-8012
907-276-7178 fax
phil_mundy@oilspill.state.ak.us

Exxon Valdez Oil Spill Trustee Council

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MEMORANDUM

TO: Jeep Rice
NMFS - Auke Bay Lab

FROM: Molly McCammon
Executive Director

RE: Authorization -- Projects 02195, 02290, 02476, 02543, 02585

DATE: July 30, 2002

With recent submittal to the Chief Scientist of overdue reports for projects 99347, 00195, and 01195, and our agreement on extended due dates for the reports/manuscripts on projects 00598, 01476, and 01599, this memorandum formally authorizes you to proceed with the following projects:

- 02195 Pristane Monitoring in Mussels
- 02290 Hydrocarbon Database and Interpretation Service
- 02476 Effects of Oiled Incubation Substrate on Pink Salmon Reproduction
- 02543 Evaluation of Oil Remaining in the Intertidal from the EVOS
- 02585 Lingering Oil: Bioavailability and Effects to Prey and Predators

The work must be performed consistent with the Detailed Project Descriptions and budgets approved by the Trustee Council for each of these projects, including (a) for Project 02195, additional sampling in FY 02 rather than closeout, as approved by memo March 31, 2002 from Molly McCammon to Jeep Rice and (b) for Project 02585, large volume water sampling as discussed by e-mail May 30, 2002 from Sandra Schubert to Jeep Rice.

The new due dates for the NOAA reports that are still outstanding are as follows. I understand that these extensions are necessary because of competing demands on the principal investigators' time due to a number of FOIA (Freedom of Information Act) requests that have been filed and the decision to perform additional statistical analyses and solicit additional external reviews on these projects.

00598 manuscript to be submitted December 31, 2002
01476 annual report to be submitted August 9, 2002
01599 final report to be submitted March 31, 2003

cc: Pete Hagen, NOAA Liaison
Dede Bohn, DOI-USGS Liaison

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

July 30, 2002

Mr. Robert Bosworth, Deputy Commissioner
Alaska Department of Fish and Game
P.O. Box 25526
Juneau, AK 99802-5526

RE: Draft Aquatic Nuisance Species Management Plan (June 2002)

Dear Mr. Bosworth:

Thank you for the opportunity to review the Draft Aquatic Nuisance Species (ANS) Management Plan. My staff's specific scientific and technical comments on the plan are attached.

In general, I believe this plan is a good start at addressing a complex and important issue. However, I do have three issues to raise about the relationship of the ANS plan to the GEM (Gulf of Alaska Ecosystem Monitoring and Research) Program. First, the priorities on a statewide basis may not be the priorities for the GEM area. The plan appears to indicate that introductions of Atlantic salmon and green crab in southeastern Alaska are the most immediate and serious concerns with implications for the economy of the state. These species are somewhat out of the geographic reach of the *Exxon Valdez* Oil Spill Trustee Council's programs, which are limited to the northern Gulf of Alaska and areas affected by the *Exxon Valdez* oil spill. The immediate ANS concerns in the GEM area appear to be posed by the illegal introduction of northern pike into salmon rearing habitats on the Kenai Peninsula and the potential future introduction of other species into Prince William Sound in ballast water.

This is a concern because of my second issue, the Trustee Council appearing as the sole source of funding for a statewide scientific assessment of risk to determine the priority ranking for action on ANS threats, and a re-evaluation of priorities to refine or develop individual or multiple species actions plans (2A1b and c). If the Trustee Council is to provide some start-up funding for the ANS program, the Trustee Council should be considered as a partner or cooperating organization, as well as participate on the coordinating committee.

The third issue relates to training programs. For the GEM Program to include recognition of ANS in all EVOS-funded sampling programs for marine and aquatic organisms, the scope and funding for the training program discussed in section 3A1b would need to be expanded to allow training of a broader group of "government employees and volunteers" as identified under strategic action 3A1. As currently stated, this training would be only for ADF&G employees.

I appreciate the opportunity to provide these comments. Please contact me if you have any questions or would like to discuss this further.

Sincerely,

Molly McCammon
Executive Director

Attachment

Cc: Ginny Fay
Phil Mundy
Katharine Miller
Bob Walker

Scientific and Technical Comments by EVOS staff on the Draft Aquatic Nuisance Species Management Plan (June 2002)

- We strongly support the ADF&G's goal to increase coordination between state, federal and tribal agencies and organizations on ANS control and prevention. As the plan points out, there are many ongoing efforts in this area, and it is important to ensure that resources are used wisely and to the best effect. We also agree that prevention of further introductions should be a primary objective of the plan.

- We suggest that funding for eradication be deferred possibly to FY 04 or later, at least until the ANS program is in place and staffed, coordination efforts have been established, and the analyses that support species action plans have actually established eradication as a viable option (2A1a). The history of ANS introductions in other parts of the U.S. and the world illustrate that eradication is extremely difficult, expensive, and often ineffective. It would seem to be premature to implement programs for eradication of Atlantic salmon and northern pike before monitoring programs for these species are in place, or without coordinating with agencies in Washington and Canada that are working to address these same problems. In addition, we wonder whether it will be possible for ADF&G to pursue such an optimistic agenda in such a short amount of time. It might be better to focus on getting the program in place in the initial years and working on implementing control and eradication measures, if indicated, once the program is up and running.

- We recommend that references to case histories of ANS in the literature be incorporated into the ANS Management Plan. There is a wealth of literature available for species such as lamprey in the Great Lakes which could be used to advantage in Alaska. The literature should provide useful lessons in the form of answers to basic questions such as, "How did the ANS get established, and how long did it take to become a pest?" and "Was eradication attempted, and was it successful?" and "How much did eradication efforts cost, and how much collateral damage did eradication efforts inflict on native species?" and "How did government agencies organize to combat ANS introductions, and how well did this organizational structure work?" When proposing courses of action for ANS prevention and containment in Alaska, this literature is also needed to respond to the basic question, "How do we know this could work?"

- The plan makes no mention of the potential contribution of introduced species by commercial fishing vessels. A large number of fishing vessels are home ported in Washington state or ports farther south, or spend the off season there, and may take on water to increase stability when transiting to Alaska. Several of the species that the plan identifies as being of most concern for introduction are already established in California, Oregon, Washington and Canada, or have the potential to become established there in the near future. Because fishing vessels remain relatively close to shore as they transit to Alaska, they have the potential to accidentally take on water containing larvae of nearshore ANS and discharge it in Alaska waters. Thus, we

- believe these vessels should be included in the plan as potential source of species introduction through ballast water.

- Another way that ships can introduce ANS into new areas is through bottom fouling. This is a particularly important pathway for introduction of aquatic plants. Given the large number of vessels transiting from Canada and other parts of the U.S to Alaska, and within Alaska itself, this pathway should be investigated for its potential contribution to ANS introduction. In addition, the International Maritime Organization is proposing a ban on the use of tributyltin, TBT, an effective but highly toxic anti-fouling agent. This may increase the potential for bottom fouling on vessels from outside the US to contribute to ANS introduction. Although it is very difficult to manage or control ANS introductions from fouling, we suggest that bottom fouling be addressed with other vessel-associated pathways.

- The introductory portions of the report discuss potential introductions from research and public aquaria, and we would like to ensure that these pathways are considered in the implementation of the plan. A number of devastating ANS introductions have come as a result of research activities, such as the introduction of *gracilaria salicornia* by the University of Hawaii into Kaneohe Bay. Aquaria are also potential sources of ANS introduction, since many larvae are small enough to escape filters used when tanks are emptied and cleaned. The Universities of Alaska and public aquaria in the state should be included on the working group and committees

- The plan proposes to develop an education program to educate the public and resource groups on the importance of preventing ANS introductions. We believe education is an important component of the plan. However, it does not appear that the proposed target for the education program is the sector that is most likely involved in ANS introduction. Most of the species of concern listed in the plan have either been introduced intentionally, or will likely come from accidental introduction through vessel transport, aquaculture escapes, etc. Therefore, we recommend that the education program target recreationalists, fishers, boat owners, and others who might be more likely to be involved in introducing ANS either accidentally or intentionally.

- The problem statement in 3.A. identifies that "Accurate baseline information is needed on ANS presence , locations, and an estimate of population number and/or densities." The plan does not address pro-active collection of baseline data, but rather opportunistic identification which may be insufficient. Accurate estimates of population number and/or densities could be costly.

- Section 2A1b proposes having EVOS fund a scientific risk assessment to determine the priority for ranking actions on ANS. We are not clear on the type of risk assessment that is being proposed. Would this be an ecological risk assessment? Would it incorporate economic or other risks that might be appropriate to measure? There seems to be one-time funding for assessment of currently perceived problems, but 1A1d identifies a subcommittee for this purpose, and 2A3b identifies that an

- annual process would be developed to assess the relative "environmental risks." Would additional funding be needed for these tasks in the future?

- Sections 3A1c, 3A1d, 4A1b, 4A1c, 5A1e identify database(s) and website(s) that would be developed. We are concerned that the identified cost would only cover personnel time needed for development, and not longer term maintenance. Will the servers hosting the databases and websites be contributed in-kind by ADF&G? Database and GIS software licensing can be pricey, and is obviously not included in the identified costs. Again, are these in-kind contributions by ADF&G, or someone else? These should be identified to get a true cost of setting up this system.

- Section 3B1c indicates that ADF&G will establish and administer an ANS Emergency Fund "to finance a quick initial response to the introduction of an ANS." We would assume that this will cover emergency situations where ADF&G has jurisdictional responsibility, as will be determined under Goal 6. Funding for emergency responses in other jurisdictions may be needed. Also, is every ANS observation an emergency situation? Will there be non-emergency situations where other funding be used to support the appropriate response?

STATE OF ALASKA

TONY KNOWLES, GOVERNOR

DEPARTMENT OF FISH AND GAME

OFFICE OF THE COMMISSIONER

P.O. BOX 25526
JUNEAU, ALASKA 99802-5526
PHONE: (907) 465-4100
FACSIMILE: (907) 465-2332

July 2, 2002

RECEIVED JUL 08 2002 EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Molly McCammon
Executive Director
Exxon Valdez Oil Spill Trustee Council
441 West Fifth Ave Suite 500
Anchorage, AK 99501

Dear Molly McCammon:

I am writing to request your review of our Draft Aquatic Nuisance Species Management Plan. As the agency with primary responsibility for the management of fish and wildlife and their habitats in Alaska, the Alaska Department of Fish and Game is developing this aquatic nuisance species plan to minimize the potential impacts in Alaska. It is a first step in initiating the establishment of a coordinated state aquatic and terrestrial invasive species program. Development of this plan also makes Alaska eligible for federal funds to help control invasive species.

This plan focuses on nonindigenous aquatic nuisance species that have been or could be introduced into Alaska waters. These include marine, coastal, estuarine, lake, and river environments. The plan does not include terrestrial uplands or wetlands (see Appendix B of the report for an extensive glossary of terms). The emphasis is on identifying and responding to the highest priority threats. Few invasive aquatic species have been introduced and become established in Alaska, compared to other states. We have an excellent opportunity to take proactive and cost-effective steps to prevent invasions.

Thank you for taking the time to review this draft. We look forward to receiving your comments.

If you have any questions, please do not hesitate to contact Ginny Fay, 907/465-4148 or via email, ginny_fay@fishgame.state.ak.us. If possible, please submit your comments by July 22.

Sincerely,

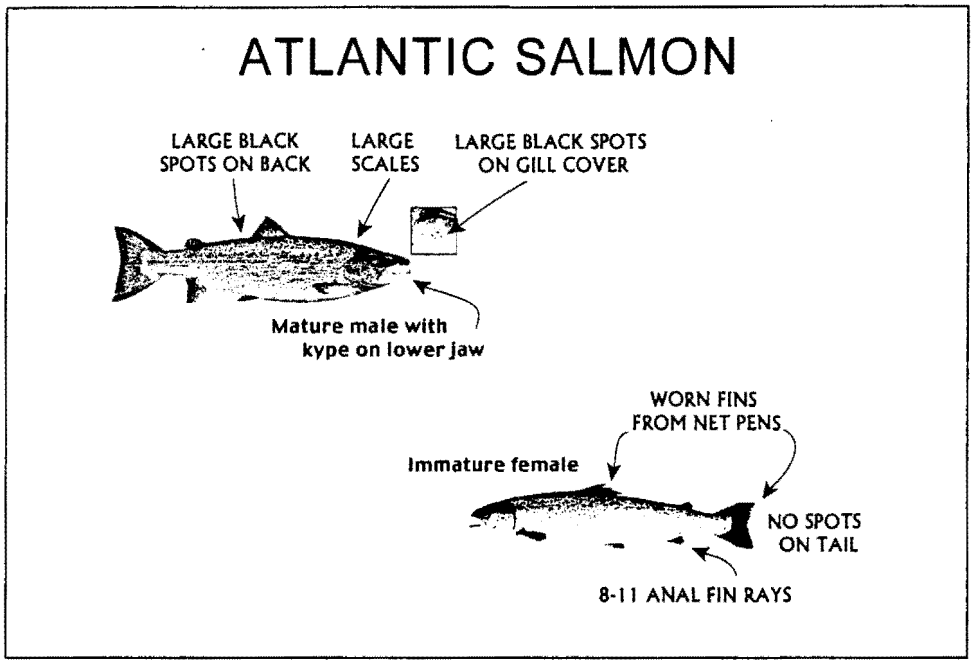
Robert Bosworth
Deputy Commissioner

Enclosure

11-K2LH

DRAFT

Aquatic Nuisance Species Management Plan



Ginny Fay
(907) 465-4148
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Alaska Department of Fish and Game
1255 W. 8th Street
P.O. Box 25526
Juneau, AK 99802-5526

June 2002

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DRAFT

I. INTRODUCTION

Alaska is a seemingly quiet oasis within a growing worldwide invasion. The invasion involves the movement of living organisms from where they are normally found to another place where they can live, prosper and cause environmental, human health and economic harm. This invasion costs the nations of the world many billions of dollars annually, greatly impacting natural ecosystems, industry, and human society. On February 3, 1999, President Clinton issued Executive Order 13112 on Invasive Species calling for increased coordination between Federal agencies and cooperation with state entities to combat the invasion. Invasive species are defined in the Executive Order as "a species that is both non native (alien) to the ecosystem under consideration and whose introduction causes or is likely to cause economic or environmental harm or harm to human health."

The invasion by alien species is the result of increased worldwide trade and travel by humans. People can circle the globe in less than a day and move huge shiploads of freight across oceans in a week. Next day air delivery is available to most places on earth. Many organisms can move as undetected hitchhikers making it easy for organisms to be moved across the globe. Most introductions of invasive species are unintentional or accidental (organisms released in ship ballast water) while some are the result of negligence or ignorance (release of unwanted aquarium fish to the wild). Still other introductions are intentional and intended to benefit humans (deer to Prince William Sound and Kodiak Island) but occasionally cause harm (carp and nutria in North America and reed canary grass in Juneau's Duck Creek and Twin Lakes).

As the agency with primary responsibility for the management of fish and wildlife and their habitats in Alaska, the ADF&G is developing this aquatic nuisance species (ANS) plan to minimize the potential impacts in Alaska. It is a first step in initiating the establishment of a coordinated state aquatic and terrestrial invasive species program. This ANS program is a small investment that can pay large dividends to Alaskans in the future. For example, it is estimated that the costs for approximately seven years from 1985 through 1992 of controlling zebra mussel populations introduced to the Great Lakes and mid-west through ballast water would pay for the annual costs of the New York invasive species program for 14,000 years.[1] Since the time of that report, the costs of attempts to control the spread of zebra mussels has increased to $1 billion annually, "paying for" a few more thousand years of New York's ANS program. Development of this plan also makes Alaska eligible for federal dollars to help control invasive species.

This plan focuses on nonindigenous ANS that have been or could be introduced into Alaska waters. "Aquatic" includes marine, coastal, estuarine, lake, and river environments. It does not include terrestrial uplands or upland wetlands (see Appendix B for an extensive glossary of terms). The emphasis is on identifying and responding to the highest priority threats. As mentioned previously, few invasive aquatic species have been introduced, and become established in Alaska compared to other states. This is in part due to Alaska's stringent plant and animal transportation laws, geographic isolation, northern climate, small human population, and fewer concentrated disturbed habitat areas. Alaska's fortunate status provides an excellent

[1] New York Department of Environmental Conservation, Division of Fish and Wildlife. *Nonindigenous Aquatic Species Comprehensive Management Plan.* November 1993, p. 3.

opportunity for Alaskans to take a proactive, and considerably less costly, role to prevent invasions.

This management plan focuses on the most prominent threats. What constitutes a "high" threat is based on a subjective assessment of risk of economic and ecological damages. However, a recommendation of the plan is to develop a rigorous, scientifically-based process for assessing risk, setting priorities, and responding to invasions. Given the great variability of climates across Alaska, focusing on the highest level threats generally results in an approach that is also geographically based; climate zones naturally limit the establishment of some of the most damaging invasive species. In addition, the movement of trade and people tend to be highly concentrated in the portions of Alaska that also are the most hospitable climates for invasive species. Given limited resources to implement an invasive species program, this focus will allow the Department to manage the most effective program possible given available resources.

While invasive species impacts to date are low, Alaska has much to lose should some of the prominent threats at its borders become established. A significant portion of Alaska's economy, including sport and commercial fishing, is dependent upon the pristine and natural quality of its aquatic ecosystems. Despite the low level of impacts to date, Alaska is certainly vulnerable to invasive species introduction through such potent introduction pathways as Atlantic salmon escaped from fish farms, the movement of oil tankers and ballast water from the United States west coast and Asia, cruise ships and freighter ballast water, fishing vessels docking at Alaska's busy commercial fishing ports, construction equipment, trade of live seafood, aquaculture, and contaminated sport anglers gear brought to our world renowned fishing sites.

This plan provides an overview of invasive species issues in Alaska, including relevant laws, regulations, and programs of the Alaska Department of Fish and Game.

II. AQUATIC NUISANCE SPECIES PROBLEMS AND CONCERNS IN ALASKA

History of Invasion

Ecological studies to date indicate that Alaska's extreme northern area north of the Brooks Range poses less risk for the establishment of ANS because of its location, isolation, and severe climate. Most aquatic invasive species come from warmer climates, and few of these species are capable of surviving in Alaska's more extreme latitudes. However, the area south of the Brooks Range has a warmer climate, more developed land, more disturbed habitats, and better road access. These factors increase the likelihood of invasive species introductions. Many species of fish, birds, mammals, plants, and aquatic invertebrates from temperate climate zones around the world could be introduced to and thrive in Alaska.

Southeast and south coastal Alaska and Prince William Sound (PWS) may have the greatest potential for ANS introduction. Invasive species from the west coast of the U.S. and Canada may easily extend their range northward. Southeast Alaska and PWS receive a large amount of ship traffic, which increases the possibility of invasive species introductions. Ballast water releases

from barges and ships are known to be an important route by which introductions occur. The potential for new invasive species introductions on the Aleutian Island chain is significant as well, because of the large amount of ship traffic that arrives from around the world.

Risk assessment, monitoring and detection of ANS are especially difficult in Alaska because of the vast size, small human population, and limited and costly transportation system. This is compounded by the limited baseline information on freshwater and saltwater invertebrates. Without an ANS monitoring program, information in this section on introductions is limited and anecdotal.

Fish

Several nonindigenous fish species have been illegally introduced in some areas of Alaska. **Northern pike** (*Esox lucius* (Linnaeus)), native to Alaska, are indigenous to the area north and west of the Alaska Range. In the 1950s, an unknown person transported pike from north of the Alaska Range and stocked them in Bulchitna Lake in the Susitna River Drainage. In the last 40 years, pike have moved throughout the drainage, adversely impacting valuable salmonid stocks in numerous sub-drainages. Pike are now appearing in other Southcentral Alaska drainages. Also, they have been illegally introduced on the Kenai Peninsula. (See Appendix D for more information on northern pike and other invasive species.)

Atlantic salmon (*Salmo salar*) continue to escape from fish farms in British Columbia and Washington and have been found in streams near Cordova, Ketchikan, and Yakutat and as far north as the Bering Sea. Atlantic salmon is a serious invasive threat in Alaska. Natural reproduction of escaped Atlantic salmon is documented from streams in British Columbia, suggesting successful spawning could now be occurring in similar habitat in Washington and Southeast Alaska. It is thought Atlantic salmon would most likely compete with native steelhead (*Oncorhynchus mykiss*), cutthroat trout (*Oncorhynchus clarkii*), Dolly Varden (*Salvelinus malma*), and coho salmon (*Oncorhynchus kisutch*), and may also adversely impact other species of Pacific salmon.

Recently, **yellow perch** (*Perca flavescens*) were discovered in a small, unnamed lake on the Kenai Peninsula. This fish population was a product of an illegal introduction. Yellow perch compete with all resident fish species and could restrict salmon fry production. Because perch pose a significant economic threat to Alaska sport fisheries, the department used rotenone to eradicate this population.

Currently, ADF&G stocks salmon and other native fish outside their historical ranges to increase sport-fishing opportunities. Likewise, private non-profit hatcheries release salmon fry to provide economic benefits to the commercial fishing industry. It is Department policy to stock nonindigenous fish only in areas lacking significant wild fish populations, so transplants generally do not compete with native fish species. In many instances, only sterile fish are stocked so the introduced fish can be controlled and managed. Alaska law stringently regulates all fish stocking. All fish stocking receives thorough reviews to assure State of Alaska pathology, genetic, and management policies and regulations are followed (5AAC 41.005). No recent stockings are known to have harmed native species or caused environmental damage. The only sport fish species imported into Alaska is the Brook trout (*Salvelinus fontinalis*) prior to

statehood. Fish species moved around Alaska by federal and state agencies to places the species were not found before include rainbow trout, grayling, char and the five species of Pacific salmon.

Plants

Japanese knotweed (*Polygonum cuspidatum*) is spreading in Sitka and other Southeast Alaska communities, choking out native plants. A Forest Service ecologist, who participated in a knotweed surveillance study, indicates that knotweed could easily advance up the surrounding mountains into avalanche chutes. Having established a foothold, it could spread along the stream banks, shoreline or estuaries. The loss of spring time cover and woody streamside vegetation would result in destabilized stream banks and the reduction of woody debris, detritus from native plants that would normally fall into the streams. This would potentially affect insect and fish populations and disrupt the aquatic ecosystem.

Knotweed was probably brought to the area in the 19th century as an ornamental plant from Great Britain, where it is a major invasive problem. One British community employs a person solely for the purpose of eradicating Japanese knotweed. Washington and Oregon have taken action against knotweed, classifying the plant as "noxious", imposing fines for raising it privately, and undertaking control programs along major rivers to protect fish and wildlife habitat. Even with the use of herbicides, eradicating large patches of knotweed can take up to eight years of repeated intervention.

Reed canary grass is invading freshwater wetlands, and in some places choking channels of small streams. Foxtail barley, used for revegetation work during the construction of the Trans Alaska oil pipeline, has invaded salt marsh habitats in the Mendenhall Wildlife Refuge near Juneau, Alaska and reduced hay quality from farms in Interior Alaska.

Highest Potential Threats[2]

The annual temperature ranges of water bodies such as oceans, lakes and rivers in Alaska vary seasonally much less than the temperature ranges occurring on land. Given warm marine currents, Alaska's marine environment is relatively warm despite its northern latitude and is similar to its southern West Coast neighbors. Unfortunately, the locations of ANS invasions make them harder to detect. This allows much more time for an invasive species to become established and makes it harder to eradicate when located.

Fish

Northern pike and **Atlantic salmon** are currently the two invasive fish species of greatest concern to Alaska. Pike are rapidly spreading throughout Southcentral Alaska. Wherever pike are introduced, they eliminate or greatly reduce the native species present. They have the potential to cause severe environmental and economic impacts to many highly productive salmon streams. Atlantic salmon also pose a threat to Alaska, although the extent of impact is more speculative than that caused by pike. Biologists speculate small populations of Atlantic salmon will develop in particular locations. Atlantic salmon can displace native fish populations, through competition for limited food and spawning habitat. Even more likely to be affected will be

[2] See Appendix D for more information on northern pike and other invasive species.

steelhead and cutthroat trout, because they have life histories and habitat preferences that are similar to those of Atlantic salmon.

