

ALASKA LEGISLATURE SPECIAL COMMITTEE / SUBJECT FILE 8672
1953 SCOMM 76: HOUSE SPEC. COMM. EXXON VALDEZ OIL SPILL. 1991-92 170

enormous resources of our own in order to assist with the cleanup effort, and we have been the situs of enormous studies by the state and federal government over the course of the past two years. We feel Chenega had a big part in making the state's case for it.

The proposed settlement with Exxon leaves us on the beach, completely stranded. We don't have the resources to fight Exxon, nor do we think the damaged resources and ecosystems will be restored with the amount on the table, and which you are considering.

We have insisted, for the past two years, that damages to the resources were far greater than Exxon released studies. Studies released by the federal government within the past week established that we were right, and the once rich resources in our area of the country are destroyed. But those studies only relate to marine mammals. They do not show the extent of damages. Nor, have studies been released which will establish damages to other sea-life, including fish, crustaceans, a mollusk population on account of the 11 million gallons of oil degrading into the seabed, and below the surface and tidal areas.

The agreement also says that Alyeska won't be sued on account of resource damages. We have heard the Attorney General say that the State will still be pursuing Alyeska for misrepresentation and fraud, but we note that the settlement agreement requires the state to repay Exxon over 20% of any recovery the state might get from Alyeska.

The settlement agreement fails to answer the most basic questions, including the extent of damages to resources and the amount of time, if ever, those resources can be restored, or the ecosystem rebalanced. The settlement agreement also does not address Exxon's responsibilities to the citizens of this state, including Chenega Corporation and its shareholders. Nor, does the settlement agreement address the other small people and Exxon's responsibility to them, the villages, fishermen, cannery workers, area business, all of whom have been devastated by this spill.

We don't think you ought to let Exxon off this easily. Nor, do we think that you ought to let the Executive Branch of government conceal essential background information from you while you attempt to arrive at a decision concerning a matter which will impact the lives of many of Alaska's residents for many years. We can't put the spill behind us, and we think it is ludicrous for the Governor to insist that

the settlement agreement will permit the state to put the spill behind it. We will still be out there, still fighting with Exxon, and still trying to recover against an oil giant for the destruction of our resources and way of life.

Thank you,

Very truly yours,

CHENEGA CORPORATION

By: _____
Charles W. Totemoff

[Ltr-490]

ACE 417470

To: Oil Spill Litigation Committee of
the Alaska Legislature

From: Philip Totemoff
P.O. Box 64
Chenega Bay, AK 99574

Date: April 12, 1991

Ladies + Gentlemen,

My name is Philip Totemoff, I am a lifelong resident of Prince William Sound, currently living in Chenega Bay. I am a subsistence user, I grew up practically on subsistence foods, it is my diet.

The Exxon Oil Spill of March 1989 ruined my way of life, lifestyle, culture and subsistence.

The Federal Government's Oil Spill Studies recently released show what I knew from the beginning that my subsistence foods are contaminated and are unsafe to eat. The seals, sealions, fish and shellfish were all affected as

ACE 417471

the studies have shown.

It is my utmost concern that Exxon and the State of Alaska will consider us and not forget us and restore the damage done to our resources and lands, which will be many years before it is back to normal.

In the mean time I would like to see Exxon or the State of Alaska to compensate Chenega on a monetary or anyway possible to carry us through on this critical issue.

Oil Spill Litigation Committee Seward Hearing

Fadies + Gentlemen,

I'm Paul Kompkoff, Sr. from Chenega Bay. I was born + raised in Chenega and have lived in Prince William Sound all my life, I learned my subsistence skills from my Dad when I was young. Everything was easy and beautiful then. My lifestyle was ruined because of the Exxon Valdez Oil Spill.

All our subsistence foods are ruined and gone, not only our subsistence but all the animals, bugs + birds.

Why are people saying the sound is clean when it isn't? It's going to take many many years to see the beaches natural again. Not only the lands but the resources as well.

Why are we being ignored, when we people that lived there all our lives, know what's going on?

I hope you Committee members can

understand what I am saying,
because we have not recovered
emotionally or spiritually, whatever
decision that you make is the
right one and not to forget the
Subsistence users in Prince William
Sound specifically Chenega Bay.

ACE 417474

EXHIBIT 7

The Alaska Legislature
Oil Spill Litigation and
Settlement Committee
P.O. Box V
Juneau, Alaska 99811

Written Testimony of Charles W. Totemoff

Good Evening Ladies & Gentlemen:

My name is Charles W. Totemoff. I am President of Chenega Corporation and Chairman of Chenega Bay I.R.A. Council. I will be presenting the views of Chenega Corporation with regard to the proposed settlement. I have also been requested to present views on behalf of Port Graham Corporation and English Bay Corporation, two village corporations with extensive holdings and selections on land adjacent to the Gulf of Alaska, and into the Kenai Fjord's. Their comments will therefore be included in my testimony.

The village corporations, Chenega, Port Graham and English Bay, are involved in litigation against Exxon Company U.S.A., Exxon Shipping Company, Exxon Pipeline, Alyeska, the consortium of companies which own Alyeska Company, as well as other defendants on account of damages suffered when the Exxon Valdez hit Bly Reef. Chenega Corporation has incurred hundreds of thousands of dollars in expenses in dealing with the oil spill and its effect upon our shareholders, the vast majority of whom are subsistence users. Chenega is a small village corporation, with only 72 shareholders and 76,000 acres of land conveyed or to be conveyed in Prince William Sound. 70% of our coast line was oiled, much of it extensively and heavily oiled. The oil spill caused an immediate and we believe irretrievable loss of lifestyle and destroyed Chenega Corporation's ability to provide lands and appurtenant interests for the purpose of subsistence activities.

There are no stores in Chenega Bay; before March 24, 1989, we were by and large a subsistence economy. There are only two or three limited entry permits owned in the village; before March 24, we were not a cash economy. In order to address the needs of our shareholders, Chenega Corporation was forced to respond quickly, by insisting upon oil spill related jobs. Overnight, the village was forced to shift

from the subsistence to a cash economy and we are continuing to deal with the resulted upheaval.

Subsistence was the number one priority of Chenega's land management program. Now, our number one priority is to cleanup the environment. The community standards of sharing, however, have given way to competition for scarce jobs. Hunting and gathering activities have virtually ended, because we are uncertain of the effect of eating polluted fish and game.

We do not know what impact the spilled oil or that remaining spilled oil has on the ecosystems on which our people depend. We do not think the Alaska Legislature has sufficient information, either. Do you really know what the cost of restoration will be? Do you know what choices will be made because of shortfalls, and because studies and assessments scheduled for this year and into the future may not be completed? For instance, is it not more likely that, if a choice is made between cleaning-up clam-beds or creating a state maritime park, the choice will be made to create the park and to forego the less sexy projects? We all know that advisory committees' functions are pretty limited under the best of circumstances; under the broad sweep of the settlement agreement, what input into restoration projects, studies, or assessment will an advisory committee have in this agreement?

In addition to the uncertainty as to the nature and extent of damages, whether funds agreed upon are sufficient, and whether damages will be ongoing for years into the future, we believe that the agreement also ignores language which Judge Sporkin in Washington D.C. had believed would be included in the agreement. For instance, paragraph 13(c) of the settlement agreement preserves only a present right, title or interest in lands; Chenega, Port Graham and English Bay have future rights in lands and resources still in interim jurisdiction until conveyed. The village corporations and their shareholders, as well as fishermen and others dependent on natural resources have rights relating to future events which appear to us to be compromised by the agreement. Judge Sporkin viewed such an approach as Un-American. We also believe that the agreement, at paragraph 13(b), with regard to Alaska Native Village Claims as trustees, creates artificial limitations, and compromises important rights under ANCSA and ANILCA. We ask, why not just preserve all claims of private litigants?

With regard to natural resources, the settlement agreement misstates that only governments may recover natural resources damages under the Clean Water Act. This of course is not true. Moreover, the agreement fails to address the likelihood of polluted ecosystems to recover, and whether the ability to recover is even possible. In addition, in

paragraph 6(c) and 6(d) of the agreement the governments appear to compromise all users' claims for damages. Why? At paragraph 6(g) the agreement is unequivocal that it settles all consequences of damages to natural resources.

The agreement therefore binds us, as owners of natural resources, including lands, hand and foot, and blindfolds us and hands Exxon the club to beat us with. The Attorney General has announced that he will not provide studies or assessments to either the legislature or to the user groups to determine what happened, at what costs, and what needs to be done and at what costs. The agreement gives Exxon numerous opportunities to pummel us with the language of the agreement.

In addition, the agreement resolves natural resources damages claims against Alyeska. Why is the state giving up anything as to Alyeska, and what is it receiving? Why does the agreement explicitly allow Exxon to recover TAPPA money? We have all assisted the state during the spill, opening our doors and our knowledge of the area and its resources to the state. Why does the state, in its rush to settlement, give so much and apparently receive so little? And ultimately, why would the state and federal government offer Exxon such neutralizing weapons as are contained in this agreement? Judge Sporkin believed such tactics were Un-American.

As many of you are aware, the oil is still out there, at Sleepy Bay, Point Helen, and other areas around Chenega's selection areas; around and into the Gulf of Alaska selection and Windy Bay, Rocky Bay, Dog Fish Bay, and into the Kenai Fjords, all Port Graham and English Bay selections. This year, the state and federal governments are bearing the tab if the settlement goes through, and it is unlikely that any more oil will be recovered after this year. You are therefore buying Exxon's oil, and, at what price?

I am presenting with this written testimony the views of Gail Evanoff, of Chenega Bay and Vice President of Operations for Chenega Corporation. I am also presenting written comments received from English Bay.

Thank you,

Charles W. Totemoff

[Chuck.doc]

The Oil Spill Litigation Committee
of the Alaska Legislature
P.O. Box V
Juneau, Alaska 99811

Dear Ladies and Gentlemen:

My name is Paul Kompkoff, Sr. I live in Chenega Bay. I have lived in Prince William Sound all of my life. I want to tell you what I think of the settlement.

The Exxon Valdez Oil Spill was the worse thing that has happened in all of my years. It is worst then the famine of 1932, because things came back the next year. It is worse then the earthquake which destroyed my village, because nature and the environment bounced back. This is worse. Oil is still out there. It is killing the living things that we, from Chenega, live off of. It is still killing the way of life that I knew.

Exxon called me a liar for saying the oil was still there, but then the federal government released studies a little while ago, which show that I am not a liar. The sea-otters are wiped out in the Chenega area. We don't enjoy seal anymore because we don't know what has swam through oil and what hasn't. We don't enjoy eating subsistence food anymore because, even though our hearts tell us it is ok, our minds ask us how can it be if it is from such an oiled area? It is just food, but the joy of gathering and sharing it is gone, because we don't know if it is safe.

How are we ever going to get rid of the oil under the surface? It is not just Exxon anymore. It is our land, our subsistence, our way of life. Our way of life is sharing and caring and living. When the tide went out, our table was set. Now, our table is empty, or worse yet, is still covered with oil and dead things.

In all my years, I have learned how things are suppose to look. Things don't look like that. Nature needs our help, not just in areas where Governor Hickel likes to go, but all over. On our land, too.

My little grandchildren use to be proud of the subsistence way of life. Anymore, they ask me Uppa is it safe? I tell them, I don't know. Do you know?

An oil company made an advertisement out of a belief that we Aleuts had, that we had to keep things clean, and if you didn't, the sea-otters would leave and let you know. Well, the sea-otters have gone, but they have been killed. They aren't back. Things are not clean. I don't think the little bit of money you are getting will help restore your

ACE 417478

resources, and I know that it won't help restore ours. I have many years experience living in Prince William Sound. I hope that you will listen to me, that it takes time and that you won't go rushing into the settlement and hurt us, people from Chenega Bay and other areas.

Thank you,

Paul Kompkoff, Sr.

ACE 417479

EXHIBIT 2

Apr 1 12, 1991

The Oil Spill Litigation Committee
of the Alaska Legislature
P.O. Box V
Juneau, Alaska 99811

Dear Ladies and Gentlemen:

My name is Gail Evanoff and my home is in Chenega Bay. Chenega Bay is a community of 70 people on Evans Island in Southwestern Prince William Sound. And, THE community most heavily impacted and damaged by the EXXON VALDEZ Oil Spill.

Since the early 1700's, Chenegans have inhabited this area in PWS. Our children hear stories from elders about their first experiences seeing airplanes and large ships. Large ships that took men and women away to work as slaves, hunting and killing off animals for furs and perfume for large companies to never before heard of lands. Ships with men that come and gouge out huge holes in our mountains for metals never heard of and to cut down trees and take them away to lands never heard of. In recent decades, people on huge ships now are taking oil found deep in the ground to places far away, and this time they don't take our men and women, but, they choke out our way of life by killing off our once rich and abundant resources by spilling oil in our waters.

We Chenegans have grown with the changing times and we experience Alaska's largest and most lucrative industry, the OIL industry, can and has caused insurmountable pain to innocent lives, that of our people, and to the marine mammals and fur animals. Chenegans have tried to join other communities in resource development for their survival into the 20th century. But, our resources in fish, otters, seals and birds have met with such high death rates on account of the EXXON VALDEZ oil spill that these resources have met with near extinction status. Marine mammals that survived are known to be starving and dying off today, 2 years after the catastrophe.

I have witnessed numerous studies conducted on Chenega Corporation lands and adjacent lands, talked with our people about the value of studies, cooperated with the bureaucracy of how they were conducted without our involvement, and asked and requested for consideration and cooperation that we be afforded information as to the results. But, NONE came. We gave of ourselves, endured criticism and insults of our way of life just to have tests and surveys done, studies that could help quiet our fears of eating contaminated foods, studies that could have helped us make responsible and informed decisions about our resources and studies that could help us prepare for the future. All our concerns and cries for studies we help make possible have gone ignored. Our State government is hiding, keeping secret, valuable information that is making such a devastating impact on our lives. That is wrong. I respectfully request that our State Legislature rectify this situation and not hold one man, the Attorney General, responsible for a decision of this magnitude. The peoples of Alaska, and we especially in PWS have charged our elected officials in the legislature to represent our interests, not the Attorney General. He is our public servant as well. The Oil Company, EXXON VALDEZ, is our public enemy, it should not be our State government.

ACE 417480

The Spiller, EXXON VALDEZ, is not through cleaning up the oiled beaches in PWS. You don't measure how well a job has been done by the amount of money spent. EXXON claims they spent 2 billion cleaning up PWS, yet we all know that most of the money was wasted on inexperienced, misguided personnel mostly from out of State, ships and helicopters being paid enormous rates while local people most desirous to see the oil removed were kept away from the beaches. The proposed settlement agreement must not be signed and the State should not be PAYING EXXON our public money to clean up oil they spilled and is still their responsibility to clean up. Our environment cannot be restored until the oil is removed. The State of Alaska is letting EXXON Corporation off the hook. That is not right. EXXON should not be allowed to go away now. The Federal Government through the Coast Guard has made the PROMISE publically that he will make sure that the PWS is cleaned as before the Spill happened. We must ensure the Federal Government honor that promise.

