

**ALASKA LEGISLATURE**

**1622**

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# Gold Creek . . .

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Juneau's drinking water supply," Hubbard said.

Mine wastewater would come into Gold Creek at two points.

Water from Deep North would be filtered and tested before being released just below the steel bridge on Gold Creek, Hubbard said. The discharge pipe is downstream from wells that serve as Juneau's primary source of drinking water.

The other discharge is of rain water that flows through the historic mine, but never touches mining activity, Hubbard said. Since 1939, that discharge has come out the Gold Creek drainage tunnel, upstream from the city's water wells and about 300 feet above a bridge near the former Gold Creek Salmon Bake.

Some people question whether mine water has no way to reach drinking-water wells.

"In the ideal world, that's how it works. In reality, I think there's a far greater threat," said Laurie Ferguson Craig of Alaskans for Juneau, a group of mine critics.

Craig said she's concerned about a possible break in a pipe or an emergency overflow.

After a 1994 fish kill in Gold Creek, Echo Bay put in an elaborate piping system so water from mine activities was diverted to Deep North caverns, said Chris Kennedy from Anchorage. Kennedy investigated that fish kill in the state attorney general's office. The state believed the kill was due to low water levels in the creek.

The piping system has built-in safeguards and as long as Echo Bay and government officials closely monitor it, wastewater wouldn't be able to get into the city's water supply, said Marie Sansone, an assistant attorney

general, who handles A-J mine issues.

"If any of those were to become lax, there could be a problem," Sansone said.

Pivotal to the whole issue is a national debate about whether federal standards for arsenic and some other substances are too strict.

Alaska is one of several states asking to use its own water-quality standards rather than the federal ones, which state officials believe are too stringent — especially since maximum levels of arsenic are below detection.

Natural levels of arsenic in many Alaska waterways are well above the federal standard, Hubbard said.

"Nearly half of Alaska's drinking water supply would be out of compliance," he said.

The proposed Deep North discharge has arsenic levels that average 1.7 parts per billion, which exceeds the federal standard of 0.18 parts per billion, but is well below the state standard of 50 parts per billion, according to Hubbard.

The arsenic in the mine discharge comes from natural levels

in water running through the mine, not from mine activity, Echo Bay spokesman David Stone said.

While the state is trying to appeal federal regulations, that process could take another year, he said.

That's a problem because in the meantime, the caverns of Deep North continue to fill up with rain water from other parts of the mine.

Deep North is expected to start overflowing by this time next year, unless Echo Bay begins pumping it

out this spring, Hubbard said.

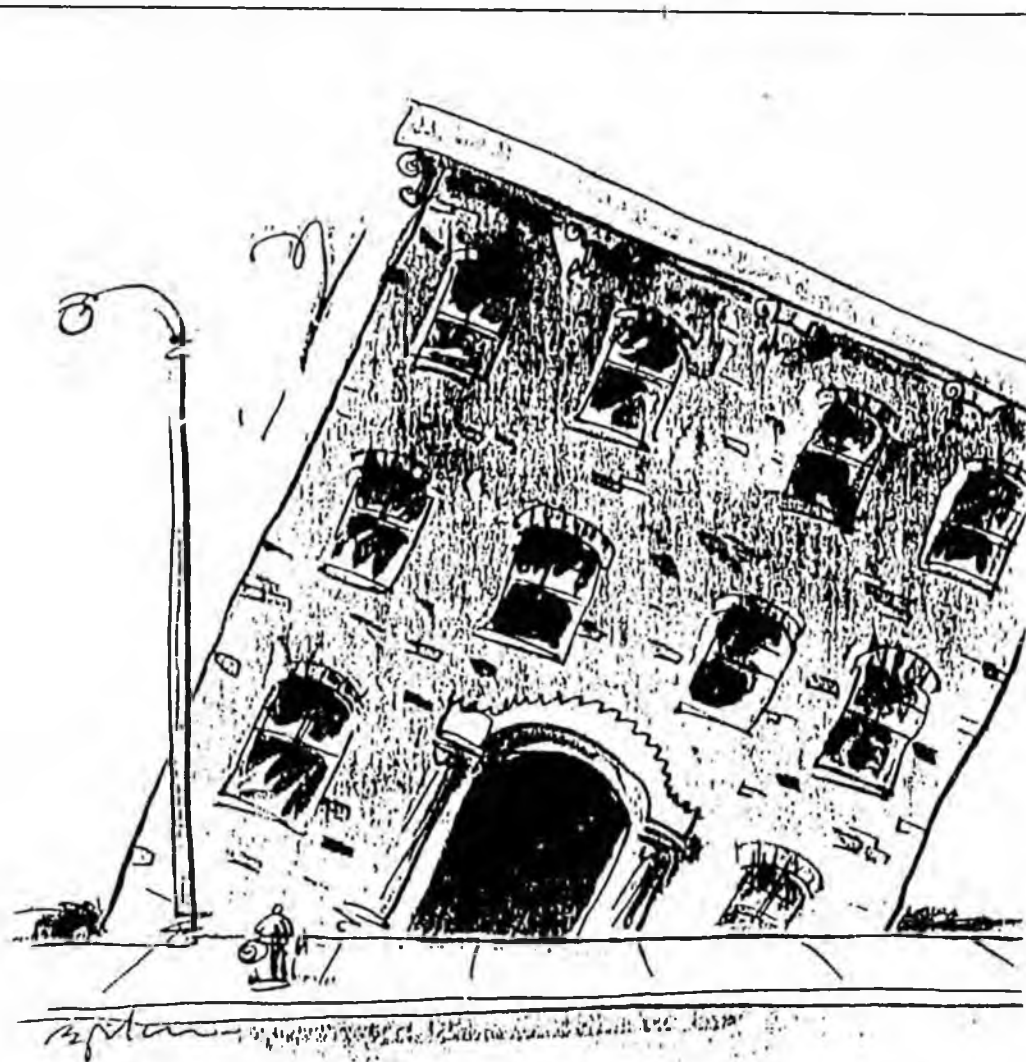
That could cause two problems: Echo Bay does not want the mine to be releasing an unpermitted discharge, Stone said.

Also, an overflow would mean there would be less control over the water, which could pick up mine sediments, Hubbard said.

To prevent that, the state is leaning toward approving two mixing zones in Gold Creek, areas where the mine discharge would exceed water-quality standards, Hubbard said.

One mixing zone would be the Gold Creek drainage tunnel about 100 feet downstream other one would be about 50 long downstream from the bridge near the Alaska Electric Light & Power Co. flume. But Hubbard said the actual areas with discharges would exceed standards would usually be smaller.

Craig, of Alaskans for Juneau, said she doesn't believe water-quality standards should be lowered and thinks reviews of the



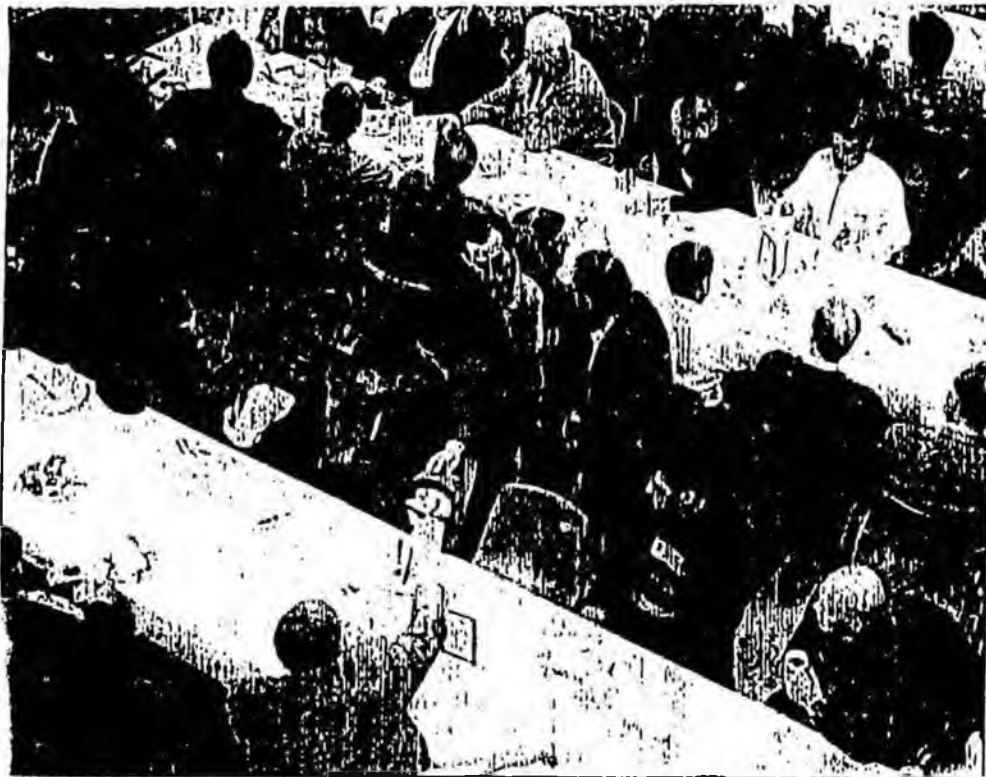
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**PASSING THE HAT**—Dick Swainback passes the hat during a luncheon at the Alaska Miners Association conference Friday afternoon. The association was trying to raise funds for legal fees to fight proposed Environmental Protection Agency rules concerning water quality. The group raised \$6,101 within minutes.

# Miners unite to fight EPA

## Funds to help battle new placer proposals

By HEATHER ROBERTSON  
Staff Writer

Bernie Karl meant business.

He dipped into his wallet, produced two crisply folded \$100 bills, and waved them in the air, ceremoniously depositing them in a black hat.

Passing the hat through a congregation of miners assembled for a luncheon presentation during the Alaska Miners Association conference on Friday, Karl urged miners to bolster his donation with their own reserves to divert a current of legislation facing the industry.

An agreement between the federal Environmental Protection Agency and the Sierra Club Legal Defense Fund regarding regulation of placer mining in Alaska has miners up in arms. The agreement concerns the general permits issued annually for placer operations in Alaska, embroiling miners in a tightly knotted legal snare.

The association is taking a



Nora Gruner/News Miner

**MINING SPEAKER**—Marguerite Reiss discusses the history of mining in Alaska during a luncheon at the Alaska Mining Conference Friday afternoon at Alaskaland.

stand against the EPA's proposed changes, claiming that the newly formulated regulations within the permit are too stiff, citing "no scientific basis" in changes regarding water quality regulations.