- **Ornamental aquarium fish** now only occasionally appear in the wild but this could increase given an unmonitored aquarium industry and the public demand for new and exotic species. **Oscars** (*Astronotus ocellatus*) have been found in Jewel Lake and a sport angler harvested a **Pacu** (*XXXX*) in Campbell Creek. The Oscars were found dead along the shoreline prior to ice formation on the lake. Most aquarium fish cannot live in cold water and die in the fall when the lakes get cold. However, there is damage caused by these species during the time they are free in the wild as they compete, and in some cases, feed on native species. In addition, some aquarium fish are natives of temperate climates that can survive in Alaska. In special circumstances ornamental fish can thrive in the wild. Clear Air Force Station discharges water used to cool its power plant and radar equipment into a system of ponds and a gravel pit that are connected by canals. In the late 1980s, goldfish were dumped into this system. The population exploded and the pond system became plugged with a multitude of goldfish. The Air Force had to resort to poison to eliminate the fish problem.

Other fish species could become invasive to Alaska as exemplified by the recently eradicated **yellow perch** population on the Kenai Peninsula. If this species had spread throughout the numerous lakes and rivers on the Kenai Peninsula, the effects on salmonid populations could have been severe. This perch population was mostly likely introduced intentionally by the planting of perch eggs or fry brought from the lower 48 states. While illegal to introduce, numerous other fish species indigenous to the lower 48 states and Canada could become invasive problems in Alaska. In the past, the logistics of moving eggs or fry into the state was difficult, lessening the possibility of an unwanted introduction. However, movement of live animals is simpler today. Many of these species can be purchased over the internet and shipped to the purchaser within 24 hours.

Invertebrates

One potential invasive species of concern is the **Green Crab** (*Carcinus maenas*), a native of northern Europe. It became established in California about ten years ago and has expanded its range northward to Vancouver Island. It is capable of surviving environmental conditions at least to the Aleutian Islands. A very aggressive small crab living close to shore, it has severely reduced shore-dwelling crab populations at one long-term study site in Bodega Bay, California. Because king, Tanner and Dungeness crabs all use shorelines as nursery areas, a green crab invasion has the potential to significantly impact recruitment needed to maintain Alaska's valuable crab and halibut fisheries.

The **New Zealand mudsnail** (*Potamopyrgus antipodarum*) is a small aquatic snail. As its name states, this species is native to freshwater lakes and streams of New Zealand. Like many organisms today, it is being incidentally carried to many locations around the world such as Europe, Asia, and North America. In the U.S., this snail was first detected in the mid-1980s in the Snake River region of Idaho. Since then, it has spread to waters of Montana, Wyoming, California, and most recently Arizona. Mudsnail densities of over one-half million per meter square in western streams are a cause for concern. Because the West is known for abundant trout and productive fishing spots, there is concern that the mudsnails will impact the food chain for

native trout and the physical characteristics of the streams themselves.[3] This species poses a serious threat to Alaska's sport fisheries.

The **Chinese mitten crab** (*Eriocheir sinensis*) is indigenous to China but now occurs from San Francisco Bay to the Columbia River. With a catadromous life history similar to the American eel, it can move up rivers hundreds of miles where it displaces typical benthic fauna and can possibly affect salmon recruitment.

Whirling disease (*Myxobolus cerebralis*) is a parasitic infection which attacks juvenile trout and salmon, but does not infect warm water species. The parasite infiltrates the head and spinal cartilage of fingerling trout where it multiples rapidly, causing the fish to swim erratically and, in severe cases, die. When an infected fish dies, millions of tiny indestructible spores (each about the size of a red blood cell) are released to the water where they can survive in this "dormant" form for up to 30 years. All species of trout and salmon may be susceptible to whirling disease. The minute organism, native to the Eurasian continent, was introduced into North American waters in the late 1950s. It is present in 22 states, including all western states except Alaska and Arizona. Rainbow trout and cutthroat trout appear to be more susceptible than other trout species. Brown trout become infected with the parasite, but they appear to be immune to the infection and have not been as greatly impacted as rainbow trout. Whirling disease is transmitted by infected fish and fish parts. It may also be transmitted by birds and it is possible fishermen could carry the disease on fishing equipment. However, live infected fish are the main vector for the spread of the disease.[4] Most Alaska freshwater stream environments may be too organic nutrient limited to support Whirling disease because the tubifex worm needed for one stage of development need a nutrient rich environment. Additional research is needed to assess risks.[5]

Zebra mussels (*Dreissena polymorpha*) are invaders from Europe that out-compete resident mussels, clog water intake lines, sequester nutrients needed to fuel primary production, and are unpalatable to indigenous fish. Currently not found in the Pacific Northwest, it is probably only a matter of time before they become established. They are transported by boats, barges and in float plane floats and ballast water.

Signal Crayfish (*Pacifastacus leniusculus*) are nonindigenous to Alaska. However, they occur in streams in western Canada where the climate is similar to that of Alaska. A successful invasive group commonly sold in pet stores, they eat all that is available to be eaten, competing with other stream fauna. Usually, crayfish become the dominant portion of a stream's biomass because, besides omnivory, they can survive extended periods of drought and famine. Recently, a crayfish was caught in the Buskin River on Kodiak Island. The department has not determined if the specimen was alone or part of a developing population.

While certified **oyster** spat is allowed to be imported into Alaska for aquatic farming purposes, the illegal transport of oysters into Alaska can be a source of a number of invasive species. There

[3] US Department of Interior, USGS, Florida Caribbean Science Center, Nonindigenous Species Information Bulletin: New Zealand mudsnail (*Potamopyrgus antipodarum*), May 17, 2002, No. 2001-003.
[4] Whirling Disease Foundation website, http://www.whirling-disease.org/, June 2002.
[5] Robert Piorkowski, PhD., personal communication, Fishery Biologist, Alaska Department of Fish and Game, June 24, 2002.

are reports that beach front owners buy bags of oysters from Pacific Northwest farms, transporting them to Alaska sites to be hung off docks, ready to eat as needed. While oysters cannot reproduce in the cold waters of Alaska, these uncertified oysters could harbor many kinds of invasive invertebrate larvae, bacteria, and viruses that could prove damaging to benthic communities.

The **spiny water flea** is also an invader from Europe now found in the Great Lakes region and California. A tiny cladoceran, it displaces existing zooplankton communities but is unpalatable to fish. The end result of its invasion is much lower production of fish for harvest. One method of transport is through sport fishing gear that has not been disinfected.

Plants

The ANS that most likely pose the most significant threat of introduction and spread in Alaska include:

Hydrilla verticillata, hydrilla, water thyme;
Landoltia (Spirodela) punctata, dotted duckweed;
Lythrum salicaria, purple loosestrife;
Myriophyllum spicatum, Eurasian water-milfoil;
Polygonum cuspidatum, Japanese knotweed
Spartina alterniflora, saltmarsh cordgrass;
Spartina densiflora, dense-flowered cordgrass; and
Utricularia inflate, swollen bladderwort.

These species are highly invasive, have had severe impacts in the lower-48 states, have spread into the Pacific Northwest, and are capable of living in Alaska's climate. More detailed information on each of these species can be found in Appendix D. The risk assessment proposed in this plan will evaluate the respective threat of each of these species as well as other potential aquatic nuisance plants.

Pathways of Non-Native Aquatic Introductions

Major pathways through which non-native species are introduced into coastal lands and waters include[6]:

Aquaculture: Historically, culture of fin fish and shellfish was a primary path for both intentional and unintentional introductions. Imports of oyster spat early in the century brought several unwanted species introductions such as the oyster drill to the West Coast. In addition, cultured non-native species can escape from captivity, such as Atlantic salmon that escape from net pens. These pose a major threat to Alaska's salmonid fisheries.

Aquarium trade: Wholesale importers, culture facilities and retail pet stores culture, transport, and sell non-native fresh and salt water plants, fish and invertebrates. The intentional and unintentional release or escape of species into the wild by the industry and the hobbyist aquarium

[6] Adapted from Washington Sea Grant Program. *Bio-invasions: Breaching Natural Barriers*. October 2000.

owner has led to introductions. The common goldfish, for example, has become a nuisance species in eastern Washington.

Biological control: Selected non-native species, usually target predators, have been intentionally introduced to control the growth and spread of other introduced species. History shows that achieving the desired effect is difficult. Grass carp introduced to control unwanted aquatic plants in inland lakes resulted in native plant species being decimated.

Boats and ships: Ballast discharge and hull fouling are two ways boats and ships can introduce organisms. Ballast water can contain aquatic plants, animals and pathogens. Marine vessels take on and discharge millions of tons of ballast water daily in ports and harbors around the world. The discharge of ballast water is considered a major pathway for aquatic introductions because of the huge volume of water carried as ballast. Tankers arriving to Port Valdez release the third largest volume of ballast water of any U.S. port. While only a relatively small number ANS introductions have been discovered in the Port of Valdez, ballast water is probably one the most serious potential vectors of concern for Alaska (discussed in more detail in the section below). Recreational boaters transport nuisance species in bait buckets, stuck on trailers or in boat wells, often without realizing it. Fouling of vessel hulls, including the hulls of sea or float planes, by encrusting organisms also provides a mechanism for transfer of species. Aquatic plants, in particular, are easily transported when plant fragments get tangled on boat propellers, trailers and fishing gear of recreational boats.

Channels, canals, locks: The building of channels, canals and locks creates artificial connections between waterways, allowing the free movement of species across physical barriers. It also facilitates the transport of species by vessels.

Live bait: Commercially-sold live worms, minnows and other aquatic organisms for the recreational fishing industry, both the bait species and its packing material, can result in introductions through intentional and unintentional release.

Nursery industry: Nurseries, garden centers and mail-order catalogs sell non-native plants for aquatic gardens and ponds. Individuals discard non-native plants in public waterways. Non-native plants are sometimes accidentally attached to other horticultural species and discarded unintentionally or intentionally.

Scientific research institutions, schools and public aquariums: Private and public research laboratories, schools and aquariums use non-native species for testing, teaching and research. Individuals who do not follow strict protocols for animal management may accidentally release specimens. Accidental release may also occur when those protocols do not exist. Intentional release and escape from confinement are also possible.

Recreational fisheries enhancement: It used to be a common practice for U.S. federal and state agencies to import game fish to enhance recreational fishing. While most of these introductions were intentional, there were accidental releases and the unplanned spread of some species as a by-product of this activity. Private citizens also have transported and released their favorite fish or shellfish species into a body of water, hoping a viable population survives.

Restaurants, seafood retail and processing: Shipments of live seafood, such as the exportation of East Coast lobsters, provide an opportunity for species introductions when individuals dispose of unused product, packing materials (such as seaweed and saltwater) and shipping containers improperly. Associated live organisms either in or on the product may pose an additional threat.

Ballast Water Delivery Patterns and Biological Characteristics

Biological invasions of coastal bays and estuaries are common throughout the world and are having significant ecological and economic impacts. Transport of coastal planktonic organisms in ballast water of commercial ships appears to be the major source of new invasions worldwide in recent years. High-latitude, cold-water regions are also subject to biological invasions by many species with potential ecological and economic consequences similar to those reported for more temperate latitudes. Ballast water from oil tankers calling on Port Valdez in Prince William Sound (PWS) poses the most significant ballast water threat in Alaska. As a result of the volume of activity, the Prince William Sound Regional Citizens' Advisory Council conducted extensive research on the potential invasive threat posed by oil tankers. The major findings from this comprehensive study are reported in this section.[7]

As mentioned previously, Port Valdez harbor receives the third highest amount of ballast water of any US port. For the past decade, tanker arrivals to Port Valdez averaged 713 ships per year. In 1998, these tankers carried an estimated average of 65,775m3 of total ballast water, including both segregated (non-oily) and nonsegregated (or oily) ballast water. Segregated ballast water comprised an average of 54.7% of the total ballast water arriving to PWS in tankers. Overall, an estimated 17,000,000 m3 of segregated ballast water (an average of 32,715 m3 per arrival) was discharged into PWS by oil tankers in 1998. That is enough water to cover a 100m by 50m soccer field approximately 3.5 kilometers or 2 miles deep.

Until 1996, exporting of crude oil to foreign countries from Valdez was not allowed, so the 14,000 tankers loaded during those 20 years delivered more than 11 billion barrels of oil to U. S. ports only. No ballast water treatment or management plan–including ballast exchange–was required. On May 28, 1996, Public Law 104-58 went into affect, effectively lifting the ban on the export of Alaska's North Slope crude. There are several conditions in the law, one of which requires exporting tankers to "adopt a mandatory program of deep water ballast exchange at least 2,000 meters water depth. Exceptions can be made at the discretion of the captain only in order to ensure the safety of the vessel and crew. Specified records shall be maintained and made available for audit by government officials" (15 CFR 754.2).

Thus, since the summer of 1996, exporting tankers have exchanged their ballast water at sea before returning to Valdez. However, the vast majority of tankers (c. 95%) still sail to domestic ports (which are themselves invaded with exotic species) and have never been required to exchange their ballast. Nor are they required to participate in the U. S. Coast Guard's new

[7] Unless cited otherwise, information in this section on ballast water in Prince William Sound is from: Hines, Anson H. and Gregory M. Ruiz. *Biological Invasions of Cold-Water Coastal Ecosystems: Ballast-Mediated Introductions in Port Valdez, Prince William Sound, Alaska*. March 2000.

voluntary ballast management program because they were specifically exempted from the language in the National Invasive Species Act of 1996 upon which that program is based. [8]

Most ballast water delivered to PWS by crude oil tankers originates from U.S. domestic ports. Tankers arriving directly from western U.S. ports accounted for 95.8% of the total tanker traffic, and 96% of the total segregated ballast water delivered by tankers, to PWS in 1998. Arrivals from Puget Sound, San Francisco, and Long Beach comprised approximately 82.7% of all tanker traffic, as well as 86% of all segregated ballast water delivered by tankers, to PWS in 1998. Most (95.6%) of arriving tankers do not undergo ballast water exchange, a process that could significantly reduce the risk of ANS introductions. Most (69.6%) of the tankers arriving to Port Valdez from overseas came directly from Korea in 1998. Tankers arriving from domestic ports transfer ballast water directly from that port to PWS, whereas foreign arrivals have replaced coastal ballast water with open-ocean exchange prior to their arrival, reducing nonindigenous coastal organisms by over 90%.

The voyage duration of tankers arriving to Port Valdez is relatively short compared to traffic arriving at other commercial ports, where invasions are common. This favors high survival or transported organisms and results in the dense inoculation of competent organisms into PWS. Ballast water spent an average of 6.6 days in the ballast tanks of oil tankers before arrival to Port Valdez, ranging between 4.8 to 10.2 days. In addition, tankers repeatedly deliver ballast water from the same, limited source ports, providing repeated inoculations of the same species. The volume, short trip durations, and repeated source deliveries are all factors that raise the risk of ANS establishments in PWS.

Large commercial passenger ships, commonly known as cruise ships, do not generally transfer ballast water in Alaska under normal operating conditions. Cruise ships are fueled in Seattle or Vancouver. As the fuel is consumed during the voyage, the ship takes on ballast water to compensate for the loss of fuel weight. The ballast water is released in Vancouver or Seattle before refueling[9]. There is a mandatory ballast exchange program in the Port of Vancouver. Washington's newly established ballast water program, administered by the Department of Ecology and Environment, requires ballast exchange a minimum of 60 miles off the coast. Canada also has a ballast exchange program administered by Transport Canada Marine[10] that requires all vessels entering Canadian water from the south to exchange ballast 50 miles from shore before entering Canada. There is one large cruise ship and two small vessels coming directly from across the Pacific to Alaska without stopping in Seattle or Vancouver. There is no requirement in Alaska to exchange ballast water.

The Alaska Marine Highway System ferries and small ships stay in the general Alaska environment except for ferries approaching Bellingham. These vessels are not required to exchange ballast water entering Canada or Washington. However, these vessels are not believed

[8] *Pacific Ballast Water Group WORKING DRAFT Report and Recommendations* Obtained online from http://web.pdx.edu/~sytsmam/pbwg/pbwg%20report1.html under Ballast Water Exchange Programs

[9] John Hansen, Northwest Cruise Association, telephone call with Carolyn Morehouse, Passenger Vessel Compliance Engineer, Alaska Department of Environmental Conservation, June 11, 2002.

[10] Mike Gashall, Marine Transport Canada BC Regional Acting Director, telephone call with Carolyn Morehouse, Passenger Vessel Compliance Engineer, Alaska Department of Environmental Conservation, June 11, 2002.

to pose as much of a threat as vessels traveling from Mexico, California or Asia. [11] However, given the spread of green crab to Washington and Oregon, this assessment is only accurate in terms of relative risks. The Alaska Marine Highway System ferries do not take on ballast water from open ocean. All ferries take on potable water as ballast. The vessels are either run full or empty and they discharge ballast water to on shore treatment facilities. The only exception is when they are traveling to dry dock when they sometimes discharge fresh potable water in the harbor if there are no reception facilities. This practice poses no invasive species problem.[12]

The U.S. Coast Guard has a voluntary ballast water exchange program.[13] On May 17, 1999, the U.S. Government started this program in response to the National Invasive Species Act (NISA) of 1996. These are voluntary guidelines and the recommended practices suggest precautionary practices should be taken by every vessel to minimize the uptake and release of harmful aquatic organisms, pathogens, or sediments. Additionally, the program recommends that vessels carrying ballast water into the waters of the U.S. after having operated beyond the Exclusive Economic Zone (EEZ) to employ one the following ballast water management practices:

1. conduct an exchange of ballast water beyond the EEZ, in an area no less than 200 miles from any shore and where the water depth exceeds 2000 meters,
2. retain the ballast water on board,
3. use an alternative method of ballast water management,
4. discharge ballast water to an approved reception facility, or
5. conduct an exchange of ballast water in an approved Alternative Exchange Zone.[14]

The USCG requires all vessels calling in West Coast U.S. ports to submit a completed Ballast Water Report Form located in Appendix to 33 CFR 151, Subpart D or the International Maritime Organization ballast Water Reporting Form to the Smithsonian Environmental Research Council (SERC). The reports must be kept on board the vessel and available for inspection for two years. In addition the USCG conducts random ballast water boardings by the Coast Guard Marine Safety Office (MSO) during normal business hours. To monitor compliance with both the mandatory and voluntary aspects of the Coast Guard ballast water management program, ballast water boarding officers will examine documents, take samples of ballast water and sediments, interview crew and make other inquiries to access compliance.

The USCG is required to conduct a National Ballast Water Management Survey and report to Congress no later than 30 months (December 2001) after voluntary guidelines are implemented as to whether these guidelines are effective in controlling the introduction and spread of invasive species. If found to not be effective, the ballast water exchange is to become mandatory, similar to ballast water exchange rules in the Great Lakes. Preliminary study results indicate that

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[11] Mike Gashall, Marine Transport Canada BC Regional Acting Director, telephone call with Carolyn Morehouse, Passenger Vessel Compliance Engineer, Alaska Department of Environmental Conservation, June 11, 2002.
[12] Carolyn Morehouse, personal communication, Passenger Vessel Compliance Engineer, Alaska Department of Environmental Conservation, June 11, 2002.
[13] *Pacific Ballast Water Group WORKING DRAFT Report and Recommendations* Obtained online from http://web.pdx.edu/~sytsmam/pbwg/pbwg%20report1.html under Ballast Water Exchange Programs
[14] Ibid.

voluntary standards are not effective.[15] Whether a voluntary program can be effective is questionable.[16]

In Alaska, the port believed to be the most vulnerable to ANS is Dutch Harbor because of it high volume of traffic. Most of these vessels come from the West Pacific without stopping in Seattle or Vancouver, which have mandatory ballast exchange programs.[17]

Public Awareness and Education

In Alaska there is a lack of information and awareness regarding the mechanisms and ecological effects of invasive species introduction. In addition, there are few biologists or members of the public trained in field identification of high priority threatening ANS. The range expansion of northern pike in lakes throughout Southcentral Alaska is an example of people stocking fish in lakes close to home for personal use. Most likely, they do not realize that stocking these fish is illegal nor the damage pike can cause to indigenous species. Many Alaskans have moved to Alaska from the Midwest and Northern United States where pike, perch and walleye are highly prices by sport anglers. A cornerstone of Alaska's ANS program is public communication and education to prevent invasions, as well as assist with "detection" and monitoring.

III. AQUATIC NUISANCE SPECIES AUTHORITIES

The intentional introduction of invasive species of fish, and wildlife into Alaska is greatly reduced by Alaska's stringent fish and animal transport laws. At the time of Statehood, Alaska adopted an isolationist attitude toward the introduction of nonindigenous fish and wildlife species, which was an about-turn from Territorial days. Alaska now has the toughest laws in the United States governing the movement of fish and wildlife. However, Alaska's laws related to ANS are not well coordinated or comprehensive. Plant laws are directed at the protection of agriculture and do not address ecosystem or habitat impacts of introduced plants. Ballast laws focus on petroleum discharge from non-segregated ballast with no references to nonindigenous aquatic species. The principle state laws are outlined in this section.

Fish and Game

Under AS 16.05.020 (Functions of the Commissioner) the commissioner shall (2) manage, protect, maintain, improve, and extend the fish, game, and aquatic plant resources of the state in the interest of the economy and general well-being of the state.

Alaska statutes 16.05.251(a)(9) and 16.05.920 give the Alaska Board of Fisheries authority to prohibit and regulate the live capture, possession, transport, and release of native or exotic fish and their eggs. Regulations adopted by the Board of Fisheries under 5AAC 41 state that no

[15] Pacific Ballast Water Group, WORKING DRAFT Report and Recommendations on Voluntary Ballast Water Exchange, no date. http://web.pdx.edu/~sytsmam/pbwg/pbwg%20report1.html

[16] Nadol, Viki, "Aquatic Invasive Species in the Coastal West: An Analysis of State Regulation within a Federal Framework", *Environmental Law*, Volume 29, Issue 2, Summer 1999.

[17] Carolyn Morehouse, Passenger Vessel Compliance Engineer, Alaska Department of Environmental Conservation, personal communication, June 11, 2002.

person may transport, possess, import into or export from the state, or release into the waters of the state any live fish unless that person holds a specific permit issued by the ADF&G commissioner and is in compliance with all conditions of the permit and the rest of the provisions of the law. The term "fish" is defined as any species of aquatic finfish, invertebrate, or amphibian, in any stage of its life cycle, found in or introduced into the state, and it also includes any part of such animal. Under these regulations, only ornamental live fish not raised for either human consumption or for sport fishing purposes, and certified Pacific oyster (a non-native species) and weathervane scallop spat for aquatic farms, are permitted to enter Alaska.[18] In addition, ornamental fish may not be reared or released into the waters of the state, and fish wastes or waste water from ornamental fish may not be discharged directly into state waters. The ADF&G must obtain individual permits prior to moving or stocking indigenous fish and fish eggs in Alaska.

Under AS 16.05.251(a) (10) the Board of Fisheries has the responsibility to establish seasons, areas, quotas, and methods of harvest for aquatic plants.

Under AS 16.05.255(a) (7) the Board of Game may adopt regulations it considers advisable for (among other things) watershed and habitat improvement, including plants.

Under Subsistence Fin Fishing, 5 AAC 01.010(n) "The use of live nonindigenous fish as bait is prohibited."

Under Transportation, Possession and Release of Live Fish; Aquatic Farming, 5 AAC 41.005(a) "No person may transport, possess, export from the state, or release into the waters of the state, any live fish unless the person holds a fish transport permit issued..." s[Section 41.005 prohibits live fish possession, transport, export, or release into state waters without a permit. However, prohibition is limited to importation for purposes of stocking fish or rearing fish in state waters. The statute is silent on issue of whether out-of-state fish can be imported for other reasons.]