The State of Alaska must demand that EXXON Corporation pay for the lands that was damaged. Hundreds of miles of Chenega Corporation lands are damaged and still contaminated. Chenega Corporations lands, its subsistence lifestyle, its peoples hope for the future to provide economic opportunities are wiped out. Our environment must be restored first. We cannot compete with a Corporate giant like EXXON. But we as people of Alaska, residents of PWS, can request that our rights for a just and fair settlement be met.

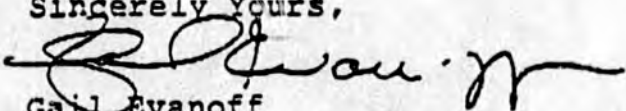
Alyeska is a problem that our State Legislature must recognize. It is no secret that Alyeska was not prepared to respond to an Oil Spill. The public and the legislature didn't even know if Alyeska had an efficient or responsive Contingency Plan. Our Resource damages is as a result of Alyeskas complacency and negligence. It is appauling to suggest th at the proposed settlement agreement requires the State of Alaska to repay REPAY Exxon over 20% of any recovery the State may receive from Alyeska. It is only fair that Alyeska Oil Company be sued on account of resource damages.

I respectfully request that the State reconsider and remove this language from the proposed agreement that Alyeska wont be sued on account of Resource damages.

I don't want to see EXXON get off this easily. In light of the recent information released by the Federal Government, the amount that Gov. Hickie negotiated is far too low. And th e State of Alaska must let the Spiller complete the cleanup still ahead with its own money.

Thank you.

Singerely Yours,


Gail Evanoff
Chenega Bay, Alaska

ACE 417481

EXHIBIT 7

CHENEGA CORPORATION

RESOLUTION NO. 91- 69

WHEREAS Chenega Corporation is an ANCSA village corporation composed of residents of Chenega with cultural, social, and family ties to the community of Chenega Bay; and

WHEREAS the community of Chenega, consisting of the tribe, the corporation, the residents and shareholders have a continuing interest in the restoration of Prince William Sound in general and the land and resources belonging to, held in trust for, and pertaining to, or managed by the corporation and/or the tribe; and

WHEREAS the Exxon Valdez oil spill destroyed much of the resource and ascetic beauty of Prince William Sound, and in particular, areas surrounding Chenega Bay; and

WHEREAS the State of Alaska and the United States government have announced settlement with Exxon, which settlement is subject to legislative approval; and

WHEREAS oil contamination is still present over approximately 70% of the land owned or appurtenant to lands owned by Chenega Corporation as well as traditional use lands;

NOW THEREFORE be it resolved by Chenega Corporation that the legislature be encouraged to seek an extension of the comment period before entry of the proposed consent decree between the State of Alaska, the United States, and Exxon in order that the legislature may obtain studies and assessments concerning resource damage which occurred, is occurring or will occur on account of the wreck of the Exxon Valdez and the consequential spilling of 11 Million gallons of oil into Prince William Sound; and

BE IT FURTHER RESOLVED that the legislature undertake to and conduct its own investigation concerning remaining oiled shorelines in Prince William Sound; and

BE IT FURTHER RESOLVED that the legislature appropriate funds to continue local response project activities in the event the Executive Branch discontinues those activities, which, in view of the events of the past week, is highly likely.

Adopted this 12th day of April, 1991 at
Anchorage, Alaska at which a quorum was present by a
vote of 5 in favor and 6 opposed.

CHENEGA CORPORATION

By: Phil. S. S. S. S. S.
Secretary

Attest:

Charles L. S. S. S.
President

[resira.doc]

ACE 417483

EXHIBIT 7

English Bay Peoples Comments
B. Exxon. State of Alaska Settlement

288
100
1000

I don't feel happy about it but now the people are sad and I feel we will not see any of the money if they (Exxon) settle with the state.

I feel the money will be spread out and more than likely the towns and cities will get most of the money. Villages that were affected will be neglected.

Pauline V. Demas

It will probably go to the State offices (The money). We won't see any of it because it will go to some administration. People that are more affected live off of the land will be doing the same thing for what ever they can find which is not much.

Kathy Brewster

I don't like it because the money might go to the cities which the oil spill didn't affect. Why can't just the Villages get it; the oil spill ruined our source of food that we grew up eating. It's like the oil spill spoiled the future of our children.

Tessie Moonin

I don't like it. I feel "We The People" that are really hurt by the oil spill will not benefit from the settlement. I feel all the money will be used for governor Hickels pet projects.

John Kvasnikoff

During the spill Exxon was flying every day to the areas that were affected. They saw that we were affected. Why don't they believe that we were hurt and affected, They saw it with their own eyes. I don't like the contamination. Exxon oil spill ruined our subsistence lifestyle. We are still in fear to eat some of our subsistence foods. The future looks dark. We don't know about our natural resources and what will become of them. What is our alternative, can somebody tell us?

Vincent Kvasnikoff

I don't like it because it affected the seafood we eat. Spoiled our subsistence.

Helen Ukatish

I think that the settlement money should go to the Villages and peoples that were most affected because the oil spill has ruined the Natives subsistence way of life.

Gus Ukatish

I don't like it of course but, I'm not surprised to know that the Indians were lied to in past history when the lower 48's treaties were broken. i.e. Custards last stand and many other wars with Indians. Only now OUR land is taken over by Bullshitting Politics and there is no respect how the Europeans that came across the Atlantic to settle in the States and isn't funny how the United States is called "United" and how the Constitution says it it "protects all people" What are they really talking about? No wonder I never cared for U.S. history or understood Federal or State governments class it is all lies and it is embarrassing to have people leading our country with prejudice in their hearts and still get up in front of everybody and say they are our leaders. As far as I'm concerned about the law suit, The "Klu Klutz Klan" runs the State of Alaska and the Federal government. We aren't included and probably never will be!!!

Alma Kvasnikoff

The settlement from the Exxon Valdez oil spill to the State should be spread out among the Villages that were affected. The Villages were hurt more from the spill. Our subsistence life has almost dwindled to nothing. Because most people are afraid of what might happen to them if they eat their food. We don't want to see the money that should be used for employment in the Villages used throughout the State for purposes that have nothing to do with the spill.

Roberta Kvasnikoff

What the State government did was wrong and unconstitutional. Since when did the Executive branch think they held ultimate power over the Senate and the House of Representatives, and bluntly have total discard for the peoples whose lives were really affected. The States only damage was confined only to lands on the Nuka Bay Park area. so they should have spoken only for that specific area. The Federal government cannot claim for damages on Kenia Fjords because they are set aside for the Port Graham and English Bay Corporations land selections. I think the Hicel and the Bush administrations should be given a leave of absence to attend a grade school of their choice to re-study and reanalyze the United States Constitution or maybe the State government should be exposed for fraud and neglect along with the Alyeska pipe line company. For the sake of getting along with all people and have their blessings this administration should include all and I mean all damaged parties into these talks with Exxon. For the sake of State of Alaska I would like to urge both Houses to reject this agreement or at least delay it, Or are all our Representatives afraid of not being invited for parties and dinners at the mansion.

Robert Kvasnikoff

James Kvasnikoff
4-13-91

6 The oil spill has ^fleft an impact on us. It brought Fear, alcholism, stress,
anxiety and has changed our way of living. The only way of living we have
left culturaly and the only way we can afford. Not only did it do damage to
the foods we eat, but to the food chain and that will change forever our
sea enviornment. We still have fear about eating our food because of
7 seeing some animals from the sea physically ^{deformed} ~~formed~~ after the oil spill, if
it did that much damage to them, How much will it do to us? I'm very sad
about how Exxon took care of the oil spill. There is much to be done.
Exxon should try to help the people who were directly impacted physically,
mentally and socially by the oil spill. Quit hiding facts from everyone and
realize their mistake.

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I feel sad because Exxon should have settled with the affected instead of the state. We'll never see the money.

Virginia Moonin
4/13/91

Exxon should have been prepared for their disaster and now that we have a mess on our beaches from their oil our subsistence fish & foods from sea are in great danger. I know there's still some mussels floating around our bays. We might not know it, but we might be eating this stuff with our food. I'd rather have seal oil with most of my food from the sea. I am very unhappy with their way of settling this with us. I preferably think they should have settled with the native corporations because most of the beaches in the Chugach region are oiled and a big damn mess.

Ephim Moonin Sr.
13 April, 1991

I feel the State should not be a part of the settlement - It was the people around the Prince William Sound and Lower Cook Inlet who had to, and continue to live with the impacts of the Oil Spill. Our harvesting areas are not the same as they were before this spill. Our social patterns have been disrupted, our trust with the sea is still in jeopardy - We are the ones who have to live with this. A lot of the fisherman depend on the sea to make a living, some even depend on the season's catch to get by through the winter. The people of the Prince William Sound and the lower Cook Inlet should be prioritized in the settlement.

ACE 417488

EXHIBIT 8

YOU CAN'T GET SOMETHING LIKE THAT HARRAN TO THE COMMUNITY and ignore it like never happened. It has affected the whole community and what you're doing is not fair!

Mack & Rose Ukatish
4-13-91

It's not fair!! Keep the state out of this. They don't ^{Just Don't} just like us.

Herman Tanape
4-13-91

I don't know what to do. It's not fair. The spill killed all our subsistence food that we eat. The office people don't eat, ^(conservative say) and like here, why shouldn't they benefit from this all?

Anne Tanape
4-13-91

It's unfair that the state gets a settlement and hides ~~the money~~ on they gathered when the villages were the ones directly hurt by the spill. I don't understand how the state can justifiably leave ~~us~~ cold. We live almost totally on fishing and subsistence. I don't think businessmen or Senators have to gather their food. We were hurt very badly by the spill and it's only fair that we should have been included in anything the state did.

Frank R. Hetrick
Frank & Martha Hetrick
4-13-91

Sally Ach
4-13-91

We don't even know what is good to eat on the beaches. IT IS NOT FAIR!
We need a lot of cleaning to do on the beaches still. It has ruined our
fishing, that is what most people do for a living and earn money.

Becky Kvasnikoff
4-13-91

It's not fair that the Exxon settled with the state. We are the ones that
were impacted by our food/land/not the state government.

Seraphim Ukatish Sr.
4-13-91

Today, gets me depressed when we think, Should we eat from the beaches
(like we use to)? It's not fair the big oil company Exxon settles with the
state.

Irene Ukatish
4-13-91

I think it is not fair for us people who have no jobs and we rely on the fishing jobs and therefore we are unemployed and have no way of bring food for our families. No income no food the main source of food comes from the sea.

Dan Anahonak Jr.
4-13-91

It wasn't "Custard's Last Stand", more like "Custard's Last ^{word} ~~stand~~ Another obvious & disappointing ploy against the natives & the communities, someone had to suffer the tragedy and looks like some one also reaps the benefits again. I'm sure before the oil spill happened, we all thought that something like that would never happen and now that it has, there "silent restitution" was \$16 hr for a couple of months. Funny thing is that money got some nice and expensive things but soon after the last day of work in September, what happened to the tradition of subsistence? It was a shock for us, those who carried on this lifestyle & survival techniques from our ancestors for centuries. Still today the impact of the spill has an effect on us, and we are the ones who have been jurt directly & inderectly from it - Where's the justice? Where's the apology, restitution? What General Custard did over a 100 years ago to Native America, the U.S.A. continues too.....

Anita Evans
4-13-91

No it is not fair because the oil spill did not effect the whole state it happened to the natives and we are the ones who are tying to live our regulare lives the way people would be fishing, gathering alot of sea food. Now people are kinda scared. And now that this happened we have really no where to go without the seafood.

ACE 417491

The state has no idea what it is like to be "gatherer of the land", like many of the people from villages we are dependent on these foods. Now that the subsistence foods have been tainted, we are now relying on food items from the store. Which is the pits because many people are accustomed to eating food from our surroundings. Lets see if the state can come live our way and adjust to our tainted food. They need to taste what Exxon left behind. Don't be scared to eat what Exxon's big mess, if the state wants "BIG MONEY", they should by all rights eat what they are wanting. Don't forget us, after all we are the ones who live off the land!!!

Nancy Yeaton
4-13-91

THE SPILL THAT EFFECTED THE COASTAL AREA (BEACHES, ISLANDS, STREAMS, LAGOONS, ETC...) That sea mammals birds, bottom fish, shellfish, were contaminated. The people who rely on for food is there for a long time. How can an attorney spend privately with Exxon to negotiate the cost and settle without involving the people who were effected by the spill? My honest feelings are we can't trust the state for doing something very ignorant. The people who've been taking an gathering food from the sea is at risk even if we can't tell if it's safe to eat. I guess the state attorney Mr. Cole can't understand because he doesn't live in a village, only in a city. The groceries they buy have no oil effect on their food. They don't have to worry about how we were effected by the spill.

Roy Evans Jr.
4-13-91

If Exxon settles with the state I feel that many people who were effected will lose alot more that they already have which was a very big loss in itself. If they do the people who were the most effected won't have a chance to fight for what we feel should be done for us and not people who weren't directly effected.

Carol Mattson 4-13-91

ACE 417492

I feel the settlement is unfair and will not benefit the people in any way.

Nick Tanape

Unfair and Exxon will never replace what people lost, such as, fishing, and animals, beaches will never be clean. The hot water used to clean killed a lot of things.

Susan Tanape

There is a lot of oil spill, and I think that is why the people are sick. We won't get nothing from the state settlement. I don't feel it is a fair settlement. People won't see any money.

Eloise Meganack

No! Because none of it will go to the Native communities. I think it's unfair and the money is used by the administration. The villages were damaged more than the state. The big cities will benefit more than the villages. I don't think none will go to the subsistence caused by the damage.

Kathy Evans

ACE 417493

EXHIBIT 8

pollution

I think it's not fair because Exxon did let the oil kill fish by pollution and some people need to fish for dinner and other needs.

Leo Ash age 12
4 13 91

What? another high level transaction. And why should it go to the state? Anchorage and Juneau shurely don't deserve it. The moneys should go the areas who were directly effected. We were the ones who went without and suffered. And watched our livelyhood die around us. Fair is fair, compensate the true victims!

Dale Pease
4-13-91

11

ACE 417494

EX-151 8

IT STINKS! We're the ones that got hurt, physically, emotionally, mentally NOT! some guy in a office in Innis. He/she is not a owner of land/food we live off of. I ask why? Why our own state does this to us? I thought we had sensible people working for us, But I was wrong! I'm very hurt!

Wally Kvasnikoff
Wally Kvasnikoff

I don't think its fair. The state didn't get hurt we did. No, the state does not feed me or my family. We can't subsist. We can't afford the stores the state turned me down for every assistance I asked for. It's not fair! Why should the state get what we deserve??