The Sierra Club sued EPA, arguing that the current allowable

arsenic levels do not guarantee protection from metals in placer mining discharge water. In turn, EPA acquiesced in an out-of-court settlement, rewriting permit stipulations.

At Tuesday's public hearing, the Alaska Miners Association MINERS, Page D-2

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ciation was not hopeful that a legal means was available to stop EPA from taking final action on the placer mining draft permit," said Karl Hanneman, Fairbanks branch director of the association.

"Yet there is a legal process available that has to be utilized by next Friday. We can request that EPA grant a non-advocatory hearing. We have a legal means of delaying imposition of the EPA settlement," he said.

Starting at the luncheon that \$10,000 in legal fees needed to be raised, Hanneman urged miners to donate money, pointing out that the miners association

would not proceed "til money was in the hat."

By passing the hat, the administrative appeal process could begin, said Hanneman. Urging miners to look in the mirror and critically assess whether the placer permit regulations affects them, he said for those who feel the impact, donating was an alternative to "beating their chests" over current inflammatory issues.

Following Karl's lead, other miners dipped into their pockets, raising \$6,101 within minutes.

"The willingness to donate money on a short notice was an indication that it's a serious matter that affects a lot of

people. It points to the real issue, not just a superficial issue," said James Johnson, vice president of Northern Testing Laboratories, a water testing lab.

Key speaker at the noontime luncheon, Marguerite Reiss, commented on the miners' generous donations, proclaiming that "they were holding a fortress against invasion."

Reiss, who has a master's degree in library science, spoke on the role Alaska women played in mining.

Dredging back in history, Reiss recounted tales of women miners enmeshed in mining partnerships. Reiss questioned women's levels of endurance,

wondering "how many women had enough of those partnerships."

Declaring that there are priceless stories in mining that need to be told now, Reiss recounted a series of tales that bore obvious points of contention.

"There are barbs in these stories. When women went through these situations, I am sure it wasn't funny to them," she said.

Reiss spoke of the resourcefulness of Alaska women in mining.

"Women kept accounts of their stories that are used now for historical purposes. Also by writing their stories down, it gave them courage to go on," said Reiss.

### Obituaries

like a grandmother to me. Helen really came into my life 15 years ago after being abused and losing both boys.

Cheryl Welsh of Des Moines and Guyon Welsh of Pasco; and numerous great-great nieces and

married July 8, 1995; father, Gene Murray; mother, Marilyn Murray; and maternal grandmother, Alice Gorrell, both for-



# Daily News - Miner

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## Mine rules better but still flawed

The latest agreement between placer miners, government agencies and environmental groups brings water quality regulations, if not down to Earth, then at least into a low-level orbit.

This agreement was about a year in the making. It grew from a proposed out-of-court settlement between the federal Environmental Protection Agency and environmental groups. That settlement, announced in February of 1996, was so foul that Alaska's Department of Environmental Conservation publicly challenged the EPA.

The resulting compromise, discussed at a workshop Tuesday in Fairbanks, brought some reason to the rules, but left plenty to criticize. Environmental groups, represented primarily by the Sierra Club Legal Defense Fund, have agreed not to challenge the EPA's general permits for placer mining if the state finds those permits acceptable. That removes some uncertainty for miners. The environmental groups also agreed to drop a demand that the EPA enforce stream discharge limits for most metals until EPA finishes a 2-year study of whether such limits are even needed in Alaska. That makes sense as well.

But the most bizarre aspect of the EPA's permit—the arsenic standard—still remains. The standard says no one may dump water into "freshwater" rivers and lakes if the dumped water contains more than .18 parts per billion of arsenic. This number has little basis in science; it was developed through a highly questionable extrapolation process. In fact, the EPA, Alaska's DEC, and other state agencies in the United States allow "drinking water" from a well to contain up to 50 ppb of arsenic.

The EPA did make one concession with regard to arsenic rules. The original general permits did not allow consideration of natural arsenic levels in the water that placer miners use. If it came out of a placer mine, the standard applied. In the compromise, background levels can be considered. Also, since arsenic can't be reliably detected below 3 ppb, the EPA won't go after any miners unless the arsenic added to discharge water exceeds that figure.

Unfortunately, the EPA's general permits won't be available to anyone operating in federal conservation areas and on the "wild" parts of wild and scenic rivers. Miners with legitimate claims in these areas need individual permits requiring more expensive data and detail.

That's overkill. Placer miners today do not muck up the Interior's clearwater streams like they did during the early 1980s. Strict regulations have forced virtually all operations to recycle 100 percent of their water. Only during heavy rainfall do their muddy ponds overflow. So, for all intents and purposes, such intermittent overflows are the only discharge to which these regulations will apply. And if those overflows conform to the general permit rules, they will still threaten our wild rivers no more than the average eroding mud bank.

50 ppb  
freshwater

36 ppb  
saltwater

# Water rules will go

ADN 8/24/85

## Knowles wants new standards

Daily News staff and wire reports

JUNEAU — The Knowles administration said Wednesday it will change some controversial rules environmentalists say allow too much pollution in Alaska's relatively clean waters. The rules were approved the last day of the Hickel administration and were supported by industry and pro-development groups.

Environmentalists had hoped for a complete reversal. But clean-water activist said they were satisfied Gov. Tony Knowles agreed to revise at least some rules and to study others to see if charges are warranted. "We're not interested in a simple room for Alaska with strong water standards and still make a profit," said Gershon Cohen, who heads the Alaska Clean Water Alliance. "We're not interested in stopping industry and stopping the uses of natural resources."

Among the revisions will be a policy identical to federal standards for protecting high-quality waters such as those in national and state parks or wildlife refuges. The state previously had no such policy. Rules on mixing zones also will be clarified. Mixing zones are parts of bays

Please see Page B-2. WATER

## WATER: Pollution rules in for a change

Continued from Page B-1

and other waters where a fixed amount of pollutants can be discharged without penalty. The idea is to use the water to dilute potentially harmful compounds so they won't hurt fish or other wildlife, or people, outside the mixing zone. Cohen and others felt Hickel's mixing zone rules were too lax.

The state also will set up rules to determine acceptable levels of cancer-causing chemicals that might be absorbed by fish that people eat, said Gene Burden, environmental conservation commissioner.

The compromise was reached Tuesday, when the governor's staff met with business and conservation leaders.

Hickel's top environ-



mental officials devised the new rules mainly to help wood-pulp mills and to speed the development of new mines, including the planned A-J mine near Juneau. Many pro-business groups had said the state's previous water-pollution standards were too harsh and hurt businesses. On Wednesday, one business supporter appeared satisfied with Knowles' compromise, which retains some of Hickel's rules.

"Certainly, there are areas in which we would have preferred a different

outcome," said Becky Gay, who heads the Resource Development Council, a trade group. "Nevertheless, we believe the Knowles administration has made a good faith effort to address the concerns of both sides."

State officials plan to begin meetings with interested parties next month with business and conservation leaders to work out details of the new water-quality standards, which could be in place within six months, Lurden said.

State leaders said working out a compromise will benefit the business climate and the environment. Knowles told reporters, "This is a very positive step forward from the gridlock and confrontation and hard feelings that were there before."

## A Brief History of the Classification of Alaskan Waters From a Review of Water Quality Objectives/Standards Since 1949



1949 The Alaska Water Pollution Control Board was established by the territorial legislature under the authority of Chapter 117, titled simply "An Act". The Alaska Water Pollution Control Board was responsible for administration of the Alaska Water Pollution Control "Act" to safeguard Alaskan waters from pollution and establish standards of water purity which affect public health, fish and wildlife, recreation and industrial development.

According to Ames Alter (Person. comm., 1992), Director of the Division of Sanitation and Engineering for the Alaska Department of Health in 1949, there was only one person assigned to actively administer the water pollution control program. It wasn't possible for this one person to classify all Alaskan waters for different uses. It was also generally believed by the Board that Alaska had a unique chance to protect its pristine waters, unlike states that already had many polluted waterbodies. Therefore, it was determined that Alaskan waters should be generally protected for the highest water use. This was "water supply and their sources." Initial limits were provided by the US Public Health Service (USPHS) and included federal Drinking Water Standards.

1952 The first Water Quality Objectives table of standards was produced. This is found in a paper titled, "Pollution Control Council, Pacific Northwest Area". It was developed through the coordination of the engineering representatives from pollution control agencies in Alaska, British Columbia, Idaho, Montana, Oregon, and Washington. These standards were applicable to those regions and the Territory of Alaska.

It is in this table, "applicable to the receiving waters for salt and fresh surface waters and underground waters," that the first employment of protecting waters for the highest water use is evident. For example, for the parameter "toxic, colored or other deleterious substances", the USPHS standards applied to four of the five listed water uses.

1959 The Territory of Alaska became the State of Alaska. Concurrently, the Alaska Administrative Procedure Act became effective. Water Quality Objectives were published in the Administrative Code, Title 7, under Health and Welfare. The Water Pollution Control Board was disbanded. The Water Quality Objectives were under the broad authority of A.S. Title 46, (Water) and A.S. Title 18, (Fish and Game). The Commissioner of Health and Welfare after conducting public hearings, could establish standards and/or group the designated waters of the state into classes.

The Water Quality Objectives adopted by the State of Alaska were the same table established in 1952 by the Territory.

1952 - 1979 For 27 years the original work and intent of the Alaska Water Pollution Control Board and the Pacific Northwest Council were repeated in succeeding Water Quality Standard (WQS) revisions. Clarifications in language and some modifications were made but these did not change the character of the original work. Key elements in the classification of state waters follow:

1. It was possible through public hearings to reclassify waters for specific uses. If waters were not reclassified, the "highest water use" superceded the other uses for a given waterbody.
2. The burden of justifying a reclassification was placed on those wishing to reclassify a waterbody.
3. In 1970, Ward Cove in Ketchikan, Ship Creek in Anchorage, Chena River, Fairbanks, and Silver Bay in Sitka were classified for specific uses as were all coastal waters. In 1971, both Ward Cove and Silver Bay were deleted from the reclassification list.
4. In 1973 the following significant clarification was made: "if waters have more than one use, the most stringent water quality criterion of the the uses shall apply." Up until 1979, numeric limits were primarily found in the USPHS Drinking Water Standards because other criteria had not been developed. It became more evident with this wording clarification that criteria and designated uses were integral parts of a water quality standard.