Under Prohibitions on Importation and Release of Live Fish, 5 AAC 41.070(a) "Except as provided in (b) - (d) of this section, no person may import any live fish into the state for purposes of stocking or rearing in the waters of the state.

5 AAC 41.070(c) "Ornamental fish not raised for human consumption or sport fishing purposes may be imported into the state, but may not be reared in or released into the waters of the state. Fish wastes and wastewater from ornamental fish may not be released directly into the waters of the state."

5 AAC 27.334 (Concerning herring spawn-on-kelp pounds in Prince William Sound) (a) details the taking of kelp for the herring spawn-on-kelp pound fishery in the Prince William Sound Area.

[18] This regulation requires that weathervane scallop spat originate in Southeast Alaska up to Yakutat, be sent outside to a hatchery to be cultured, and then be shipped back. As a result, it is actually an indigenous animal. This regulation was adopted before there was a hatchery in Alaska that could culture scallop spat. Now that there is a hatchery that is capable of culturing weathervanes, this regulation could be repealed. In addition, no one farms weathervane scallops in Alaska, only purple hinge rock scallops.

5 AAC 27.965 (Concerning herring spawn-on-kelp pounds in Norton Sound) (j) states that "Before the herring spawn-on-kelp permits are issued, the commissioner may specify in the permits any other criteria that the commissioner determines is necessary for the conservation and management of herring and kelp and the herring pound spawn-on-kelp fishery."

5 AAC 37 (Aquatic Plants) contains the permit requirements, seasons, and harvest requirements for aquatic plants.

Under AS 16.40.100 (Aquatic farm and hatchery permits) the cultivation of aquatic plants must be permitted by the Department. A small number of aquatic plant farms have been permitted and are currently in the experimental/developmental stages. The term "aquatic plant" is defined at AS 16.40.199(3). Stock for aquatic farms must be indigenous species unless approved by the Alaska Board of Fish. To acquire wild stock, the farm must be permitted or the person must obtain an acquisition permit from the commissioner.

Also, under AS 16.20 the ADF&G manages state legislatively designated refuges, sanctuaries, and critical habitat areas with authority over terrestrial and aquatic plant species. Many of the Special Area Permits issued by the Habitat and Restoration Division for activities in these special areas explicitly prohibit introduction of exotic plant species.

Where animals are concerned, under the terms of AS 16.05.920 and 921, and 5AAC 92.029, no person may possess, import, release, export, or assist in importing, releasing, or exporting live game, unless the person holds a possession permit issued by the department. "Game" as defined as any species of bird, reptile, and mammal, including feral domestic animal, found or introduced into the state, except domestic birds and mammals. However, species of animals, birds, and reptiles found on the department's "clean list" (5AAC 92.029(b)), not including hybrids, may be possessed, imported, exported, bought, sold, or traded without a department permit. Those species declared "clean" by law include domesticated species (including farm animals), reindeer, musk ox, bison, and species common in the pet trade. These species are thought to be not capable of surviving in the wild, causing a genetic alteration in an indigenous species, causing a significant reduction in the population of an indigenous species, transmitting a disease to an indigenous species, not presenting a threat to the health or population of an indigenous species. No species on the department "clean list" may be released into the wild. The Alaska Board of Game may add or remove species from this "clean list" so long as there is clear and convincing evidence the species meets the criteria in 5AAC 92.029(h)(i).

The ADF&G currently manages self-sustaining populations of grayling, rainbow trout, and brook trout that were introduced in Southeast Alaska water bodies pre-statehood. These introduced self-sustaining populations provide a significant sport fishing benefit. State law at AS 16.05.040 requires protection for these species.

Under the Alaska Coastal Management Program Habitat Standards, the Alaska Department of Fish and Game, Division of Habitat Restoration reviews development projects within the coastal zone. Such review is used as a tool to request measures to prevent invasions, and could be made more effective through refinement of standards and best management practices.

Plant Pests and Agriculture

Regulation of plant pests is authorized under Title 3 of the Alaska State Statutes. The Alaska Department of Natural Resources, Division of Agriculture is authorized to prevent the importation and spread of pests that are injurious to the public interest and protection of the agriculture industry.

The powers and duties of commissions of natural resources and environmental conservation include:

Sec. 03.05.010. Powers and duties of commissioner of natural resources.
(a) The commissioner of natural resources shall... (5) "regulate and control the entry into the state and the transportation, sale, or use inside the state of plants, seeds, vegetables, shell eggs, fruits and berries, nursery stock, animal feeds, remedies and mineral supplements, fertilizers, and agricultural chemicals in order to prevent the spread of pests, diseases, or toxic substances injurious to the public interest, and to protect the agricultural industry against fraud, deception, and misrepresentation; in this connection the commissioner may require registration, inspection, and testing, and establish procedures and fees."
(b) To carry out the requirements of this title, the commissioner of natural resources may issue orders, regulations, quarantines, and embargoes relating to
(1) examination and inspection of premises containing products, articles, and commodities carrying pests;
(2) establishment of quarantines for eradication of pests;
(3) establishment of standards and labeling requirements pertaining to the sale of agricultural and vegetable seeds;
(5) cooperation with federal and other state agencies.

Sec. 03.05.011. Powers and duties of commissioner of environmental conservation.
(a) To carry out the requirements of this title, the commissioner of environmental conservation may issue orders, regulations, permits, quarantines, and embargoes relating to
(1) examination and inspection of premises containing products, articles, and commodities carrying pests;
(2) establishment of quarantines for eradication of pests and diseases in livestock;
(4) cooperation with federal and other state agencies.

Sec. 44.37.030. Duties of department with respect to agriculture.
The Department of Natural Resources shall (2) control and regulate the entry and transportation of seeds, plants, and other horticultural products; (3) control and eradicate the spread of pests injurious to plants, trees, vegetables, livestock, and poultry.

Plant Health and Quarantine

11 AAC 34.020 provides the list of prohibited and restricted weeds in Alaska

11 AAC 34.075 provides a list of prohibited acts pertaining to noxious weeds. "No person may sell, offer for sale, expose for sale, or transport for use in planting in the state any agricultural or

vegetable seed that...contains any prohibited noxious weed seed or contains any restricted noxious weed seed in excess of permissible tolerance."

11 AAC 34.130 pertaining to quarantine regulations and inspections states that "the director may establish, maintain and enforce such quarantine regulations as he deems necessary to protect the agricultural industry of this state from pests, by establishing quarantine at the boundaries of this state or elsewhere within the state."

Section 11 AAC 34.140 requires the director of Agriculture to address any new pest species. "Upon information received by the director of the existence of any pest not generally distributed within this state he shall thoroughly investigate the existence and probability of the spread thereof."

11 AAC 34.145 requires permits for pest shipment "No pest, live insect or disease may be imported into or shipped or transported within the state except for the purpose of identification, unless such shipment or transportation is authorized under written permit and the regulations of the director or the United States Department of Agriculture."

The definition of **noxious weed** "means any species of plants, either annual, biennial, or perennial, reproduced by seed, root, underground stem, or bulbet, which when established is or may become destructive and difficult to control by ordinary means of cultivation or other farm practice; or seed of such weeds that is considered commercially inseparable from agricultural or vegetable seed."

IV. FOCUS OF THE MANAGEMENT PLAN

The focus of the ANS plan is to take full advantage of Alaska's relative pristine status and proactively prevent invasions by the prominent invasive threats. The goal of the plan is to initiate a mechanism for coordinating action on state, federal and local levels for the prevention and monitoring of invasive species and developing and implementing an effective public information program.

To accomplish this goal, the Department adopted the following invasive species policy and initial broad action strategies:

Invasive species pose a major threat to Alaska's native flora and fauna. Invasive species can harm native species of fish, wildlife, and plants resulting in ecosystem disruptions that could cause severe economic impacts to the people of Alaska. It is in the best interest of Alaska and Alaskans that both purposeful and unintentional introduction of invasive species not be tolerated. Accordingly, the ADF&G will take the following actions to prevent the introduction and spread of invasive species:

- *Develop an inter-division Alaska Invasive Species Prevention and Response Program within the department.*

- *Pursue new funding sources for long-term support of the Invasive Species Response Program.*
- *Provide leadership and coordination between state, federal and international agencies and tribes and non governmental organizations (NGOs).*
- *Develop policies, procedures, and laws to prevent the introduction and spread of invasive species into Alaska.*
- *Prevent the spread of invasive species already introduced into Alaska, through the identification and closing of transport pathways.*
- *Develop protocols for early detection, rapid response to, control and management of new invasive species.*
- *Design and conduct research for invasive prevention, control and management.*
- *Develop educational plans and public awareness announcements on problems associated with invasive species.*

V. MANAGEMENT ACTIONS

Goal 1: Coordinate All Aquatic Nuisance Species Management Programs within Alaska and Collaborate with Regional, National and International Programs

1A. Problem: ANS management responsibilities are divided among various agencies in Alaska. There is little coordination of efforts and no leadership in policy and program development.

1A1. Strategic Action: Coordinate ANS management programs and actions within Alaska and ensure coordination with regional, national and international programs.

1A1a. Task: Create and fund an ANS coordinator position within the Alaska Department of Fish and Game. Initially apply for federal funding after submitting the ANS plan for approval. Develop a long-term funding strategy.

1A1b. Task: Establish an intra-department, multiple-division ADF&G Aquatic Nuisance Species Coordinating Committee to foster cooperation and coordination on ANS tasks. The ANS coordinator position will coordinate and lead the committee.

1A1c. Task: Establish a State of Alaska Aquatic Nuisance Species Coordinating Committee to foster cooperation and coordination on ANS tasks in Alaska. The ANS coordinator position will serve as chair to the committee. The committee will include broad representation including state and federal agencies, tribal groups and non-government organizations.

1A1d. Task: Establish sub-committees to address major issues such as Atlantic salmon, commercial shipping, recreational boating and sport fishing, education, research, risk assessment, imports and transfers, and monitoring, response, control and regulatory reform. These sub-committees will work with representatives of organizations that are identified as potential pathways for ANS introductions and other affected groups to identify voluntary or regulatory measures to prevent new ANS introductions.

1A1e. Task: Review the respective responsibilities of tribes and non governmental organizations, state, federal and regional entities and develop a system to coordinate their ANS programs. Acknowledge this system through committee participation and a memorandum of understanding among the coordination committee members.

1A1f. Task: Ensure participation in the Pacific Ballast Water Group and coordinate participation among ADF&G, the Alaska Department of Environmental Conservation (DEC), and the Prince William Sound Regional Citizens' Advisory Committee (PWS RCAC) and interested tribes and NGOs. The Alaska Department of Environmental Conservation will serve as the primary participant in meetings and agency lead.

1A1g. Task: Coordinate ballast water management and treatment standards development with the US Coast Guard and the International Maritime Organization. Work with DEC and PWS RCAC to review other West Coast state ballast treatment standards, especially Washington, Oregon, and California, to develop a coast wide standard.

Goal 2: Prevent the introduction of new ANS into Alaska waters.

Education is a primary component of prevention and is addressed as Goal 4.

2A. Problem: New introductions of ANS into Alaska waters can cause ecological and economic damage. Prevention is the most cost effective and ecologically sensitive method of eliminating problems. Alaska currently has no program for preventing ANS introductions.

2A1. Strategic Action: Coordinate with other states, interested tribes, NGOs and nations to prevent the spread of ANS into Alaska either from or through areas outside of Alaska.

2A1a. Task: Develop individual species or multiple species, as appropriate, action plans for currently recognized highest invasive threats of Atlantic salmon, northern pike, New Zealand mudsnail, green crab, Chinese mitten crab, purple loosestrife, and Japanese knotweed.

2A1b. Task: Conduct a scientific risk assessment to determine the priority ranking for action on additional ANS threats and to verify or make changes to initial subjective assessments of ANS risks.

2A1c. Task: Based on the outcome of the risk assessment, reevaluate priorities and refine or develop additional individual or multiple species action plans.

2A1d. Task: ADF&G will coordinate participation in regional and national conferences to increase awareness of ANS issues by other state agencies.

2A1e. Task: ADF&G will participate in the Western Regional Panel on Aquatic Nuisance Species in cooperation with the state representative to the panel.

2A1f. Task: ADF&G will participate in the Pacific States Marine Fisheries Commission effort to coordinate and implement regional ANS activities.

2A1g. Task: ADF&G will explore new opportunities to increase Native awareness and involvement in ANS issues and provide support to identify ANS management issues on Native lands.

2A1h. Task: ADF&G will consult with the Washington Department of Fish and Wildlife and British Columbia to discuss cooperative measures designed to address concerns regarding intentional introductions of nonnative aquatic species in our shared waters. In addition, ADF&G will work with the Transboundary Watershed project to address the spread of ANS via transboundary rivers.

2A2. Strategic Action: Foster state, federal, tribal and private coordination on ANS issues.

2A2a. Task: The Commercial Shipping sub-committee will work with maritime cargo vessel representatives, the Pacific Ballast Water Group, and other interested groups to explore commercial shipping practices, such as ballast water exchange and ANS infested anchor chains to identify opportunities for preventing ANS introductions.

2A2b. Task: The Recreational Boating and Sport Fishing sub-committee will work with representatives of the recreational boating industry, sport fish guides and associations, seaplane associations and other affected groups to prevent further introductions of ANS into Alaska waters through these pathways.

2A2c. Task: The Education/Research/Risk Assessment sub-committee will work with representatives of the aquarium trade and pet suppliers, biological supply catalogues, aquatic garden suppliers, aquatic mail order catalogues, plant importers and nurseries, and other affected groups to prevent further introductions of ANS into Alaska waters through these pathways.

2A2d. Task: The Monitoring/Response/Control sub-committee will work with state and federal agencies, tribes and other affected parties to prioritize monitoring efforts and develop response protocols.

2A2e. Task: The Regulatory Reform sub-committee will review existing state laws and regulations to identify gaps and help develop statutes and rules that serve to protect State waters from invasive species introductions.

2A3. Strategic Action: Prohibit, control, or permit the importation of nonnative aquatic species based on their invasive potential.

2A3a. Task: Identify a protocol for ADF&G development of an invasive species list identifying species that cannot be introduced into Alaska or into select geographic areas in Alaska. The list will include: fish, other aquatic organisms, and aquatic plants. The Commissioner can add invasive species to this list as necessary. A new addition to the list will require a statement justification by the Commissioner that a particular species is considered invasive. Note: Current law provides that except for oysters and scallops, fish and other marine invertebrates cannot be legally imported into the state. The process should distinguish among: 1) species that pose a significant threat to the biological health and diversity of state waters; 2) species that pose a

minimal threat to the biological health and diversity of state waters; 3) species for which there is little or no information to ascertain their status as an ANS; and 4) species that have potential commercial or recreational value and may be safely managed under aquaculture regulations. The ADF&G will work with the Alaska Department of Natural Resources (DNR), Divisions of Agriculture and Forestry and the Division of Governmental Coordination to develop a process to coordinate or combine lists to improve the efficiency and effectiveness of the invasive species listing process especially as it pertains to public and business user friendliness.

2A3b. Task: The ADF&G in cooperation with the ANS Coordinating Committee will develop and implement, through the Aquatic Nuisance Species Management Plan, an annual process to: identify potential new threats to state waters; identify the threats associated with the spread of existing ANS; assess the relative environmental risks associated with these threats; and report these findings to the appropriate agencies. After initial years, this review process can become biennial.

2A4. Strategic Action: Increase enforcement and awareness of existing laws controlling the transport, propagation, sale, collection, possession, importation, purchase, cultivation, distribution and introduction of ANS.

2A4a. Task: The ADF&G will initiate a training program for state troopers and commissioned fish and game enforcement officers on ANS identification and laws and regulations.

2A4b. Task: The ADF&G will work with the University of Alaska, Cooperative Extension Service, and other state agencies to distribute information on ANS law to businesses that import aquatic organisms, including information on existing penalties for the intentional introduction of any nonnative species in Alaska waters.

Goal 3: Detect, monitor, contain, reduce or eradicate populations of aquatic nuisance species as quickly as possible with a minimum of environmental impact.

3A. Problem: A number of potentially very damaging ANS are spreading closer to Alaska waters. Alaska has no program to monitor these species and a limited effort for monitoring for species already present in Alaska. Economic and environmental damage will be greater without an effective monitoring program to quickly detect new ANS introductions or the spread of those already present. Early and rapid detection of new introductions and the spread of established ANS are needed so that emergency response plans can be immediately implemented to allow for eradication. Accurate baseline information is needed on ANS presence, locations, and an estimate of population number and/or densities. This information needs to be made available to appropriate agencies and the public.

3A1. Strategic Action: Using both government employees and volunteers from the public, monitor waters that are vulnerable to new ANS introductions and track the distribution of existing ANS populations.

3A1a. Task: Based on the results of the risk assessment, develop an overall monitoring program with specific monitoring components, including a volunteer program, to address the most critical potential introductions or expansions of ANS.

3A1b. Task: Develop a program for training ADF&G staff so the identification and reporting of ANS can be an integral part of their field activities.

3A1c. Task: Develop a GIS database to show the locations of ANS sightings and established populations in Alaska. Obtain GIS maps developed in Washington to provide additional information on threats and rates of spread of species on the West Coast.

3A1d. Task: Develop a reporting system to receive information on suspected ANS and the capacity to follow up sightings, including expertise to identify aquatic species and a system for information to be added to a central database.

3B. Problem: Alaska has no emergency response plans in place to quickly address new introductions of ANS. Small populations of newly introduced ANS are most vulnerable to eradication. Without previously developed plans, new ANS populations can become established while agencies are developing and agreeing upon appropriate eradication measures.

3B1. Strategic Action: Develop emergency response plans for specific ANS known to be an eminent threat to Alaska waters. Actions outlined in these emergency response plans, when implemented, will prevent the establishment and spread of these species, or minimize their impacts. The emergency response plans will address permitting, funding, equipment and resources, staffing and stakeholder input.

3B1a. Task: Given that Atlantic salmon are known to be invading Alaska waters and pose an imminent threat to Alaska ecosystems and salmonid populations, develop an Atlantic salmon action plan to address prevention, monitoring and eradication.

3B1b. Task: Given the imminent threat to salmonid habitat and populations, develop an interim action plan to address prevention, monitoring and eradication of Alaska's highest perceived threats including green crab, New Zealand mudsnail, and northern pike. Actively work to eradicate existing northern pike populations and prevent further spread.

3B1c. Task: The ADF&G will establish and administer an ANS Emergency Fund. These readily available funds would be used to finance a quick initial response to the introduction of an ANS. This fund will require a $100,000 commitment from federal sources and a combined $50,000-$100,000 commitment from state, public and private organizations in Alaska. Develop and introduce legislation to establish the fund.

Goal 4: Educate the public and appropriate resource user groups to the importance of preventing ANS introductions, and how the harmful impacts of ANS can be reduced.

4A. Problem: Accidental introductions occur through the actions of the public such as naively releasing nonnative aquarium plants and animals into natural waters. The current state of public awareness of ANS issues and laws is inadequate to address the problem.

4A1. Strategic Action: Compile, develop and coordinate the dissemination of educational materials on ANS that will increase general public awareness of the ANS problem.

4A1a. Task: Develop a public education and communication plan for ANS. To minimize the cost and maximize the efficiency of an education program, consider all potential ongoing Department activities into which ANS education and communication can be incorporated. Determine how educational components will be coordinated and funded internally. Components of the plan to consider include:

4A1b. Task: Develop an ANS website that includes images and directions on how to identify and report ANS sightings.

4A1c. Task: Develop and include on the website of ANS GIS maps showing the locations of ANS sightings and established populations in Alaska.

4A1d. Task: Develop fliers and small license holder sized identification cards for Atlantic salmon to be distributed with all sport fish licenses and licensing vendors and sport fish supply and equipment retail outlets.

4A1e. Task: Publish an aquatic plant identification manual for Alaska to enable residents as well as resource managers to identify nonnative aquatic plants as well as common native species.

4A1f. Task: Develop ANS information to be distributed to community watershed groups and provide training for volunteers to participate in monitoring programs.

4A1g. Task: Develop partnerships with media outlets and established publications to reach a broad range of the public with ANS messages.

4A1h. Task: Identify key state publications into which ANS text and graphics can be included. Develop an electronic press kit available over the web. Develop a library of images and graphics for ready use.

4A1i. Task: Develop information that can be easily incorporated into classroom curriculum and material for kindergarten through twelfth grade teachers.

4A1j. Task: Develop ANS educational materials outlining the potential impacts of releasing nonindigenous species and identifying good practices for pet stores to be shared with retail and wholesale suppliers of aquarium fish, plants and supplies.

4A1k. Task: Develop ANS educational materials outlining the potential impacts of releasing nonindigenous species and identifying good practices for pet stores to be distributed with customer purchases of aquarium fish, plants and supplies.

4A1l. Task: Develop a "good housekeeping" program for pet stores to be awarded to those with good outreach programs and responsible policies against ANS introductions.

4A2. Strategic Action: Develop and distribute educational information targeted at specific groups who are especially affected by ANS introductions and/or may be able to first observe introductions.

4A2a. Task: Provide training and identification materials to aquaculture companies and their staff and encourage them to report sightings of suspected ANS.

4A2b. Task: Provide information to fishing groups and fishers to monitor and report sightings of ANS including information so fishers can recognize and remove ANS weeds that can choke waterways and impact fishing opportunities.

4A2c. Task: Develop a New Zealand mudsnail education program for sport fishing guides, potential visitors, and residents who travel to infested areas regarding practices to prevent the introduction of mudsnails into Alaska's pristine fishing areas.

4B. Problem: Decision makers need to be aware of the threat of ANS to the marine resources of Alaska so they can develop policies, direct agencies to develop ANS programs, and appropriate funds to carry out education, research, prevention, control and management activities. Natural resource managers must be knowledgeable about ANS in order to develop and implement effective ANS programs.

4B1. Strategic Action: ADF&G and the ANS Coordinating Committee will provide educational briefings on the threats and solutions to ANS invasions for decision makers.

4B1a. Task: The Department will provide educational briefing to state legislators and legislative staff, and to local elected officials and their staff on the threat of ANS and potential solutions. A power point presentation will be developed for use by ANS Coordinating Committee members so the presentation can be easily made around the state. Material for these briefings will be derived as much as possible from local sources, as well as from other parts of the country and internationally.

4B1b. Task: Provide similar training as that described above for elected officials and staff to state and federal agency decision makers to build support for and incorporation of ANS programs into agency activities.

Goal 5: Identify, develop, conduct and disseminate research on ANS that are identified as species of concern in Alaska.

5A. Problem: Little is known about ANS introductions, spread and impacts to human health, ecosystems and the economy. More information is needed in order to develop effective

prevention, management and control programs, to create accurate education programs, and to weigh the relative risks of ANS invasions so limited resources can be used most effectively to minimize risks.

5A1. Strategic Action: Assess the risk of ANS introductions to human health, ecosystems and the economy.

5A1a. Task: Define ANS risks that affect ecosystems, human health and the economy and develop criteria for evaluating and classifying these risks. Study the population dynamics, ecology, and impacts of current and potential invaders to gain an understanding of the chances of invasion and potential damage from specific species. Based on these risk criteria, conduct a full risk assessment of ANS.

5A1b. Task: Characterize potential ANS by identifying and describing traits associated with successful high-impact invaders, particularly those present in West Coast estuaries, coastal regions, lakes and streams, and in similar habitats elsewhere.

5A1c. Task: Characterize resources and habitats with highly sensitive to invasion ecological communities in Alaska, such as disturbed habitats that may be at greater risk for invasion.

5A1d. Task: Develop a list of experts with a broad knowledge of aquatic taxonomic groups, and assess their availability to respond to requests for identification of ANS.

5A1e. Task: Maintain a database of on going West Coast and national ANS research efforts and coordinate Alaska with these efforts to avoid duplication and utilize limited resources most effectively.

5A1f. Task: Continue to develop and maintain a coordinated list of ANS and nonnative species known to occur in Alaska.