Nina Kvasnikoff

It's not fair. We're effected not the state. Oil ruined our food we used to live on. We can't afford the store for subsistance. Our health is not very good from the spill. We eat the foods that was effected. I invite the Cole guy and legislatures to come here and eat the food we're eating, maybe finally they'll reconize us as human beings.

Sarjus Kvasnikoff

I don't think it's fair. State only get the funding. We're the ones hurting by oil spill, our native food. Our land like beaches, our health, lot of our people are hurting emotionally/mentally, in many ways community people still don't trust eating our native food. It's a nightmare. I hope the state will understand our hurt feelings.

Mack Kvasnikoff

ACE 417495

**COMMENTS OF THE ALASKA NATIVE VILLAGE CORPORATIONS
AND REGIONAL CORPORATION CONCERNING
THE PROPOSED SETTLEMENT AND PLEA AGREEMENTS**

The Alaska Native Village Corporations and Regional Corporation listed below, by and through their counsel, submit the following comments concerning the Plea Agreement, Agreement and Consent Decree, and Memorandum of Agreement and Consent Decree, dated March 12, 1991, made and submitted by the United States of America and the State of Alaska (collectively, the "Governments"), Exxon Corporation and Exxon Shipping Company (collectively, "Exxon"), and Exxon Pipeline Company ("Exxon Pipeline") in United States of America v. Exxon Corp. and State of Alaska v. Exxon Corp., Civ. Nos. A91081, A91082 and A91083 (D. Alaska).

These comments are submitted on behalf of the Chugach Alaska Corporation, which is an Alaska Native Regional Corporation, and the Tatitlek Corporation, Chenega Corporation, The Eyak Corporation, Port Graham Corporation, and English Bay Corporation, which are Alaska Native Village Corporations (collectively, the "Alaska Native Corporations"). The Alaska Native Corporations are plaintiffs in federal and state suits against Exxon, Exxon Pipeline and others, resulting from injuries caused by or arising from the grounding of the T/V EXXON VALDEZ on March 23-24, 1989 and discharge of approximately 11 million gallons of crude oil into Prince William Sound (the "Oil Spill"). These Alaska Native Corporations are the largest landowners, apart from the State of Alaska and United States, adversely impacted by the Oil Spill.

The following comments derive from, and are based on, the Alaska Native Corporations' unique property interests in and to lands which have been validly selected by them under the Alaska Native Claims Settlement Act, 43 U.S.C. §1601 et seq. (1990) ("ANCSA"). In connection with the settlement by the Governments, Exxon and Exxon Shipping of claims relating to such lands arising from the Oil Spill, it appears that these parties have purported to encumber, compromise and settle certain of the Alaska Native Corporations' claims, or portions of such claims, arising from the Oil Spill, in direct contravention of federal law and applicable regulations and the United States' representations to Judge Stanley Sporkin of the United States District Court for the District of Columbia.

The unique claims of the Alaska Native Corporations are evidenced by and reflected in: Pub. L. 94-204, 89 Stat. 1146, as amended, which provides that any proceeds of the settlement of claims, including claims arising from trespass and loss of wildlife, related to land withdrawn for selection by Alaska Native Corporations, must be held in escrow by the Secretary of Interior for the Alaska Native Corporations until the land is conveyed to the corporation; Pub. L. 101-380, section 8301, August 18, 1990, 104 Stat. 572, which demonstrates Congress' intent to provide that, for purposes of asserting or recovering for claims arising from the Oil Spill, the Alaska Native Corporations may elect to be vested with both legal and equitable title to all lands selected by them, whether or not title has passed or the land has been formally conveyed; and 43 C.F.R. §2650, et seq., which provides that

the Alaska Native Corporations' views shall be obtained and considered prior to the execution of any contract, including settlement contracts, relating to such lands.

The following comments seek revisions of or amendments to the settlement agreements in order to cure the violations of federal law and regulations discussed herein.

1. Inclusion of Exxon Pipeline Company

The Agreement and Consent Decree is made and entered into by the Governments and, among others, Exxon Pipeline (Agreement, p. 3). The parties to the Agreement subsequently acknowledge that Exxon Pipeline has a 20.34% participation in Alyeska Pipeline Service Company ("Alyeska") (Agreement ¶ 23, p. 20). However, the Agreement is silent as to what effect, if any, Exxon Pipeline's execution of the settlement will have on Alyeska or on claims against Alyeska in pending lawsuits against Alyeska. Since the Governments excluded Alyeska from the complaint and subsequent plea agreement and settlement papers, the issue merits clarification by the parties.

2. The Definitions of Natural Resources and Natural Resource Damages Encompass Plaintiffs' Claims

The definitions concerning "natural resources" and "natural resource damages" (Agreement ¶ 6(c) and (d), p. 5; MOA ¶ II(F) and (G), p. 6-7) specifically include resources "held in trust by" the Governments, and damages obtained by the Governments in their respective capacity as Trustees of selected lands in interim jurisdiction. For example, the definition clearly encompasses lands heretofore

selected by Port Graham Corporation and English Bay Corporation in the Kenai Fjords and lands selected by Chenega Corporation but not conveyed in the Chugach National Forest. In sum, any natural resource damage recoveries obtained by the Governments relate, in part, to lands and resources legally and equitably owned by the Alaska Native Corporations. Accordingly, contrary to the Governments' repeated representations, the settlement purports to settle claims of the Alaska Native Corporations.

3. The Exclusion of Alaska Native Corporations

Both the Agreement and Memorandum provide that the settlement shall not affect or impair "the rights and obligations, if any, of Alaska Native villages to act as trustees for the purpose of asserting" claims related to natural resource damages to village lands. (Agreement ¶ 13(b), p. 15; MOA ¶ III(c)(1), p. 9). (emphasis added). No explanation is provided as to why the settlement has not similarly excluded the claims of the Alaska Native Corporations. There is a significant legal difference between tribal village organizations and ANCSA Corporations.

Concomitantly, the following subparagraph of the Memorandum (MOA ¶ III(c)(2), p. 9), appears to exclude from the settlement Alaska Native Corporations' claims for natural resources damages for lands not otherwise in interim jurisdiction. However, the Agreement, even if construed most favorably, clearly affects the Alaska Native Corporations' claims for natural resource damages for lands in interim jurisdiction. Simply stated, the Alaskan Villages, as referred to in the Agreement and

MOA, have no legal or other right to act as trustees for natural resource damages to lands in interim jurisdiction; such rights are vested solely in the Alaska Native Corporations created under ANCSA.

Accordingly, the Agreement and MOA must be amended to include a clear statement by the Governments that the natural resource damages claims of the Alaska Native Corporations remain unaffected by this settlement whether or not such claims affect lands in interim jurisdiction.

4. Scientific Studies

The MOA (¶ II, p. 13) provides that the Governments "shall continue to work cooperatively to conduct all appropriate scientific studies relating to the Oil Spill, including specifically the scientific studies approved by the Trustees for the 1991 field season." This language is deficient for two reasons.

First, the Governments should be required to share with the Alaska Native Corporations all scientific and evaluative material that, at minimum, relate to Alaska Native Corporation's lands in the Prince William Sound area. Indeed, the Alaska Native Corporations provided the Governments with access to their lands in order to permit such vital studies affecting their lands to be conducted. Since the Corporations have previously been denied access to this material, they are unable to assess whether or not the settlement contracts with regard to lands, either owned by the Alaska Native Corporations or in interim jurisdiction, are fair and reasonable. For example, chemical fertilizers were used on lands either owned by Chenega Corporation or within the interim jurisdiction of the United States in Prince William

Sound; however, the National Park Service refused to permit bioremediation agents on land still within the interim jurisdiction of the Park Service. Land managers from Port Graham and English Bay were not allowed access for the purposes of the survey and study. There is, therefore, a significant uncertainty as to how the cleanup activities in the past or restoration activities in the future will be handled in the Kenai Fjords selection area. The critical importance to the Alaska Native Corporations of obtaining this information is graphically highlighted by the Government's release of summaries of the findings of these scientific studies on April 9, 1991, as reflected in a front-page article in The New York Times, a copy of which is attached as Appendix A. In addition, the Governments should be required to release this information in fulfillment of their fiduciary and other legal duties to the Alaska Native Corporations, as set forth in Federal law and regulations, as Trustees of their lands.

Second, this general provision does not explicitly require the Governments to continue funding all scientific studies now underway. Such continuity of funding is important in order to fully assess the extent and nature of damages to the natural resources.

5. Allocation of Settlement Monies in General

The MOA does not require the Governments to allocate the monies relating to Alaska Native Corporations' lands, nor are they obligated to appropriate the monies in any given time period. (MOA ¶ V (D)).

6. Allocation of Monies Held in Trust for the
Native Village and Regional Corporations

The Agreement and MOA provide that the Governments shall jointly use the settlement monies "for purposes of restoring, replacing, enhancing, rehabilitating or otherwise acquiring the equivalent of natural resources injured as a result of this oil spill." (MOA ¶ V(A), p. 12). However, the federal government is purporting to settle rights and interests of the Alaska Native Corporations with regard to natural resources damages with respect to Alaska Native Corporations' lands still in interim jurisdiction without setting up or in any way referring to any escrow provisions. Thus, this portion of the settlement plainly and unmistakably violates 43 CFR 2650.1. See Pub. L. 94-204, as amended by Pub. L. 96-487; Pub. L. 99-396, Sec. 22, and Pub. L. 100-581, which provides, in part:

During the period of withdrawal for selection pursuant to the Settlement Act, any and all proceeds derived from contracts . . . , or from trespass occurring after the date of withdrawal of the lands for selection, pertaining to lands or resources of lands. . . shall be deposited into an escrow account which shall be held by the Secretary until lands selected pursuant to that Act have been conveyed to the selecting Corporation. . . .

Accordingly, the settlement must establish a mechanism pursuant to which portions of the settlement funds to be received shall be allocated to Alaska Native Corporations' lands which have been or will be withdrawn for selection by them. After such funds are allocated, appropriate escrow arrangements, in conformity with applicable federal regulations, should be made for the benefit of the Alaska Native Corporations.

8. Public Participation

The MOA provides that the "Trustees shall establish procedures providing for meaningful public participation in the injury assessment and restoration process, which may include establishment of a public advisory group to advise the Trustees with respect to the matters" concerning injury assessment, restoration activities, or other natural resource damage recoveries obtained by the Government. Again, this provision ignores the specific recoveries obtained by the Government as Trustees for the Alaska Native Corporations' lands in interim jurisdiction. Federal law and regulations require the involvement and input of the Alaska Native Corporations in the allocation and use of these recoveries affecting lands in which they have such a vital property interest. Treating them like any other member of the public is not only unfair and unjust, it is patently unlawful.

9. Covenants Not to Sue

The MOA provides, in the provisions concerning Covenants Not to Sue (MOA ¶ VIII(B), p. 14-15), that the State of Alaska acts as trustee of resources of lands in interim jurisdiction. The purported representation violates ANSCA and is otherwise legally unauthorized.

10. Judicial Review Provisions

The MOA provides that it "creates no rights of action on the part of any persons not signatory to this MOA and shall not... be subject to judicial review." (MOA ¶ XII, p. 18). This provision is ridiculous to the extent it purports to bind the Alaska Native Corporations and to foreclose their right to seek appropriate legal

redress, including judicial review. Moreover, since the settlement purports to settle compromise and otherwise encumber valuable legal rights of non-parties (i.e., the Alaska Native Corporations), it raises serious constitutional questions which amply justify searching judicial scrutiny.

Dated: Washington, D.C.
April 12, 1991

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April 18, 1991

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Re: Proposed Settlement of U.S. v. Exxon Corp. et al.,
U.S.D.C., D. Alaska, Civil Action No. A91-082 CIV
and State of Alaska v. Exxon Corp. et al.,
U.S.D.C., D. Alaska, Civil Action No. 3AN-89-6852

Dear Mr. Campbell and Ms. Herman:

This letter and accompanying comments and affidavits are being sent to you pursuant to the Notice in the Federal Register at 56 F.Reg. 11636 (March 19, 1991) stating that a proposed settlement of the above referenced lawsuits has been lodged with the Court and that comments will be accepted by you on behalf of the federal agencies and the State of Alaska through April 18, 1991.

We are making this submission on behalf of all plaintiffs in Case No. A89-095 Civil (Consolidated) in the United States District Court for the District of Alaska and all plaintiffs and the classes they represent in Case No. 3AN-89-2533 Civil (Consolidated) in The Superior Court for the State of Alaska, Third Judicial District ("the Civil Plaintiffs"). The classes certified are as follows:

1. Alaska Native Class. The "Alaska Native Class" consists of all Alaska Natives, tribal entities, Native governments, Native entities performing quasi-governmental functions, and their agencies, who engage in, rely upon,

promote, preserve, or provide services for, wholly or in part, a subsistence way of life in the following areas: Native Village of Chenega Bay, Eyak Native Village, Port Graham Village, the Native Village of English Bay, the Native Village of Tatitlek, the Native Village of Kodiak, the Native Village of Larsen Bay, the Native Village of Karluk, the Native Village of Port Lions, the Native Village of Akhiok, the Native Village of Ouzinkie, Ivanoff Bay Village, the Native Village, Seward, Valdez, of Chignik Bay, the Native Village of Chignik Lagoon, Chignik Lake Village and the Native Village of Perryville, the Kenai Peninsula Borough, the Kodiak Island Borough, the Lake and Peninsula Borough and the Aleutians East Borough.

2. Commercial Fishing Class. The "Commercial Fishing Class" consists of all persons and entities engaged in the commercial cultivation, fishing and/or harvesting of fish, other seafood, or marine resources in the State of Alaska and waters adjacent to it. Class II, and subclasses of Class II which may be designated for various species, harvest areas and/or types of permits or activities, includes, inter alia, longline bottom fisherman, kelp pounders, herring seiners, herring gill netters, wild roe on kelp harvesters, salmon seiners, salmon gill netters, setnetters, crabbers, tendermen and other holders of commercial fishing permits and/or licenses, their crews and their employees.
3. Area Business Class. The "Area Business Class" consists of all persons and entities in any business providing goods, equipment or services in the area surrounding Prince William Sound and within Kodiak Island Borough, Kenai Peninsula Borough, Aleutians East Borough and Lake and Peninsula Borough.
4. The Property Owner Class. "The Property Owner Class" consists of all persons and entities who are owners of real property in the area surrounding Prince William Sound and

Thomas A. Campbell
Barbara Herman
April 18, 1991
Page 3

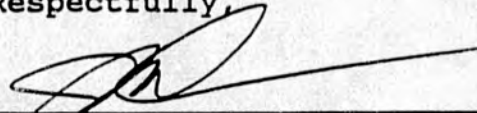
within Kodiak Island Borough, Kenai Peninsula Borough, Aleutians East Borough and Lake and Peninsula Borough.

5. Cannery and Seafood Processor and/or Maintenance Employees. This class consists of cannery and seafood processor and/or maintenance employees who had a reasonable expectation of employment after March 23, 1989, in the areas affected by the Exxon Valdez oil spill.