The Department of Environmental Conservation was created in July of 1971 as a split off from the Division of Environmental Health in the Department of Health and Welfare. DEC made few changes in the 1971 Water Quality Standards from previous Department of Health and Welfare standards. Reclassification required public hearings, the approval of the Commissioner of DEC and concurrence by the Administrator of the EPA for interstate waters.

AK  
1979 In 1979 significant changes were made in style, format and content of the WQS. Water quality criteria applicable to each use were significantly broadened in scope and detail. It was in this revision that aquatic life criteria made their first appearance with the addition of federal criteria from the 1975 Red Book for the parameter of 'toxic and other deleterious organic and inorganic substances.' The USFWS Drinking Water Standards were also replaced by the Alaska Drinking Water Standards. It was now stated that between the Drinking Water Standards and the aquatic life criteria, the more stringent should be chosen as the applicable criterion. This practice continues today and in most cases, EPA's aquatic life criteria are more stringent than the Drinking Water Standards.

In general, the WQS took a more restrictive turn in 1979. There were many more stipulations that had to be met before a waterbody could be reclassified. For the first time, there was a section that included waterbodies ineligible for reclassification (parks, refuges, etc.). Another section spelled out what conditions defined the designated uses. To eliminate a use for a given waterbody it would have to be proven that these conditions did not exist. Ship Creek and marine waters were deleted from the reclassified list in this revision.

Key points are that although significant alterations were made in 1979, it was still quite possible to reclassify a waterbody after public hearings and the approval of the Commissioner. The burden of proof was on the applicant and the applicant only had to address 'existing uses' of the waterbody in the reclassification procedures.

1979 - 1987 During this period, amendments were proposed and adopted through the public process, but no comprehensive Water Quality Standard document was published with the incurred changes. No significant amendments were made concerning reclassification of waterbodies during this time.

→ In 1982 one important amendment was the adoption by reference of federal aquatic life criteria for 24 compounds or classes of compounds listed in the 1980 EPA Ambient Water Quality Criteria documents. This addition by reference includes the bulk of the numeric criteria in effect today. Human health criteria for non-carcinogens also were adopted at that time.

→ In 1984 Nolan Creek and five tributaries near Wiseman were reclassified for the industrial use.

1987 - Today In 1987, revised Water Quality Standards were published. It was in this revision that aquatic life criteria for nine compounds, published by EPA in 1985, were adopted by reference. The procedures for reclassifying state waters were extensively modified to make them consistent with 1983 EPA regulations. The Clean Water Act does not address procedures for reclassifying state waters. At the time of this revision, two waterbodies remained on the reclassified list, Nolan Creek and Chena River. Although not referred to specifically in the WQS, the department now had to comply with EPA regulations in order to reclassify waterbodies of the state. Significant federal requirements follow:

A) To exclude a designated use through reclassification, it was no longer enough to show that the designated use was not an 'existing use' of the waterbody. One also had to prove that the designated use was not 'attainable.' This provision added a new and more difficult element in the formula for reclassification of state waters. It has proven to be onerous and costly to show that some designated uses might not be attained at some place in time, by some method.

B) EPA's regulations also require that a structured scientific study called a 'use attainability analysis' (UAA) must be conducted to prove that a use cannot be attained. Therefore, the decision to reclassify a waterbody is made after conducting a use attainability analysis. The State's request to reclassify must be approved by the Regional Administrator of EPA. High costs of analysis and strict EPA guidelines were prohibitive for considering all suggested reclassifications proposed. Based on these factors, a provision was added in the WQS that the decision on whether to proceed with a reclassification was at the department's discretion.

In November, 1989 an amendment to the WQS included a revision of the section on Classification of Waters. As a result of the Tolovana Use Attainability Analysis, the Department removed some protected use classes from 14 streams or segments of streams in the Tolovana River Basin. The cost to the state was extensive and it proved to be very difficult to eliminate significant 'attainable' uses that would satisfy the original intent of the applicant. In the final analysis, the department's cost and efforts to reclassify or not to reclassify rested solely on EPA's final approval. Therefore, even if the department wished to reclassify a waterbody, the department decisions can be vetoed by EPA according to the 1983 EPA regulations still in effect today.

The 1989 WQS revision retained the same procedures for reclassification adopted in 1987, and they remain the same today.

# Water quality standards and the arsenic cancer risk

*Editor's Note: The Montana Legislature passed several bills revising the state's water quality standards and requiring that treatment standards be economically, environmentally and technologically feasible. Legislation passed by the Montana Legislature and supported by Governor Fliscombe revised the human health risk level from 1 in 1 million to 1 in 100,000 and adjusted the standard for arsenic from 1 in 1 million to 1 in 1,000 risk. The revisions were made after local communities and businesses throughout Montana were unable to obtain waivers from stricter standards which were economically and technologically infeasible.*

By Senator Lorents Grosiield  
Chairman, Montana Senate  
Natural Resources Committee

Second of two-part series  
(Edited for space)

One of the troubling policy questions that we must continually weigh is, how "clean" does "clean" need to be? If we are discharging water into a stream, should "clean" mean as close as we

can get to totally pure? Should it mean cleaner than the water naturally occurring in the stream? Should it mean as clean as the water we're discharging into? Should it mean clean enough to meet all the water quality standards that have been set to protect our health and environment?

Take Anchorage, Alaska, a city of about 250,000 people. Recently it was discovered the discharge into Cook Inlet from the municipal sewage treatment facility contained too much arsenic to meet the standard. An analysis of the problem revealed that it would cost the city \$970 million to upgrade its system in order to eliminate enough arsenic to meet the standard. That's over \$12,000 for every family! The amount of arsenic to be eliminated was about one pound. But further investigation revealed that literally hundreds of pounds of arsenic already arrives naturally from the various rivers that flow into Cook Inlet and from the tide coming in from the ocean. Given that hundreds of pounds are already arriving naturally, what possible sense would it make for the city to tax its citizens enough to pay the \$970 million to eliminate one pound from the city's discharge? Could it be perhaps that the standard is flawed, or at least needed an exemption to deal with the specific Anchorage situation?

It's important to remember that water quality standards have not been cast in stone by some supreme being. Environmental science is not an exact science and none of these standards are "infallible."

Take Senate Bill 331 and the issue of Montana's water quality standard for arsenic. Arsenic is a known cancer causing agent. But there are at least four major points that need to be understood.

First, SB 331 changed the standard for arsenic from being based on a one-in-a-million increased lifetime cancer risk to a one-in-a-thousand increased risk. Does this mean that the Legislature has increased the cancer risk 1,000 times? Absolutely not.

At a one-in-a-million increased risk, the Montana water quality standard for arsenic in Montana streams and rivers

before SB 331 was 0.018 parts per billion (18 parts per trillion). But the EPA drinking water standard is 50 parts per billion (50,000 parts per trillion). This means that our old standard for streams and rivers was 2,778 times more restrictive than the federal drinking water standard!

The new one-in-a-thousand cancer risk standard in SB 331, for discharges to our rivers, streams and groundwater, figures out at 18 parts per billion, which is still almost three times stricter than the federal drinking water standard of 50. But what is even more telling are the relatively high levels of arsenic that occur in most Montana streams naturally. For example, the average arsenic in the Missouri River at Toston from natural sources is about 24 parts per billion. With this level of arsenic naturally occurring in the river, there is no increased cancer risk in the upper Missouri River by moving the standard from 0.018 to 18. Why? Because the standard is still less than what's there naturally.

Granted, not all Montana streams have as much naturally occurring arsenic as the Upper Missouri. The average natural arsenic in the Yellowstone River at Livingston is about 21 parts per billion. By the time the Yellowstone reaches the North Dakota border, it is down to about 7. But in the Madison River at West Yellowstone, the natural arsenic level is about 260 parts per billion!

Remember, with our standard now at 18, we are still nearly three times stricter than the federal standard of 50, which like all federal drinking water standards, already has a significant safety margin built into it.

The second point is that fish are not as sensitive to arsenic as humans. Changing the standard to 18 will have absolutely no effect on fish. The arsenic standard set for healthy fish is 190 parts per billion; that is, below this level, fish will not be affected at all, and it's not until continual exposure for a week or more at a level of 360 parts per billion that fish will actually die.

The third major point is that we

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The Resource Development Council (RDC) is Alaska's largest, privately funded, nonprofit economic development organization working to develop Alaska's natural resources in an orderly manner and to create a broad-based, diversified economy while protecting and enhancing the environment.

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Writer & Editor:

Carl Portman

RDC



Congressman Don Young, Chairman of the House Resources Committee, enjoys a warm welcome before the large luncheon crowd at the RDC Annual Meeting. Young addressed new opportunities for Alaska in the new Congress.



Outgoing President Dave Parish receives a "First Barrel of Oil" plaque from President Elizabeth Rensch for his outstanding service to RDC. Parish first came to RDC ten years ago as a student intern during summer break from college.



RDC board member John Forceskie, President of Teamsters Local 959, receives special recognition and a plaque from RDC's outgoing President Dave Parish. Forceskie, who retires from the Teamsters this month, served as Vice President of RDC for eight years, longer than any other board member in that office.



At upper right, members of RDC's new Executive Committee pose for the camera. At bottom right, Gail Phillips, Speaker of the Alaska House, presents Eielson Junior High School student Katrina Balash with a certificate for her winning essay in the RDC Statewide Essay Contest. Katrina's essay addressed "The Role of Resource Development in Alaska's Economy." The winner in the high school category was Skagway's Lisa See who focused on "Opening ANWR."



## Montana strives for reasonable water quality standards

*Continued from page 2)*  
cannot, even given present technologies, reliably measure arsenic at less than 3 parts per billion. Now, if 0.018 parts per billion is not measurable, it's not detectable, and if it's not detectable it's certainly not enforceable.

The fourth point pertains to the creation of the old standard at 0.018 parts per billion. It was based on a Tai-

wan study showing that a person living in Taiwan had a one-in-a-million increased chance of getting cancer IF that person drank 2 liters of water per day from that same "contaminated" source of supply each consecutive day for 70 years and ate an average of 6.5 grams of fish caught from that same source of supply each day for 70 years.

If a person were to do these things, that person would have a one-in-a-million increased chance of getting cancer.