5A1g. Task: Develop a process to inform researchers and resource managers of recent and emerging information and research on ANS. Foster research relationships with such groups as the University of Alaska, the Estuarine Research Reserve and Marine Protected Areas programs to improve gathering of baseline and monitoring data and to coordinate research efforts.

5B. Problem: The pathways by which ANS invasions may occur is not well understood. Geographically referenced data on the extent and spread of ANS invasions, and their pathways of introduction, are needed to understand where the existing ANS in Alaska or near Alaska borders might spread, to further understand what allows certain nonnative species to become established as ANS, and to develop strategies for closing ANS entry pathways as well as tools for management and control for ANS.

5B1. Strategic Action: Develop baseline assessments.

5B1a. Task: Compile maps of major human activities that affect aquatic resources with invasions of ANS. Overlaps will help elucidate the interaction among human activities, the pathways by which nonnative species arrive, and the establishment of ANS.

5B1b. Task: Compare and contrast ANS management and control strategies throughout the world for species of Alaska interest, and develop Best Management Practices for established populations or potential invasions of ANS in Alaska.

Goal 6: Take appropriate steps to insure that federal and state rules and regulations sufficiently promote the prevention and control of ANS.

6A. Problem: The recognition and understanding of the damage caused by ANS is relatively new and rapidly evolving. As knowledge of and ability to deal with ANS improves, regulatory authority must also adapt. Alaska laws are insufficient to provide for the development of an effective and coordinated state program to guard against ANS invasions without the authority and financial support afforded by well designed and integrated legislation.

6A1. Strategic Action: Review the laws governing ANS in Alaska for gaps and overlaps, compare them to other states' ANS laws, and recommend changes to improve our ability to protect Alaska waters from the introduction and spread of ANS.

6A1a. Task: Commission a law student to conduct a review of Alaska's ANS law.

6A1b. Task: Review Alaska statutes that pertain to invasive species, specifically to ascertain the authority and effectiveness of the statutes for the prevention, monitoring, control and eradication of invasive species in terrestrial and aquatic environments.

6A1c. Task: Review and report on the respective authorities of State agencies and gaps and overlaps in authorities among State agencies.

6A1d. Task: Identify potential for improved coordination as well as necessary new legislation to strengthen Alaska's statutes aimed at the prevention and treatment of invasive species.

6A1e. Task: Review and report on the compatibility of Alaska statutes with federal laws, especially the National Invasive Species Act.

6A1f. Task: Review and report on the potential development of West Coast standards based on a review of statutes in the Western states.

6A1g. Task: Monitor the reauthorization of the National Invasive Species Act to ensure that Alaska's interests are addressed and work with the Alaska Governor's Office and Congressional delegation as needed to protect Alaska's interests.

VI. IMPLEMENTATION

Information on implementation of this plan is contained in the Implementation Table, located after Section VII. This table provides information on the implementation of specific tasks included in the management plan including funding sources, implementing agency or position, coordinating agencies, when the task will be conducted, and anticipated costs. After approval of this plan, it is expected that 75% of the cost of implementation will be provided by the national Aquatic Nuisance Species program funded through the US Fish and Wildlife Service. However, as a result of the plan submission, review and grant cycle, no federal ANS funds are anticipated until FY04. During FY03, Sustainable Salmon ($200.0), green crab ($20.0) and Atlantic salmon ($45.0) research and monitoring, Division of Sport Fish ($$75.0) for continued northern pike monitoring and eradication, Conservation and Reinvestment Act (CARA) funds for preventing the introduction of New Zealand mudsnails by fouled fishing gear ($30.0), and ADF&G General Funds will be used to initiate a streamlined program to address the most serious invasive threats. This includes the hiring of a program coordinator.

FY 03 Milestones and Major Tasks

- Hire ANS coordinator.
- Establish intra-department ADF&G ANS coordinating committee.
- Establish a multi-agency ANS coordinating committee.
- Establish subcommittees to address major issues such as Atlantic salmon, shipping, education and risk assessment.
- Review the respective responsibilities of tribes, NGOs, state, federal and regional entities and develop coordination process.
- Oversee contracts to:
    1. Assist the Pacific States Marine Fisheries Commission ANS program
    2. Conduct risk assessment.
    3. Define ANS risks that affect ecosystems, human health and the economy and develop criteria for evaluating and classifying these risks.
    4. Develop and implement a monitoring program.
    5. Develop and implement training to integrate ANS identification and reporting into field activities.
- Develop a database out of which GIS maps can be built to show the locations of ANS sightings.
- Develop a reporting system to receive information on suspected ANS.
- Identify a protocol for development of an invasive species list identifying species that cannot be introduced into Alaska or into select geographic areas in Alaska
- Develop a public education and communication plan.
- Provide educational briefing to state legislatures and legislative staff and to locally elected officials.
- Develop, maintain and publish a list of experts with a broad knowledge of aquatic taxonomic groups.
- Maintain a database of ongoing West Coast and national ANS research efforts.
- Develop a process to inform researchers and resource managers of recent and emerging ANS information and research.

- Continue to develop and maintain a coordinated list of ANS and nonnative species known to occur in Alaska and coordinate with the USGS, National Invasive Species database.
- Conduct a review of Alaska and federal ANS laws and regulations.

FY 04 Milestones and Major Tasks

- Hire an assistant ANS position.
- Increase division capacity for addressing ANS issues.
- Coordinate ballast water management and treatment standards development.
- Develop individual and multiple species action plans.
- Develop an annual process to: identify potential new threats to state waters; identify the threats associated with the spread of existing ANS; assess the relative environmental risks associated with these threats; and report findings.
- Alaska ANS Coordinating subcommittees work with specific industry sectors to reduce ANS threats.
- Initiate a training program for state troopers and commissioned fish and game enforcement officers on ANS identification and laws and regulations.
- Develop ANS information to be distributed to community watershed groups.
- Implement public education and communication program.
- Oversee research to:
    1. Publish an aquatic plant identification manual for Alaska.
    2. Characterize potential ANS by identifying and describing traits associated with successful high-impact invaders.
    3. Characterize resources and habitats with highly "invade able" ecological communities in Alaska.
    4. Compile maps of major human activities that affect aquatic resources with invasions of ANS.
    5. Compare and contrast ANS management and control strategies to develop Best Management Practices for established populations or potential invasions of ANS in Alaska.

VII. MONITORING, EVALUATION AND FEEDBACK

Systematic monitoring of program outputs and results will be part of the implementation of the ANS Management Plan. This process will be a formal evaluation regarding the efficiency and effectiveness of the program. Initially, the ANS plan will be updated annually. As part of the update, the program coordinator will review the status of all tasks included in the implementation table and report on the status of each task. The Plan is an active working document that will be used to evaluate the performance and success of the program. Effectiveness of each task toward meeting plan goals will be evaluated and reported. Obstacles to completing tasks or factors that limit effectiveness will also be evaluated and reported. Changes to the Plan will be made as a result of this evaluation. The program coordinator will be responsible for overseeing the review process.

DRAFT

Tasks/Actions		Fund Source	Implem. Entity	Coop. Organz.	Preliminary Cost Estimate		Preliminary Cost Estimate		Preliminary Cost Estimate	
#	Descriptive Title				$ 1,000s	FTE	$ 1,000s	FTE	$ 1,000s	FTE
					---------FY03	-------	------FY04	--------	-----FY05	-------
Goal 1: Coordinate All Aquatic Nuisance Species Management Programs within Alaska and Collaborate with Regional, National and International Programs										
1A1a	Create & fund an ANS coordinator position within ADF&G.	USFWS	ADF&G		87.0	1.0	157.0	2.0	152.0	2.0
1A1b	Establish an intra-dept. ADF&G ANS Coordinating Committee chaired by the ANS coordinator.	USFWS/ ADF&G	ADF&G ANS	ADF&G	60.0	0.75	120.0	1.5	120.0	1.5
1A1c	Establish a multi-agency Aquatic Nuisance Species Coordinating Committee.	USFWS	ADF&G	Uof A, Sea Grant, DNR, DEC, USFS, USFWS			10.0		10.0	
1A1d	Establish subcommittees to address major issues such as Atlantic salmon, shipping, education and risk assessment.	USFWS	AK ANS Com.	ADF&G ANS Coordinator	b					
1A1e	Review the respective responsibilities of tribes, NGOs, state, federal and regional entities & develop coordination process.	USFWS	AK ANS Com.	ADF&G ANS Coordinator	b					
1A1f	Participate in the Pacific Ballast Water Group and coordinate participation.	DEC	DEC	AK ANS Com	5.0		5.0		5.0	
1A1g	Coordinate ballast water management and treatment standards development.	USFWS	DEC	AK ANS Com	5.0	0.1	5.0	0.1	5.0	0.1
Goal 2: Prevent the introduction of new ANS into Alaska waters.										
2A1a	Develop individual species or multiple species/ action plans	USFWS	ADF&G	ADF&G ANS Coordinator	b,c		b,c		b,c	
	Develop an interim plan for Atlantic salmon (highest priority current invasive) (see Task 3B1a)	ADF&G	ADF&G	ADF&G ANS Coordinator						
	Develop an interim plan for northern pike (highest priority current invasive) (see Task 3B1b)	ADF&G	ADF&G	ADF&G ANS Coordinator						
	Develop an interim prevention and monitoring plan for green crab (highest priority threat)	ADF&G	ADF&G	ADF&G ANS Coordinator	20.0					

[a]USFWS dollars are not available until FY04.
USFWS/federal dollars in FY03 are sustainable salmon funds.
[b] Coordinator duties.
[c] Division staff duties.

Tasks/Actions		Fund Source	Implem. Entity	Coop. Organz.	Preliminary Cost Estimate		Preliminary Cost Estimate		Preliminary Cost Estimate	
#	Descriptive Title				$ 1,000s	FTE	$ 1,000s	FTE	$ 1,000s	FTE
					---------FY03	------	-----FY04	-------	-----FY05	-------
2A1b	Conduct a scientific risk assessment to determine the priority ranking for action on ANS threats.	EVOS	AK ANS Com.	ADF&G ANS Coordinator	25.0					
2A1c	Based on the outcome of the risk assessment, reevaluate priorities and refine or develop additional individual or multiple species action plans.	EVOS	AK ANS Com.	ADF&G ANS Coordinator	a,b					
2A1d	Coordinate participation in state, regional, national & international conferences.	ADF&G	ADF&G ANS Coordinator	AK ANS Com	5.0	b				
2A1e	Participate in the Western Regional Panel on Aquatic Nuisance Species.	ADF&G	ADF&G ANS Coordinator	AK ANS Com	6.0	b				
2A1f	Participate in the Pacific States Marine Fisheries Commission effort to coordinate and implement regional Aquatic Nuisance Species activities.	ADF&G	ADF&G ANS Coordinator	AK ANS Com	3.0	b				
2A1h	Consult with the Washington Dept. of F&W and the British Columbia Transplant Committee re. Atlantic salmon.	ADF&G	ADF&G ANS Coordinator	AK ANS Com.			b	b		
2A2a	The Commercial Shipping sub-committee work with maritime cargo vessel representatives, the Pacific Ballast Water Group, & other interested groups re. commercial shipping practices.	USFWS	AK ANS Com.	ADF&G ANS Coordinator			b	b		
2A2b	The Recreational Boating and Sport Fishing sub-committee work with representatives of the recreational boating industry.	USFWS	AK ANS Com.	ADF&G ANS Coordinator			b	b		
2A2c	The education/Research/Risk Assessment sub-committee work with representatives of aquarium trade.	USFWS	AK ANS Com.	ADF&G ANS Coordinator			b	b		
2A2d	The Monitoring/Response/Control sub-committee will work with tribes, NGOs, state and federal agencies to prioritize monitoring efforts and develop response protocols.	USFWS	AK ANS Com.	ADF&G ANS Coordinator			b	b		

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Tasks/Actions		Fund Source	Implem. Entity	Coop. Organz.	Preliminary Cost Estimate		Preliminary Cost Estimate		Preliminary Cost Estimate	
#	Descriptive Title				$ 1,000s	FTE	$ 1,000s	FTE	$ 1,000s	FTE
					----------FY03	------	------FY04	-------	------FY05	-------
2A2e	The Regulatory Reform sub-committee will review existing state laws and regulations	USFWS	AK ANS Com.	ADF&G ANS Coordinator			b	b		
2A3a	Identify a protocol for development of an invasive species list identifying species that cannot be introduced into Alaska or into select geographic areas in Alaska	USFWS	AK ANS Com.	ADF&G ANS Coordinator	b	b				
2A3b	Develop an annual process to: identify potential new threats to state waters; identify the threats associated with the spread of existing ANS; assess the relative environmental risks associated with these threats; and report findings.	USFWS	AK ANS Com.	ADF&G ANS Coordinator			b	b		
2A4a	Initiate a training program for state troopers and commissioned fish and game enforcement officers on ANS identification and laws and regulations.	USFWS	AK ANS Com.	ADF&G ANS Coordinator			5.0		5.0	
2A4b	Distribute information on ANS law to businesses that import aquatic organisms.	USFWS	ADF&G ANS Coordinator	DCED	1.0		1.0		1.0	
Goal 3: Detect, monitor, contain, reduce or eradicate populations of aquatic nuisance species as quickly as possible with a minimum of environmental impact.										
3A1a	Based on the results of the risk assessment, develop and implement an overall monitoring program.	USFWS	AK ANS Com.	ADF&G	25.0		50.0		50.0	
3A1b	Develop and implement training to integrate ANS identification and reporting into field activities.	ADF&G	ADF&G ANS Coordinator	ADF&G	25.0		25.0		25.0	
3A1c	Develop a database out of which GIS maps can be built to show the locations of ANS sightings	USFWS	ADF&G ANS Coordinator	ADF&G			10.0			
3A1d	Develop a reporting system to receive information on suspected ANS	USFWS	ADF&G ANS Coordinator	ADF&G	5.0					
3B1a	Develop an Atlantic salmon interim action plan to address prevention, monitoring and eradication.		ADF&G	ADF&G ANS Coordinator	25.0		25.0		25.0	

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Tasks/Actions		Fund Source	Implem. Entity	Coop. Organz.	Preliminary Cost Estimate		Preliminary Cost Estimate		Preliminary Cost Estimate	
#	Descriptive Title				$ 1,000s	FTE	$ 1,000s	FTE	$ 1,000s	FTE
					FY03		FY04		FY05	
3B1b	Implement a northern pike action plan to address prevention, monitoring and eradication.		ADF&G	ADF&G ANS Coordinator	75.0	1.0	75.0	1.0	75.0	1.0
3B1c	Establish and administer an ANS emergency response fund.	USFWS/ State of Alaska	ADF&G	ADF&G ANS Coordinator			100.0		100.0	
Goal 4: Educate the public and appropriate resource user groups to the importance of preventing ANS introductions, and how the harmful impacts of ANS can be reduced.										
4A1a	Develop a public education and communication plan for ANS.	USFWS	ADF&G ANS Coordinator	ADF&G	10.0	0.1	10.0	0.1	10.0	0.1
4A1b	Develop an ANS website that includes images and directions on how to identify and report ANS sightings.	USFWS	ADF&G ANS Coordinator	ADF&G			5.0		5.0	
4A1c	Include ANS GIS maps on the ANS website.	USFWS	ADF&G ANS Coordinator	ADF&G			1.0		1.0	
4A1d	Develop fliers and small license holder size identification cards for Atlantic salmon.	USFWS	ADF&G ANS Coordinator	ADF&G	2.0					
4A1e	Publish an aquatic plant identification manual for Alaska.	USFWS	Grant, DNR, DEC, USFS, USFWS	ADF&G ANS Coordinator			10.0		10.0	
4A1f	Develop ANS information to be distributed to community watershed groups.	USFWS	ADF&G ANS Coordinator	DEC			10.0		10.0	
4A1g	Develop partnerships with media outlets.	ADF&G	ADF&G ANS Coordinator	ADF&G	b					
4A1h	Identify key state publications into which ANS test and graphics can be included.	ADF&G	ADF&G ANS Coordinator		b					

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USFWS/federal dollars in FY03 are sustainable salmon funds.
[b] Coordinator duties.
[c] Division staff duties.

		Fund	Implem.	Coop.	Preliminary		Preliminary		Preliminary	
Tasks/Actions		Source	Entity	Organz.	Cost Estimate		Cost Estimate		Cost Estimate	
#	Descriptive Title				$ 1,000s	FTE	$ 1,000s	FTE	$ 1,000s	FTE
					--------FY03	------	-----FY04	-------	-----FY05	-------
4A1i	Develop information that can be easily incorporated into classroom curriculum	USFWS	ADF&G ANS Coordinator	DOE			15.0		15.0	
4A1j	Develop ANS educational materials for pet stores to be shared with retail & wholesale suppliers.	USFWS	ADF&G ANS Coordinator	DCED			5.0		5.0	
4A1k	Develop ANS educational materials for pet stores to be distributed with customer purchases.	USFWS	ADF&G ANS Coordinator	DCED			1.0		1.0	
4A1l	Develop a "good housekeeping" program for pet stores w/ good outreach programs and responsible polices.	USFWS	ADF&G ANS Coordinator	ADF&G			1.0		1.0	
4A2a	Provide ANS training & identification material to aquaculture companies.	USFWS	ADF&G ANS Coordinator	ADF&G			5.0		5.0	
4A2b	Provide information to fishing groups and fishers to monitor and report sighting of ANS	USFWS	ADF&G ANS Coordinator	ADF&G			10.0		10.0	
4A2c	Develop a New Zealand mud snail education program	CARA	ADF&G		30.0		15.0		15.0	
4B1a	Provide educational briefing to state legislatures and legislative staff & to local elected officials.	ADF&G	ADF&G ANS Coordinator	ADF&G	1.0					
4B1b	Provide similar training to state agency leaders to build support for & incorporation of ANS programs.	ADF&G	ADF&G ANS Coordinator	ADF&G	1.0					
Goal 5: Identify, develop, conduct and disseminate research on ANS that are identified as species of concern in Alaska.										
5A1a	Define ANS risks that affect ecosystems, human health and the economy and develop criteria for evaluating and classifying these risks.	USFWS	AK ANS Com.	ADF&G	10.0					

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[b] Coordinator duties.
[c] Division staff duties.

Tasks/Actions		Fund Source	Implem. Entity	Coop. Organz.	Preliminary Cost Estimate		Preliminary Cost Estimate		Preliminary Cost Estimate	
#	Descriptive Title				$ 1,000s	FTE	$ 1,000s	FTE	$ 1,000s	FTE
					----------FY03	------	------FY04	-------	------FY05	-------
5A1b	Characterize potential ANS by identifying and describing traits associated with successful high-impact invaders.	USFWS	ADF&G	Uof A, Sea Grant, DNR, DEC, USFS, USFWS			10.0		10.0	
5A1c	Characterize resources & habitats with highly "invade-able" ecological communities in Alaska.	USFWS	ADF&G	Uof A, Sea Grant, DNR, DEC, USFS, USFWS			10.0		10.0	
5A1d	Develop, maintain and publish a list of experts with a broad knowledge of aquatic taxonomic groups.		ADF&G ANS Coordinator	ADF&G	2.0					
5A1e	Maintain a database of ongoing West Coast & national ANS research efforts.		ADF&G ANS Coordinator	ADF&G	2.0					
5A1f	Continue to develop and maintain a coordinated list of ANS and nonnative species known to occur in Alaska.		ADF&G ANS Coordinator	Uof A, Sea Grant, DNR, DEC, USFS, USFWS	b,c					
5A1g	Develop a process to inform researchers and resource managers of recent and emerging ANS information and research.		ADF&G ANS Coordinator	Uof A, Sea Grant, DNR, DEC, USFS, USFWS	b					
5B1a	Compile maps of major human activities that affect aquatic resources with invasions of ANS.	USFWS	AK ANS Com.				7.5		7.5	
5B1b	Compare and contrast ANS management and control strategies to develop Best Management Practices for established populations or potential invasions of ANS in Alaska.	USFWS	ADF&G ANS Coordinator				10.0		10.0	

[a]USFWS dollars are not available until FY04.
USFWS/federal dollars in FY03 are sustainable salmon funds.
[b] Coordinator duties.
[c] Division staff duties.

		Fund	Implem.	Coop.	Preliminary		Preliminary		Preliminary	
Tasks/Actions		Source	Entity	Organz.	Cost Estimate		Cost Estimate		Cost Estimate	
#	Descriptive Title				$ 1,000s	FTE	$ 1,000s	FTE	$ 1,000s	FTE
					---------FY03	------	-----FY04	------	-----FY05	------
Goal 6: Take appropriate steps to insure that federal and state rules and regulations sufficiently promote the prevention and control of ANS.										
6A1a	Commission a law student to conduct a review of Alaska's ANS laws and regulations.	ADF&G	ADF&G							
6A1b	Review Alaska state statutes that pertain to invasive species.	ADF&G	Law intern			0.2				
6A1c	Review & report on the respective authorities of State agencies.	ADF&G	Law intern			0.2				
6A1d	Identify potential for improved coordination and new legislation to strengthen Alaska's statutes aimed at the prevention and treatment of invasive species.	ADF&G	Law intern			0.2				
6A1e	Review & report on the compatibility of Alaska statutes with federal laws.	ADF&G	Law intern			0.2				
6A1f	Review and report on the potential development of West Coast standards based on a review of statutes in the Western states.	ADF&G	Law intern			0.2				
6A1g	Monitor the reauthorization of the National Invasive Species Act to ensure that Alaska's interests are addressed.	ADF&G	ADF&G ANS Coordinator							
Totals					430.0		713.5		698.5	
	Sources of Funds for FY03: (tentative)									
	Sustainable Salmon Fund	200.0								
	Green Crab research and monitoring funds	20.0								
	Atlantic Salmon research and monitoring fund	45.0								
	Sport Fish northern pike	75.0								
	CARA New Zealand mud snail	30.0								
	Division staff time	60.0								
		430.0								

[a] USFWS dollars are not available until FY04.
USFWS/federal dollars in FY03 are sustainable salmon funds.
[b] Coordinator duties.
[c] Division staff duties.

IX. APPENDICES

Appendix A. Literature Cited

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Appendix B: Glossary

ACCIDENTAL INTRODUCTION – An introduction of nonnative aquatic species that occurs as the result of activities other than the purposeful or intentional introduction of the species involved, such as the transport of nonnative species in ballast water or in water used to transport fish, mollusks, or crustaceans for aquaculture or other purposes.

ACCLIMATIZATION – A process of adaptation of an introduced species and their offspring in the new environment (Holcik 1991).

ALIEN SPECIES – With respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem.

AQUATIC NUISANCE SPECIES – A nonindigenous species that threatens the diversity or abundance of native species or the ecological stability of infested waters, or commercial, agricultural, aquacultural or recreational activities dependent on such waters. Aquatic nuisance species include nonindigenous species that may occur in inland, estuarine and marine waters and that presently or potentially threaten ecological processes and natural resources. In addition to adversely affecting activities dependent on waters of the United States, aquatic nuisance species adversely affect individuals, including health effects.

AQUATIC SPECIES – All animals and plants as well as pathogens or parasites of aquatic animals and plants totally dependent on aquatic ecosystems for at least a portion of their life cycle. Bacteria, viruses, parasites and other pathogens of humans are excluded.

BAIT – Species commonly sold for use as bait for recreational fishing including fish, worms and other invertebrates.

BALLAST WATER – Any water and associated sediments used to manipulate the trim and stability of a vessel.

BIOCONTROL – The use of living organisms, such as predators, parasites, and pathogens, to control pest insects, weeds, or diseases.

CONTROL – Activities to eliminate or reduce the effects of aquatic nuisance species, including efforts to eradicate infestations, reduce populations of aquatic nuisance species, develop means to adapt human activities and facilities to accommodate infestations, and prevent the spread of aquatic nuisance species from infested areas. Control may involve activities to protect native species likely to be adversely affected by aquatic nuisance species. Preventing the spread of aquatic nuisance species is addressed in the Prevention Element of the proposed Program; all other control activities are included in the Control Element.