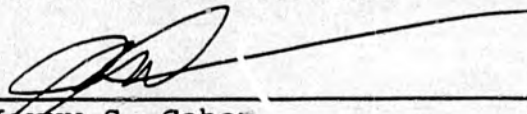
In their suits, Civil Plaintiffs seek both monetary damages and equitable relief for injury to natural resources.

Respectfully,

for


David W. Oesting
DAVIS WRIGHT TREMAINE

for


Jerry S. Cohen
COHEN, MILSTEIN, HAUSFELD & TOLL

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**COMMENTS BY CIVIL PLAINTIFFS IN
FEDERAL AND STATE COURT ON PROPOSED SETTLEMENT**

These comments address six concerns of the Civil Plaintiffs that are raised by the proposed settlement between the United States, the State of Alaska, the Exxon Corporation, Exxon Shipping Company, Exxon Pipeline Company, in personam, and T/V Exxon Valdez (referred to collectively as "Exxon"). Additional comments are also being submitted on behalf of various classes, members of the classes, and individual civil plaintiffs.

I.

**This Proposed Settlement is
Not Subject to Meaningful Review
Because the Scientific And Economic
Data And Analyses that Comprise Its Under-
pinnings Are Being Withheld From Public Scrutiny.**

The settling parties are asking that the Settlement be commented upon and approved in a vacuum, with significant and relevant scientific information being withheld. The United States and the State of Alaska continue to withhold the data and at least 58 scientific studies related to the effects of the Exxon oil spill in Alaska which the governments or their contractors have amassed.¹ On account of this withholding, comments on the substance of this settlement proposal are prevented. The import of the granite barrier to scrutiny that has been maintained by the government is described in detail in the Affidavits of eminent scientists Drs. Capuzzo, McElroy, and Teal, and Bruce W. Tripp, copies of which are submitted with

¹ As of April 12, 1991, the U.S. released certain data on sea otters, but nothing else, especially not the 58 scientific studies.

these comments. Because of this barrier, experts outside the government have been unable to provide an assessment of the governments' assessments of the damage to natural resources and the plans for restoration. A meaningful comment period would take place after disclosure of the governments' data and analyses and after sufficient time is provided to allow for independent analysis by non-government scientists.

This flaw in the process is aggravated by the debilitating conflict of interest under which the settling governments labor. Both governments are defending claims brought by Exxon and Alyeska for their respective alleged causal contribution to this disaster. Yet, these governments are required by law to act as Trustees for the natural resources. This blatant conflict of interest necessitates curative measures including independent scrutiny and evaluation of this Settlement. Such scrutiny can only be meaningful with full disclosure of the data and analyses being withheld.

II.

**The Reopener Provision [Agreement ¶¶17-19]
is not Subject to Review And is Unsatisfactory
on Its Face Because it Fails to Establish
Objective Standards to Trigger Its Application.**

The ceiling of \$100,000,000 in the "Re-opening" provision cannot possibly be assessed for adequacy without access to the relevant scientific data referred to above. The "Re-opening" provision concerns unforeseen needs to restore populations, habitats or species which have suffered a substantial loss or

decline as a result of the oil spill, and may be used only in limited circumstances and for a relatively short period of time. The provision, therefore, reflects an assumption that the "restoration" needs are fairly well understood and already addressed. The provision explicitly states that it becomes operative only if "the injury to the affected population, habitat, or species could not reasonably have been known nor could it reasonably have been anticipated by any Trustee from any information in the possession of or reasonably available to any Trustee on the effective date [of the Agreement]." (Emphasis supplied). Thus, the assumption must be expertly examined in the light of the vast amount of significant and relevant withheld information in the possession of the United States, the Executive Branch of the State of Alaska, and Exxon.

Moreover, the entire "Re-opening" process is done privately. The Agreement provides for ninety (90) days notice to Exxon, and no notice whatsoever to the public. This too is highly objectionable.

III.

This Agreement is Not Susceptible to Review Because Its Value Has Not Been Disclosed.

The parties to this Settlement have grossly overstated its sweep and actual value by (a) failing to reveal the true "present value" of the settlement, (b) ignoring the tax benefits reaped by Exxon, (c) ignoring "credits" that Exxon receives for work for

which it already had obligated itself to pay,² (d) failing to disclose that the United States has filed a claim seeking over \$1 billion in compensation from the Trans-Alaska Pipeline Liability Fund ("TAPL Fund") in the event the TAPL Fund does not dismiss its claims against the U.S., and (e) failing to disclose that the State of Alaska is pursuing a claim in an unspecified amount against the TAPL Fund. The governments should disclose the true value of this Settlement, and all accounting methods to be used in crediting Exxon. Moreover, the governments should reveal the extent to which they may seek reimbursement from the TAPL Fund -- the fund that should be reserved for the victims -- instead of obtaining such relief from the parties who will be released if this Settlement is approved. Only then will meaningful comment and judicial review for fairness, reasonableness and adequacy be possible.

² For example, while Exxon has publicly committed itself to continue clean-up work, ¶8(b) of the Agreement gives Exxon a credit for "expenditures" for such work performed after January 1, 1991. Thus Exxon is receiving "credits" toward settlement payments for work it already committed to perform. "Expenditures" is defined in ¶11(b) of the Agreement and appears to include a broad variety of costs which Exxon would incur whether its employees were working on the clean-up or other matters and includes expenses that stretch any reasonable definition of "clean-up" costs (e.g., "insurance," "accounting," other professional services").

IV.
The "Reservation of Rights" Provisions
[Agreement, ¶ 13 (c) & (d) And ¶ 32] Are
Unclear And Appear To Threaten The Rights
And Claims of Alaskan Natives And Other Third Parties.

On March 12, 1991, the United States District Court for the District of Columbia, in The Native Village of Chenega Bay v. Lujan (Civ. No. 91-483 SS) (DDC) entered a Memorandum Opinion and Order in actions commenced by Native Alaskan Villages to assure that their claims and rights were not affected in any way by Exxon's settlement with the United States and the State of Alaska. In that Memorandum, the Court interpreted the representations of the defendants (the Settling Parties) as follows:

... The Court believes this representation to mean that after the settlement agreement has been executed, the plaintiffs will be able to prosecute fully the suits they have initiated against Exxon and Alyeska just as if no settlement agreement existed. The Court will further take the defendants' representation to mean that Exxon and Alyeska may be liable to the plaintiffs for damages to natural resources and/or lands they have an interest in, even if it is claimed the same natural resources and/or lands are covered by the settlement agreement among the defendants and Exxon and Alyeska.

The language of the settlement agreement, when read as a whole, appears to violate the settling parties' representations to the United States District Court (D.D.C.) and to impinge upon the rights and claims of the Native Alaskan Villages and other Alaskan claimants (fishermen, landowners, Alaskan municipalities, etc.). See Agreement at Introduction at p. 3; ¶6(c) and (d) at pp. 5 & 6; ¶13(b) & (c) at pp. 14-15 and ¶32 at p. 24. Were the

settling parties not attempting to whittle away at these claims, the settling parties would have adopted the exact language of the Court cited above. Further, the settling parties should have stated that the Settlement shall not affect the claims or rights, past, present, or future, of any third party who is not a party to this Settlement. If this is the intent of the parties, the Settlement Agreement should be modified to make the appropriate corrections.

V.

**The Settlement Inappropriately
Releases The Alyeska Pipeline Service
Company From All Government Claims for
Natural Resources Damages And All Other Govern-
ment Claims For Damages For Injury to Natural Resources.**

This proposed Settlement would completely release the Alyeska Pipeline Service Company from all government claims for natural resource damages and for damages for injury to natural resources without any payments by or responsibilities on Alyeska's part. This release of Alyeska is arbitrary and capricious and should not withstand the Court's scrutiny. As set forth in Congressman George Miller's letter dated April 8, 1991 addressed to Judges Holland and Sporkin, a copy of which accompanies these comments, Alyeska is substantially culpable for the catastrophic effects on the natural resources that resulted from the Exxon oil spill. Accordingly, the governments' releases of Alyeska should come at a substantial price.

VI.
The Settlement Impairs
The Rights of Private Plaintiffs.

While the United States and the State of Alaska propose to settle the claims which Exxon has made against them, under the terms of the Agreement, Exxon reserves its right to assert as defenses to Civil Plaintiffs' actions defenses of Exxon and Alyeska it may have raised against the governments.³ Thus, if such defenses of Exxon and Alyeska have merit, it is the private Civil Plaintiffs -- the victims -- who will be monetarily penalized for such defenses, unless they take on the burden of filing further litigation against the governments. In fact, since notice of this proposed Settlement was provided, private plaintiffs have commenced suit against the State of Alaska. Thus, the governments have shifted the monetary burden of their alleged wrongdoing from themselves to the private plaintiffs.

VII.
CONCLUSION

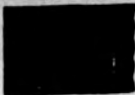
The concerns raised by Civil Plaintiffs about this proposed Settlement, when examined either individually or cumulatively, are of such serious magnitude, revealing government actions that are arbitrary and capricious and in violation of the requirement to act as Trustees for the natural resources, that the

³ Alyeska, being unilaterally released by the governments even though it is not a party to this Agreement, continues to have its right to pursue its claims against both governmental settling parties.

governments should either withdraw or hold in abeyance their proposed Settlement Agreement and should fully disclose all relevant data and analyses so that the proposed Settlement can be independently scrutinized and commented upon prior to any judicial consideration of its approval or rejection.

INDEX OF ATTACHMENTS TO COMMENTS BY CIVIL PLAINTIFFS IN
FEDERAL AND STATE COURT ON PROPOSED SETTLEMENT

1. Affidavit of Dr. Judith McDowell Capuzzo
2. Affidavit of Anne E. McElroy
3. Affidavit of Dr. John M. Teal
4. Affidavit of Bruce Tripp
5. Congressman George Miller's Letter to Judges H. Russel
Holland and Stanley Sporkin Dated April 8, 1991



ACE 417539

EXXON VALDEZ OIL
SPILL LITIGATION

This Document Relates To:
Case No. 3AN-89-6957 Civil
National Wildlife
Federation, et al. v.
Exxon Corporation, et al.

APR 18 1991

DAVIS WRIGHT TREMAINE
BY _____

ACE 417540

usually amount to no more than making lists of the most obvious impacts of the spill. Usually there is no work done on the long-term and subtle impacts of the spill, the area of most scientific interest and the key to complete restoration of the impacted area.

4. Outside scientists who will not accept secrecy limitations or who wish to study subtle and long-term impacts of spills find that funding is limited and that even the most basic data, such as research which monitors the geographical extent and chemical composition of the oil and its gross initial impacts -- which would be of use as a starting point in most outside research -- is unavailable.

5. The present situation in Alaska described in Attachment 2 is, unfortunately, not unique. For example, I have been conducting outside research into the long-term impacts of the contamination of New Bedford Harbor in Massachusetts, a Superfund site with heavy PCB (and other) contamination. Because of the natural resource damage lawsuit involving that site I have been unable to obtain even the most basic information collected as part of the \$3 million EPA damage assessment program.

6. I am aware of many other oil spill and natural resource damage incidents which have led to the same problem of litigation-driven, short-sighted, secret research crowding out critically needed long-term science.

7. In my mind, it is most important to analyze long-term impacts of an incident such as the "Exxon Valdez" oil spill so

Affidavit of Dr. Judith McDowell Capuzzo
Page 2

that the processes that control the recovery and long-term effects of the ecosystem can be understood. This knowledge is important to an improved understanding of the complex relationships between elements of an ecosystem and the way in which a perturbation such as an oil spill affects these relationships and the ecosystem as a whole.

8. This knowledge is also critical to the restoration process. It is extremely difficult to maximally restore the effected ecosystem if the full impacts of such an event are never studied.

9. If the data currently kept secret regarding the impacts of the "Exxon Valdez" oil spill were made public, some of these data could be used to begin or supplement needed long-term ecosystem studies -- that should commence as soon as possible. If monitoring data were available, outside scientists could do badly-needed work on the long-term and subtle impacts of the spill. However, if these data are not made public soon any opportunity for such long-term research will be foreclosed.

10. Although I endorse most of the statements in Attachment 2, "The Problem of Secrecy: Science Under Wraps In the Wake of the Nation's Largest Oil Spill," I want to make clear that paragraphs 14 and 16 should not be read to overemphasize the value of the existing data for scientific assessment purposes. As I have described above, much of these data are likely to be short-term in focus and of limited use to scientists conducting the needed long-term assessment of oil spill impacts.

Affidavit of Dr. Judith McDowell Capuzzo
Page 3

ACE 417542

ANYTHING FURTHER THE AFFIANT SAYETH NOT.

Judith McDowell Capuzzo
Dr. Judith McDowell Capuzzo

STATE OF MASSACHUSETTS)
COUNTY OF Barnstable) ss.

On this 26th day of September, 1990, the Affiant Dr. Judith McDowell Capuzzo personally appeared before me and signed the foregoing Affidavit after first having sworn that the information contained therein is true and correct to the best of his knowledge and belief. Witness my hand and official seal. My commission expires on 26 August 1994.

[SEAL]

Judith Z. Kleindinst
Notary Public

JUDITH MCDOWELL CAPUZZO

Zoologist
Senior Scientist
Woods Hole Oceanographic Institution
Woods Hole, Massachusetts 02543

Born: December 29, 1947; Manchester, NH

B.S. (cum laude), 1969, Stonehill College
Major: Biology, Minors: Chemistry and Philosophy
M.S., 1971, University of New Hampshire (Zoology)
Ph.D., 1974, University of New Hampshire (Zoology)
Dissertation: The impact of chromium accumulation in an estuarine environment

PROFESSIONAL POSITIONS

Instructor, Biology Department, Framingham State College, Framingham, MA,
1974-1975
Postdoctoral Scholar, Woods Hole Oceanographic Institution, 1975-1976
Postdoctoral Investigator, Woods Hole Oceanographic Institution, 1976
Assistant Scientist, Woods Hole Oceanographic Institution, 1976-1980
Associate Scientist, Woods Hole Oceanographic Institution, 1980-1990
Senior Scientist, Woods Hole Oceanographic Institution, 1990-Present

VISITING AND ADJUNCT APPOINTMENTS

Instructor, AQUAVET Program, Cornell University-University of
Pennsylvania, 1977-1989
Visiting Professor, Department of Earth Sciences and Geography,
Bridgewater State College, Bridgewater, MA, 1978-1982
Adjunct Professor, Boston University, Department of Biology, 1989-1993

HONORS, AWARDS AND FELLOWSHIPS

Delta Epsilon Sigma, elected 1968
Phi Sigma, elected 1971
NDEA Predoctoral Fellow, University of New Hampshire, 1971-1973
Sigma Xi, elected Associate Member, 1973, Full Member, 1981
Who's Who in American Universities and Colleges, elected 1973
Dissertation Fellow, University of New Hampshire, 1974
American Men and Women in Science, elected 1980
Mellon Senior Study Award, 1982-1984
New England Monthly, Local Hero, 1985
U.S. Environmental Protection Agency, Environmental Merit Award, 1987
Mellon Independent Study Award, 1988-1990
Vetlesen Award, 1989

RESEARCH INTERESTS

Physiological ecology of marine animals, developmental and energetic strategies of marine animals, physiological effects of pollutants on marine animals, invertebrate nutrition.