Given all this, was it reasonable to have a standard set at 0.018 parts per billion in the first place? Is it reasonable to have a water quality standard for discharges to streams and groundwater set at a level 2,778 times

stricter than the federal drinking water standard? It reasonable to have standards we cannot even measure? Is it reasonable to have standards set at a level substantially below the condition that nature provides naturally?

Don't forget who pays for the implementation of these standards.

# ALASKA WATER QUALITY REGULATIONS

## Summary of Actions

Issue	Discussion	Action	
<b>1.</b> <b>ANTI-DEGRADATION</b>	Adding a requirement to protect Outstanding National Resource Waters (ONRW) to existing law that 1.) protects current water uses, and 2.) maintains existing water quality that exceeds minimum standards	The absence of a section on ONRW is a deficiency in current regulations. Federal law requires protection of high quality waters such as a water of a national or state park or wildlife refuge or a water of exceptional recreational or ecological significance	Adopt additional antidegradation provisions identical to current federal law that protects ONRW
<b>2.</b> <b>TREATMENT WORKS</b>	These are facilities or bodies of water used to treat and/or dispose of sewage or industrial waste, such as municipal treatment plants, sewage lagoons or constructed drainage ditches.	Current regulation authorizes treatment works in natural water bodies. DEC is repealing this section because it is redundant with existing permitting laws administered in DEC's Solid Waste and Domestic Waste Water programs. The repealed section also confuses treatment methodologies with water quality standards.	Repealed
<b>3.</b> <b>PETROLEUM HYDROCARBONS</b>	These are found in oil or diesel and are limited in wastewater discharges to protect water quality.	Current law prohibits surface oil sheens and film, but does not measure particulate hydrocarbons or nonaromatics; however, neither did the former regulations. The current regulations more accurately measure the most toxic dissolved hydrocarbons available to aquatic organisms and thus are superior to the former regulations. However, DEC will investigate the need for a particulate standard. DEC concluded that the present "Note 8" describing methodology and analysis for petroleum hydrocarbon testing is confusing and deficient. DEC is amending the regulation to clarify required analytical measurements.	Repeal Note 8 regarding analytical standards and adopt Note 8 from August 1993 version. Conduct research of need for a numerical particulate standard by July 1996.
<b>4.</b> <b>SEDIMENT</b>	"Sediment" can be interpreted as settleable solids or as total suspended solids which includes both settleable and nonsettleable solids.	Before the December 1994 changes, the water quality standards defined "sediment" as total suspended solids which includes both settleable and nonsettleable solids, but established a numerical criterion only for settleable solids. DEC's change clarified that settleable solids is the regulated parameter. There is no criteria established for TSS. Neither EPA nor the Region 10 states have a TSS criteria.	Retain existing section. Complete study of the need for TSS standard and report by July 1996.
<b>5.</b> <b>MIXING ZONES</b>	These are designated areas of a waterbody where wastewater enters and mixes with the receiving water. The water quality standards can be exceeded within a MZ to dilute the wastewater discharge, but standards must be met at and beyond the zone boundaries.	The current regulations provide better MZ management controls by setting stricter standards for human health exposures in the vicinity of a proposed MZ; establishing previously lacking criteria for mixing zones in fresh water rivers and streams; and establishing control technology prerequisites. DEC retains the authority to grant or deny a MZ based on the factual data presented. Despite the improvements, there is a need to revisit the regulations to clarify a number of issues, such as size limits for rivers and streams, toxics and lethality.	Initiate rule making in September 1995. Prepare interim guidance for MZ evaluation ASAP and complete guidance by April 1, 1996.
<b>6.</b> <b>RISK LEVEL</b>	The adoption of a risk level was in response to federal law; however, the state has not developed the human health criteria necessary to effectuate the standard	EPA devised a mathematical equation composed of factors such as risk level, contaminated fish consumption rates, body weights and contaminated water consumption. When presented with three choices DEC adopted the middle risk factor of 1 in 100,000 or ( $10^{-5}$ ). No other parameters necessary to this equation have been defined so national default standards apply. There are 54 carcinogens for which human health criteria could be established; however, DEC can limit the discharge of a toxic as appropriate to protect public health.	Recommend no change and initiate rulemaking to determine Alaska-specific values.

Industry and Environmental Representatives Fall Cooperative Process

**GOVERNOR TONY KNOWLES  
ANNOUNCES RESOLUTION ON  
WATER QUALITY STANDARDS**



**Need more information?**

Please contact:  
The Office of the Governor  
P.O. Box 110001  
Juneau, AK 99811-0001  
(907) 465-3500  
Internet: <http://www.state.ak.us>

Anchorage:  
3601 C St., Suite 750  
Anchorage, AK 99503  
(907) 269-7450

Fairbanks:  
675 7th Ave., Station 115  
Fairbanks, AK 99701  
(907) 451-2920

**ADDRESS  
CORRECTION  
REQUESTED**

Becky Gay  
RESOURCE DEVELOPMENT COUNCIL  
121 W. Fireweed Lane, Suite 250  
Anchorage, AK 99503

U.S. Postage  
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RECEIVED SEP 1 1 1997

OFFICE OF THE GOVERNOR  
TONY KNOWLES  
JUNEAU, ALASKA

Calling it one of the major achievements of his Administration to date, Governor Tony Knowles has announced the resolution of a long-standing dispute over water quality standards for Alaska designed to be user-friendly to industry but tough enough to protect the state's environment. The regulations are the result of months of intensive work by the Knowles Administration and represent a broad acceptance by state, industry, and environmental representatives.

"This decision is very important for Alaska jobs and families," Knowles said. "Industry benefits from having clear standards to work with and from knowing that the Administration is willing to work with them to resolve regulatory disputes. And all of Alaska's families benefit from having high standards for the protection of our precious liquid assets."

"Governor Knowles and Commissioner Burden were successful in bringing the parties together to discuss the state's decision," said Judy Brady, Executive Director of the Alaska Oil & Gas Association. "While differences of opinion remain on individual components of the package, today's decision brings this phase on water quality to closure and sets the stage for further coordinated efforts on the standards."

"Governor Knowles and ADEC have charted a course that we hope will lead to correction of the major weaknesses in the recently adopted water quality standards," said Eric Jorgensen, managing attorney for the Sierra Club Legal Defense Fund. "In particular, we are pleased that ADEC has decided to re-examine fully the mixing zone regulation and expect that the Governor's proposal will reflect the high priority Alaskans place on clean water."

"Certainly there are areas in which we would have preferred a different outcome in these regulations, nevertheless we believe the Knowles Administration has made a good faith effort to address the concerns of both sides," said Becky Gay, Executive Director of the Resource Development Council. "This agreement allows us to move on and resolve other important water quality regulatory issues."

"The Governor has re-stated his commitment to the protection of Alaskans by taking a conservative approach for discharges containing carcinogens, repealing the new regulation on treatment works, and initiating a rulemaking that will establish standards that address Alaska specific human health criteria," said Gershon Cohen, director of the Alaska Clean Water Alliance.

See Page 2

# Chamberline

Greater Fairbanks Chamber of Commerce  
709 2nd Ave., Fairbanks, AK 99701  
(907) 452-1105

Issue No. 5  
March 10, 1995

## Fairbanks Spared in Base Cutting

Fairbanks' wide open spaces are a rare and highly desirable commodity from the military point of view, Maj. Gen. Thomas Needham told the Fairbanks chamber at their General Membership Luncheon Feb. 28.

Needham spoke to the Fairbanks chamber the same day that the latest round of base closures and realignments was announced by the Department of Defense, but the news for Fairbanks was mostly good.

"It's not easy talking to a chamber of commerce on the day the secretary (of the Department of Defense) announces base cutbacks and closures," Needham said.

Fort Wainwright, Needham said, would be spared further cuts for the foreseeable future and may actually gain some military and civilian personnel due to the transfer of responsibilities and personnel from Fort Greely near Delta Junction.

"According to the announcement made by the secretary, Fort Greely will become a sub-post of Fort Wainwright," Needham said.

The Department of the Army has decided to transfer Fort Greely's Northern Warfare Training Center and Cold Region Testing Center to Fort Wainwright. Along with the new responsibilities, Fort Wainwright will gain approximately 205 military and 56 civilian positions, according to the Department of Defense.

According to a Department of the Army report, the move will cost Delta Junction, the town closest to Fort Greely, 969 jobs or 36 percent of the area's employment base between 1996 and 2001. Direct employment by the military accounts for 724 of those jobs and the other 245 are "indirect" employment created as a collateral effect of military activity.

"It's too early to tell how many," Needham said. "Cooks can be moved pretty easily, but it is harder

to move a power plant."

Needham said it is still too early to say whether the move will mean more civilian jobs for Fairbanksans working on construction of new facilities. He did, however, point out that while defense contracts are down an average of 23 percent nationwide this year, the level remained virtually unchanged in Alaska.

Needham said Alaska will wind up with about 6,500 soldiers, approximately 5,000 at Fort Wainwright and most of the balance at Fort Richardson. The Army will also hang on to its 1.6 million acres of land in Alaska, he said.

Availability of space, Needham said, is part of what makes the Interior a desirable home for the military. As Anchorage grows, the military is running out of room for "live-fire" exercises.

"The trouble with live-fires at Fort Richardson is that, because of environmental constraints, we can only do it in the winter when there is 8-inches of ice," Needham said. "We're running out of room down there."

The Army has 916,000 acres available for training at Fort Wainwright, 62,000 acres at Fort Richardson and 662,000 acres that they will retain at Fort Greely, according to Linda Douglass of the Fort Wainwright Public Affairs Department.

According to the Department of the Army report, the realignment between Fort Greely and Fort Wainwright will result in a \$23 million implementation investment that will yield a net savings of \$43 million during the implementation period and \$19 million a year thereafter.

Needham said the army plans to spend \$2 million to upgrade Bassett Army Hospital at Fort Wainwright and another \$5 million on barracks renovation.

"Family housing is adequate, but we have let barracks slide," Needham said. "In the barracks, we (see Needham, next page)

(Needham continued from page 1)  
have soldiers sitting on furniture older than they are."

The Army also plans to fix up the post swimming pool and spend another \$12 million on roads and other projects.

"The good news is that we have money to train," Needham said, adding that he expects Alaska's military to be called to a global hot spot some day.

Needham thanked Fairbanks for its support of Fort Wainwright during the army post of excellence evaluation that recently went on in Fairbanks.