CRYPTIC SPECIES – A species that is not demonstrably native or introduced (Carlton 1996).

ECOLOGICAL INTEGRITY – The extent to which an ecosystem has been altered by human behavior; an ecosystem with minimal impact from human activity has a high level of integrity; an ecosystem that has been substantially altered by human activity has a low level of integrity

ECONOMIC IMPACT POTENTIAL - The expected net change in society's net welfare which is the sum of the producers' and consumers' surpluses arising from changes in yield and cost of production caused by the pest.

ECOSYSTEM – The biological organisms in an ecological community and the non-living factors of the environment.

ENTRY POTENTIAL – The relative ability of an organism to penetrate the borders of a given area within a time interval.

ENVIRONMENTALLY SOUND – Methods, efforts, actions or programs to prevent introductions or control infestations of aquatic nuisance species that minimize adverse impacts to the structure and function of an ecosystem and adverse effects on non-target organisms and ecosystems and emphasize integrated pest management techniques and nonchemical measures.

ERADICATE – The act or process of eliminating an aquatic nuisance species.

ESTABLISHED – An introduced organism with a permanent population(s), i.e., one unlikely to be eliminated by man or natural causes (Shafland and Lewis 1984).

EXCLUSIVE ECONOMIC ZONE – The Exclusive Economic Zone of the United States established by Proclamation Number 5030 of March 10, 1983, and the equivalent zone of Canada.

EXOTIC – (same as nonnative) An organism introduced from a foreign country (i.e., one whose entire native range is outside the country where found) (Shafland and Lewis 1984). A subcategory of **introduced.**

FEDERAL CONSISTENCY – The requirement under the Coastal Zone Management Act that stipulates that federal actions that are reasonably likely to affect land or water use or natural resources of the coastal zone be consistent with the enforceable policies of a coastal state's federally approved coastal management program (CMP). A coastal state reviews the federal action to determine if the proposed action will be consistent with the CMP.

INDIGENOUS – Occurring or found naturally in a particular area or ecosystem; historically occurring in geographic range previous to the arrival of the first European settlers; a species that is a member of the native natural community (Fuller et al. 1999). Excludes species descended from domesticated ancestors.

INTENTIONAL INTRODUCTION – The knowing import or introduction of nonindigenous species into, or transport through, an area or ecosystem where it was not previously established. Even when there is no intent to introduce an aquatic organism into an ecosystem, escapement, accidental release, improper disposal (e.g., "aquarium dumps") or similar releases are the virtual inevitable consequences of an intentional introduction, not an unintentional introduction. Synonyms: Purposeful, Deliberate.

INTEGRATED PEST MANAGEMENT – The control of pests utilizing a practical, economical, and scientifically based combination of chemical, biological, mechanical or physical, and cultural control methods. Coordinated application of non-chemical control methods is emphasized in order to reduce or eliminate the need for pesticides. Integrated pest management is a balanced approach which considers hazard to the environment, efficacy, costs, and vulnerability of the pest. It requires: (1) identification of acceptable thresholds of damage; (2) environmental monitoring; and (3) a carefully designed control program to limit damage from the pest to a predetermined acceptable level.

INTRODUCTION – The intentional or unintentional escape, release, dissemination, or placement of a species into Alaska ecosystem as a result of human activity.

INVASIVE SPECIES – A nonindigenous species that has the ability to establish self-sustaining, expanding, free-living populations, and may cause economic and/or environmental harm.

LOCALIZED – A confined, reproducing population of an introduced organism that can be eliminated using standard methods (Shafland and Lewis 1984).

LOCALLY ESTABLISHED – An introduced organism with one or more naturally reproducing populations but with a very restricted distribution and no evidence of natural range

expansion (in general, limited to a relatively confined area, such as a small lake) (Fuller et al. 1999).

NATIVE SPECIES – A species within its natural range or natural zone of dispersal, i.e., within the range it could or would occupy without direct or indirect introduction and/or care by humans. It excludes species descended from domesticated ancestors.

NATURALIZATION – The final phase of acclimatization, when the introduced species finds a "vacant niche" in a community (Holcik 1991).

NONINDIGENOUS SPECIES (synonyms: exotic or non-native species) – Means, with respect to a particular ecosystem, any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, which is not native to Alaska.

ORGANISM – Any active, infective, or dormant stage of life form of an entity characterized as living, including vertebrate and invertebrate animals, plants, bacteria, fungi, mycoplasmas, viroids, viruses, or any entity characterized as living, related to the foregoing.

PATHWAYS – Natural and human connections that allow movement of species or their reproductive propagules from place to place.

PIONEER INFESTATION – A small ANS colony that has spread to a new area from an established colony.

PREVENTION – Measures to minimize the risk of unintentional introductions of nonindigenous aquatic species that are, or could become, aquatic nuisance species into waters of the United States.

PRIORITY SPECIES – An ANS that is considered to be a significant threat to Alaska waters and is recommended for immediate or continued management action to minimize or eliminate their impact.

PUBLIC FACILITIES – Federal, State, regional and local government-owned or controlled buildings, structures and other man-made facilities, including water intakes, boat docks, electrical power plants, locks and dams, levees, water control structures, and publicly-owned fish culture facilities. Electric generating stations, water supply systems and similar facilities operated by public utilities or other non-governmental entities are also considered public facilities.

RISK – Is the likelihood and magnitude of an adverse event.

RISK ANALYSIS – The process that includes both risk assessment and risk management.

RISK ASSESSMENT – A science based process to evaluate the economic and/or environmental risk(s) of non-indigenous species.

RISK COMMUNICATION – The act or process of exchanging information concerning risk.

RISK MANAGEMENT – The pragmatic decision-making process concerned with what to do about the risk.

SPECIES – A group of organisms, all of which have a high degree of physical and genetic similarity, can generally interbreed only among themselves, and show persistent differences from members of allied species. Species may include subspecies, populations, stocks, or other taxonomic classifications less than full species.

STAKEHOLDERS – Any and all interested parties.

TRANSFERS – Introductions within the native range of a species (allendorf 1991).

TRANSPLANTED – An organism moved outside its native range but within a country where it occurs naturally6 (i.e., one whose native range includes at least a portion of the country where found) (Shafland and Lewis 1984. A subcategory of introduced..

UNINTENTIONAL INTRODUCTION – An introduction of nonindigenous species that occurs as a result of activities other than the purposeful or intentional introduction of the species involved, such as the transport of nonindigenous species in ballast or in water used to transport fish, mollusks or crustaceans for aquaculture or other purpose. Involved is the release, often unknowingly, of nonindigenous organisms without any specific purpose. The virtually inevitable escapement, accidental release, improper disposal (e.g., "aquarium dumping") or similar releases of intentionally introduced nonindigenous species do not constitute unintentional introductions. Synonyms: Accidental, Incidental, Inadvertent.

UNITED STATES – The 50 States, the District of Columbia, Puerto Rico, Guam, and all other possessions and territories of the United States of America.

VECTOR – A biological pathway for a disease or parasite, i.e., an organism that transmits pathogens to various hosts. Not a synonym for Pathways as that term is used in the proposed Aquatic Nuisance Species Program.

WATERS OF THE UNITED STATES – The navigable waters and the territorial sea of the United States. Since aquatic nuisance species can move or be transported by currents into navigable waters, all internal waters of the United States, including its territories and possessions, are included. The Territorial Sea of the United States is that established by Presidential Proclamation Number 5928 of December 27, 1988. Synonyms: United States Waters.

WATERSHED – An entire drainage basin including all living and nonliving components.

Appendix C. Acronyms

Alaska Department of Environmental Conservation – DEC
Alaska Department of Fish and Game – ADF&G
Alaska Department of Natural Resources – DNR
Aquatic Nuisance Species – ANS
National Invasive Species Act – NISA
Pacific Ballast Water Group – PBWG
Prince William Sound – PWS
Prince William Sound Regional Citizens Advisory Council – PWS RCAC
United States Coast Guard – USCG

Appendix D. Strategic Response Plans

Nonindigenous Northern Pike Populations
Division of Sport Fish

Introduction
Northern pike are native to much of North America. Northern pike were historically found east of the continental divide. In Alaska, pike are native north of the Alaska Range. Northern pike are not native in the large drainages of the Copper, Susitna, and Kenai rivers as well as the numerous smaller drainages in Prince William Sound, Cook Inlet and the Gulf of Alaska Coast.

Northern pike first appeared in the Susitna River Drainage in the 1950s. It is believed that a well-intentioned angler stocked these fish in a lake via floatplane. Approximately 50 years later, northern pike can be found throughout the Susitna River drainage. Northern pike are most numerous in those parts of the Susitna River Drainage that correspond to its preferred habitat niche. This includes shallow lakes and sloughs and slow clear tributary streams. Northern pike are less numerous or absent from those parts of the Susitna River Drainage that are turbid, fast moving or having extremely cold water.

The actual impact of northern pike on the Susitna River Drainage is impossible to measure. However, northern pike have had a significant impact in some parts of the drainage. Several lakes (Trappers, Alexander, and Red Shirt) that once contained healthy trout and salmon populations are now devoid of these species. Pike densities remain high in these systems and it is unlikely trout and salmon will ever become reestablished. Other fishes in these systems such as suckers and whitefish have been similarly impacted. In addition to lakes, numerous sloughs and small streams have had their native fish populations replaced by northern pike. The cumulative impact of northern pike on the Susitna River Drainage is probably quite large, particularly for those species (rainbow trout, coho salmon, suckers, whitefish, etc.) that have significant overlap of preferred habitat niches.

The range expansion of northern pike is continuing. Northern pike are being found in many lakes in the Matanuska-Susitna Valley, Anchorage urban area, and the Kenai Peninsula. This range expansion is thought to be the result of northern pike anglers stocking these fish in lakes where

the anglers would like to see a pike fishery develop. The potential exists for northern pike to become established in most if not all Cook Inlet drainages.

Problem and Impacts

Much of the aquatic habitat found in Southcentral Alaska is similar to northern pike habitat found in much of its' native range. However, most Southcentral aquatic systems are much less productive than those found in the northern pike native range. The typical course of events when pike are introduced into a Southcentral Alaska lake is as follows: the few introduced pike have lots of food and they grow fast; the pike produce lots of offspring; the offspring grow fast and they reproduce; the lake soon contains thousands of small pike; the pike eat everything in the lake including each other; after a period of 5 to 10 years the lake contains nothing but 10 to 20 inch pike that anglers don't pursue because they are too small. The biomass of fish capable of being sustained in a Southcentral Alaska lake is small. Once that biomass is eaten by pike, native fish production in the lake is essentially lost unless the pike can be removed.

Replacing native fish biomass with northern pike biomass is a loss for Alaskans. Rainbow trout are a highly sought after species in Alaska. This species is so prized that highly restrictive regulations for this species exist throughout Alaska. Eliminating rainbow trout and replacing it with northern pike is unacceptable in the minds of most Alaskan sport anglers. A similar argument can be made for salmon. Once established in a lake, northern pike are capable of consuming most if not all juvenile salmon originating in that system. The net result is that no adult salmon return. Besides being a loss to sport and commercial fishers, there is a large loss of productivity to the system. The carcasses of spawned out salmon provide a large nutrient input into most aquatic systems. Loss of this input means the systems can support fewer and fewer fish over time.

Northern pike are showing up in many stocked lakes. These pike compete with the anglers intended to benefit from the stocking. If pike densities become high, the anglers are actually out-competed and stocking is no longer of any benefit. These lakes are no longer stocked. Some of these lakes are in urban areas and heavily utilized. Loss of this fishing opportunity can be devastating to urban anglers.

The potential for northern pike to continue spreading is large and the potential impact is immense. Northern pike are still being found in new locations, particularly stocked lakes. This means that people are still moving them around. The potential for damage is immense in 2 critical river systems. The Kenai River system is heavily utilized by sport and commercial fishers as well as personal use and subsistence fishers. Northern pike are present in some subdrainages of the Kenai. Permitting these populations of pike to spread could jeopardize some or all of the Kenai River fisheries. The Copper River Delta contains a tremendous amount of potential northern pike habitat. Introduction of northern pike into the Copper River Delta is not beyond belief. Once established, northern pike could again have a large impact on commercial, sport, personal use and subsistence fishers.

The unchecked spread of northern pike into waterbodies where they previously weren't found is unacceptable. Once established, northern pike are difficult to eliminate or control. However, there are actions that can be taken to eliminate or control the growth of northern pike populations in a variety of circumstances. A strategic response plan has been developed using the following

criteria to make decisions; lake type and size, potential northern pike spawning area, and the likely northern pike prognosis if left unchecked.

Goal Statement

The ADF&G will control and prevent the spread of nonindigenous or non-native populations of northern pike in order to ensure sustained yield of indigenous stocks, preserve diverse and dependable fishing opportunity, and maintain wild populations of desired fish species.

Objectives

1. Document and characterize the presence of northern pike outside their native range.
2. Prevent the spread of northern pike into new areas.
3. Eliminate or reduce northern pike predation on indigenous fish populations.
4. Eliminate or reduce northern pike predation on high use/ value stocked fisheries.
5. Control northern pike in areas where they have impacted fisheries and cannot be eliminated.
6. Restore, where feasible, fish populations that have been eradicated or severely impacted by pike predation.

Strategic Response Plan

The ADF&G will monitor the spread of northern pike populations into new areas through several venues. Routine sampling of fish populations occurs throughout the State and documentation of northern pike will occur through the routine sampling. Reports of northern pike presence in a waterbody are also received from the general public. These reports are and will continue to be verified through further sampling. Status of the northern pike population will be ascertained from this sampling. The attached matrix will be used to classify the waterbody, perform a northern pike risk assessment, and determine the appropriate level of strategic response. Selecting the response will include economic, political, social and biological considerations. Regardless of what response is selected, a public process will be used to educate and inform the public of the appropriate action for a particular situation. All control measures are regulated processes that may involve involvement from the Board of Fisheries, Department of Environmental Conservation, Department of Natural Resources, or other State and Federal agencies. The strategic response plan will address the involvement of other agencies and the control measures that need to be addressed.

Appendix E. Species Information on High Priority Threats

Fish
Atlantic salmon (*Salmo salar)*: http://nas.er.usgs.gov/fishes/accounts/salmonid/sa_salar.html

Brook trout (*Salvelinus fontinalis)*: http://nas.er.usgs.gov/fishes/accounts/salmonid/sa_fonti.html

Northern pike (*Esox lucius)*: http://nas.er.usgs.gov/fishes/accounts/esocidae/es_luciu.html

Oscar (*Astronotus ocellatus)*: http://nas.er.usgs.gov/fishes/accounts/cichlida/as_ocell.html

Yellow perch (*Perca flavescens)*: http://nas.er.usgs.gov/fishes/accounts/percidae/pe_flave.html

Crustaceans
Chinese mitten crab (*Eriocheir sinensis*): http://www.gsmfc.org/nis/nis/Eriocheir_sinensis.html

Green crab (*Carcinus maenas*): http://www.wa.gov/wdfw/fish/ans/greencrab.htm

Signal crayfish (*Pacifastacus leniusculus*) distribution map:
http://nas.er.usgs.gov/crustaceans/maps/pa_leniusculus.gif

Mollusks
New Zealand mudsnail (*Potamopyrgus antipodarum*):
http://www.fcsc.usgs.gov/Nonindigenous_Species/New_Zealand_Mudsnail/new_zealand_mudsnail.html

Zebra mussel (*Dreissena polymorpha)*: http://nas.er.usgs.gov/zebra.mussel/docs/sp_account.html

Plants
Hydrilla verticillata, hydrilla, water thyme: http://nas.er.usgs.gov/plants/docs/hy_verti.html

Landoltia (Spirodela) punctata, dotted duckweed:
http://nas.er.usgs.gov/plants/docs/la_punct.html

Lythrum salicaria, Purple Loosestrife: (General)
http://www.ecy.wa.gov/programs/wq/plants/weeds/purple_loosestrife.html

(Technical) http://www.ecy.wa.gov/programs/wq/plants/weeds/aqua009.html

Myriophyllum spicatum, Eurasian water-milfoil:
http://nas.er.usgs.gov/plants/docs/my_spica.html

Polygonum cuspidatum, Japanese knotweed:
http://www.ecy.wa.gov/programs/wq/plants/weeds/aqua015.html

Spartina alterniflora, saltmarsh cordgrass: http://nas.er.usgs.gov/plants/docs/sp_alter.html

Utricularia inflate, swollen bladderwort: http://nas.er.usgs.gov/plants/docs/utric_in.html

Whirling disease, *Myxobolus cerebralis*, http://www.whirling-disease.org/

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

July 17, 2002

Alberta Aga
P.O. Box 1
Larsen Bay, AK 99624

RE: Small Parcel Nomination

Dear Ms. Aga:

Please find attached a nomination form and a brief summary of the Trustee Council's small parcel program. As the enclosed materials explain, beginning in October 2002, the program is being administered by The Nature Conservancy and The Conservation Fund under a one-year pilot grant from the Trustee Council. All purchases will continue to be approved by the Trustee Council.

If you are interested in nominating a small parcel, please fill out the attached form as completely as possible. Location maps, legal descriptions, and photographs would also be helpful. Mail the completed nomination form and related materials to:

Randy Hagenstein The Nature Conservancy P. O. Box 3231 Homer, AK 99603 Phone 907-235-9731 Fax 907-235-9732 rhagenstein@tnc.org	AND / OR	Brad Meiklejohn The Conservation Fund 9850 Hiland Road Eagle River, AK 99577 Phone 907-694-9060 Fax 907-694-9070 bradmeiklejohn@aol.com

Thank you for your interest in the Trustee Council's habitat protection effort.

Sincerely,

Sandra Schubert

Sandra Schubert
Program Director

cc: Randy Hagenstein, The Nature Conservancy
Brad Meiklejohn, The Conservation Fund

SMALL PARCEL NOMINATION FORM

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Part 1: Landowner Information

Phone: _____

Landowner: _____ Fax: _____

Address: _____

_____

Co-owner: _____

_____

Part 2: Parcel Information

Legal description of property: (township, range, section) _____

_____

General description of property, including habitat restoration or other biological or recreational value. Also please provide photos and maps if available: _____

_____

_____

_____

_____

_____

_____

_____

Approximate acreage: _____ acres

Is your property located within or adjacent to a State or Federal Park, Refuge or National Forest or other public land unit? If so, which one? _____

Are there any developments on the site? _____

Are there any hazardous materials on the property? (waste oil, mine tailings, dump) _____

_____

Part 3: Signatures

Signature of landowner: _____ Date: _____

and

Signature of co-owner: _____ Date: _____

A nomination does not bind you to sell your property, nor does it bind the Trustee Council to buy your lands.

Exxon Valdez Oil Spill Trustee Council
Small Parcel Program
October 2002

INTRODUCTION

The Trustee Council's habitat protection effort is comprised of a Large Parcel Program (generally parcels over 1,000 acres) and a Small Parcel Program (generally parcels of 1,000 acres or less). The Small Parcel Program deals with smaller, more strategically located habitats. These parcels are often on coves, along important stretches of river, at the mouths of rivers, or adjacent to valuable tidelands. They are often close to spill area communities or within already protected areas, such as refuges and parks.

Beginning in October 2002, the Small Parcel Program is being administered by The Nature Conservancy and The Conservation Fund under a one-year pilot grant from the Trustee Council. The advantages these two non-profit organizations bring to the program are an ability to respond more quickly than government to opportunities for acquisition of priority lands, to leverage resources by attracting matching funds, and to broaden the protection impact of dollars spent through the use of tax incentives and estate planning strategies. If this grant approach is successful, the grant may be renewed into the future.

Under the grant, all purchases will continue to be approved by the Trustee Council.

PARCEL EVALUATION

Land will be purchased only from willing sellers.

All lands or interests in lands (e.g., fee title, conservation easements, mineral rights, timber rights) considered for acquisition must be important to the conservation and protection of marine and coastal resources, ecosystems, and habitats in order to aid in the overall recovery of, and to enhance the long-term health and viability of, resources injured by the *Exxon Valdez* oil spill and the spill-area ecosystem.

Lands suitable for acquisition are:

- lands with concentrated biological values or high natural lands recreational values;
- lands which provide access to areas of high biological significance or to areas with high natural lands recreational values;
- isolated parcels within otherwise protected areas.

Individual land parcels will be evaluated using the following criteria:

a) habitat restoration value;
b) threat of development or loss;
c) opportunity to enhance management of protected areas;
d) willingness of the United States, State of Alaska, or other public agency or non-profit organization approved by the Trustee Council to manage the land or

interests in the land;
e) feasibility of acquiring the property, including willing seller;
f) leverage, i.e., the amount of matching funds available;
g) partnership support, i.e., the number of funding partners and the amount of public support.

All parcel acquisitions will be publicly noticed.

LAND APPRAISAL

Parcels will be appraised prior to purchase, consistent with the Uniform Appraisal Standards for Federal Land Acquisition and the Uniform Standards of Professional Appraisal Practice. The amount of Trustee Council funds expended for the parcel can not exceed the appraised value of the parcel.

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

MEMORANDUM

TO: Trustee Council

THROUGH: Molly McCammon
Executive Director

FROM: Debbie Hennigh
Administrative Manager

DATE: July 17, 2002

RE: June Investment Reports

Included are the Department of Revenue's reports as of June 30, 2002:

- Statement of Invested Assets,
- Statement of Investment Income and Changes in Invested Assets,
- Asset Allocation Policy with Actual Investment Holdings, and
- Performance Measurement.

Also attached are the following graphs for the period of activity ending June 30, 2002:

- Investment Fund Assets, and
- Earnings (Loss).

Also included are graphs of each investment pool's activity for October 2000 through June 2002, the entire investment fund/benchmark, and each individual pool/benchmark for June 2002.

Attachments

cc: Investment Working Group

STATE OF ALASKA
DEPARTMENT OF REVENUE
TREASURY DIVISION

Exxon Valdez Oil Spill Investment Fund

STATEMENT OF INVESTED ASSETS

June 30, 2002 and 2001

Investments (at fair value)	**2002**	**2001**
Cash and cash equivalents		
Short-term Fixed Income Pool	$ 256,865	$ 77,499
Marketable debt and equity securities		
Broad Market Fixed Income Pool	74,587,039	61,457,699
Non-retirement Domestic Equity Pool	70,885,631	49,293,870
SOA International Equity Pool	31,848,727	20,429,757
Total invested assets	$ 177,578,262	$ 131,258,825

STATE OF ALASKA
DEPARTMENT OF REVENUE
TREASURY DIVISION

Exxon Valdez Oil Spill Investment Fund

STATEMENT OF INVESTMENT INCOME
AND CHANGES IN INVESTED ASSETS

For the period ended June 30, 2002

	CURRENT MONTH	FEDERAL YEAR TO DATE
Investment Income		
Cash and cash equivalents		
Short-term Fixed Income Pool	$ 343	$ 3,682
Marketable debt and equity securities		
Non-pooled investments		
Broad Market Fixed Income Pool	740,244	2,549,477
Non-retirement Domestic Equity Pool	(5,492,954)	(1,404,951)
SOA International Equity Pool	(1,085,022)	2,031,464
Commission Recapture	4,863	22,032
Total income from marketable debt and equity securities	(5,832,870)	3,198,022
Total investment income (loss)	(5,832,528)	3,201,704
Total invested assets, beginning of period	183,410,789	174,451,698
Net contributions (withdrawals)	(0.00)	(75,140)
Total invested assets, end of period	$ 177,578,262	$ 177,578,262

Exxon Valdez Oil Spill Investment Fund
Period Ending June 30, 2002

	Mkt Value ($M)	Monthly Return	3 Mo. Return	Calendar YTD	Federal Fiscal YTD*	Inception to Date**
AY02 EVOS Investment Fund	**177,578**	**-3.18**	**-4.48**	**-3.65**	**1.83**	*-4.13*
EVOS Investment Fund Index		***-3.26***	***-4.35***	***-3.77***	***1.98***	*-6.21*
Short-term Fixed Income Pool	256	0.18	0.56	0.93	1.62	*4.21*
91 day T-Bill		*0.14*	*0.46*	*0.89*	*1.54*	*3.86*
Broad Market Fixed Income Pool	74,587	0.97	3.61	3.41	3.47	*9.42*
Lehman Brothers Aggregate Index		*0.87*	*3.70*	*3.80*	*3.84*	*9.61*
Non-Retirement Domestic Equity Pool	70,886	-7.19	-13.06	-12.22	-1.94	*-16.95*
Russell 3000 Index		*-7.20*	*-13.09*	*-12.24*	*-1.92*	*-18.08*
SOA International Equity Pool	31,849	-3.42	-1.18	1.90	6.72	*-11.67*
Morgan Stanley Capital Intl. (EAFE)		*-3.98*	*-2.12*	*-1.62*	*5.24*	*-14.50*

Source: State Street Bank, Insight.