PROFESSIONAL SOCIETIES

American Association for the Advancement of Science
American Society of Zoologists
American Women in Science
Estuarine Research Federation
Sigma Xi
The Crustacean Society

NATIONAL AND INTERNATIONAL COMMITTEES AND WORKSHOPS

National Oceanic and Atmospheric Administration, National Aquaculture Plan, 1981-1982
National Academy of Sciences - Junta Nacional de Investgacao Cientifica e Tecnologica - U.S. Agency for International Development, Workshop on Oceanography and the Development of Marine Sciences in Portugal, Lisbon, June 1982
National Academy of Sciences, Ocean Policy Committee, Workshop on Land, Sea and Air Options for Disposal of Industrial and Municipal Wastes, member of organizing committee and chairman of Biological Effects Section, 1982-1984.
National Academy of Sciences, Marine Board, Workshop on Ocean Waste Transportation, member of steering committee, 1982-1984.
National Academy of Sciences, Workshop on Petroleum in the Marine Environment, primary reviewer, 1981-1983.
Mussel Watch II: Chemical changes in the coastal zone, Honolulu, Hawaii, November 7-11, 1983; Chairman of plenary session and workshop panel on "Biological Effects."
Member, National Academy of Sciences, Ocean Studies Board, 1985-1987
Member, National Academy of Sciences, Board on Ocean Science and Policy, 1985
U.S. Representative and Vice-Chairman, Intergovernmental Oceanographic Commission, Group of Experts on the Effects of Pollutants (IOC/GEEP), 1985-1989
U.S. Representative, International Council of Scientific Unions, Scientific Committee on Ocean Research (ICSU/SCOR), 1985-1987
National Academy of Sciences, Board on Environmental Studies and Toxicology, Committee to Review the Outer Continental Shelf Environmental Studies Program, member of steering committee and chairman of Ecology Panel, 1986-1990
Workshop on Biological Effects of Pollutants, IOC/GEEP, Oslo, Norway, August 1986. member of planning committee -
Member, International Council for Exploration of the Sea, Working Group on Biological Effects of Contaminants, 1988 - Present
Workshop on the North Sea, ICES, March 1990, member of planning committee
Member at Large, Governing Board, Estuarine Research Federation, 1987-1989

PUBLICATIONS OF THE LAST FIVE YEARS

- 1986 Capuzzo, J. M., J. M. Teal, and R. K. Bastian. Ecological and human health criteria for cross ecosystem comparison of waste disposal impacts. In: G. Kullenberg (Ed.), The Role of the Oceans as a Waste Disposal Option. NATO A.S.I. Series, D. Reidel Publishing Co., Dordrecht, The Netherlands, pp. 347-360.
- 1986 Sasaki, G. C., J. M. Capuzzo, and P. Biesiot. Nutritional and bioenergetic considerations in the development of the American lobster Homarus americanus. Canadian Journal of Fisheries and Aquatic Sciences 43: 2311-2319.
- 1986 Huq, A., S.A. Huq, D.J. Grimes, M. O'Brien, K.H. Chu, J. McDowell Capuzzo, and R.R. Colwell. Colonization of the gut of the blue crab (Callinectes sapidus) by Vibrio cholerae. Applied and Environmental Microbiology 52: 586-588.
- 1987 Capuzzo, J. M. Ecological and human health concerns of waste disposal in the oceans. Marine Pollution Bulletin 18: 107-109.
- 1987 Capuzzo, J. M. Biological effects of waste disposal: Experimental results and predictive assessments. In: J. M. Capuzzo and D. R. Kester (Eds.), Biological Processes in Waste Disposal, Vol. 1, Ocean Processes and Waste Disposal. Krieger Publishers, Melbourne, FL, pp. 3-15.
- 1987 Capuzzo, J. M. Biological effects of petroleum hydrocarbons: Assess- ments from experimental results. In: D. Boesch and N.N. Rabalais (Eds.), Long-Term Environmental Effects of Offshore Oil and Gas Development. Elsevier Applied Science, London, pp. 343-410.
- 1988 Capuzzo, J.M., M.N. Moore, and J. Widdows. Effects of toxic chemicals in the marine environment: Predictions of impacts from laboratory studies. Aquatic Toxicology 11: 303-311.
- 1988 Capuzzo, J.M and D.F. Leavitt. Lipid composition of the digestive glands of Mytilus edulis and Carcinus maenas in response to contaminant gradients. Marine Ecology Progress Series 46: 139-145.
- 1988 Capuzzo, J.M. Physiological effects of a pollutant gradient - Introduction. Marine Ecology Progress Series 46: 111.
- 1988 Capuzzo, J.M. Physiological effects of a pollutant gradient - Summary. Marine Ecology Progress Series 46: 147-148.
- 1988 Bayne, B.L., R.F. Addison, J.M. Capuzzo, K.R. Clarke, J.S. Gray, M.N. Moore, and R.M. Warwick. An overview of the GEEP Workshop. Marine Ecology Progress Series 46: 235-243.
- 1989 Conway, N. M., J. McDowell Capuzzo and B. Fry. The role of endosymbiotic bacteria in the nutrition of Solemya velum: Evidence from a stable isotope analysis of endosymbionts and host. Limnology and Oceanography 34: 249-255.

- 1990 Biesiot, P. M. and J. McDowell Capuzzo. Digestive protease, lipase and amylase activities in Stage I larvae of the American Lobster Homarus americanus. Comparative Biochemistry and Physiology 95A: 47-54.
- 1990 Biesiot, P.M. and J. McDowell Capuzzo. Changes in digestive enzyme activities during early development of the American lobster Homarus americanus Milne Edwards. Journal of Experimental Marine Biology and Ecology 136: 107-122.
- 1990 Leavitt, D.F., J. McDowell Capuzzo, D. Miosky, R. Smolowitz, B.A. Lancaster, and C.L. Reinisch. Incidence of hematopoietic neoplasia in Mva arenaria: Monthly monitoring of prevalence and indices of physiological condition. Marine Biology 105: 313-321.
- 1990 Capuzzo, J. McDowell, J.W. Farrington, P. Rantamaki, C.H. Clifford, B.A. Lancaster, D.F. Leavitt, and X. Jia. The relationship between lipid composition and seasonal differences in the distribution of PCBs and PAHs in Mytilus edulis L. Marine Environmental Research 28: 259-264.
- 1990 Leavitt, D.F., B.A. Lancaster, A.S. Lancaster, and J. McDowell Capuzzo. Changes in the biochemical composition of a subtropical bivalve, Arca zebra, in response to contaminant gradients in Bermuda. Journal of Experimental Marine Biology and Ecology 138: 85-98.
- 1990 Conway, N.M. and J. McDowell Capuzzo. The use of biochemical indicators in the study of trophic interactions in animal-bacteria symbioses: Solemva velum, a case study. In: Trophic relationships in the marine environment, edited by M. Barnes and R.N. Gibson. Proceedings, 24th European Marine Biology Symposium, Aberdeen University Press, pp. 553-564.

In Press:

Conway, N.M. and J. McDowell Capuzzo. Incorporation and utilization of bacterial lipids by the Solemva velum symbiosis. Marine Biology.

Submitted:

Capuzzo, J.M., B.A. Lancaster and J. Gentile. The effects of fenthion and fenvalerate on bioenergetics and population dynamics of planktonic crustaceans. Aquatic Toxicology.

Conway, N.M. and J. McDowell Capuzzo. Excess taurine in the Solemva velum symbiosis, possible sources and functions. Marine Ecology Progress Series.

Conway, N.M., B. Howes, C. Cavanaugh, R. Turner, and J. McDowell Capuzzo. Initial characterization and site description of Solemva borealis, a newly discovered animal-bacteria symbiosis. Marine Ecology Progress Series.

The Problem of Secrecy: Science Under Wraps
In the Wake of the Nation's Largest Oil Spill

Introduction

1. As scientists who have worked in the field of oceanography and have studied in particular the effects of hydrocarbon spills on marine and coastal ecosystems, we are gravely concerned about the secrecy and confidentiality that has surrounded the scientific study of the impact of the Exxon Valdez oil spill on the ecosystem of Prince William Sound.
2. Scientific analysis of the short and long-term impacts of an environmental disaster in a marine, near-shore and coastal environment such as Prince William Sound is exceedingly difficult, involving multiple ecological systems and complex interrelated ecosystem effects. As such, it necessarily requires both short and long-term multi-disciplinary study.
3. Full data sharing, and open discussion of scientific data regarding spill impacts with scientific experts from all relevant disciplines is fundamentally important and critical to assuring that scientific investigators and those analyzing the data get a full picture of the impacts and do not overlook important potential impacts or gaps in the data. Without open data sharing and discussion, subtle potential impacts may not be recognized and new investigations of key ecological perturbations may not be commenced. In addition, ongoing studies may be terminated before ecological injuries are documented due to a lack of a full understanding of the complexities of the ecological response to the catastrophic addition of oil to the ecosystem.

Need for Initial Data

4. After a massive oil spill such as this, the greatest amount of gross ecosystem impact occurs during the initial period. In this spill, significant direct damage to flora and fauna was immediately caused by the massive introduction of foreign and toxic material into the ecosystem and food web.
5. Because of this, all data collected which records the initial damage to flora and fauna and the movement and evolution of the hydrocarbons into the ecosystem is crucially important to both short and long-term evaluation and analysis. The data collected during the acute phase of massive injury to flora and fauna is the starting point for all other analysis.

6. Without complete and detailed information about this initial acute phase, it is difficult to predict or analyze the future impact the spill may have.

Importance of Peer Review

7. If these data are not made public immediately, the ultimate assessment of damage will be hindered and the amount of damage inadequately assessed.
8. Science works well and most effectively when it is conducted in open dialogue, among scientists within a given discipline and among scientists of multiple disciplines. This is particularly so where questions require complicated ecosystem analysis and evaluation, such as is required by a massive spill like the Exxon Valdez oil spill.
9. The conclusions of science are deemed credible only when there is independent and open review through a peer review process. Scientific literature based upon data and research not subjected to peer review is suspect. A study or one person's analysis of data will not be widely accepted in science until the study and analysis have been exposed to criticism and the concerns raised by the critics have been addressed. The entire system of scientific research depends upon the checks and balances provided by discussion and criticism of important ongoing work.
10. Without early feedback, open discussion, and integration of results and ideas from different disciplines, individual scientists or scientists working in one or two disciplines may well miss key parts of the entire picture. Scientists studying some portion of an ecosystem have misunderstood entirely the significance of the data they were collecting until practitioners of another discipline had been brought in to consult.
11. When scientists are talking to each other about their research they can integrate the information, note the type of sampling that is being done and be able to work with comparable data. A shotgun, unintegrated approach which is detached from the findings of others studying a similar subject will ultimately lead to greater cost and less reliability. Unless complete information about all studies is shared and integrated, there may be a tendency for "mindless measurement" while the larger picture is missed. Studies may be redundant or there may be gaps. It would clearly be more cost effective to share from the outset.

Peer Review of Initial Data is Critical

12. It is important to have open and frank discussion among scientists about the data gathered from the earliest impacts of the spill. Given the fact that the initial stages of

this type of disaster involved the greatest and most rapid change, it is clearly detrimental to the scientific investigation of the spill to wait until all the data are gathered before engaging in open dialogue and multiple disciplinary review. The situation is changing quickly in space and time while these studies are ongoing. Open dialogue and communication should be concurrent with the studies, not subsequent to them.

13. Science is enriched by constant feedback and refinement. Scientists never know what they may find when they first start looking. The first protocols used may be inadequate. The methodology or the detection limits may not be appropriate. It may well be that the questions need reframing, or methodologies need to be changed, based upon the initial results.

These Critical Data Should Be Public

14. Due to the passage of time since the spill, the important initial data regarding the Alaska spill are not available. now except from those who actually collected data at the critical times. Thus, the data cannot be reproduced or gathered from any source other than those who actually collected it and who have the knowledge that has come from the data. We cannot state strongly enough that these data should be available for scientific and public review.
15. In addition, it is essential to know the following: What questions were the scientists asking when they did the studies? What procedures were they using to answer those questions? How did those procedures change or how did the questions change during the time that the initial data was coming in? Was there any feedback or modification in the study done during the course of the study?

Conclusion

16. Humankind, and in particular scientists working on environmental and ecosystem problems, need to know the effects of the Exxon Valdez oil spill on the environment. The effects cannot be known adequately without making the data available to everyone with the interest and the expertise to evaluate what it means and what it portends for the future.

ACE 417551

IN THE SUPERIOR COURT FOR THE STATE OF ALASKA

THIRD JUDICIAL DISTRICT

EXXON VALDEZ OIL
SPILL LITIGATION

) 3AN-89-2533 Civil
) (Consolidated)
)

This Document Relates to:
Case No. 3AN-89-6957
National Wildlife
Federation, et al. v.
Exxon Corporation, et al.
-----)

RECEIVED
FOR _____

APR 18 1991

DAVIS WRIGHT TREMAINE

BY _____

Affidavit of Anne E. McElroy

I, Anne E. McElroy, after first being duly sworn, state as follows:

1. My name is Anne E. McElroy. I have a Ph.D. in biological oceanography and my professional experience includes extensive work in the field of aquatic toxicology. I am currently an Assistant Professor of Environmental Sciences at the University of Massachusetts, Boston. My curriculum vitae is attached as Attachment 1.

2. I have been retained by the Natural Resources Defense Council and the National Wildlife Federation as a consultant for expert advice on natural resource damages resulting from the Exxon Valdez oil spill. As the case proceeds further, I may also be designated as an expert witness at trial.

3. I have reviewed in detail the draft State/Federal Natural Resource Damage Assessment Plan for the Exxon Valdez Oil Spill (August 1989) which lists the scientific studies the State

and Federal Trustees plan to conduct to assess the natural resource damage from the oil spill.

4. I prepared on behalf of NRDC written comments on the draft plan which were attached to NRDC's comments and submitted to the Trustees on October 27, 1989. Attachment 2.

5. On NRDC's behalf, I attended a conference on "Research in the 1990's for Prince William Sound and the Copper River Delta," Cordova, Alaska, March 31, 1990.

6. I am ready, willing and able to help the Natural Resources Defense Council and National Wildlife Federation as a consulting expert on natural resource damages sustained as a result of the Exxon Valdez oil spill.

7. I have reviewed and wholeheartedly endorse the statement in Attachment 3, "The Problem of Secrecy: Science Under Wraps in the Wake of the Nation's Largest Oil Spill." This statement accurately describes my concerns with the current regime of secrecy imposed by the Trustees and defendants to this lawsuit.