"Both Fairbanks and the post had a good day when the evaluation team was here," Needham said. "We sincerely appreciate the support we get from the community."

Needham said he doesn't expect the results of the evaluation until some time in June.

"We won't know until they call us and tell us to come to Washington (D.C.)," Needham said.

## \* Board Hears Report on Water Quality Standards

The Sierra Club is mounting a new challenge to Alaska's Water Quality Standards which could cost Alaskans billions of dollars and stifle future development the chamber board was told at their March 6 meeting.

Mary Nordale, President of the Alaska Miner's Association, and Bill Jeffress, of Fairbanks Gold, gave the board a briefing on the Department of Environmental Conservation water quality standards review currently underway. The Sierra Club Legal Defense Fund has petitioned the DEC to revoke the water quality standard signed into law by Gov. Hickel on Dec. 5, 1994.

If the new standard being sought by the Sierra Club goes into effect, it could kill the mining, fishing and timber industries, Jeffress said. The Fort Knox project near Fairbanks, due to begin construction this summer, could be jeopardized by new, more stringent standards, Jeffress said.

Alaska's current standard allows a human health risk of 1 in 100,000. That means a person would have a 1 in 100,000 chance of contracting cancer if they were to drink two liters of treated water a day for 70 years, Jeffress said. The Sierra Club wants the risk factor changed to 1 in 1 million.

To put it into perspective, he said, your chances of being hit by an airplane falling from the sky involve about half the risk of the state's 1 in 100,000 standard. According to Jeffress' figures, Americans have a 1 in 4 chance of dying from cancer with or without the 1 in 1 million standard.

The Sierra Club's standards are unattainable, Jeffress said. Under the 1 in 1 million standard, drinking water would not be an acceptable discharge, he said. The technology doesn't exist, Jeffress said, to remove natural levels of arsenic from Alaska's water to the 1 in 1 million standard.

Nordale said the 1 in 1 million standard, if applied, would apply across the board and cost state and local government in Alaska \$2 billion to upgrade waste water systems. She estimated the cost to owners of residential septic systems at \$50,000 per lot.

Jeffress said the effect on the Alaskan economy would be catastrophic. He said venture capital for development would likely be scared off by the 1 in 1 million standard. The higher standards have proven fiscally and technologically unattainable in other states, he said. If we ignore the public process, he said, the regulations will go into effect virtually unopposed.

There will be a public hearing on the proposed water quality standards at 7 p.m., March 17 in the Noel Wein Library. Jeffress urged all interested parties to attend the meeting.

### March Luncheon Speakers

**March 14** British Petroleum Alaska President John Morgan will address the membership on development opportunities on the North Slope and what needs to be done to make those opportunities a reality. There will also be a Parka Parade preview.

**March 21** MarkAir Director of Marketing Craig Johnson will speak on MarkAir's economic impact in the state of Alaska.

**March 28** American Red Cross will give a Koyukuk River flood update.

### Business After Hours

5-7 p.m., Thursday March 23

at

**Frontier Business Machines**

hosted by

*Margherita Gilbertson*

*See insert for details*

# ADN The Anchorage Times

Publisher: BILL J. ALLEN

"Believing in Alaskans, putting Alaska first"

Editors: DENNIS FRADLEY, PAUL JENKINS, WILLIAM J. TOBIN

The Anchorage Times Commentary in this segment of the Anchorage Daily News does not represent the views of the Daily News. It is written and published under an agreement with former owners of The Times, in the interests of preserving a diversity of viewpoints in the community.

## Water quality

THE KNOWLES administration has good reason to celebrate this week's general accord reached with environmentalists and industry over revised water quality regulations for the state. From all accounts, the process followed by the administration in developing a consensus was fair and the final result appears balanced.

Neither side got all that it wanted, but each is signaling it can accept the compromise.

Count us among the skeptics who doubted such a result was possible. We voiced our concern earlier this year when Gov. Tony Knowles ordered the Department of Environmental Conservation to review the state's water quality regulations that were signed by the previous administration on its last day in office.

The Sierra Club Legal Defense Fund petitioned for the repeal of those regulations and although the new administration did not grant the request, it agreed to reopen the process to more public discussion. That sent shudders through the mining, timber and oil industries — and throughout state communities that treat, process and discharge wastewater. There was much apprehension that any changes to the water quality regulations would result in extraordinary expense for all concerned.

That kind of worst-case scenario, as it turns out, did not occur. Instead, the Knowles administration appears to have achieved that oft-sought middle ground that protects the most important objectives of both sides in the debate.

In announcing resolution of the issue Wednesday, Gov. Knowles said, "Industry benefits from having clear standards to work with and from knowing that the administration is willing to work with them to resolve regulatory disputes. And all of Alaska's family benefits from having high standards for the protection of our precious liquid assets."

It's understandable that the governor should feel good about his accomplishment. But as he knows, the debate is by no means over regarding this particular issue.

The compromise itself ensures there will be more give and take to come. For instance, adding a new set of regulations requiring protection of "outstanding national resource waters" is sure to generate legal challenges down the road. Yet-to-come standards for regulating hydrocarbon particulates and total suspended solids, and a further review of mixing zone restrictions all promise more controversy and debate.

That's how it should be. Ongoing review, debate and revision of state water regulations are anticipated in the federal law that provides states the authority to regulate water quality.

An open public process that allows all sides to be represented at the table, as has happened up to this point, is the best way to address these complex issues and serve the state's best interest.

ADN 4/24/95

Voi

## The Anchorage Times

Publisher: BILL J. ALLEN

"Believing in Alaskans, putting Alaska first"

Editors: DENNIS FRADLEY, PAUL JENKINS, WILLIAM J. TOBIN

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# Expensive flush

**I**T'S UNLIKELY that many residents are giving serious thought to the state's water quality standards now under review by the Alaska Department of Environmental Conservation.

But if local sewer bills increase by more than 400 percent as a result of new water discharge regulations requested by environmental activists, the residents will not only take an interest, they probably will be up in arms.

The state's water quality regulations were signed into law by Gov. Walter J. Hickel on Dec. 5, 1994 — the day he left office. The Hickel administration had worked on developing those regulations for about three years, during which there were numerous opportunities for public comment.

The Sierra Club Legal Defense Fund, however, challenged the process. It petitioned the new administration to suspend or repeal the water quality standards that had just been enacted. Gov. Tony Knowles responded by ordering an additional public review period for the regulations.

It is important to note that Knowles did not signal an intention to make any changes in the new water quality law. Neither did he suspend or repeal the regulations as requested. He only provided an additional comment period, which ended last week.

**THE MERE POSSIBILITY**, though, that Sierra Club lawyers might prevail in persuading the new administration to rewrite the law got the attention of Anchorage's elected officials, as well as numerous other local government and business leaders across the state.

According to written testimony from Mayor Rick Mystrom, for instance, the state's water quality standards already "are highly protective of the environment and in some cases are more restrictive than federal standards."

It would cost Anchorage hundreds of millions of dollars, he said, if the state were to adopt the changes requested by the environmentalists — "and unfortunately result in little or no measurable improvement to the environment."

Among changes requested by the Sierra Club is one that would require municipal wastewater dumped into the Inlet to be 10 times purer than the ocean water into which it is discharged.

Complying with such a bizarre standard would require construction of new water treatment facilities. Mystrom says sewer bills for single family dwellings in Anchorage would increase to \$109.70 a month, from an existing rate of \$21.65. The mayor endorsed a resolution that the Anchorage Assembly passed unanimously earlier this month. It requests simply that DEC retain the current water quality standards as enacted last December.

We trust that Anchorage's former mayor, now the governor, will take the city's concern to heart.

ADN 01 FEB 95

## State agrees to review rules on water quality

The Associated Press

JUNEAU — The Knowles administration has agreed to reopen for public review key sections of water-quality standards adopted on the final day of Gov. Wally Hickel's term.

Department of Environmental Conservation Commissioner Gene Burden has decided to accept additional public comment between Feb. 13 and April 19 on some

sections of the new regulations.

Burden made the decision in response to a Jan. 12 petition from the Sierra Club Legal Defense Fund, which represents several groups that have criticized the rules as too lax.

The Alaska Clean Water Alliance, United Fishermen of Alaska and Alaska Wilderness Recreation

Please see Page D-4. WATER

## WATER: New standards to get review

Continued from Page D-1

and Tourism Association have alleged that the rules actually weaken water-protection standards and threaten public health.

The Hickel administration had defended the rules and said they would protect the state's water bodies from pollution.

Industry generally supported the rules. A mining association official said reopening the regulations would bring uncertainty to the mining and oil and gas

industries.

Sections reopened to public review are those dealing with mixing zones and treatment works, sediment, petroleum hydrocarbons and human health-risk levels.

Mixing zones are areas where water-quality standards can be exceeded as pollutants are released into, and diluted with, public waters. Such zones have been proposed by developers of the Kensington and Alaska-Juneau gold mines.

Critics of the new rules

had wanted several sections of the rules suspended, but the rules will remain in effect during the new public review period, DEC special assistant Ernie Piper said.

"We're not overturning the regulations ... we're not slowing down any permit reviews," Piper said. "At the same time, we're going to be as responsive as possible to public concerns."

Changes could be made to the rules after the comment period, Piper said.

# Water-quality rule changes draw criticism on all sides

The Associated Press

**JUNEAU** — Proposed changes in the state's water-quality regulations are being panned by industry and environmental representatives alike.

But their complaints differ. Citizen groups say the regulations didn't change enough, while a mining representative says the changes are a major break from the past and could cause problems.

The state revised the regulations in response to a January 1995 petition by the Sierra Club Legal Defense Fund, represent-

ing United Fishermen of Alaska, the Alaska Wilderness Alliance and the Alaska Wilderness Recreation and Tourism Association.

The groups petitioned the state after Gov. Walter Hickel signed new water-quality regulations just hours before he left office in December 1994. Those regulations followed a three-year battle over water-quality standards.

The proposed changes focus on mixing zone regulations with potential effects on mining, oil and pulp companies. Mixing zones are areas near

discharge where state water-quality standards are exceeded.

Mixing zones were designed as a temporary exemption to Clean Water Act principles,

said Gershon Cohen, who heads the Alaska Clean Water Alliance. "But mixing zones have

become the rule, not the exception."