* Federal Fiscal YTD indicates a term beginning October 1, 2001 to current period ending.
** Inception Date: October 31, 2000

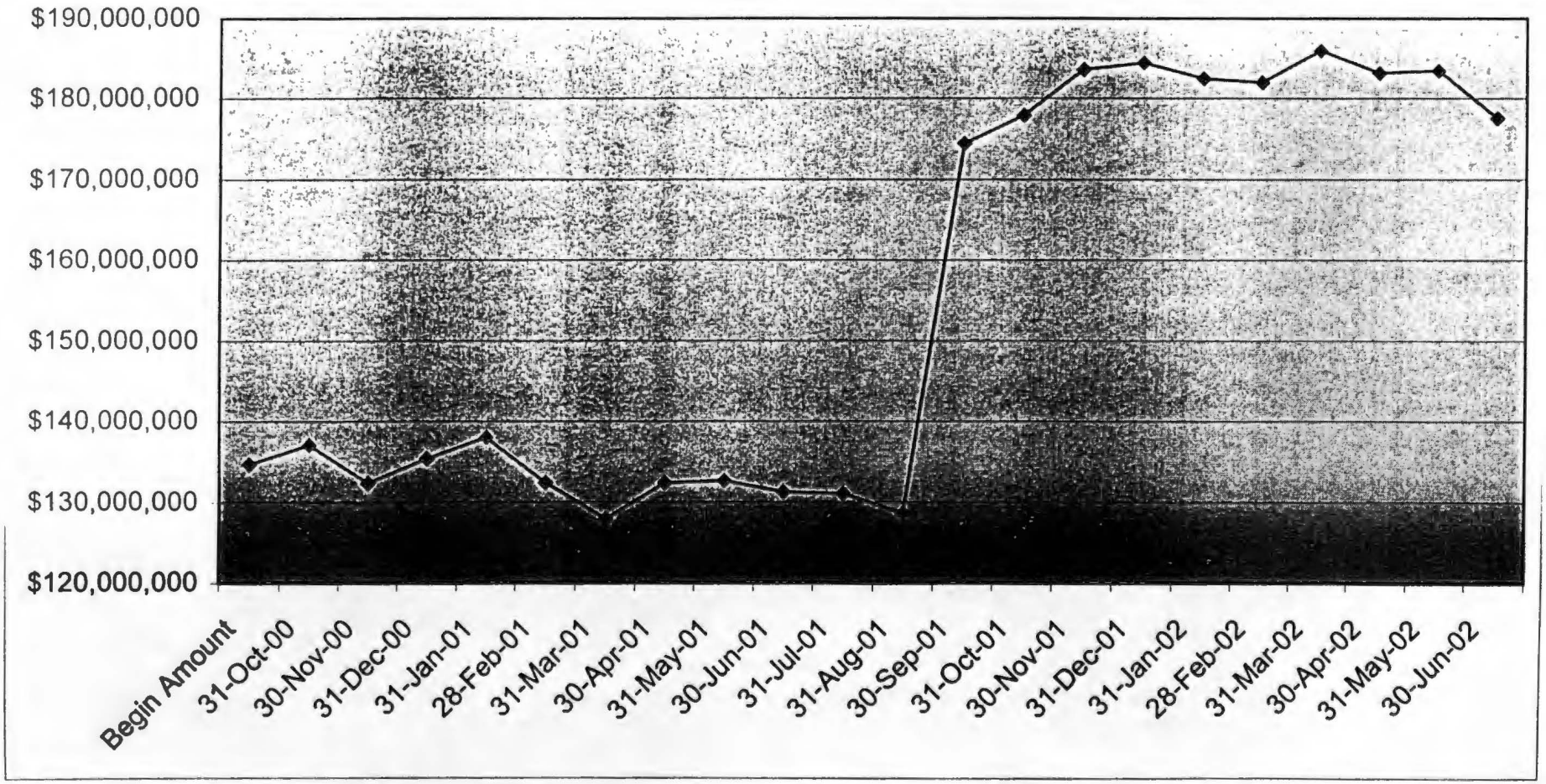
STATE OF ALASKA
DEPARTMENT OF REVENUE - TREASURY DIVISION

Exxon Valdez Oil Spill Investment Fund
Asset Allocation Policy (effective 4/24/00) with Actual Investment Holdings as of June 30, 2002

	Asset Allocation		Fair value	Current Allocation	Variance
	Policy	Range			
Cash and cash equivalents					
Short-term Fixed Income Pool	0.00%		256,522.33	0.14%	-0.14%
Total cash and cash equivalents	0.00%		256,522.33	0.14%	-0.14%
Marketable debt and equity securities					
Broad Market Fixed Income Pool	42.00%	35% - 49%	74,587,038.56	42.00%	0.00%
Non-retirement Domestic Equity Pool	41.00%	34% - 48%	70,885,630.85	39.92%	1.08%
SOA International Equity Pool	17.00%	12% - 22%	31,848,727.19	17.94%	-0.94%
Total marketable debt securities	100.00%		177,321,396.60	99.86%	0.14%
Total holdings	100.00%		177,577,918.93	100.00%	0.00%
Short-term Fixed Income Pool Interest Receivable			342.77		
Total Invested Assets at Fair Value			177,578,261.70		

Prepared by Treasury Division
Printed: 7/5/02 at 11:50 AM
Filename: EVOS_0602 policy

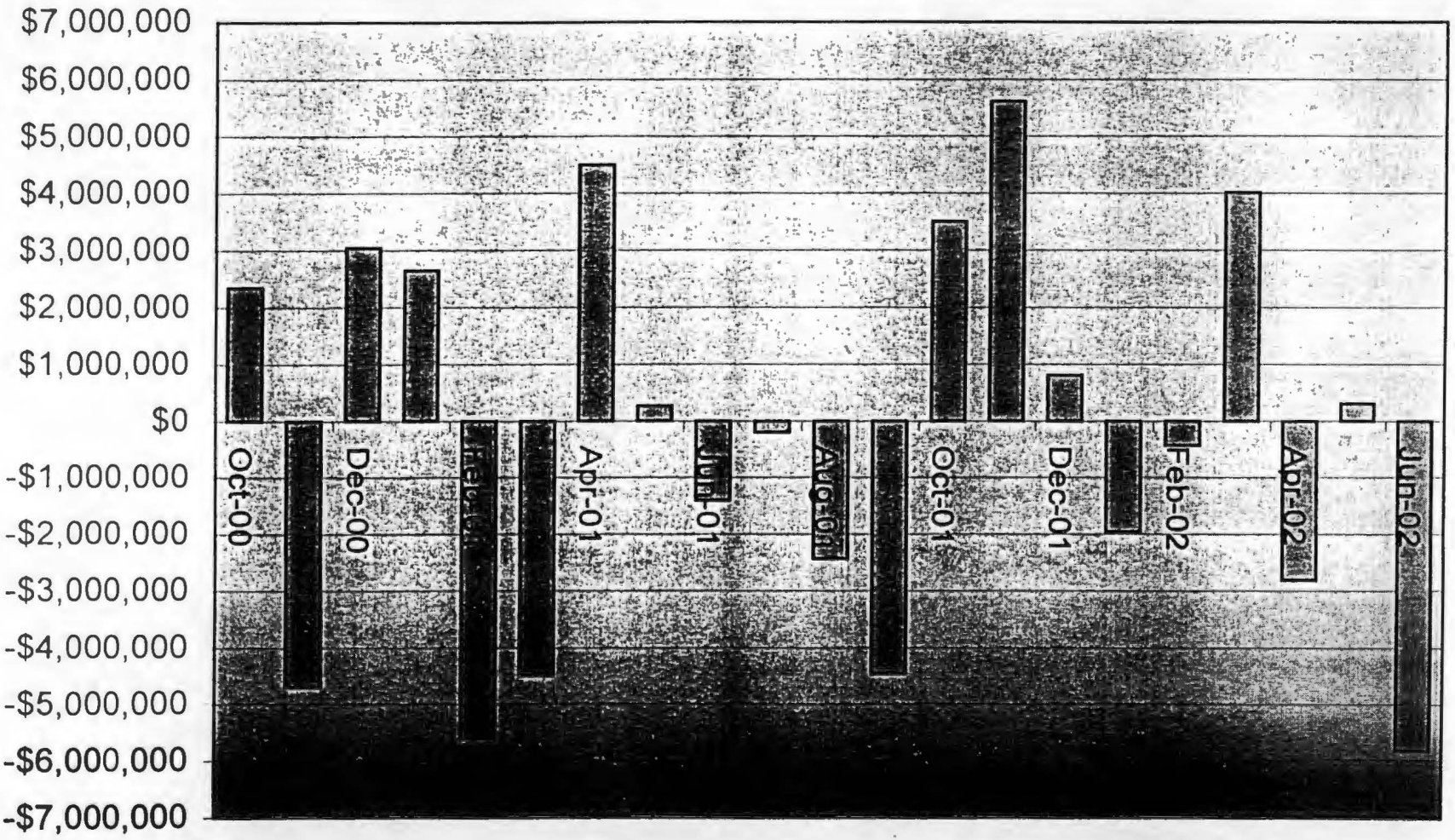
Exxon Valdez Oil Spill Trustee Council
Investment Fund Assets



Note: September's amount reflects addition of Exxon's last payment of $66,113,500

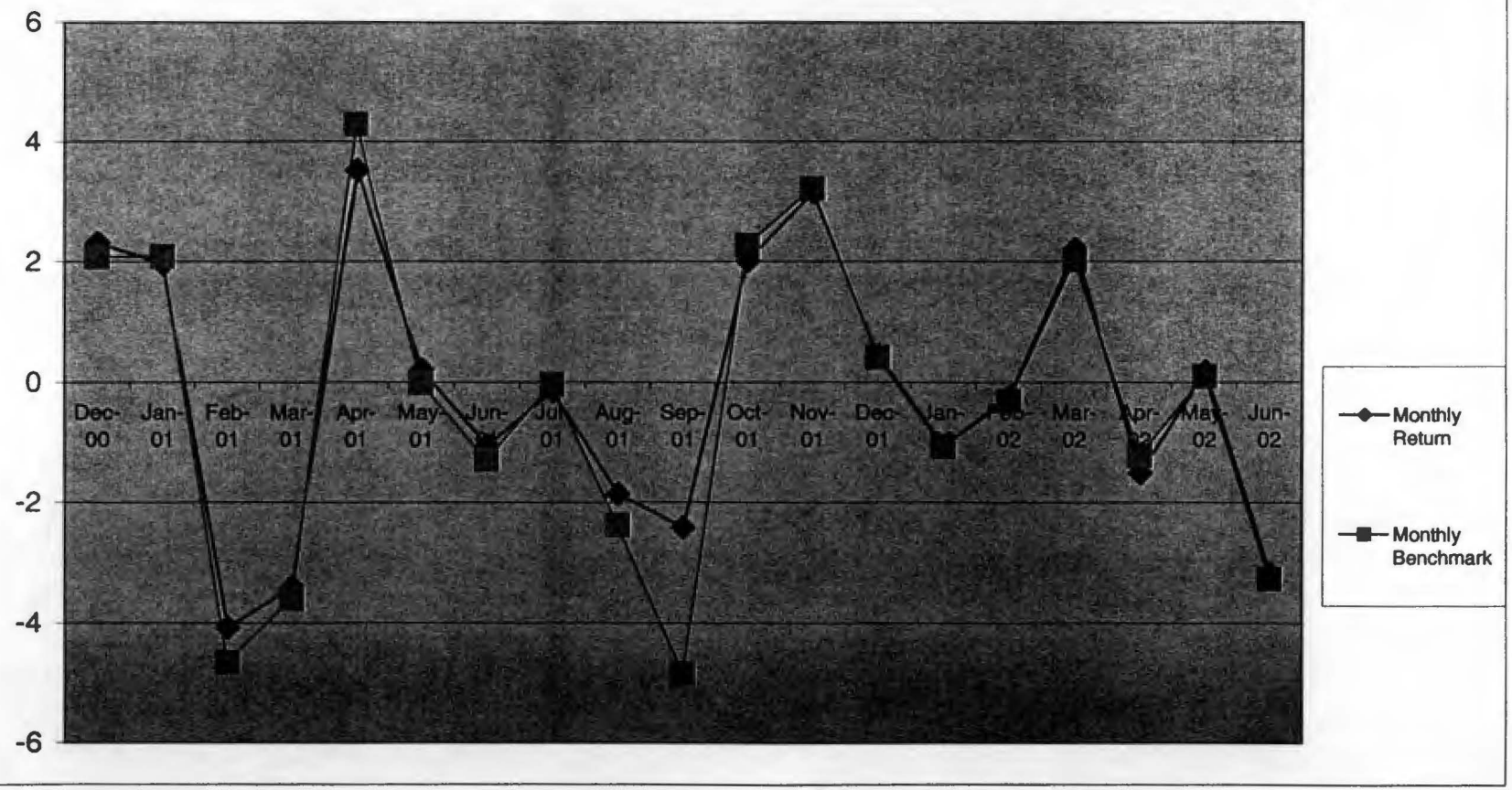
EVOS Investment Fund Earnings (Losses)				
	SFY 01	SFY 02	Total	
31-Oct-00	$2,503,034			
30-Nov-00	-$4,794,990			
31-Dec-00	$3,042,417			
31-Jan-01	$2,652,034			
28-Feb-01	-$5,626,092			
31-Mar-01	-$4,499,192			
30-Apr-01	$4,497,983			
31-May-01	$267,233			
30-Jun-01	-$1,412,478			
31-Jul-01		-$203,007		
31-Aug-01		-$2,442,542		
30-Sep-01		-$4,465,637		
31-Oct-01		$3,499,297		
30-Nov-01		$5,613,492		
31-Dec-01		$811,775		
31-Jan-02		-$1,964,261		
28-Feb-02		-$432,974		
31-Mar-02		$4,009,240		
30-Apr-02		-$2,812,729		
31-May-02		$310,473		
30-Jun-02		-$5,832,528		
Total Earnings/Losses	**-$3,370,051**	**-$3,909,401**	**-$7,279,452**	
Federal Fiscal Year 02 Year-to-Date Earnings		**$3,201,785**		
Federal Fiscal Year 01 Earnings		**-$10,481,237**		

Exxon Valdez Oil Spill Trustee Council
Investment Fund Earnings (Loss) as of June 30, 2002



EVOS Investment Fund - EVOS Index																			
NOTE: The increase in assets from August 2001 to September 2001 is due to Exxon's last payment and not earnings.																			
	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02
Monthly Return	2.3	1.96	-4.08	-3.4	3.52	0.2	-1.06	-0.15	-1.86	-2.41	2.01	3.15	0.44	-1.07	-0.24	2.2	-1.51	0.17	-3.18
Monthly Benchmark	2.07	2.08	-4.66	-3.6	4.29	-0.02	-1.29	-0.04	-2.37	-4.85	2.27	3.21	0.41	-1.08	-0.31	2.02	-1.22	0.1	-3.26
Market Value ($M)	135,397	138,049	132,423	127,924	132,404	132,671	131,259	131,056	128,613	174,452	177,950	183,565	184,376	182,412	181,931	185,940	183,100	183,411	177,578

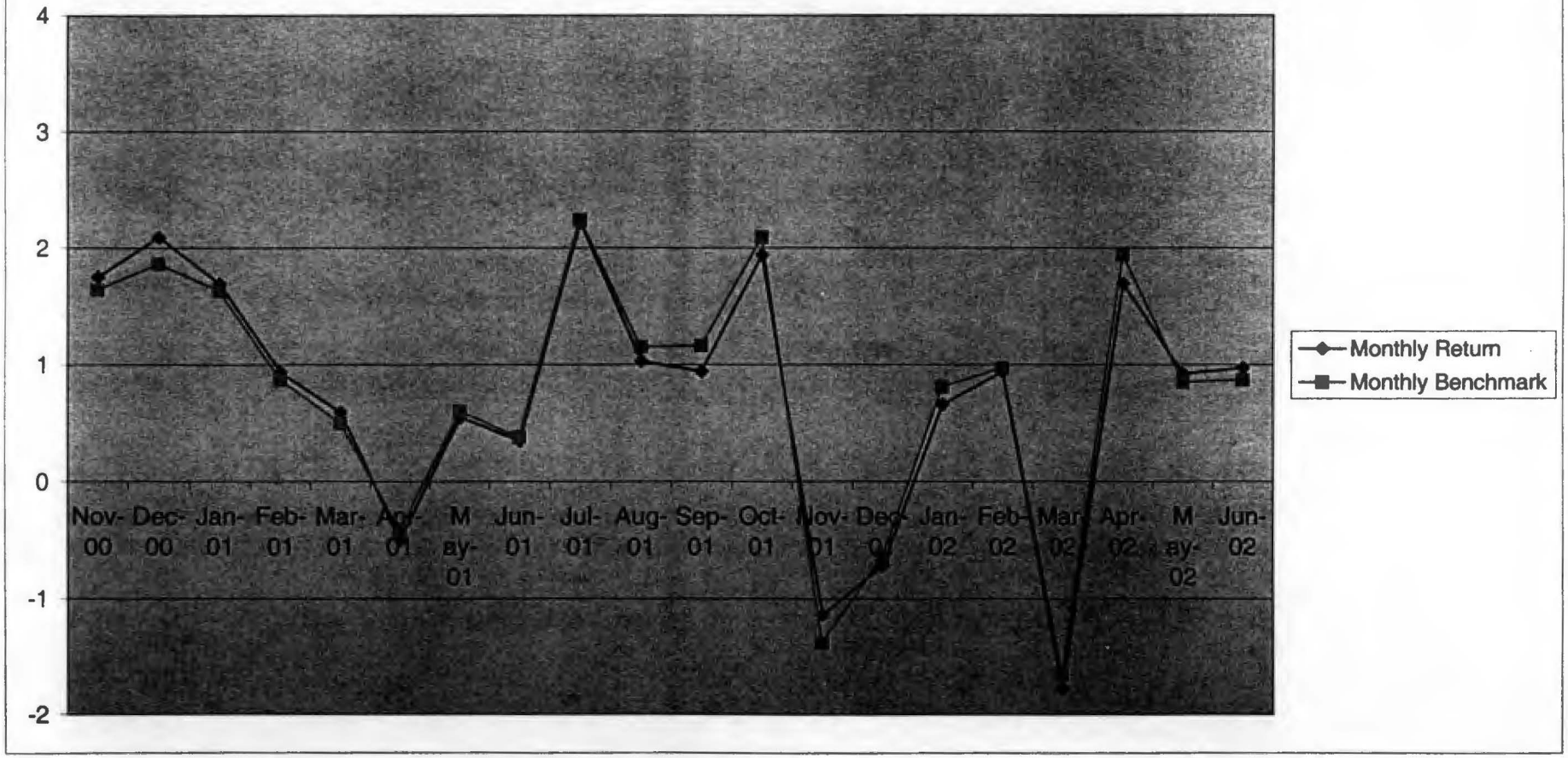
EVOS INVESTMENT FUND - EVOS INDEX



Fixed Income Pool - Lehman Brothers Aggregate Index																				
NOTE: The increase in assets from August 2001 to September 2001 is due to Exxon's last payment and not earnings.																				
	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02
Monthly Return	1.75	2.09	1.69	0.93	0.59	-0.5	0.55	0.35	2.22	1.03	0.94	1.94	-1.14	-0.72	0.66	0.94	-1.78	1.69	0.92	0.97
Monthly Benchmark	1.64	1.86	1.63	0.87	0.5	-0.42	0.6	0.38	2.24	1.15	1.16	2.09	-1.38	-0.64	0.81	0.97	-1.66	1.94	0.85	0.87
Market Value (in $M)	58,073	59,289	60,291	60,853	61,210	60,906	61,238	61,458	62,822	63,483	72,063	73,460	72,621	72,108	72,587	73,276	71,972	73,195	73,872	74,587