8. There is a great potential for either important information to be missed or an incorrect path for restoration followed if open exchange of information regarding the spill does not occur.

9. The need for an independent and open peer review process is not met by the State and Federal Trustees and Exxon each hiring their own peer reviewers. This is because such a peer review process cannot be considered entirely objective since the reviewers are under contract to one party or another. In addition, since the comments and critiques of these reviewers are not publicly available, they do not serve the same function as does an open scientific dialogue.

10. The secrecy surrounding the scientific research on the oil spill hampers efforts elsewhere to conduct meaningful damage assessment and monitoring. Because the research being done on the Alaska spill represents some of the most extensive marine field research ever conducted, it may serve to validate or invalidate methods for assessing exposure or impacts from oil spills. Such information would be extremely useful in designing future damage assessments for other spills and in conducting environmental monitoring nationwide, including the National Oceanic and Atmospheric Administration's National Status and Trends program, a multi-million dollar effort to document trends in marine pollution.

11. My ability to consult with NRDC and NWF and ultimately to draw any conclusions regarding the natural resource damages resulting from the Exxon Valdez oil spill depends on my having access to the scientific data obtained at the direction of the

State and Federal Trustees and Exxon, as outlined in the proposed discovery rule. This is true for the following reasons:

- A. The scientific data gathered to date are for the first year and a half following the spill when large and rapid changes in the ecosystem are likely to occur. Data gathered during this period will be crucial in determining the immediate impacts of the spill, as well as the components of the ecosystem likely to sustain long-term damage.
- B. The information contained in these data are site and time specific and cannot be inferred from previous oil spills in other locations. Moreover, the vast majority of data being collected with respect to this spill are under the control of the Trustees or Exxon.
- C. Without access to the data, it is very difficult to assess whether additional scientific studies are needed in order to fully understand the extent of natural resource damages. For example, from the description of the State and Federal Trustees' scientific studies in the draft State/Federal Natural Resource Damage Assessment Plan, it appears that very little effort has been placed on assessing the impact on system wide or interactive processes. Instead, the focus seems to be on assessing damage to each species as an individual

unit. In order to get a complete picture of damage, however, studies should focus on the interactive functioning of the ecosystem as a whole, as well as on individual species. Without access to the data collected to date, it is impossible to determine the extent of the gaps in information and hence what additional studies are necessary to assess the full extent of damages.

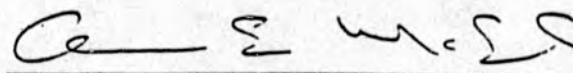
12. It is extremely important that the scientific data be made available now, not at a later date. This is true because:

- A. Formulation of scientific opinion based on scientific data takes time. It requires careful analysis, dissemination of information and discussion with other experts in the same and related fields. Given the nature and extent of scientific studies being conducted in this case, the sooner the data are made available the more helpful I can be to the environmental plaintiffs to consult with them regarding the extent of natural resource damages.
- B. Access to the data is needed in order to assess what important additional research needs to be done so that the Trustees, or Exxon can be convinced to do it or independent scientists can be hired or encouraged to carry it out as soon as possible. Given the limited

field research season in Prince William Sound and the crucial importance of gathering data in the initial years following the spill, the sooner these gaps are identified the better.

13. In conclusion, unless the scientific data are made available promptly, my ability to consult with NRDC and NWF and ultimately, if requested, to render any opinion regarding the full extent of natural resource damages from the spill will be severely hampered.

ANYTHING FURTHER THE AFFIANT SAYETH NOT.



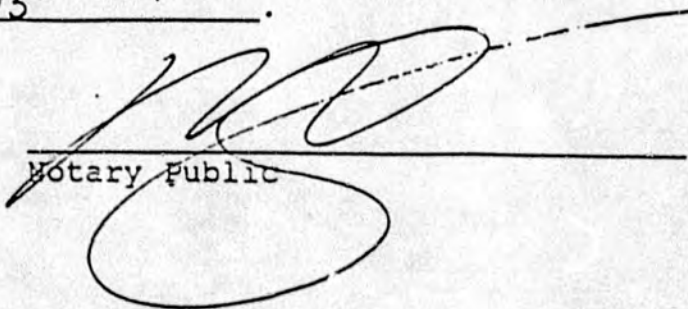
Anne E. McElroy

STATE OF MASSACHUSETTS)

 Suffolk) ss.
COUNTY OF ~~Worcester~~)

On this 17 day of September, 1990, the Affiant Anne E. McElroy personally appeared before me and signed the foregoing Affidavit after first having sworn that the information contained therein is true and correct to the best of his knowledge and belief. Witness my hand and official seal. My commission expires on 10/12/95.

[SEAL]



Notary Public

ANNE ELIZABETH McELROY
CURRICULUM VITAE

Education:

Ph.D. January 1985: Oceanography, Massachusetts Institute of Technology/Woods Hole Oceanographic Institution Joint Program in Oceanography.

Sc.B. June 1976: Aquatic Biology, Brown University. Graduated with honors.

Professional Positions:

January, 1986-present: Assistant Professor, Environmental Sciences Program, University of Massachusetts/Boston, Boston, MA.

Summers, 1987, 1988, 1989: Principal Investigator, Mount Desert Island Biological Laboratory, Salsbury Cove, ME.

February, 1985-January, 1986: National Academy of Sciences/National Academy of Engineering Visiting Scholar Program postdoctoral fellow working at the Environmental Protection Agency Environmental Research Laboratory, Narragansett, RI. Continued project as a consultant through August, 1986.

June, 1979-January, 1985: Graduate Research Assistant, Wood Hole Oceanographic Institution, Woods Hole, MA.

Spring, 1980: Instructor, Marine Sciences, Sea Education Association, Woods Hole, MA.

June, 1976-May, 1979: Research Assistant, Physiology Department, Medical College of the University of Pennsylvania, Philadelphia, PA.

Spring, 1976: Teaching Assistant, Comparative Physiology, Brown University, Providence, RI.

Summer, 1975: Research Assistant, Mount Desert Island Biological Laboratory, Salsbury Cove, ME.

Fall, 1974, 1975: Teaching Assistant, Invertebrate Biology, Brown University, Providence, RI.

Research Interests:

My research interests concern how aquatic organisms interact with chemicals in their environment. To date most of my work has focussed on how benthic organisms influence and are influenced by hydrophobic organic contaminants. Specifically I have been addressing: 1) in vivo metabolism and trophic transfer of polycyclic aromatic hydrocarbons (PAH) and their metabolites; 2) biological and chemical factors controlling bioaccumulation and release of PAH and polychlorinated biphenyls (PCBs) from sediments; and 3) biochemical and physiological responses of marine organisms to pollutant exposure.

Publications:

*Former name

1990. McElroy, A.E., Cahill, J.M., Sisson, J.D., and Kleinow, K.M. Relative bioavailability and DNA adduct formation of benzo[a]pyrene and metabolites in the diet of the winter flounder. Comp. Biochem. Physiol. Vol C. In Press.

1990. McElroy, A.E. Aquatic toxicology: degradation of organic xenobiotics. Carbon Isotope Techniques in the Biological Sciences. D.C. Coleman, and B. Fry Eds. Academic Press, Inc. New York. Invited chapter. In Press.

1990. McElroy, A.E. Polycyclic aromatic hydrocarbon metabolism in the polychaete Nereis virens. Aquat. Toxicol. In press.

1990. McElroy, A.E., Farrington, J.W., and Teal, J.M. The influence of mode of exposure and the presence of a tubiculous polychaete on the fate of benz(a)anthracene in benthic microcosms. Environ. Sci. Technol. In Press.

1989. Kleinow, K.M. and McElroy, A.E. Comparative plasma protein binding of ormetoprim in Pseudopleuronectes americanus and other fish species. Mt. Desert Is. Biol. Lab. Bull. 29:135-136.

1989. McElroy, A.E. and Sisson, J.D. Trophic transfer of benzo(a)pyrene metabolites between benthic organisms. Mar. Environ. Res. 28:265-269.

1989. Kleinow, K.M., Cahill, J.M., and McElroy, A.E. Influence of biotransformation on the dietary bioavailability of environmental carcinogens to the winter flounder (Pseudopleuronectes americanus). Mt. Desert Is. Biol. Lab. Bull. 28:122-123.

1989. McElroy, A.E., Farrington, J.W., and Teal, J.M. Bioavailability of polynuclear aromatic hydrocarbons in the aquatic environment. In: Metabolism of Polynuclear Aromatic Hydrocarbons (PAHs) in the Environment U. Varanasi ed. Chap. 1, pp 1-19, CRC Press, Boca Raton, FL.

1988. McElroy, A.E. and Colarusso, P.D. Disposition of dietary benzo(a)pyrene in aquatic species: winter flounder (Pseudopleuronectes americanus) and green crab (Carcinus maenas). Mt. Desert Is. Biol. Lab. Bull. 27:45-47.

1987. McElroy, A.E., Tripp, B.W., Farrington, J.W., and Teal, J.M. Biogeochemistry of benz(a)anthracene at the sediment-water interface. Chemosphere 16:2429-2440.

1987. McElroy, A.E., and Means, J.C. Factors affecting the bioavailability of hexachlorobiophenyls to benthic organisms. Aquatic Toxicology and Hazard Assessment: 10th Volume. ASTM SPT 971, W.J. Adams, G.A. Chapman, and W.G. Landis, Eds., American Society for Testing and Materials, Philadelphia, pp. 149-158.

1985. McElroy, A.E. In vivo metabolism of benz(a)anthracene by the polychaete Nereis virens. Mar. Environ. Res. 17:133-136.

1985. McElroy, A.E. Physiological and biochemical effects of the polycyclic

aromatic hydrocarbon benz(a)anthracene on the deposit feeding polychaete Nereis virens. In: Eighteenth European Marine Biology Symposium, "Marine Biology of Polar Regions and Effects of Stress on Marine Organisms", J.S. Gray and M.E. Christiansen eds. John Wiley & Sons Ltd., Chichester. pp. 527-543.

1980. Critz*, A.M. and Crandall, E.D. pH equilibration in human erythrocyte suspensions. J. Memb. Biol. 54:81-88.

1979. Kim, K.F., Critz*, A.M., and Crandall, E.D. Transport of water and solutes across sheep visceral pleura. Ann. Rev. Resp. Dis. 120:883-892.

1979. Obaid, A.L., Critz*, A.M., and Crandall, E.D. Kinetics of bicarbonate-chloride exchange in dogfish erythrocytes. Am. J. Physiol: Reg. Integ. Compar. Physiol. 237:R132-138.

1978. Crandall, E.D., Critz*, A.M., Osher, A.S., Keljo, D.J., and Forster, R.E. Influence of pH on elastic deformability of the human erythrocyte membrane. Am. J. Physiol: Cell Physiol. 235:C269-278.

1975. Goldstein, L., Boyd, T., McElroy, A.E., Cha, C.J., and Forster, R.P. Free amino acids in tissues of the skate, Raja erinacea: Regulation of concentrations and transport during adaptation to a dilute sea water environment. Mt. Desert Island Biol. Lab. Bull. 15:42-45.

Reports:

1990. McElroy, A.E. Trophic transfer of PAH and metabolites. Final report prepared for the National Cancer Institute and the National Institute of Health.

1987. Capuzzo, J.M., McElroy, A.E. and Wallace, G., Fish and shellfish contamination in New England waters: an evaluation and review of available data on the distribution of chemical contaminants, The Coast Alliance, Washington, D.C.

1985. McElroy, A.E. Benz(a)anthracene in benthic marine environments: bio-availability, metabolism, and physiological effects on the polychaete Nereis virens. Ph.D. Thesis. Massachusetts Institute of Technology and the Woods Hole Oceanographic Institution, WHOI Tech. Rep. #WHOI-85-12. 233 pp.

1983. Farrington, J.W., Teal, J.M., Tripp, B.W., Livramento, J.B., and McElroy, A. Biogeochemistry of petroleum components at the sediment-water interface. Final report prepared for the Department of Energy, Bureau of Land Management.

Membership in Scientific Societies:

American Association for the Advancement of Science
American Association of Women in Science
American Chemical Society
American Society of Limnology and Oceanography
International Society for the Study of Xenobiotics
Northeastern Regional Society of Toxicology
Oceanic Society
Sigma Xi
Society of Environmental Toxicology and Chemistry

Professional Service:

Proposal Reviews for:

Hudson River Foundation
U.S. Environmental Protection Agency Bays Program
U.S. Food and Drug Administration Bound Residue Program
NOAA's Estuarine Research Reserve Program
Maryland Sea Grant

Manuscript Reviews for:

Marine Biology
Environmental Toxicology and Chemistry
J. Experimental Zoology

Book Review for:

Estuaries

COMMENTS ON THE DRAFT STATE/FEDERAL NATURAL RESOURCE DAMAGE ASSESSMENT PLAN
FOR THE EXXON VALDEZ OIL SPILL RELEASED IN AUGUST 1989, PREPARED SEPTEMBER,
1989

Anne McElroy
Assistant Professor
Environmental Sciences Program
University of Massachusetts-Boston

Scope of Review:

As stated in the Federal Register, public comments are being requested to ensure that:

- 1) important resource concerns are not omitted,
- 2) the methodologies receive independent review,
- 3) that appropriate methodologies are chosen for assessment, and
- 4) that the costs of the assessment are reasonable.

The Register notice also states that additional work will only be done if such study is required to support legal recovery of damages for harm to natural resources if such studies are justified scientifically and are consistent with the objective of restoration of the ecology of the effected area.

As noted in the Register, to expedite damage assessment, all studies were begun prior to publication of the Assessment Plan. Indeed, according to the plan all data collection should be finished by mid September 1989, prior to the receipt date for comments. Data analysis will continue until February 28, 1989. Comments at this point can only serve to criticize the Draft Plan and make suggestions for additional work in the future. Without any preliminary data, suggestions will be speculative. Considering the huge expenditure of funds (35 million) committed to this plan, independent review prior to commencement of study should have been obtained.

To purpose of the plan is to determine the extent and magnitude of injury to natural resources of Prince William Sound and the adjacent Gulf of Alaska in support of the development of a restoration plan to promote the long-term recovery of natural resources and to support damages to be claimed for the loss of services.

The plan focusses on assessing damage to each resource as an individual unit with emphasis placed on quantification of exposure to oil components, stock size, and in some cases reproductive fitness. Very little effort has been placed on assessing impact on system wide, or interactive processes. For example, how oiling may effect productivity in a given area which in tern may affect species composition and or food resources. Investigation of each resource species as an individual component is extremely costly and may miss subtle effects caused by interactions between species. If species A is severely affected, its former prey may become more abundant which may deplete the food resources of species B. In this case the two species don't interact directly, but effects on one can lead to significant affects on the other. In order to get a complete picture of damage to the ecosystem, a comprehensive damage assessment plan should focus on individual species as well as their interactions and functioning of the ecosystem as a whole.