Pamela Grefsrud of the state Department of Environmental Conservation said the revisions were largely minor language changes intended to clarify the regulations. But the Alaska

Association disagrees. "It's a very disturbing DEC

has presented this as minor changes when they've broken with the past. It's a very, very different document than anything we've had in the state," said Paul Rusanowski, Juneau branch chairman of the association.

One of the changes is a new definition of mixing zones, which Rusanowski said is likely to confuse people because it differs from what has been described as a mixing zone for years.

Another revised section could be interpreted to require the state to review a previously

approved discharge into water. If any circumstances change, he said. That could pose problems for companies when changes occur, such as a drop in water flow in a dry year.

But Sierra Club Legal Defense Fund representatives are disappointed the revisions don't do more to narrow the situations in which a mixing zone for toxins or carcinogens are allowed, said Kelly Nolan, associate attorney for the organization.

A hearing on the proposed changes was held Friday night in Juneau.

# Alaska State Legislature



Official Business

Speaker of the House of Representatives

State Capitol  
Juneau, Alaska 99801-1182  
(907) 465-3720

September 25, 1996

The Honorable Tony Knowles  
Governor, State of Alaska  
P.O. Box 110001  
Juneau, AK 99811-0001

Dear Governor Knowles:

I was surprised by the tone of your letter to me dated September 19, 1996. You claim that I have violated the spirit and letter of the Alaska Constitution by not transmitting HB 342, Water Quality. Not so! On the contrary, the legislature and regulated community have made an extraordinary effort to root-out and dispel misconceptions, identify and answer technical questions and try to mitigate phantom problems the Commissioner of the Department of Environmental Conservation (DEC) has with the bill.

The very nature of the water quality subject made it imperative that the legislature and industry make every effort to convince you and your staff of the merits and feasibility of implementing the provisions of HB 342. The time, telephone calls, correspondence and legal opinions on the part of all the supporters of HB 342 provided to your staff, the Commissioner of the Department of Environmental Conservation and lower level personnel of DEC made it impossible for us to let the bill be mischaracterized and maligned. The compromise legislation before you is a new approach. The bill was worth our extra effort.

As far as the issue of bill transmittal, your Attorney General will verify that our state constitution contains no provision setting a time limit by which a bill must be transmitted to the Governor. Since this bill was important to me, the sponsor and the regulated community, it was necessary to pursue a course of action that would help you understand the importance of this bill.

In addition, I sincerely hope you reconsider your decision not to allow the Water Quality Task Force to review HB 342. I am disappointed you chose not to appoint Legislators as members of the task force as we had asked.

The Legislature produced an excellent bill. If you decide to veto this bill, you are doing a great disservice to the public. You will be revisiting all the issues concerning water quality that have been addressed by the Legislature, the Department of Environmental

Conservation and the regulated community, which were all involved in the creation and evolution of HB 342.

The Legislature passed HB 342 to bring certainty to water quality standards in Alaska. Many of the controversies surrounding the use of Alaska water bodies have created problems for economic development in Alaska and this bill seeks to remedy that.

With this transmittal of HB 342, I strongly urge you allow it to become law, preferably with your signature.

Sincerely,



Gail Phillips  
SPEAKER OF THE HOUSE

GP:kf

cc. Representative Norman Rokeberg  
Becky Gay, Executive Director, Resource Development Council  
Judith Bracy, Executive Director, Alaska Oil and Gas Association  
Steve Borell, Executive Director, Alaska Miners Association  
Michele Brown, Commissioner, Department of Environmental Conservation



# ALASKA MINERS ASSOCIATION, INC.

501 W. Northern Lights Blvd., Suite 203, Anchorage, Alaska 99503 FAX: (907) 278-7997 Telephone: (907) 276-0347

June 24, 1995

Honorable Tony Knowles  
Governor of Alaska  
Capitol Building  
Juneau, AK 99801

RE: HB-342, Relating to Water Quality

Dear Governor Knowles,

The Alaska Miners Association urges you to sign House Bill 342, relating to water quality.

This bill will clarify several items in State law regarding water quality. The bill is needed to insure that when changes to federal laws make them less restrictive, State regulations are also changed in a timely manner. Changes to federal law typically mandate strict time frames for the states to adopt changes that become more stringent but not if the requirements become less stringent. This bill addresses this latter case.

The bill also includes provision where the State can be more stringent than federal law or can write regulations to address items not covered in federal law. HB-342 specifies how this will be done and the standards that must be followed in this process. This is an important improvement to the existing state water quality law.

The Department of Environmental Conservation was deeply involved in the development of this bill and provided numerous important recommendations that were incorporated into the final version. This involvement was essential and insured that the changes made by this bill complemented existing state law without unduly burdening DEC's administration of the provisions.

This is a good bill that makes positive changes to help simplify the State's very complex water quality statutes and we urge you to sign it.

Sincerely,

Steven C. Borell, P.E.  
Executive Director



2173 University Ave. S., #101  
Fairbanks, AK 99709  
907-474-2080  
Fax 907-474-2082

FAX TRANSMITTAL

TO: Representative Norman Rokeberg      DATE: 4/24/96  
ORG.: State House of Representatives  
CITY: Juneau, AK      NO.: 907-465-2040

MESSAGE

As Chairman of the Fairbanks Branch of the Alaska Miners Association and Project Manager for Ryan Lode Mines, I wish to express support for CSHB342 "An Act relating to water quality" with the changes suggested by Steve Borell, Executive Director of the Alaska Miners Association on this date. Your efforts in addressing the water quality issue is greatly appreciated.

Yours truly,

Richard A. Hughes, P. E.  
Project Manager

## Alaska Oil and Gas Association



121 W. Fireweed Lane, Suite 207  
Anchorage, Alaska 99503-2035  
Phone: (907)272-1481  
Judith Brady, Executive Director

Fax: (907)279-8114

June 28, 1996

The Honorable Tony Knowles  
Governor  
State of Alaska  
P. O. Box 110001  
Juneau, Alaska 99811-0001

HB342 - An Act Relating to Water Quality

Dear Governor Knowles:

The Alaska Oil and Gas Association encourages you to sign HB342 into law.


Throughout legislative consideration of this bill, AOGA spent many hours working with DEC staff to identify mechanisms which would improve the bill's effectiveness and to develop alternatives to provisions in earlier drafts on which DEC had concerns. As outlined in the attached letter to DEC Commissioner Michele Brown, the bill was substantially amended throughout this process. The end result is statutory authority for DEC to manage the state's water quality standards to ensure they are (1) consistent with federal requirements, (2) based on sound science and (3) take into consideration Alaska conditions.

Many of the provisions in this bill mirror those of the statute governing DEC administration of the FPA Title V Air program. That statute was developed by consensus by a work group composed of representatives from industry, municipalities, environmental groups, utilities and DEC. Like HB342, the Title V statute requires state standards to be consistent with federal standards, but also provides a mechanism for adoption of more restrictive standards if Alaska conditions warrant. Given the broad support for this approach by DEC and other Title V work group members, it is entirely appropriate to carry over these provisions to the water program.

You are well aware of AOGA's interest and dedication to ensuring Alaska's water quality regulations appropriately protect the environment and allow for needed development of Alaska's resources. HB342 accomplishes both of these objectives, and we encourage you to sign it into law.

We would appreciate the opportunity to discuss this legislation with you.

Sincerely,

  
JUDITH M. BRADY  
Executive Director

Attachment

## Alaska Oil and Gas Association

---



121 W. Fireweed Lane, Suite 207  
Anchorage, Alaska 99503-2035  
Phone: (907)272-1481 Direct: (907)272-8497 Fax: (907)279-8114  
Marilyn Crockett, Assistant Executive Director

June 28, 1996

The Honorable Michele Brown, Commissioner  
Department of Environmental Conservation  
410 Willoughby Avenue, Suite 105  
Juneau, Alaska 99801-1795

### HB342 - An Act Relating to Water Quality

Dear Commissioner:

Attached is a copy of our letter to Governor Knowles encouraging him to sign HB342 into law.

As you know, we worked very closely with your staff on this legislation. As a result, the final version of this bill is very different from the version which was introduced. Virtually all of the changes made to the bill were agreed to in order to address concerns raised by the Department. Following are several examples:

Consistency with federal regulations—the ability for an individual to petition the department for a change in the regulations was offered by AOGA as a compromise to address DEC concerns over a provision which required the department to amend the regulations when the federal regulations changed. The initial provision required DEC action within 12 months of each change, which would have required constant monitoring of EPA's regulations. A second proposal would have required rulemaking by August 1 of each year to bring State regulations in line with federal requirements in effect on January 1 of that same year—a one-time, but nonetheless, annual review.

Janice Adair and I reached agreement on the petition alternative in mid-April, and Janice transmitted the language to Representative Rokeberg in a memo dated April 18. The provision in the final bill allows individuals to petition the department to amend the State's standards to incorporate a reduction in, or elimination of, federal standards. The department is given 90 days (or longer if agreed to by the applicant) to take action—60 days longer than the response time required under the APA for petitions.

The Honorable Michele Brown  
June 28, 1996  
Page 2

We also agreed to a "transitional review" provision which, instead of requiring a review of State regulations within one year of the effective date of the legislation as earlier proposed, DEC will conduct its review as part of the EPA-required triennial review (despite AOGA's reservations that actual experience indicates the triennial review takes five to six years to complete—not three years!).

Ability to adopt more restrictive standards—Initially the bill prohibited the State from having or adopting water quality standards more restrictive than federal requirements. The concept of consistency with federal requirements is one of the basic premises of another DEC statute—the Alaska's Title V statute (AS 46.14). As you know, that statute was developed and agreed to by a work group of industry, environmental, municipal and utility representatives and DEC.

Recognizing that there may be situations in Alaska which warrant a more restrictive standard, the Title V group included language outlining a process under which the State may adopt standards which are more restrictive than those of EPA, or provisions that EPA does not have. Because that language was acceptable to DEC, we proposed that process be included in HB342. While slight modifications were made to the language to reflect its use for water quality standards and methods, the process is essentially the same as in the Title V statute—with one major difference. The Title V statute requires peer review of proposals for more restrictive standards. We agreed not to include that requirement due to concerns expressed by DEC over costs. We also agreed to DEC's request for deletion of the requirement for a public hearing.

Consideration of Actual Conditions—Early versions of the bill contained provisions addressing the quality of discharges and the waterbodies into which discharges occur. At the suggestion of DEC, the bill was amended to incorporate concepts already embodied in the State water quality standards for site-specific criteria.