Fixed Income Pool - Lehman Brothers Aggregate Index

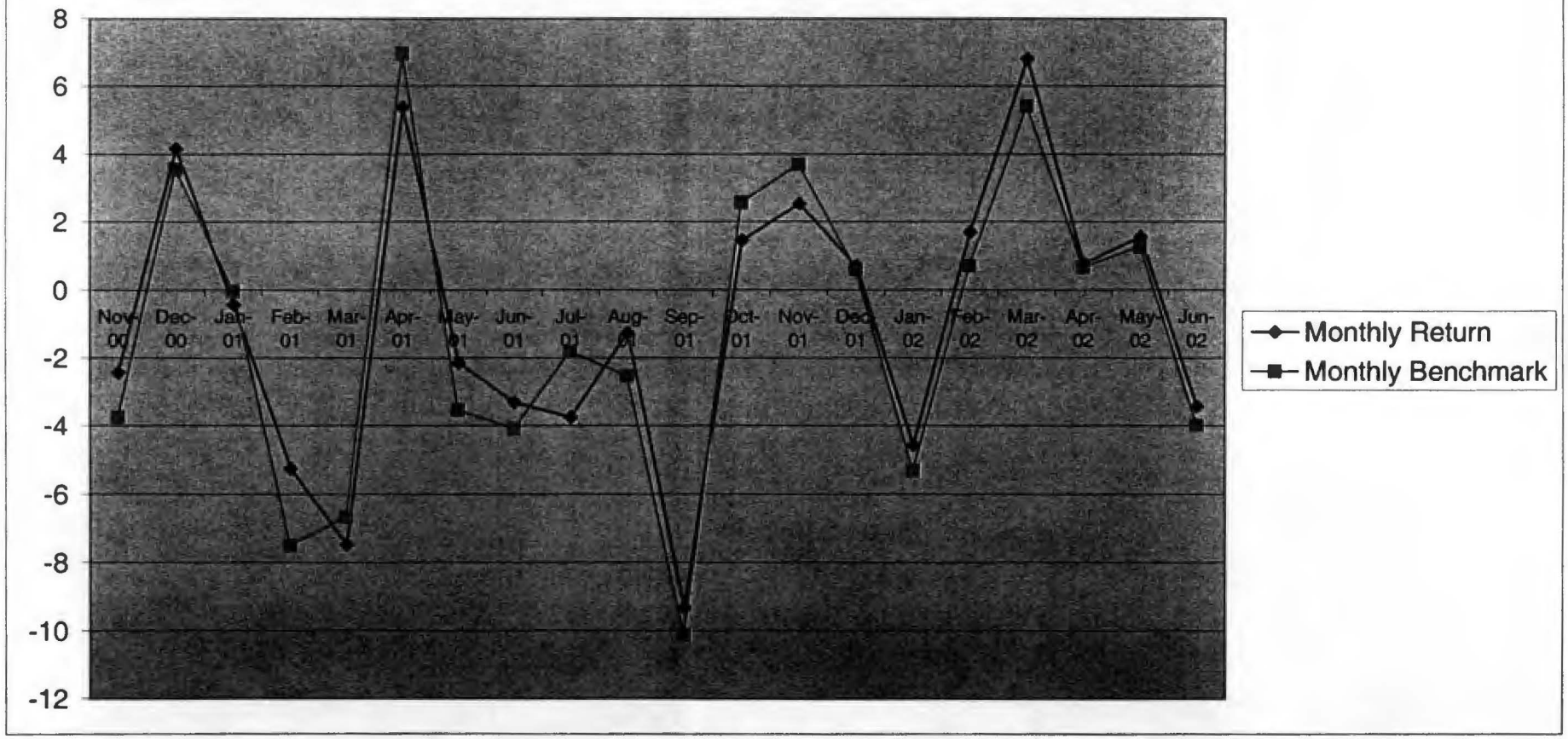
June 2002



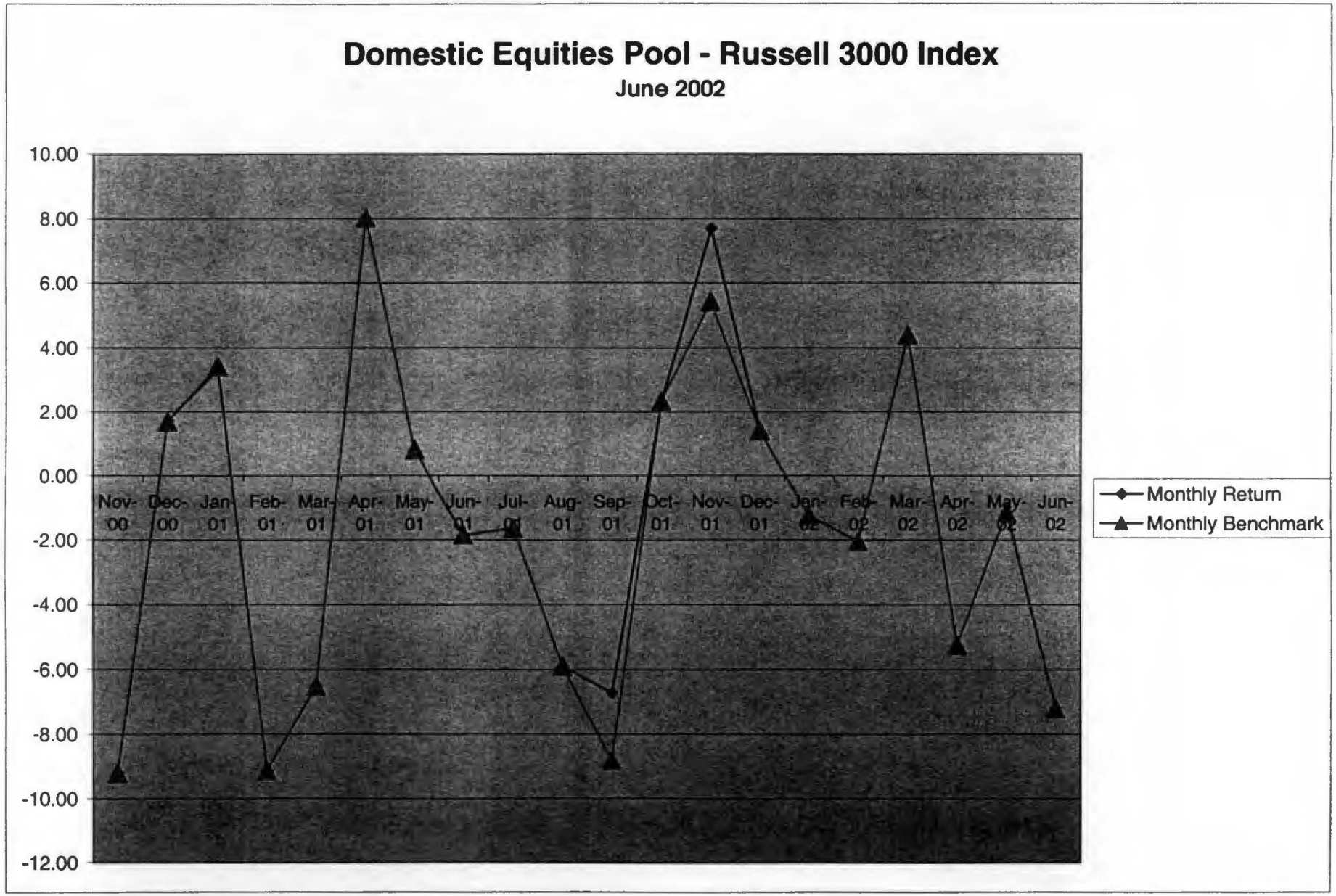
International Equities Pool - Morgan Stanley Capital Intl (EAFE)																				
NOTE: The increase in assets from August 2001 to September 2001 is due to Exxon's last payment and not earnings.																				
	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02
Monthly Return	-2.43	4.16	-0.44	-5.25	-7.47	5.37	-2.15	-3.31	-3.75	-1.26	-9.33	1.45	2.52	0.7	-4.58	1.69	6.8	0.76	1.55	-3.42
Monthly Benchmark	-3.75	3.55	-0.05	-7.5	-6.67	6.95	-3.53	-4.09	-1.82	-2.53	-10.13	2.56	3.69	0.59	-5.31	0.7	5.41	0.66	1.27	-3.98
Market Value ($M)	22,541	23,479	23,375	22,148	20,494	21,593	21,128	20,430	19,664	19,416	29,844	30,275	31,039	31,256	29,826	30,331	32,229	32,475	32,977	31,849

International Equity Pool - Morgan Stanley Capital Intl. (EAFE)

June 2002



Domestic Equities Pool - Russell 3000 Index																				
NOTE: The increase in assets from August 2001 to September 2001 is due to Exxon's last payment and not earnings.																				
	Nov-00	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01	Jun-01	Jul-01	Aug-01	Sep-01	Oct-01	Nov-01	Dec-01	Jan-02	Feb-02	Mar-02	Apr-02	May-02	Jun-02
Monthly Return	-9.20	1.72	3.34	-9.14	-6.49	8.03	0.80	-1.86	-1.63	-5.9	-6.72	2.31	7.69	1.39	-1.25	-2.04	4.37	-5.25	-1.13	-7.19
Monthly Benchmark	-9.22	1.68	3.42	-9.14	-6.52	8.02	0.80	-1.84	-1.65	-5.89	-8.82	2.33	5.42	1.41	-1.25	-2.05	4.39	-5.25	-1.16	-7.2
Market Value ($M)	51,649	52,537	54,290	49,329	46,126	49,828	50,228	49,294	48,492	45,636	72,291	73,960	79,649	80,756	79,743	78,116	81,530	77,248	76,379	70,886


Domestic Equities Pool - Russell 3000 Index
June 2002
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
-8.00
-10.00
-12.00
Nov-00
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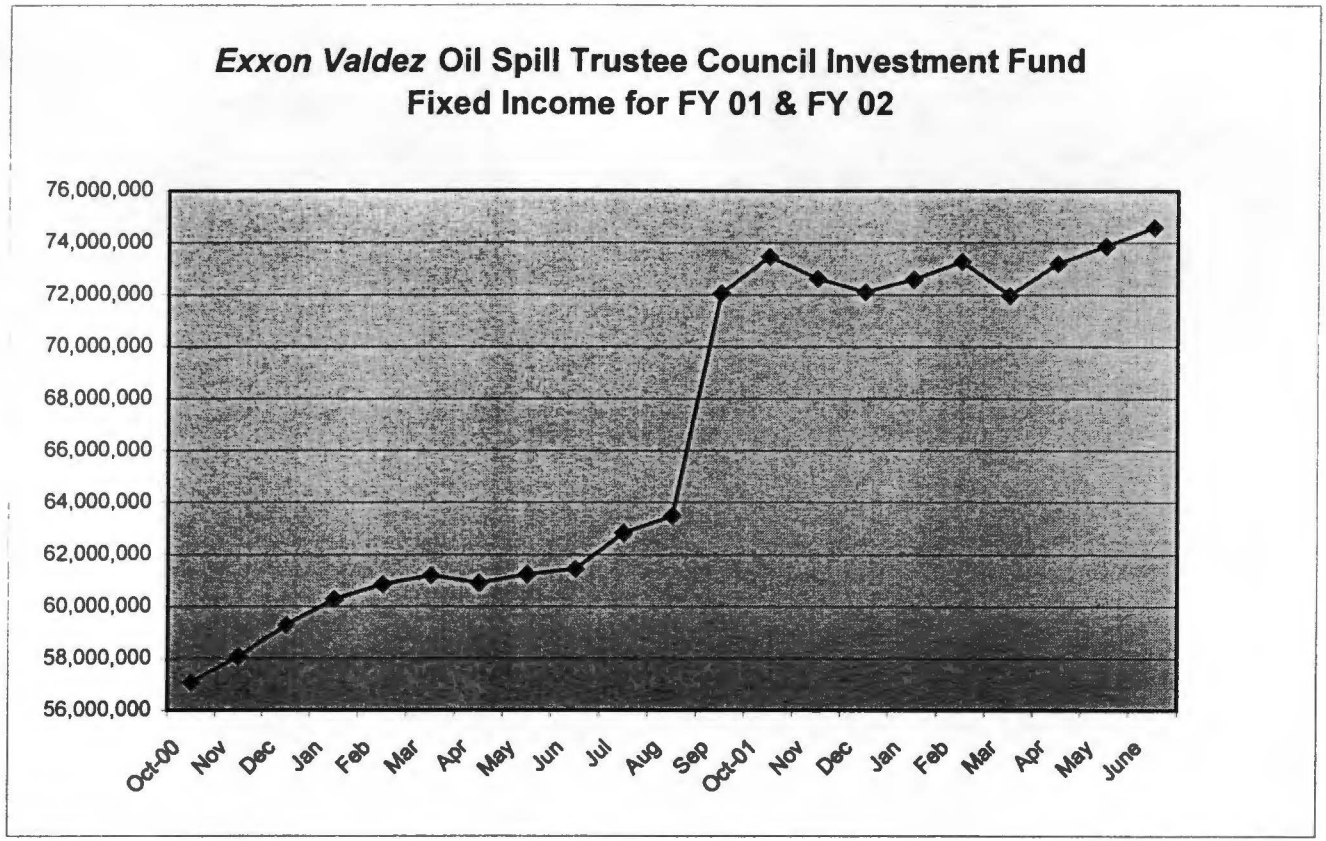
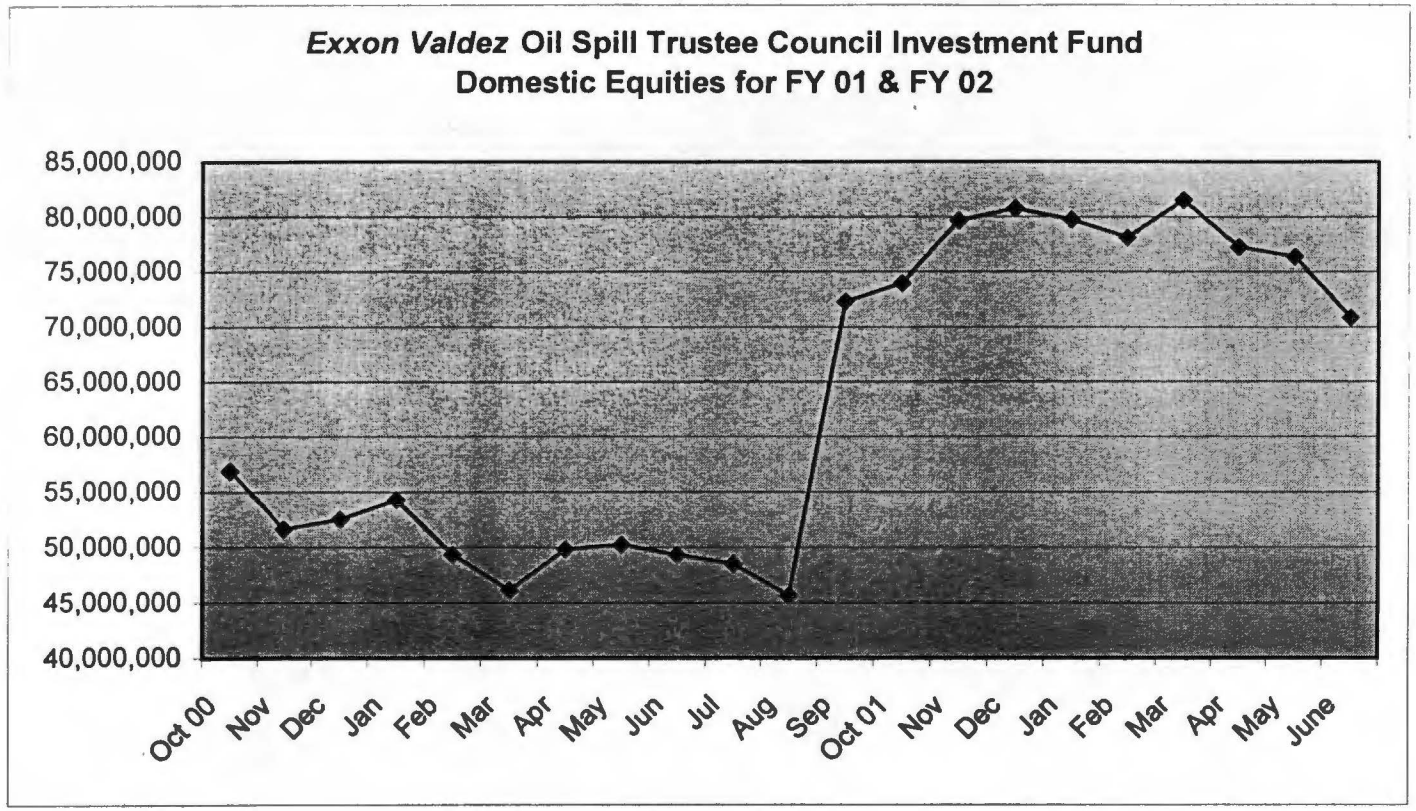
Jul-01
Aug-01
Sep-01
Oct-01
Nov-01
Dec-01
Jan-02
Feb-02
Mar-02
Apr-02
May-02
Jun-02
Monthly Return
Monthly Benchmark

Oct-00	57,075,942
Nov	58,072,794
Dec	59,288,677
Jan	60,291,225
Feb	60,852,550
Mar	61,209,483
Apr	60,905,590
May	61,238,245
Jun	61,457,699
Jul	62,822,366
Aug	63,483,499
Sep	72,062,627
Oct-01	73,460,139
Nov	72,621,000
Dec	72,108,186
Jan	72,587,000
Feb	73,275,581
Mar	71,971,774
Apr	73,194,533
May	73,871,860
June	74,587,039



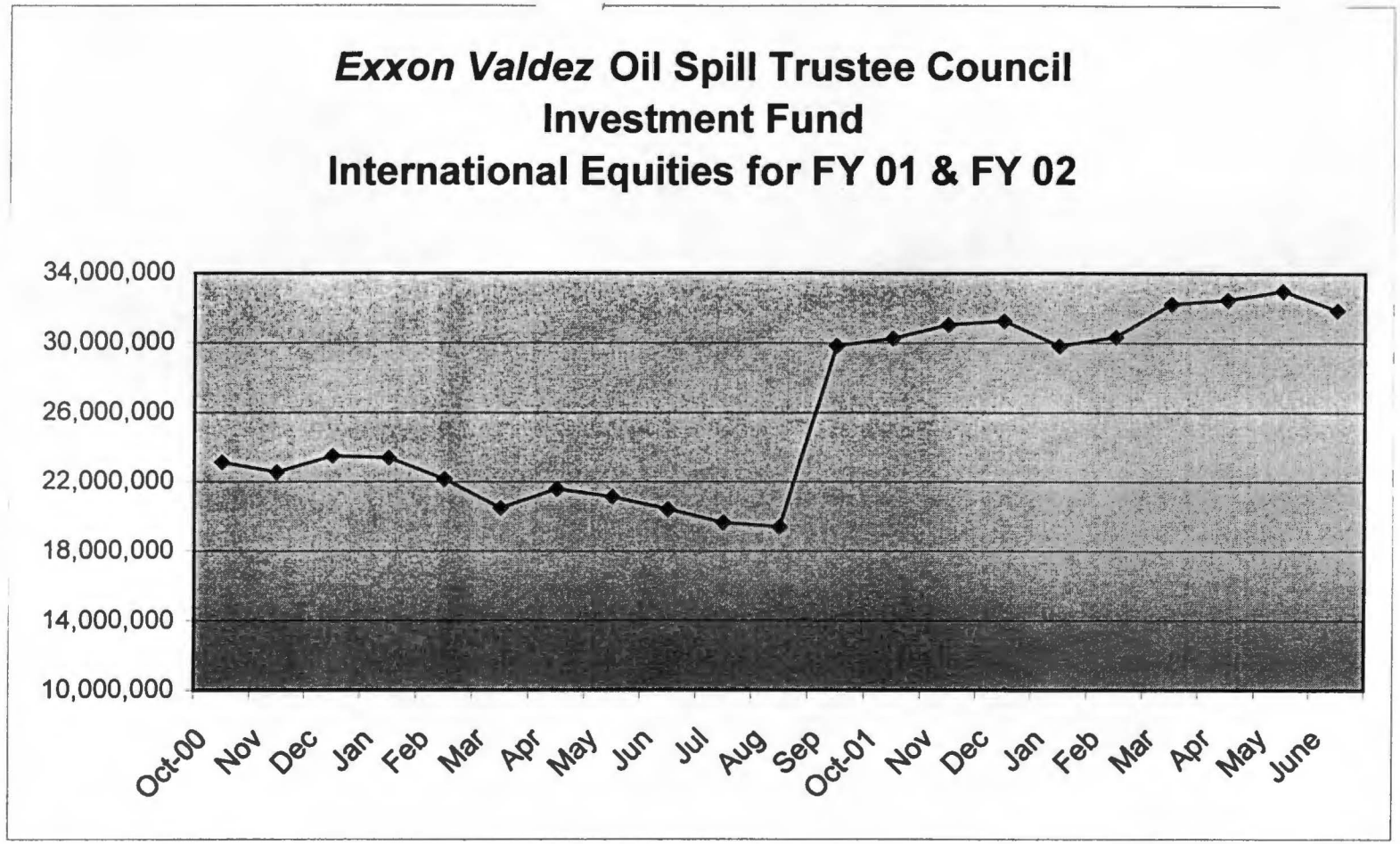
Note: September's increased amount is due to contributions from Exxon's last payment.

Oct 00	56,879,447
Nov	51,648,963
Dec	52,536,681
Jan	54,289,747
Feb	49,329,178
Mar	46,126,312
Apr	49,828,183
May	50,227,785
Jun	49,293,870
Jul	48,492,162
Aug	45,636,080
Sep	72,290,582
Oct 01	73,960,245
Nov	79,649,000
Dec	80,755,640
Jan	79,743,000
Feb	78,115,740
Mar	81,529,790
Apr	77,248,523
May	76,378,585
June	70,885,631



Note: September's increased amount is due to contributions from Exxon's last payment.

Oct	23,102,643
Nov	22,540,761
Dec	23,478,963
Jan	23,374,808
Feb	22,147,519
Mar	20,493,757
Apr	21,593,395
May	21,128,062
Jun	20,429,757
Jul	19,663,491
Aug	19,415,611
Sep	29,844,062
Oct-01	30,275,491
Nov	31,039,000
Dec	31,256,254
Jan	29,826,000
Feb	30,330,853
Mar	32,229,591
Apr	32,474,957
May	32,977,718
June	31,848,727



Note: September's increased amount is due to contributions from Exxon's last payment.

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

July 19, 2002

Alexander Bychkov, PhD
c/o Institute of Ocean Sciences
P.O. Box 6000
Sidney, B.C.
Canada, V8L 4B2

Dear Dr. Bychkov:

Dr. Phillip R. Mundy should be listed as the appointed observer to attend the PICES Eleventh Annual Meeting October 18-26, 2002 in Qingdao, China on behalf of the *Exxon Valdez* Oil Spill Trustee Council.

His official address is 441 West 5th Ave., Suite 500, Anchorage, Alaska 99501.

Sincerely,

Molly McCammon
Executive Director

North Pacific
Marine Science
Organization

PICES

9th July, 2002

Ms. Molly McCammon
Executive Director,
Exxon Valdez Oil Spill Trustee Council
441 West 5th Avenue, Suite 500
Anchorage, AK 99501-2340
U.S.A.

Re: Invitation to PICES Eleventh Annual Meeting

Dear Ms. McCammon,

On behalf of the Council of the North Pacific Marine Science Organization (PICES), I have the honour to invite the Exxon Valdez Oil Spill Trustee Council to be present as an observer at the PICES Eleventh Annual Meeting to be held October 18-26, 2002, at the Conference Centre of the City Hall, Qingdao, People's Republic of China. Should you decide to participate, it would be greatly appreciated if the name(s) and official address(es) of your appointed observer(s) could be forwarded to the PICES Secretariat by August 10, 2002. Details of the meeting like the scientific program and logistic information are in the enclosed Announcement and on our Home Pate at http://www.pices.int. I hope you will mark these days off your calendar now and plan to attend.

The success of our activities relies on the international cooperation of scientists of our member countries, the Pacific Rim countries, and coordination of our efforts with Organizations / Programs like yours. I look forward to seeing you in Qingdao!

Yours sincerely,

A Bychkov

Alexander Bychkov
Executive Secretary

Secretariat
c/o Institute of Ocean Sciences
P.O. Box 6000,
Sidney, B.C.,
Canada. V8L 4B2
Phone: (250) 363-6366
Fax: (250) 363-6827
E-Mail: secretariat@pices.int
Internet: www.pices.int

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

July 16, 2002

Gary Goldberg, Federal Asst. Spec.
U.S. Fish and Wildlife Service
1011 East Tudor Road (MS-171)
Anchorage, AK 99503-6199

Dear Gary:

The purpose of this letter is to inform you that on July 9, 2002 the *Exxon Valdez* Oil Spill Trustee Council approved the Acquisition Package for the following parcel:

Parcel No.	Parcel Owner	Purchase Price
KAP 1087	James F. Chokwak, Sr.	$160,000

Under the terms of your Grant Agreement #7018811G113 with The Conservation Fund, I am required to provide you this written notification.

A copy of the Acquisition Package, and the Trustee Council's resolution approving the Acquisition Package, are attached.

Sincerely,

Molly McCammon
Executive Director

Attachments

KAP 1087: Chokwak Parcel

Acreage: 159.98
Sponsor: ADNR
Appraised Value: $160,000
Owner: James F. Chokwak, Sr.
Location: North Shore of Kiliuda Bay, Kodiak, Alaska.

Parcel Description. The parcel lies at the head of Dog Bay on the north shore of Kiliuda Bay located on the east side of Kodiak Island, approximately 40 miles south of the city of Kodiak. The parcel is a native allotment within the area being acquired by the State as part of the Old Harbor Exchange, currently being pursued according to the purchase agreement with Old Harbor signed in 1999. The exchange is expected to be completed before the end of this summer.

Legal: Lots 1 and 2, U.S. Survey 10885, Alaska, containing 159.98 acres, as shown on the supplemental plat of survey officially filed on April 18, 1997.

Restoration Benefits. Public ownership of this parcel will help to establish a consistent management scheme along the north shore of Kiliuda Bay and maintain the wilderness character of the area.

Although the tract surrounding this parcel, which is part of the Old Harbor Exchange, has extensive coastline, much of it can be characterized as having difficult to access high bluff in areas where moorage is not well protected, with the exception of the head of the bay. Although the bay is suitable for moorage and access by floatplane, on occasion the waters are rough because part of the bay orients towards the Gulf of Alaska and its near horseshoe shape tends to concentrate wave action. The two inholdings in the Dog Bay Old Harbor Exchange parcel provide important access and the most protected moorage to state owned uplands.

The Chokwak parcel includes much of the more level land at the head of the west side of Dog Bay. Along with the other native allotment in Dog Bay it provides the best access to the uplands from anchored boats or floatplanes. The parcel includes a salmon stream, which has silver, chum and pink salmon runs. Further inland, the parcel is characterized by substantial alder patches, high grass and cottonwood.

Appraised Value. $160,000

Proposed Management. The State of Alaska will manage this parcel as wildlife habitat and maintain public access consistent with management of adjacent lands being acquired by the State through the Old Harbor Exchange. A standard BLM conservation easement will be associated with this parcel.