The goals of the major sections of the plan are summarized below:

Part I: Injury Determination/Quantification:

Coastal Habitat: to measure spill-related changes in supra-, inter- and subtidal zones.

Air/Water: to determine the distribution and composition of petroleum hydrocarbons in water, sediments, and living resources (ie. determine the dose).

Fish/Shellfish: to quantify numbers and effects in major fisheries species.

Marine Mammals: quantify deaths, pathology and toxicology as well as number and distribution.

Terrestrial Mammals: quantify damage to coastal species which would consume contaminated aquatic species and run laboratory experiments to assess effects on mink as a model.

Migratory birds: quantify mortality, population census, reproductive success.

Technical Services: Provide the expertise and coordination to ensure accurate and verifiable measurements of hydrocarbons in all samples, histopathological measurements in tissue samples, and mapping of results obtained.

Part II: Development of the Restoration Plan and Implementation Plan:

Part III; Damage Determination: Economic Value of Resource Use

In the summary statement at the beginning of the plan, the following criteria were given for choice of the studies included into the plan:

- 1) likely validity of impact hypothesis,
- 2) soundness of scientific approach,
- 3) cost-effectiveness, and
- 4) coordination with related work.

From the information presented in the plan, it is very difficult to assess how well each study met these criteria. Considering the extent of the spill, it is likely that all of the resources under investigation would be affected in some way. Therefore the hypothesis of impact is a moot point. The individual studies only justified the importance of the specific resource under investigation, not the soundness of the scientific approach. In many cases an adequate description of what will actually be measured is absent. Details of sampling and analysis are also sparse, making analysis of the approach and particularly the cost-effectiveness impossible.

I have gone through the details of the Coastal Habitat, Air/Water,

Fish/Shellfish, and Technical Services portions of the proposal, have made specific comments on each, and prepared a brief overall summary statement.

GENERAL COMMENTS ON THE PORTIONS OF THE PLAN REVIEWED

In all cases it is impossible to tell if the budgets are appropriate because no details are given on sample size, number of man-hours needed, specific equipment, or anything else. The level of detail in the study plan, methods and analyses given and budgets presented would be completely unacceptable in any kind of peer-reviewed grant or contract application.

In most of these studies, it is also impossible to tell if the methods to be used are appropriate, again due to lack of information presented. The QA/QC plans given in Appendix A and B for chemical analysis and histopathology analysis indicate field sample collectors and analysts will all be properly trained and that appropriate blanks and standards will be run, and that periodic inspection and intercalibrations will be conducted. No similar description of QA/QC is given for the other measurements described in the plan. A large concern is the speed at which this study was undertaken, and the early date at which it is to be completed (2/28/90). Judging by the dates attached to the signatures on the QA/QC plans, much of this work was already in progress before this document, or standard analytical procedures were agreed upon.

Considering the magnitude of the task, it is impossible to believe that these analyses will be completed by March, 1990. If not, when will the information be available. No time-lines for interim reports or data coordination are given. This will be essential to damage assessment and making informed decision on what portions of this study, or addition work may need to be done in subsequent years. Almost no information is given about coordination, specifically when each of these studies will be done, if different portions will be coordinated temporally, who will be responsible for coordinating sampling, analysis, and data transfer. Formation of the Analytical Chemistry Group and the Histology Technical Group to oversee all QA/QC, and I hope coordinate data evaluation, is a step in the right direction. Similar coordination and oversight groups should be developed for the other types of data to be generated.

The studies as presented appear to be mostly descriptive, in some cases grossly over-sampling specific habitats or species. There is a tremendous amount of information available about the effects of oil on organisms (NRC, 1985). Information obtained from other similar spills should also be utilized (e.g. the Amoco Cadiz which grounded near a rocky coast in temperate waters). This work should not be repeated, rather the information from these studies should be utilized. Short-term efforts should be focused on clearly documenting the extent of oiling and effects on key resource species. This is adequately, and in some cases excessively covered in the plan. However, additional study should focus on measuring and predicting the reservoirs, movement and availability of oil which remains in the system, and in quantifying long-term effects on resource populations and community function and structure. Possibly monetary damages could be assessed in two phases, immediate and continuing.

Assessment of short-term effects on these species will generate data needed to calculate immediate monetary damages. In addition, provisions must be made to assess the economic values of long-term, more subtle damages. For example, persistent changes in benthic community structure or productivity might represent a significant enough change in food resources to cease to support a given commercial species in a given area. If the coupling between community productivity and decomposition is significantly disturbed, anoxic conditions could develop which would render the area unsuitable for many species. Determination of the movement, persistence and availability of oil in the benthos is essential to the prediction of long-term effects. Information of this type will be more useful to understand the fates and effects of oil in this system and predict future fates and effects of the oil from the Exxon Valdez as well as other spills which will undoubtedly occur in the area.

Ecosystem function parameters have been largely left out of this study. Community structure will be evaluated in the Coastal Habitat Study, and in some of the fish studies the age/size distribution of individual species will be documented, but little effort has been made to assess the functioning of the ecosystem. Particularly in the near-shore estuarine habitats primary and secondary productivity as well as system respiration and organic matter decomposition should be assessed in selected areas. In the Amoco Cadiz petroleum degradation by microbes was significant, and researchers felt that the relative decrease in abundance of hydrocarbon metabolizing bacteria with time was a good indicator of recovery. Investigation of oil degrading microbes is absent from the plan of study. Similarly, structural and functional analysis of micro and macro plant and algal communities appears to be left out of the study plan. Coastal and submerged plants and algae should be included in the study, as these species can be important habitat in themselves and form the basis of the food chain.

Another aspect that could be better addressed concerns the fate of persistent oil components. Analysis of hydrocarbons in the sediment and pore waters should be documented for years. Twenty years after the oil spill near West Falmouth in Buzzards Bay, MA, oil was found in marsh sediments (John Farrington, pers. comm.). In the Amoco Cadiz spill oil migrated down through beach sands and cobble to the beach/water table interface. Movement through subsurface waters has not been addressed here. Oil buried in beach sediments may be quite persistent and would be re-released during winter storm events. The magnitude of this annual re-infusion of relatively unweathered oil should be assessed. As mentioned above, the air-sea interface also seems to have been neglected.

Study of the Amoco Cadiz oil spill for 20 months demonstrated the persistence of oil in nearshore sediments, and the persistence of alterations in benthic community and coastal marsh habitats. Indeed these later two parameters should have little evidence of recovery during this period. Considering the colder waters of the arctic, recovery may be much slower. Clearly portions of these studies must be continued for at least several years, with some analyses continued even longer. The damage assessment plan presented, if conducted properly, should be able to support calculation of the immediate monetary damages associated with the Exxon Valdez spill, but some provisions must be made for careful study to assess long-term damages.

COASTAL HABITAT INJURY ASSESSMENT

Overall goals are to determine:

- 1) abundance of intertidal and subtidal organisms used as food by resource species,
- 2) contamination of these food resources by oil,
- 3) quantification of injury over the entire 600 mile affected area, and
- 4) recovery of various habitat types after clean-up treatments.

Although not specifically stated in goals, attempts will also be made to assess potential impacts of clean-up efforts on the above. This portion is mostly aimed at looking at food chain effects, both for lack to food items and food chain transfer of oil.

Study 1: Comprehensive Assessment of Injury to Coastal Habitats

Description:

Phase 1: categorize coastline into 5 representative coastal habitat types, with representatives of each with low, med, and high oiling. Selection of sites will be "statistically valid" and ground-truthed through a reconnaissance survey. Study design will allow extrapolation to entire 600 mile affected area. Initial selection will be based on existing coastal morphology scheme and shoreline impact survey maps prepared by Technical Services Study 3#. Ground-truthing will establish approx. 150 study sites.

Phase 2: assess changes in critical trophic levels and interactions, and assess changes in terms of quantity (biomass, productivity) and quality (vigor and utility to other trophic levels) and composition (community composition, diversity and standing crop of key species).

These data will be used to:

- 1) assess injury to beach sediment and soils,
- 2) establish response of these parameters to oiling and clean-up,
- 3) estimate rate of recovery and potential for restoration, and
- 4) provide linkages to other studies.

Methods:

Phase 1: using GIS pick 3 rep. sites, for each of 45 categories (3 regions x 5 habitat types x 3 degrees of oiling) plus extras = 150. Visit to check and photograph sites, establish boundaries, and describe sites.

Phase 2: study 4 vertical transects through all 3 tidal zones at each site. Chemical analysis of sediment will include hydrocarbon composition as well as determination of volatile organic compounds. The percent of sediment covered with oil, depth of oiled sediment, salinity and soil/sediment texture will also be determined. Biological analyses will include community composition, cover, and standing stock for each trophic level measured. Dominant producing and prey organisms will be designated as key species and estimates of quantity and quality made to assess their contribution to energy flow in the habitat. Amphipod LC50 bioassays will be done to assess sediment toxicity. Samples of

key species will be analyzed for hydrocarbon content. Additional species may be investigated to support other projects. It appears that some of these parameters will be followed over time, as changes over time are mentioned.

Comments:

As described, this study could provide extremely valuable information as to the effect of oil on benthic community structure, the extent of contamination by various oil components in the coastal zone of the entire effected area, and some estimate of how the oiling of benthic communities may affect species feeding on these organisms either due to lack to food (due to death of prey organisms) or food chain transfer of hydrocarbon contaminants (based on the hydrocarbon content in key prey items observed).

It is impossible to tell from the information given how well these objectives will be realized. Measurements will be made along 4 transects at each of 150 sites. No information is given about how many of each type of measurement will be made along these transects, or what methods will be used. No mention of the time scale for sampling is given. Will some of these be visited just post spill, and others only at the end of the summer? The only way to really assess damage to these habitats and predict recovery or plan recovery strategies would be to revisit a representative number of sites on an annual basis for at least several years, with less frequent sampling at multi-year intervals for a least a decade. On the recent 20 year anniversary of the West Falmouth oil spill in MA signs of oil were still present in subsurface sediments.

Although alluded to, no specifics are given on how the success of the beach steam cleaning operations will be assessed. Paired measurements between beaches that were manually cleaned and those which were left alone could determine whether or not these efforts had any long-term effect on the removal of oil and toxicity to organisms. It is quite likely, in my opinion, that steam cleaning may have done more harm than good. This would be a perfect opportunity to assess this before any more "steaming" is done next year.

In principle this study, if adequately carried out and scaled down to a manageable number of sites, would be a good start to assess coastal habitat damage. In addition to the chemical analysis of sediment and biota, species abundance and composition analysis, and sediment toxicity bioassays proposed, plants and algae should be included in the abundance censuses and be analyzed for hydrocarbon content. As the basis of the food web and important habitats in themselves, the effects of oil on these species should definitely be quantified.

It would be helpful to get an estimate of community function in coastal habitats. Primary and secondary productivity should be assessed in the intertidal and nearshore water column and benthos. This will mean analysis of phytoplankton, submerged vegetation and macroalgae as well as determination of organic carbon and hydrocarbon turnover by microbes. Benthic community respiration rates might also yield useful relative information about impacted and control habitat function.

AIR/WATER RESOURCES INJURY ASSESSMENT

WATER RESOURCES

Overall goals are to:

- 1) map the extent and persistence of floating oil (slick, mouse, tar balls) over the study area, and verify that this material came from the Exxon Valdez,
- 2) quantify the geographic and temporal distribution of dissolved and particulate oil in the water column, and
- 3) document levels of petroleum hydrocarbons in subtidal and deep water sediments and biota

Study #1: Geographical Extent and Temporal Persistence of Floating Oil from the Exxon Valdez

Summary: This is primarily a mapping project which will utilize exiting aerial photographs following the progression of the spill, and apply mathematical models to predict coastal impact, and amount of floating oil. Satellite imagery will also be employed. Samples of floating oil will be analyzed for hydrocarbon content and distribution to "fingerprint" the oil in the hope of assigning it to that carried by the Exxon Valdez.

Comments: Use of aerial and satellite images over time should be very useful to map surface oil movement, and document all shore areas impacted. Fingerprinting the oil (particularly before had weathered significantly should help to implicate the Exxon Valdez).

Study #2: Petroleum Hydrocarbon-Induced Injury to Subtidal Marine Sediment Resources

Summary: This study will analyze total petroleum hydrocarbons (TPH) by gas chromatography (GC) and polycyclic aromatic hydrocarbons (PNA) by GC-mass spectrometry with selective ion monitoring (SIM) in subtidal and deep sediments as well as sediment grain size and organic carbon content in offshore areas known or expected to have been oiled and nearshore sites in coordination with the intertidal sampling sites established by the Coastal Habitat study. Site selection will be based on areas likely to have received oil, sensitive areas (hatcheries and estuaries), and areas near to oiled coastal habitats. Sampling will be done in Prince William Sound, Kenai Fjords, the Kodiak Island area and additional locations extending to the Aleutian Chain. In Prince William Sound a manned submersible will be used to visually check areas for the presence of oil. Hydrocarbon analysis will be done on the top 2 cm of the sediment. If preliminary screening indicates the absence of oil, GC-MS will be omitted.

Comments: This study should give an accurate picture of how much and what components of the oil are contaminating surface sediments in deep and nearshore areas. The analytical methods should be appropriate, but again, no indication is given of exactly how many samples will be analyzed. If these data are to support the coastal habitat study, the same sampling and chemical methods must be used. Since hydrocarbon concentrations in the sediments of some of these areas should be high, it would be very useful to also measure

these compounds in pore waters, as this will allow better estimates of what may be available to biota, and what may be easily remobilized from the sediment. Another informative exercise would be to bring representative samples of these sediments into the laboratory. Relatively simple microcosm experiments would generate data on the actual flux of hydrocarbons out of the sediment and its bioavailability to marine organisms. This information would greatly assist modeling the long-term fate of these compounds in subtidal sediments.

Study #3: Geographic and Temporal Distribution of Dissolved and Particulate Petroleum Hydrocarbons in the Water Column

Summary: This project will analyze volatile aromatic hydrocarbons, TPH by GC and PNA by SIM in water samples already collected at 1,3,5, and 9 depths by a number of groups at "numerous" stations in Prince William Sound, Kenai Fjords and Katmai National Parks. In addition, mussel cages will be deployed at 12 sites in the sound and 18 sites outside the sound to serve as sentinels of water column concentrations of these compounds. Tissue burdens of petroleum compounds will be analyzed in mussels. Additional water samples (including bottom water) will be collected and analyzed as described above at a selected number of sites.

Comments: These parameters need to be measured in water column samples. However, no mention is given in the methods of how or what size of water samples were collected. Due to the low concentrations which would be found in most samples except those taken in the immediate vicinity of the slick, these measurements are very difficult. In order to get really accurate numbers (ie. detectable levels), extremely large volumes (up to many gallons) of water must be collected using clean techniques. In the summary, they speak of determining dissolved and particulate concentrations, yet no mention of this is given in the methods. Due to the high partition coefficients of some of these compounds, it is very important to analyze dissolved and particulate fractions separately. Unless it was clearly specified that all groups had collected water samples in exactly the same way, I would also worry about results being comparable.