These examples are but a few of the numerous concessions we agreed to make to address concerns and issues raised by DEC. (Some of these were rather hotly debated internally here at AOGA before agreement was reached!) I encourage your support of this legislation and would welcome the opportunity to visit with you in this regard.

Sincerely,



MARILYN CROCKETT  
Assistant Executive Director

ALASKA OIL AND GAS ASSOCIATION  
POSITION ON  
HB 342, WATER QUALITY STANDARDS

The Alaska Oil and Gas Association (AOGA) is a trade association whose 19 member companies account for the majority of oil and gas exploration, production, transportation, refining and marketing activities in Alaska.

AOGA supports the goal of HB 342 to establish reasonable, economically achievable, and scientifically based State water quality standards that are no more stringent than federal standards unless, on a case by case basis, scientific evidence justifies more stringent state regulation.

Specifically, AOGA supports legislation that provides for the following:

State regulations and standards to be consistent with federal requirements;

If circumstances warrant state standards which are more restrictive than federal requirements, a definitive process for evaluating the need for a more stringent standard which considers science and economics;

Efficient amendment of state regulations to match changing federal regulations;

Regulations that specify only EPA-approved measurement methods;

Allowance for discharge waters to match the quality of receiving waters

Presently the state is required to amend its regulations only when changes to federal regulations result in standards which are *more* restrictive than those of the state. To ensure consistency with federal regulations, the state also should be required to amend state standards when changes occur to federal regulations which result in *less* restrictive standards, or when provisions are deleted from federal regulations. There should be an efficient means for agencies to modify existing state regulations to effect this requirement.

Federal regulations should be the basis as well as the boundary for state regulations. In the event that there is a legitimate need for more stringent state regulations, an impartial scientific peer review should be established. In addition, there should be established review criteria, which considers science and economics, for evaluating the merit of the argument for having state regulations that would be more stringent than federal requirements.

Finally, an appeal process should be provided that allows the regulated community to challenge state regulations on the basis that a state regulation is more stringent than federal requirements. That process should involve a review panel comprised of representatives other than the agency issuing the regulations in question.

# ALASKA MINERALS COMMISSION

## 1997 REPORT TO THE GOVERNOR AND ALASKA STATE LEGISLATURE

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## **WATER QUALITY: MIXING ZONES**

- 5 The water quality regulations promulgated by the Department of Environmental Conservation on October 31, 1996, should not be implemented and should be withdrawn until they are modified to be workable and no more stringent than required by federal law. Specific standards such as TDS should be revoked with reasonable standards implemented or, at the very least, the process for development and approval of site-specific standards need streamlining and simplifying.

## **WATER QUALITY: NATURAL CONDITIONS**

- 6 The Legislature should adopt a Statute to supplant the regulation at 15 AAC 70.025 to the effect: "If available evidence reasonably demonstrates that the natural condition of a waterbody is of lower quality than a water quality criterion for the use classes in 15 AAC 70.020(b), and that the natural condition will maintain and protect those uses that are attained in the waterbody, the natural condition constitutes the applicable water quality criterion."

## **WATER QUALITY: BASELINE DATA**

- 7 The Legislature should appropriate funds to begin baseline water quality data gathering and development of appropriate aquatic life criteria for acute and chronic toxicity on Alaskan species under Alaskan conditions.

## **ACCESS**

- 8 The Legislature should make funding available to the Division of Land and the Attorney General's Office for ongoing research and litigation of the RS2477 rights-of-way. The Governor should aggressively assert "quiet title" to the routes with the best documentation. Further, the State should assert an access route pursuant to Title XI of the Alaska National Interest Lands Conservation Act to test the process and set precedent.

## **NAVIGABILITY**

- 9a The Legislature should make funding available to continue a centralized, systematic navigability program within the Department of Natural Resources. Additionally, funding should be made available to the Department of Law to support any "quiet title" actions necessary to secure ownership of submerged lands.
- 9b The Legislature should not adopt a Statute that treats the beds of disputed waterways as State-selected lands."

## **USER FEES AND ASSESSMENTS**

- 10a The Legislature should amend AS 44.46.025, which allows the Department of Environmental Conservation to prescribe fees for services, and require public review and Legislative approval of all fees affecting the mining industry.
- 10b The Legislature should amend AS 44.46.025 to require that all regulations that prescribe fees shall include a detailed schedule justifying the applicable direct costs of inspections, permit preparation and administration, plan review and approval, and other services provided by the department that are to be paid for by the proposed fee. In no event should the proposed fee exceed those costs reasonably necessary to cover the direct costs of the above.
- 10c The Legislature should restrict the fee-prescribing authority of other agencies in a similar manner and require that fee schedules shall be submitted annually as part of the budget process.

**Port Houghton and Cape Fanshaw Timber Sale, DEIS December 1995.**

**Introduction**

In a recent lecture, Dr. Fred Everest, of Forest Science Laboratory in Juneau, praised the superlative salmon environment of world class proportions containing all five species of the Pacific salmon centered in southeast Alaska. The Alexander Archipelago, a narrow band of land and temperate rainforest one hundred miles in breadth to four hundred miles, north to south, nestled between high mountains rising on the east and bathed by an extension of the Japanese current of the Pacific Ocean to the west, contains over two thousand salmon producing streams and forms a cradle for the extant racial diversification of the species. Recent and rapid extinction of salmon races in the Pacific Northwest, and elsewhere, summons special attention: southeast Alaska is a resource of biological distinction, singularly remarkable and found no where else in the world. It has not been given a respectful position and status by American forestry nor recognized appropriately by the U. S. Forest Service in the past for its exceptional position in the world.<sup>1</sup>

A reading of the draft EIS-Port Houghton and Cape Fanshaw Timber sale Project, December 1995 (HODEIS) suggests the potential for serious environmental degradation of fishery resources in the sale area by logging. But after discussing the potential effects no attempt is made to evaluate it, even crudely so. This is very disappointing. Does the Forest Service believe that it can now sell timber and violate the requirement of NEPA in not identifying effects of the proposed actions as imperfect as such identification and analysis might be? Is the Forest Service going to carry this mode of action to the extreme and not be able to say anything certain or quantitatively until after a two or more 100 year-rotations? It has already, since the 1950s, and large scale logging, have had a period nearly one half of a century to make observations!

Has the Forest Service recognized the sale area in which no logging has yet taken place is bordering and near heavily logged private lands for which certain environmental changes are certain to adversely affect fish habitat and that comparisons of the unlogged land of the proposed sale area with the logged lands could yield needed and extensive insights into logging effects upon the fish resources affected by logging?

**Background**

Understanding effects of logging have a long history and it should not have to be reviewed here. Why should you be reminded of what I know you know and understand. Effects of logging on salmon have been studied in Alaska since the early 1950s. Biological studies of southeast Alaska salmon have gone back

into the 1930s and before. There is much data on salmon, and though some of the interpretation of it is suspect (Enclosure #1)<sup>2</sup> in some studies at Hollis, there are other studies, including Hollis studies and data which are reliable. Further studies in British Columbia and in the Pacific Northwest and California add to the wealth of knowledge. Several compendiums of studies show extensive studies over the years. In addition to studies themselves there is hard evidence of effects emerging, such as we are now witnessing in the collapse of the salmon fisheries in the contiguous United States, from the east and to the west coast (Enclosure #2),<sup>3</sup> all of it. So when I pick up a draft-EIS such as the present one I become highly disturbed and somewhat suspicious and wonder if history is again repeating itself. The integrity of the Jack Ward Thomas's Forest Service is above reproach, but I feel that HODEIS is not confronting the issues nor maintaining the high standards of the Thomas Administration, indeed, it might violate NEPA.

The recent documentation of the need for leave-strips and the studies showing the potential loss of rearing and spawning habitat of streams without proper organic inputs and bank protection as stream systems readjust was a subject of a lecture last winter by Dr. Fred Everest of the Forest Service Science Laboratory. A similar description of this problem was sent to Governor Knowles in March 1995 (Enclosure # 3). I call your attention in the Enclosure #3 (pages 1-3) of disasters waiting to happen. We can do something about it.

The National Forest Management Act of 1976 created a committee of scientists which were to study leave strips and report to Congress. They did in 1979 and their recommendation published in the Federal Register (Vol. 44, No. 88, p. 26625),

. . . . we concur with the Task Forces's recommendation that the width of this strip be 30 meters, but emphasize that this is a wholly arbitrary value, proposed solely for administrative value."

This arbitrary recommendation of width without substantive studies became law in Alaska in the Tongass Timber Reform Act of 1991, and it was easy to see why. The U.S. Forest Service in Alaska didn't want it. John Sandor, the Regional Forest at the time of passage of NMFA went to Washington D.C. with draft of the first Forest Service Area Guide<sup>4</sup> which told Congress that the Forest Service was doing every thing right assuring them fish productivity would be maintained even increased (Enclosure # 3, page 11). Testifying to Congress,<sup>5</sup>

. . a point has been made that we should have mandatory leave strips on the salmon streams of southeastern Alaska. Research has

shown that this would be unwise. Salmon runs have declined on both streams that have been logged, and those that have not been logged. Research has shown that the trees left in leave strips particularly Sitka spruce and western hemlock, are shallow rooted and would likely windthrow . . . "

And the opposition continued into the 1980s. In 1983 Regional Forester Barton, who replaced Sandor, cited<sup>6</sup> (1) the Forest Service continued to measure the effect of logging on single streams by the size of the regional commercial catch and (2) argued the Forest Service was protecting fish resources and enhancing them. That, though seeming to mark a significant change in the Forest Service position, was a deception. No specific reference to leave strips was made. Barton stated,

[Riparian vegetation is important but] . . . it makes little difference whether this vegetation is old-growth, second-growth or planted . . ." (Text in brackets and underlining added for explanation and emphasis inserted.)