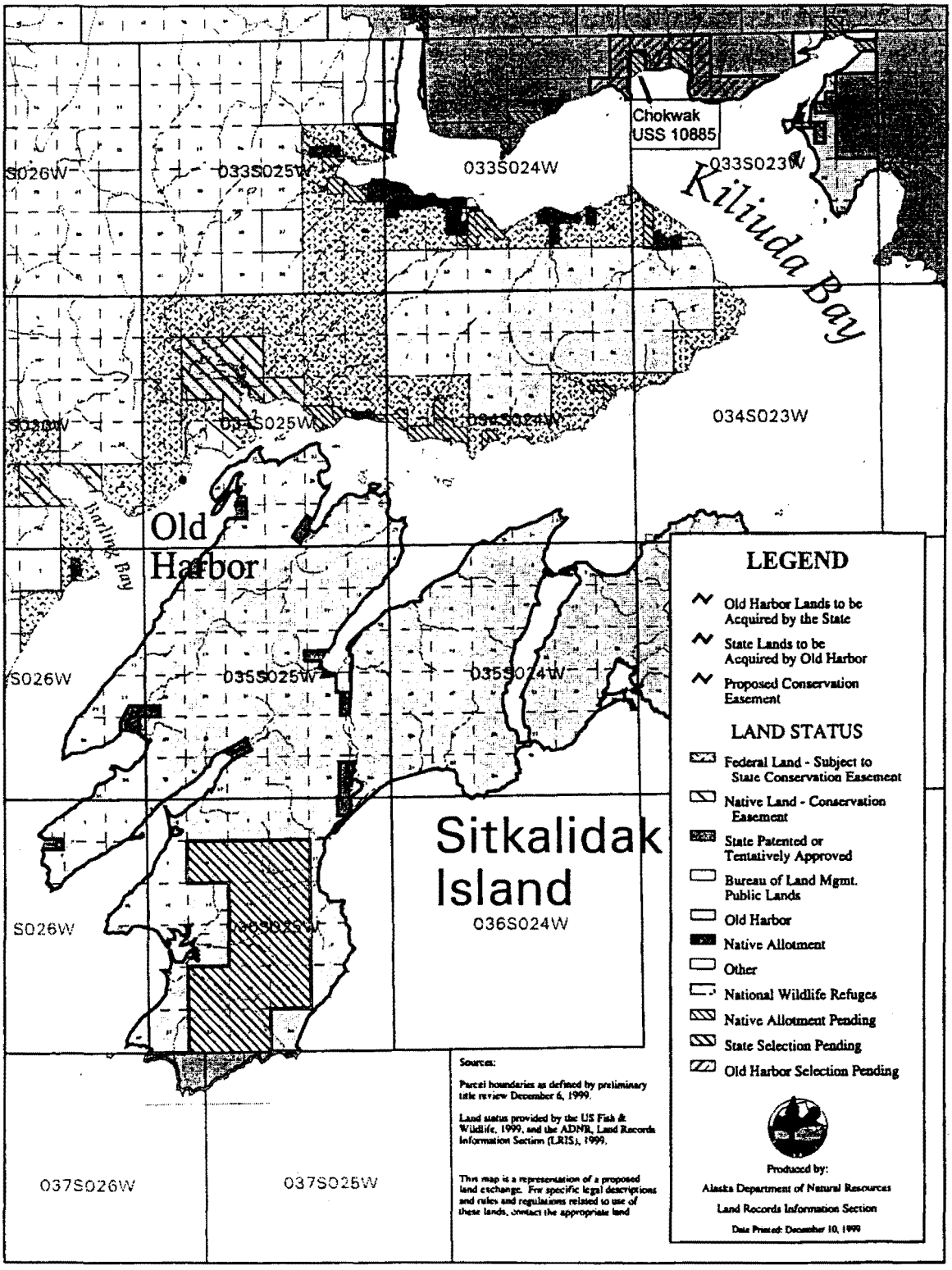
EVOS TRUSTEE COUNCIL

OLD HARBOR EXCHANGE

Scale 1:150,000

0 5.0 miles

Albers Equal-Area Projection



KAP 1087

STATE OF ALASKA

DEPARTMENT OF NATURAL RESOURCES

Commissioner's Office

TONY KNOWLES, GOVERNOR

550 West 7th, Avenue SUITE 1400
ANCHORAGE, ALASKA 99501
PHONE: (907) 269-8431
Fax: (907) 269-8918

July 1, 2002

Ms. Molly McCammon
Executive Director
Exxon Valdez Oil Spill Trustee Council
441 W. 5th Ave. Suite 500
Anchorage, AK 99501

Re: Management of Chokwak Parcel, Lots 1 and 2, U.S. Survey 10885

Dear Ms. McCammon;

Thank you for considering the acquisition of the Chokwak parcel described above. This parcel is located at the head of Dog Bay on the north shore of Kiliuda Bay, Kodiak Island, Alaska. As you know this parcel is an inholding within the proposed Old Harbor Exchange. The State is moving rapidly to complete this exchange and will be managing the exchange lands as wildlife habitat consistent with the Terror Lake Hydro Agreement. This agreement provides substantial protection for these lands.

DNR is willing to assume management of the Chokwak parcel and appreciates the Trustee Council's willingness to consider this acquisition. Public ownership of this parcel will help to establish a consistent management scheme along the north shore of Kiliuda Bay and provide the public with safer access to adjacent state lands and lands acquired through the Old Harbor exchange.

Thank you.

Sincerely,

Marty Rutherford
Deputy Commissioner

cc: Alex Swiderski

RESOLUTION 02-06 OF THE *EXXON VALDEZ* OIL SPILL TRUSTEE COUNCIL REGARDING SMALL PARCEL KAP 1087/CHOKWAK

We, the undersigned, duly authorized members of the *Exxon Valdez* Oil Spill Trustee Council ("Council"), after extensive review and after consideration of the views of the public, find as follows:

1. By resolution adopted at its meeting on January 16, 2001, the Council implemented a small parcel acquisition program through identical grants to The Conservation Fund and The Nature Conservancy (the grant to The Conservation Fund is hereinafter referred to as the "Grant");

2. The Conservation Fund and The Nature Conservancy identified the Chokwak small parcel, KAP 1087 as a small parcel to be considered for acquisition under the Grant and consulted with the Council at its meeting on December 11, 2001 concerning the purchase of the Chokwak parcel;

3. An appraisal of the parcel completed by the Bureau of Indian Affairs of the United States Department of the Interior determined that the fair market value of the parcel is $160,000;

4. As set forth in Attachment A, Restoration Benefits Report for KAP 1087, if acquired, this small parcel has attributes which will restore, replace, enhance and rehabilitate injured natural resources and the services provided by those natural resources, including important habitat for several species of fish and wildlife for which significant injury resulting from the spill has been documented. Acquisition of this small parcel will assure protection of approximately 160 acres. The parcel includes much of the more level land at the head of the west side of Dog Bay. Along with the other native allotment in Dog Bay it provides the best access to the uplands from anchored boats or floatplanes. The parcel includes a salmon stream, which has silver, chum and pink salmon runs. Further inland, the parcel is characterized by substantial alder patches, high grass and cottonwood. The parcel is important to the sport fishing and tourism industries, both of which were impacted by the *Exxon Valdez* Oil Spill ("EVOS").

5. Existing laws and regulations, including but not limited to the Alaska Forest Practices Act, the Alaska Anadromous Fish Protection Act, the Clean Water Act, the Alaska Coastal Management Act, the Bald Eagle Protection Act and the Marine Mammal Protection Act, are intended, under normal circumstances, to protect resources from serious adverse effects from activities on the lands. However, restoration, replacement and enhancement of resources injured by the EVOS present a unique situation. Without passing judgment on the adequacy or inadequacy of existing law and regulations to protect resources, scientists and other resource specialists agree that, in their best professional judgment, protection of habitat in the spill area to levels above and beyond that provided by existing laws and regulations will have a beneficial effect on recovery of injured resources and lost or diminished services provided by these resources;

6. There has been widespread public support for the acquisition of lands within Alaska as well as on a national basis;

7. The purchase of this parcel is an appropriate means to restore a portion of the injured resources and services in the oil spill area. Acquisition of this parcel is consistent with the Final Restoration Plan.

THEREFORE, we resolve to provide funds to the United States Department of Interior for the State of Alaska to acquire all the seller's rights and interests in the small parcel KAP 1087 pursuant to the following conditions:

(a) the amount of Grant funds (hereinafter referred to as the "Purchase Price") to be provided by the Council shall be one hundred sixty thousand dollars ($160,000) for small parcel KAP 1087;

(b) authorization for funding for the acquisition described in the foregoing paragraph shall terminate if a purchase agreement is not executed or purchase of the parcel completed by August 30, 2003;

(c) filing by the United States Department of Justice and the Alaska Department of Law of a notice, as required by the Third Amended Order for Deposit and Transfer of Settlement Proceeds, of

the proposed expenditure with the United States District Court for the District of Alaska and, if necessary, with the Investment Fund established by the Trustee Council within the Alaska Department of Revenue, Division of the Treasury ("Investment Fund") and transfer of the necessary monies from the appropriate account designated by the Executive Director of the Trustee Council ("Executive Director");

(d) a conservation easement on parcel KAP 1087 shall be conveyed to the United States which must be satisfactory in form and substance to the United States and the State of Alaska Department of Law;

(e) no timber harvesting, road development or any alteration of the land will be initiated on the land without the express agreement of the State of Alaska and the United States prior to purchase; and

(f) compliance with the terms and conditions of Paragraph 6.b. of the Grant.

(i) title search;

(ii) a determination that the seller is willing and able to convey title in a form satisfactory to the State of Alaska and Bureau of Land Management of the Department of the Interior of the United States;

(iii) an executed purchase or option agreement and conveyance documents that are ready for execution;

(iv) hazardous materials survey; and
statement of compliance with the National Environmental Policy Act.

(vi) statement of compliance with the National Environmental Policy Act.

It is the intent of the Trustee Council that the above referenced conservation easement will provide that any facilities or other development on the foregoing small parcel shall be of limited impact and in keeping with the goals of restoration, that there shall be no commercial use except as may be consistent with applicable state or federal law and the goals of restoration to prespill conditions of any natural resource injured, lost, or destroyed as a result of the EVOS, and the services provided by that resource or replacement or substitution for the injured, lost or destroyed resources and affected services, as described in the Memorandum of Agreement and Consent Decree between the United States and the State of Alaska entered August 28, 1991 and the Final Restoration Plan as approved by the Council.

By unanimous consent, following written notice from the Executive Director that the terms and conditions set forth herein have been satisfied, we request the Alaska Department of Law and the Assistant Attorney General of the Environment and Natural Resources Division of the United States Department of Justice to take such steps as may be necessary for withdrawal of the Purchase Price for the above-referenced parcel from the appropriate account designated by the Executive Director.

Such amount represents the only amount due under this resolution to the sellers by the State of Alaska to be funded from the joint settlement funds, and no additional amounts or interest are herein authorized to be paid to the sellers from such joint funds.

Approved by the Council at its meeting of July 9, 2002 held in Anchorage, Alaska, as affirmed by our signatures affixed below:

for DAVE GIBBONS
Forest Supervisor
Forest Service Alaska Region
U.S. Department of Agriculture

CRAIG TILLERY
Assistant Attorney General
State of Alaska

DRUE PEARCE
Senior Advisor to the Secretary
for Alaskan Affairs
U.S. Department of the Interior

JAMES BALSIGER
Administrator, Alaska Region
National Marine Fisheries Service

FRANK RUE
Commissioner
Alaska Department of
Fish and Game

MICHELE BROWN
Commissioner
Alaska Department of
Environmental Conservation

Attachment A - Restoration Benefits Report

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

TO: Community Facilitators

FROM: Molly McCammon
Executive Director

RE: Funding Proposals for Federal Fiscal Year 2003: Phase II

DATE: July 16, 2002

The enclosed invitation explains how to submit a funding proposal to the *Exxon Valdez* Oil Spill Trustee Council. I would like to call your attention to a few things:

- This year the invitation is in two phases. Phase I was issued in February 2002. The Phase I Draft Work Plan, which recommends which proposals should be funded under Phase I, is currently out for public review and is scheduled for Trustee Council action on August 6, 2002. Phase II, which is this invitation, solicits proposals to begin implementation of GEM (Gulf of Alaska Ecosystem Monitoring and Research Program). This is explained in more detail on page 1 of the invitation. You should note that the kinds of proposals being requested is very limited.

- Pages 18-40 of the invitation list everything that needs to be included in a proposal. However, if you prefer, you may instead write a letter to the Trustee Council describing your proposal. In your letter, describe (1) which injured resource the proposal would benefit, (2) what work the proposal would involve, (3) who would perform that work, and (4) how much you estimate the proposal would cost. If necessary, Council staff will work with you to further develop the proposal so that its technical merit and cost can be fully evaluated.

All proposals and letters must be received at the Trustees' Anchorage office by 5:00 pm Wednesday, September 4, 2002. Please call me if you have any questions about the proposal process or want help in putting together a proposal (our toll free number is 1-800-478-7745).

cc: Mimi Hogan, Chugach Regional Resources Commission

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

July 15, 2002

Rhonda Turner
Fax Number 561-7685

RE: Small Parcel Nomination

Dear Ms. Turner:

Please find attached a nomination form and a brief summary of the Trustee Council's small parcel program. As the enclosed materials explain, beginning in October 2002, the program is being administered by The Nature Conservancy and The Conservation Fund under a one-year pilot grant from the Trustee Council. All purchases will continue to be approved by the Trustee Council.

If you are interested in nominating a small parcel, please fill out the attached form as completely as possible. Location maps, legal descriptions, and photographs would also be helpful. Mail the completed nomination form and related materials to:

Randy Hagenstein The Nature Conservancy P. O. Box 3231 Homer, AK 99603 Phone 907-235-9731 Fax 907-235-9732 rhagenstein@tnc.org	AND / OR	Brad Meiklejohn The Conservation Fund 9850 Hiland Road Eagle River, AK 99577 Phone 907-694-9060 Fax 907-694-9070 bradmeiklejohn@aol.com

Thank you for your interest in the Trustee Council's habitat protection effort.

Sincerely,

Sandra Schubert

Sandra Schubert
Program Director

cc: Randy Hagenstein, The Nature Conservancy
Brad Meiklejohn, The Conservation Fund

SMALL PARCEL NOMINATION FORM

EXXON VALDEZ OIL SPILL TRUSTEE COUNCIL

Part 1: Landowner Information

Phone: _____

Landowner: _____ Fax: _____

Address: _____

_____

Co-owner: _____

_____

Part 2: Parcel Information

Legal description of property: (township, range, section) _____

_____

General description of property, including habitat restoration or other biological or recreational value. Also please provide photos and maps if available: _____

_____

_____

_____

_____

_____

_____

_____

Approximate acreage: _____ acres

Is your property located within or adjacent to a State or Federal Park, Refuge or National Forest or other public land unit? If so, which one? _____

Are there any developments on the site? _____

Are there any hazardous materials on the property? (waste oil, mine tailings, dump) _____

_____

Part 3: Signatures

Signature of landowner: _____ Date: _____

and

Signature of co-owner: _____ Date: _____

A nomination does not bind you to sell your property, nor does it bind the Trustee Council to buy your lands.

Exxon Valdez Oil Spill Trustee Council
Small Parcel Program
October 2002

INTRODUCTION

The Trustee Council's habitat protection effort is comprised of a Large Parcel Program (generally parcels over 1,000 acres) and a Small Parcel Program (generally parcels of 1,000 acres or less). The Small Parcel Program deals with smaller, more strategically located habitats. These parcels are often on coves, along important stretches of river, at the mouths of rivers, or adjacent to valuable tidelands. They are often close to spill area communities or within already protected areas, such as refuges and parks.

Beginning in October 2002, the Small Parcel Program is being administered by The Nature Conservancy and The Conservation Fund under a one-year pilot grant from the Trustee Council. The advantages these two non-profit organizations bring to the program are an ability to respond more quickly than government to opportunities for acquisition of priority lands, to leverage resources by attracting matching funds, and to broaden the protection impact of dollars spent through the use of tax incentives and estate planning strategies. If this grant approach is successful, the grant may be renewed into the future.

Under the grant, all purchases will continue to be approved by the Trustee Council.

PARCEL EVALUATION

Land will be purchased only from willing sellers.

All lands or interests in lands (e.g., fee title, conservation easements, mineral rights, timber rights) considered for acquisition must be important to the conservation and protection of marine and coastal resources, ecosystems, and habitats in order to aid in the overall recovery of, and to enhance the long-term health and viability of, resources injured by the *Exxon Valdez* oil spill and the spill-area ecosystem.

Lands suitable for acquisition are:

- lands with concentrated biological values or high natural lands recreational values;
- lands which provide access to areas of high biological significance or to areas with high natural lands recreational values;
- isolated parcels within otherwise protected areas.

Individual land parcels will be evaluated using the following criteria:

a) habitat restoration value;
b) threat of development or loss;
c) opportunity to enhance management of protected areas;
d) willingness of the United States, State of Alaska, or other public agency or non-profit organization approved by the Trustee Council to manage the land or

interests in the land;
e) feasibility of acquiring the property, including willing seller;
f) leverage, i.e., the amount of matching funds available;
g) partnership support, i.e., the number of funding partners and the amount of public support.

All parcel acquisitions will be publicly noticed.

LAND APPRAISAL

Parcels will be appraised prior to purchase, consistent with the Uniform Appraisal Standards for Federal Land Acquisition and the Uniform Standards of Professional Appraisal Practice. The amount of Trustee Council funds expended for the parcel can not exceed the appraised value of the parcel.

****
*** ACTIVITY REPORT ***
****

TRANSMISSION OK

TX/RX NO.	7603
CONNECTION TEL	19072359732
CONNECTION ID	
START TIME	07/16 12:01
USAGE TIME	02'50
PAGES	4
RESULT	OK

****
*** ACTIVITY REPORT ***
****

TRANSMISSION OK

TX/RX NO.	7592	
CONNECTION TEL		6949070
CONNECTION ID		
START TIME	07/15 12:10	
USAGE TIME	00'47	
PAGES	1	
RESULT	OK	

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

July 8, 2002

Ms. Karen Schwartzrock
Human Resources Department
Portland Public Schools
P.O. Box 3107
Portland, Oregon 97208-3107

Via facsimile: 503-916-3107

Dear Ms. Schwartzrock:

I am recommending Joe Hunt for the position of Senior Communications Officer for Portland Public Schools. Joe worked for me as Director of Public Affairs at the *Exxon Valdez* Oil Spill Trustee Council for 5 years.

The EVOS Trustee Council is a cooperative state-federal entity responsible for using the $900 million court settlement from Exxon to restore natural resources injured by the 1989 oil spill. Public participation and involvement were mandated by the terms of the court-approved settlement and Joe was deeply involved in all aspects of fulfilling this mandate.

The Trustee Council's program over the past 11 years has often been highly emotional and political. The combination of money, oil politics, desperate fishermen, land deals, Alaska Native issues, oversight by the state legislature and congressional delegation – often made for highly combustible situations with continuous media attention. Joe handled the media inquiries professionally and maintained a proactive approach by staying in contact with reporters and keeping them informed on key issues. Likewise, he used the newsletters and annual status reports to keep the public informed and to seek public advice on restoration matters.

During the 10th anniversary of the spill in 1999, Joe was my chief contact with the media and public. He organized a standing-room only press conference at the National Press Club in Washington, D.C., and played a key role in planning our "Report to the Nation" and scientific symposium. The oil spill was featured in hundreds of news stories throughout the world and Joe worked with nearly every reporter and producer, setting up interviews, providing detailed background information, guiding them to news sources and, often, dousing potential fires before they could get started. He worked effectively with me and our scientific staff to establish and disseminate the message we wanted distributed.

Joe is a fast – and excellent – writer. He's a quick study – and shows sound judgment when assessing a situation and developing a message. He often had to do this with very tight deadlines. He was privy to a great deal of confidential information, and knew how to deftly reply to questions without compromising that confidentiality.

Joe did not directly supervise staff while he worked for me. However, he supervised a number of contracts and did so effectively. He also worked closely with a number of people during the 10th anniversary of the oil spill, coordinating and organizing their efforts.

You will find that Joe has the initiative and the creativity to develop new ideas and the follow-through to see them through to the finish. To get ready for the 10th anniversary, Joe had the foresight to begin planning nearly three years in advance. By the time the anniversary frenzy was at its peak, Joe had a half-hour documentary completed and airing statewide, a full-color 48-page status report that answered everyone's main questions, an educational exhibit ready to travel, and a radio series and newspaper column finishing a three-year run. With these tools in hand or in final production, Joe was able to dedicate the time necessary to fully respond to the needs of hundreds of journalists from around the world. He also created a source reel of quality video so that television producers would have compelling Alaska video to work with. In this way, we were able to select the images and the visual message we wanted on the air.

Feel free to contact me should you need any further information. I'll be happy to answer any questions you might have.

Sincerely,

Molly McCammon

Molly McCammon
Executive Director

Exxon Valdez Oil Spill Trustee Council
441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

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CONFIRMATION REPORT

07-15-02 11:16A ID: 19072767178 NAME: EVOS TC

TYPE : TRANSMISSION

NO.	TIME	DIAL NO.	REMOTE STATION	PAGES	JOB NO.	RESULT
01	11:15A	MANUAL	15039163107	2/ 2	096	OK

cc: Joe Hunt

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

MEMORANDUM

TO: Kevin Buckland, Alaska Department of Fish and Game
Divina Pelayo, Alaska Department of Fish and Game
William Hauser, Alaska Department of Fish and Game
Laura Beason, Alaska Department of Environmental Conservation
Tom Chapple, Alaska Department of Environmental Conservation
Carol Fries, Alaska Department of Natural Resources
Ken Holbrook, U.S. Department of Agriculture, Forest Service
Bruce Nesslage, U.S. Department of the Interior
Tony DeGange, U.S. Department of the Interior, USFWS
Dede Bohn, U.S. Department of the Interior, USGS
Bud Rice, U.S. Department of the Interior, NPS
Pete Hagen, National Oceanic & Atmospheric Administration
Stacy Masters, National Oceanic & Atmospheric Administration

FROM: Debbie Hennigh Debbie Hennigh
Administrative Manager

DATE: July 1, 2002

RE: FY 2002 Second Quarter Financial Reports

Pursuant to the Procedures of the *Exxon Valdez* Trustee Council, expenditure and obligation reports are due thirty days following the end of each quarter. The purpose of this memorandum is to request that Quarterly Financial Information for the period ending **June 30, 2002** is submitted to this office by **July 31, 2002**.

Attached are two spreadsheets. The first spreadsheet is the 2002 Work Plan for your agency. The second spreadsheet incorporates other projects approved by the Trustee Council such as special projects and land acquisitions. Agencies are requested to use these spreadsheets to report expenditure and obligation activity for the period ending June 30, 2002.

If you have any questions, give me a call at (907) 278-8012.

Attachments

cc: Molly McCammon

Exxon Valdez Oil Spill Trustee Council

441 W. 5th Ave., Suite 500 • Anchorage, Alaska 99501-2340 • 907/278-8012 • fax 907/276-7178

MEMORANDUM

TO: Kevin Buckland, Alaska Department of Fish and Game
Divina Pelayo, Alaska Department of Fish and Game
William Hauser, Alaska Department of Fish and Game
Laura Beason, Alaska Department of Environmental Conservation
Tom Chapple, Alaska Department of Environmental Conservation
Carol Fries, Alaska Department of Natural Resources
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Bruce Nesslage, U.S. Department of the Interior
Tony DeGange, U.S. Department of the Interior, USFWS
Dede Bohn, U.S. Department of the Interior, USGS
Bud Rice, U.S. Department of the Interior, NPS
Pete Hagen, National Oceanic & Atmospheric Administration
Stacy Masters, National Oceanic & Atmospheric Administration

FROM: Debbie Hennigh Debbie Hennigh
Administrative Manager

DATE: July 1, 2002

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