Another portion of the water column which seems to have been ignored is the sea surface microlayer. This interface is well known to be a location for locally high concentrations of hydrocarbons. It is also the home of floating eggs and larvae, and a location of photochemical reactions which are likely to alter the chemistry and toxicity of petroleum compounds in this layer.

Use of caged mussels as sentinel organisms is a good idea, but again, evaluation of this portion of the project is hampered by lack of information. How long will the cages be deployed, and at what depths? Hydrocarbon concentrations in mussel tissues tend to be lowest in the late summer just after spawning. Will the same compounds be quantified and mussel tissue and water column samples? How many replicate mussels per cage, and cages per area? There is a large amount of data in the literature on accumulation and depuration of hydrocarbons from caged mussels. Placing caged mussels at so many stations may be unnecessary.

Project #4: Injury to Deep Water (>20 meters) Benthic Infaunal Resources from Petroleum Hydrocarbons

Summary: This study plans to collect benthic samples by Van Veen grab for analysis of community structure at sites (and at the same time) of deep water sediment sampling. Samples will be archived waiting results of sediment analyses, and some undetermined subset would eventually be analyzed for infaunal species composition, abundance, and biomass. Sediments will also be analyzed using "microbial techniques."

Comments: This study stands out for the lack of information presented. No specifics are given as to the number of grabs per station, nor the level of enumeration to be achieved. The statement about "microbial techniques" is meaningless by itself. Since no information is given about the frequency of sampling it is impossible to say how the results of this study would determine the persistence of injury to benthic resources studied. One of the justifications for this study is that these species serve as food sources to resource species, and that this study will quantify the extent of contamination of these food resources. Monitoring species composition and biomass will determine if these dietary resources have been destroyed, but unless samples of these organisms are evaluated for hydrocarbon content, it will not be possible to determine the potential for food chain transfer of hydrocarbons from benthic infauna to marine resources.

Once water column concentrations of oil have dissipated. The sediments and infaunal organisms will serve as the long-term source of hydrocarbons to the water column and species resident or migrating through the entire area. Investigation of these processes should not be omitted.

Study #5: Injury to the Air Resource from the Release of Oil-Generated Volatile Organic Compounds

Summary: This study will measure the volatile organic compounds (VOC) concentrations coming off fresh and weathered oil, and model these data into existing air dispersion models and wind vector data to predict what concentrations of VOC would have been over time and space and model toxic exposure probabilities to organisms encountering contaminated air.

Comments: I don't know much about this area, but if the models are accurate they could predict the extent of toxic concentrations in the atmosphere which may have caused injury to any birds and marine mammals which were there at the time. The need for this study to assess resource damage does not seem compelling to me. This study would have more utility in predicting atmospheric toxic exposures from future events.

Overall Comments Coastal Habitat Assessment:

Despite the lack of detail in the study descriptions, components of all of these studies are essential to document the extent of oil in the water column and benthos (sediment and organisms) and any immediate changes in populations observed. I would strongly suggest that the number of sites visited could be reduced in favor of more detailed analyses at some of the sites. Continuation of sampling in subsequent years will be essential to determine the long-term impacts, plan remediation strategies, and document recovery. In my opinion, the additional measurements and experiments suggested would help to better

document effects of oil on the habitats and provide information that could be used to model and predict the fate and effects of oil in these areas.

FISH/SHELLFISH INJURY ASSESSMENT

Overall goals:

Each species was evaluated as a separate resource with species selection based on value as an indicator organism or role in major fisheries. For each resource evaluated, abundance and mortality of larvae, juveniles, and adults in oiled and non-oiled areas was assessed. Through the use of the Technical Services Program, tissue concentrations of petroleum hydrocarbons in resource species in some of these studies will also be evaluated.

These studies will be reviewed in groups containing all studies related to a particular species, or studies related to similar species. Each study in the group will be briefly described, followed by comments on the entire group.

Study #1: Injury to Salmon Spawning Areas in Prince William Sound

This portion will visually inspect all known spawning streams in the Sound directly affected by oil, photograph each area and document the extent of oiling including penetration of oil into the substrate. Approximately 100 streams will be surveyed by counting numbers of live and dead salmon by species, location in river, stage of spawning, evidence of prespawning mortality, tide stage and visibility.

Study #2: Injury to Salmon Eggs and Preemergent Fry in Prince William Sound

Forty-six of the streams studied in #1 will be selected for preemergent fry studies. Historical data is available on approximately half of these streams. In each stream 4 zones upstream will be samples for numbers of live and dead eggs and live and dead preemergent fry by species. This will be done 2 times in April and once in autumn.

Study #3: Salmon Coded-Wire Tag Studies in Prince William Sound

Salmon fry or smolt will be tagged prior to release from five hatcheries in the Sound. Two of which received heavy oiling. Marine abundance, survival and harvest of tagged fish will be assessed, as well as the extent of straying of returning salmon into outlying areas.

Study #4: Early Marine Salmon Injury Assessment in Prince William Sound

This study will evaluate some of the tagged fish from Study #3 collected at various points as they migrate through oiled areas for tissue hydrocarbon content and histopathology. Abundance, growth, feeding habits, and behavior of juvenile salmon from both oiled and un-oiled areas will also be assessed. Any fish kills observed will be documented. Pairwise comparison between oiled and control areas will be made for all parameters measured.

Study #7: Injury to Pink/Chum Salmon Spawning Areas Outside Prince William Sound

Numbers and locations and species of live and dead spawning salmon will be determined in at least 4 locations in 109 streams outside Prince William Sound where historical information on fry density is available.

Study #8: Injury to Pink and Chum Salmon Egg and Preemergent Fry in Areas Outside Prince William Sound

Preemergent fry and egg sampling will be done in the fall and spring (Spring, 1990?). Counts of live and dead eggs and fry by species will be done at each of 10 digs at 4 locations in each stream studied. All 109 streams will be assessed for preemergent fry and approximately 80 streams examined for eggs.

Study #9: Early Marine Salmon Injury Assessment for the Kenai Peninsula and Kodiak/Shelikof Strait

This study will repeat many of the measurements made in Study 4 on juvenile salmon in locations more distant from the site of the oil spill, but which were impacted by the slick at a later date.

Comments Studies #1-4:

Together these studies will generate a picture of the how badly the salmon spawning habitat was affected by oil, the impact on eggs and fry, and the success and relative health of this year's crop of released fry and smolt as well as their exposure to petroleum hydrocarbons. Portions of the study should be continued to document re-capture of tagged fish returning from the ocean in subsequent years to quantify any long-term effects of the spill on these species. Again, the number of sites to be studied seems excessive. Certainly a good picture of the effect of oil on spawning salmon and their eggs and fry could be documented with many fewer sites.

Comments Studies #7-9:

These studies repeat in lesser detail some of the work done on salmon species within Prince William Sound. As these fisheries probably were exposed to oil of different concentration and composition from that experienced in the Sound, their study seems justified in the complete assessment of the effects of the spill to fisheries in the area. Once again, the number of sites seems excessive, and to really document effects on these fisheries, some areas should be revisited in subsequent years.

Study #5: Injury to Dolly Varden Char and Cutthroat Trout in Prince William Sound

This study will investigate the effects of the spill on two recreational fisheries species with fairly narrow habitat ranges utilizing streams and lakes which communicate with the Sound. These species migrate annually in and out of overwintering lakes down streams into the estuary to feed, and then migrate back again. Weirs will be placed on four streams to catch and tag individuals from the spring emigration. All fish caught will be counted. Weirs will be placed on two additional oiled and un-oiled rivers to count all

smolting, overwintering and spawning Dolly Varden char and cutthroat trout. Two of these streams have oiled estuaries, two do not. Survival of the tagged fish will be assessed through the capture of tagged fish in the recreational fishery described in Study #6 and recapture in this study (no date given).

Study #10: Injury to Dolly Varden Char and Sockeye Salmon in the Lower Kenai Peninsula

This study basically expands the work done on Dolly Varden char in the Sound as part of Study #5 to four areas in the Lower Kenai Peninsula (2 oiled and 2 control). Sockeye salmon are also found at two of these sites.

Comments: Compared to the salmon studies, this one seems much more manageable. Pairwise comparisons will be made between replicate oiled and un-oiled stream/estuary systems. Although the fate of some of the tagged fish will be assessed as part of the Sport Fishery Harvest Effort (Study #6), it would also make sense to place weirs on the river to document the number of fish (both tagged and untagged) returning to the lakes to overwinter. These fish will have spent the summer feeding in areas impacted by oil, and therefore should best demonstrate any effects. Samples of fish on both the downstream and upstream migration would be taken for hydrocarbon analysis and histopathology. Measurements should also be taken of length and weight to document any sublethal effects of oil on growth during the summer feeding period.

Study #6: Prince William Sound and Gulf of Alaska Sport Fishery Harvest and Effort

This study will survey the sport fishery harvest of salmon, rockfish, halibut, cutthroat trout, and Dolly Varden char by interviewing anglers from 7 locations from May 1 through September 15. Information on the sport catch from anglers using sea planes will be obtained through logbooks maintained by fishing guides. Some fish caught will be examined for (visual I presume) signs of oil contamination. Although not stated, I would assume the study would document the location of capture of tagged fish.

Comments: By comparison with historical data on the sport fishery catch, this information should determine whether or not in the first season post spill sport fisheries have been affected. This project should generate information directly applicable to the impact of the spill on sport fisheries, should relatively cheaply gather information on fish abundance independent to that collected directly as part of this study, and by involving the sport fishing populace should generate public enthusiasm for the restoration efforts.

Study #11: Injury to Prince William Sound Herring

Spawn deposition surveys will be conducted in up to 160 randomly selected transects through areas of herring spawn by divers and non-size selective harvesting of spawning adults. This information will be used to estimate herring abundance, egg densities, spawning bed dimensions and fecundity. The ratio of live to dead herring eggs in oiled and non-oiled areas will be assessed every four days until hatching. Eggs will be collected for hydrocarbon analysis. 180 batches of spawn collected from oiled and non-oiled

areas will be reared in the laboratory where survival of eggs, larvae, size, weight and presence of visible abnormalities will be assessed. Data will be compared with historical information.

Study #12: Injury Assessment to Kodiak and Alaska Peninsula Herring

This study appears to repeat some of the work done in Study #12 in two other areas. Laboratory exposures will be conducted to experimentally determine the lethal and sublethal effects of oil on herring eggs, larvae and adults. Data collected from the field will be compared with historical information.

Comments on Studies #11 & 12: Studies #11 & 12 are aimed primarily at determining the effect of oil on fecundity and survival of herring in and outside of the Sound. Study #11 appears to be a comprehensive approach to assessing abundance and reproductive success in this species. 160 transects seems excessive, but no information is given on the size of the area to be surveyed. Study #12 is extremely vague about what will actually be done, but it appears that different kinds of laboratory investigations will be conducted in these two studies. Better integration is clearly warranted. The effects of water soluble fractions of oil on fish larvae have been well studied by others. Repeating these as part of this study does not seem appropriate.

Study #17: Injury to Prince William Sound Rockfish

This study will assess rockfish populations at 10 reefs in the Sound (6 oiled, 4 non-oiled). Fish will be collected with long-line gear in May and again in August and tissues from fish collected for hydrocarbon analysis. Live fish collected with hook and line. Dead fish on the surface will also be collected. Dead fish will be necropsied, and live fish sampled for hydrocarbon content. The number and distribution of rockfish collected will be compared with historical surveys.

Study #23: Injury to Rockfish, Halibut, and Lingcod Along the Lower Kenai Peninsula

This study will essentially repeat that described in study #17 at several locations in oiled and non-oiled water in and near Resurrection Bay. The species list investigated will be expanded to include halibut and lingcod. Sites selection will be based on areas known to have supported sport fisheries in these species in 1988.

Comments Studies #17 & 23: These fish occupy a habitat not previously well studied, so their examination is justified. Although not specified, I would assume numbers caught during a standardized fishing effort as well as size and size will be quantified. Fish should also be examined for parasites, oiled stomach contents, and general condition. Efforts should be made to determine the age of the fish caught (otolith analysis). This will determine what proportion of the population is being counted and demonstrate if any age-dependant effects are being observed. Organoleptic testing (taste tests for tainting) for hydrocarbons is proposed in this study. This makes sense as these fish are consumed by humans, and oily taste would lessen their value. Why has organoleptic testing been omitted from the other studies? Regardless, standard hydrocarbon analysis should also be done on these fish. Hydrocarbon

analysis methods used on tissues taken in any of these studies should be comparable.

Study #13: Injury to Prince William Sound Clams

This study will assess populations of clams (cockle, littleneck, clam, and butter clam) at three sites each which received no, moderate and heavy oil contamination. At each site three transects will be set up and clams sampled at seven tidal heights along each transect. Live and recently dead specimens will be collected, identified and counted. At each site an additional transect will be set up to determine numbers of dead shells deposited on the shore. For each species three samples will be collected per transect for hydrocarbon analysis and histopathology. Growth and age estimations will be made on 100 littlenecks collected from each transect at each site. One of the heavily oiled sites will be monitored biweekly from May through September. If sudden changes in the proportion of dead clams appear, all other sites will be revisited at that time. If this does not occur, all sites will be revisited once during the fall. The repeat sampling will be used to monitor growth and relative abundance in young-of-the-year clams.

Study #21: Injury to Clams Outside Prince William Sound

This study repeats the analyses in Study #13 at ten locations in Resurrection Bay, lower Cook Inlet, Kodiak Island/Shelikof Strait, and the Alaska Peninsula. At each location an oiled and a nearby non-oiled beach will be selected. In addition to the species enumerated above, the razor clam will also be investigated. Five of the locations (which ones is not clear) will be revisited to document changes in growth rates and recruitment between oiled and non-oiled beaches.

Study #16: Prince William Sound Oysters

Mortality, growth, condition and hydrocarbon content will be followed monthly from April-September in marked individuals from three oyster farms in the Sound. One was in the spill, one near it, and I presume one was relatively unaffected. Parameters measured will be evaluated with respect to degree of oiling received and historical data from pre-spill years.

Study #25: Injury to Scallop Resources in Kodiak Waters

Mortality, growth, and condition factors of wild pink, spiny, and weathervane scallops at one oiled and one non-oiled site in the Kodiak area will be monitored monthly. Tissue samples for hydrocarbon analysis will be collected every over month following the spill through October.

Comments on Studies #13,21,16,25: The clam studies (#13 & 21) appear to be well designed and should unambiguously document the short-term effects of oil on mortality and growth in 4 different bivalve populations. However, it is not clear from the project description how growth will be documented, nor how examination of growth parameters and the abundance of bivalves two to four years old will give information about temporal changes in growth rates and recruitment between oiled and non-oiled beaches. Condition (although not stated I assume they are referring to a body condition index(volume of soft tissue to total volume of organism)) should also be measured on a subset of