Protection of fish habitat did not recognize leave strips because cutting to the stream bank in fact was allowed of all trees greater than one foot in diameter!<sup>7</sup>

And the myth that the forest was being protected by the Forest Service continued to be perpetrated. A "New Perspectives" and a new ecology approach came from the Forest Service pens, while even drawing famous Dr. James Burke of British TV acclaim and science historian to give a dialogue in film *Schedadxu*<sup>8</sup>--an interestingly down-grading and subtly omitting the a major role logging played in the demise of the PNW salmon of how things were going too well in the PNW with a heavy emphasis on effects of dams of course, going to the very edge of credibility of not offending forestry, that is not properly planning forestry also as a partner in the destruction--there are no dams on coastal rivers and they too have declining salmon stock, a subject Dr. Burke was probably unaware of as he read his script. Then appears David Gibbons, of the U. S. Forest Service in Alaska at the base of the ramp to the Juneau boat harbor stating,

. . . when the commercial harvest declined in the mid 70s people got worried. There were two problems. *First they were simply catching too many salmon. And secondly, there was a problem with the habitat that the salmon were using.* . . the Forest Service attacked the habitat problems. And . . commercial fishermen . . helped build hatcheries and also work on habitat problems. Through these . . efforts it appears we have solved our salmon management

problems in Alaska. Three out of the last five years have been a record harvest, with a record harvest of 140 million in 1985. We are lucky we caught this problem in time since we were going down the same path as the Pacific North West."<sup>9</sup> (Italics and underlining added for emphasis.)

Exactly what has the FS accomplished, is it the hatcheries or the work on habitat or both. Well it is neither, and there is no evidence things are any better than as they were in the last 100 years or today relative to assuring a stable salmon production. Since Gibbons none are so brazen as to make such a idiotic, scientifically unsound statement measuring logging effects upon salmon production. The runs were in fact better off before any forestry ever appeared in southeast Alaska.

A proposal with considerable biological standing of PACFISH, namely a minimum width of 250 feet is not to be disregarded in view of the past intentions of the Forest Service.

But even the 30 meter "arbitrary" recommendation was probably biased downward to increase the adverse effect upon salmon. One of the committee of scientists was a Dr. William Webb who had written a paper for the 1973 Nixon Commission Report.<sup>10</sup> The Nixon Commission upped cutting the remaining old-growth forest using solely for Alaska the information from Alaska provided through the three paper troika of Sheridan and McNeil (1968) and the Meehan et al., (1969) publications, with the deletion of Salo (1967), discussed and discredited (See enclosure # 1, pages 1-4) and elsewhere. The Webb paper,

. . . There is a temptation to interpret all obvious signs of habitat destruction as deleterious to fish populations. However, all habitat changes do not result in declining populations. In several recent studies it has been shown that salmon populations increased in streams flowing through logged watersheds over a several year period following completion of the logging. Sheridan and McNeil (1968) found an increase in salmon spawners and salmon fry during a 7-year period after logging in two streams in southern Alaska. They believed some of these increases may have been due to changes in the streams not related to the logging operations. However, populations were not drastically reduced in spite of the fact that there was temporary increase in turbidity and sedimentation."

But Dr. Webb was helpful in establishing what both Sheridan and McNeil were so busy attempting to deny and that was the Forest Service tie between how

logging effects looked as measured by escapement populations by citing a earlier paper<sup>11</sup> appearing before Sheridan and McNeil (1968). With the senior author, Bill Sheridan, it reported with excruciating truth that visual estimates of escapements before and after logging were believed sufficient and used to detect logging effects, sufficient even to write a paper about it. So to speak such methods, which had been employed since the beginning of time--so to speak,

. . . Sheridan, Weisberger and Wilson (1965) studied 12 salmon streams in Alaska that had been visited immediately after completion of logging operations 14 years earlier,<sup>12</sup> and concluded that none of the 12 streams was producing fewer fish than before the logging took place. In one stream logging had apparently increased stability and productivity by channeling the water and making bottom materials more stable."

Dr. Webb and the Commission had received and knew about the abundance of information that protection of the fishery from logging was not adequate in southeast Alaska, yet he produced such a uncritical statement of effects!

So from the beginning adequate leave-strips were not being given a fair treatment in the U.S. Forest Service.

When we back off from our attracting attention to ourselves and power, such as the present proposal which goes or match only the awesome forces of natural disasters of Nature in terms of permanent alteration of the environment, in fact we are not doing much better than our ancestors, and perhaps worse. In the case of some species man co-evolved with them and they became a prey which could sustain and evolve as the predator, man, evolved. In the case of fish and forestry, as well as fishing technology, there is no co-evolution, the predator is evolving while the prey remains static, indeed, is becoming weakened through destruction of the gene pool in hatchery technology. We are actually little ahead of the Maori when they arrived on New Zealand and plundered and eventually exterminated the dodo birds and other megafauna. Our automobiles, and boats, electronic gear are just as lethal if not more so than the spears of the Maori. We fool ourselves as being civilized. We are an arrogant and ignorant species self-centered beyond any respectable animal in the animal kingdom. The antics and foolery of high paid bureaucrats, before high equally paid politicians listening to them is a recipe for disaster. If there is any sense in all of this it has got to be found before it is too late.

The facts are, and were, that the Forest Service did not care about the fishery resources and, in addition to its public relations campaign telling

the public the opposite, it went into the scientific literature and corrupted that where it could (Enclosure # 1).

With this background when what is one to make of proposals to cut into previously uncut and loaded watersheds described in the proposal?

#### Criticism of HODEIS

P. 3-45, last paragraph, hydrology. (Will there be 160 inches a year, what is it during the summer months?)

p. 3-49. The effects of corporate logging downstream with Forest Service helicopter logging upstream will confound effects and a bad idea to log above corporate lands. That is to say, if stream damage and deterioration occurs due to logging it cannot be attributed to another party. Sources of effects should be kept simple, and two kinds of logging, under two different systems just complicates understanding effects which are difficult enough to determine initially, without complications.

p. 3-54

The largest and most important fish producer of the sale area watershed 341 of 17,291 acres (p. 3-53) does not receive the discussion of the sediment and erosion problems discussed for the other watersheds, but with embeddedness (p. 3-54, 2nd para. in which the term is not defined in the glossary) of 60% it sounds to me that there is a very serious problem of sedimentation facing the Forest Service on the largest fish producing watershed of the sale area!

In summary of the pages. 3-42 to 3-56 Fish and Water Quality it is amazing that logging is proposed when stream stability and/or embeddedness is so openly discussed (For example, p 3-50, WS #321; p.3-51, WS #331; p. 3-52, WS #332; p. 3-53, WS #333; ) and then when we get to Lower Sandborn River (p. 3-54) the "most productive stream in the project area" there is no discussion of sediment, embeddedness and erosion! I return to what the initial Area plan stated, productivity would be protected. I will remind you that promise was made when there were not leave strips. Now that you have 100 foot leave strips are you going to tell us that they are adequate and the problem is solved when in fact there is much evidence they should be wider.

It appears therefore by omission of existing sound evidence, data and techniques a case is made that HODEIS has not able to evaluate potential adverse logging effects in the sale area! This is clear because it has not attempted to evaluate such effects, employing, for example, Habitat Capability Effect models (see Upper Carroll Timber Sale, draft-EIS, January 1986, or more

subjective appraisals, which at least prioritize the most damaging effects. What has happened between the writing of the recent Upper Carroll Timber Sale draft-EIS and HODEIS? After omitting the use of models HODEIS apparently wants the reader to believe:

. . No method has yet been developed that can universally quantify effects of hydrology and water quality changes in freshwater streams on the number of salmon successfully hatched and reared."  
(p. 4-78)

Because there may be no method that can universally quantify effects does that mean the EIS process is exempt from attempting to quantify those effects that are known, certainly imperfectly, and for which some information is available? The Forest Service has simply failed in its mandate, while pointing out serious potential sediment problems to its credit (Table 4-20, pgs 4-56, 4-78), I might add, but failing to evaluate the evidence they present, and have gone ahead with the timber sale anyway. This is like looking at a red stop light, ignoring it, and proceeding recklessly through the intersection betting there will be no pedestrians or vehicles in the way!

Much of the public, in my opinion, for the past two decades since the first TLUMP of the U.S. Forest Service has been left with the impression that logging would not adversely affect salmon production. In fact, the original TLUMP suggested salmon production could be increased (Enclosure # 4)!<sup>13</sup> At the time many of us knew that the Forest Service could not honestly make such statements.<sup>14</sup> Then we learn it is possible to quantify the effects in the Upper Carroll Timber Sale DEIS, then we learn in HODEIS that there still is no way of knowing what the quantitative effects of logging upon fish resources are! Indeed, in those two decades when we knew there was no basis of the TLUMP statement and the Forest Service still, in fact, *can't quantify effects of logging on the number of salmon hatched and reared in freshwater* and the original promise apparently still remains broken, and after two decades in which study was supposed to follow that promise. It is clear the effect of logging upon the survival of salmon and trout will be skirted again. Will we be told again what the above quotation states? When is the Forest Service going to face up to the issue? If it is true that effects of logging can not be satisfactorily quantified, then it is certainly time, indeed, past time, that they do.

Page 4-50, Hydrology

There is a new study to be published in Water Resource Journal about flood effects following cutting by Julia Jones at Corvallis, Oregon. The reference to Meehan's work is suspect because of the problems which editor of Forest Service literature has with the truth. (I have several times over the past

two decades discredited the Meehan et al., (1969) publication.<sup>13</sup> (Myren, 1972<sup>16</sup>; Myren, 1974<sup>17</sup>; Pella and Myren, 1974<sup>18,19</sup>; Myren, 1975<sup>20</sup>; Myren, 1976<sup>21</sup>). Meehan et al., admit one of the few places in their highly edited publications where they did tell the truth that their equipment was not refined enough to detect small changes in streamflow (see Discussion in Meehan et al., p. 37.

The reference to Bartos on the same page should be checked out with Bartos, though he is retired. I did not agree before his retirement with the way the Forest Service had interpreted his statements, as I recall.

#### Recommendation

There is only one answer to the apparent void in responsibility particularly shown in the HODEIS, and that is, believe it or not, and after all of these years and if the premise of HODEIS is right then there is still an absence of critical information. Obviously more hard biological information of the response of fish to the environment is needed. So gather it. And we suggest the solution of gathering such information and to solving the problem of quantifying of logging effects: make comparisons between two, relatively contingent, sufficient large areas each with many watersheds but one subjected to extensive clearcutting, and the other uncut. These two proposed comparison areas must contain similar estuarine and upland microclimate, contain the same kinds of geology and stream systems. Such a plan would remove the common quantitative problem of intractable measurement insensitivity of many statistical designs for fish stream comparisons where within stream population variability hides the effects between the experimental and control streams because the relatively large sample sizes of the experimental and control comparison areas contain many watersheds and streams.

This approach is different from the Hollis studies, the only definitive study in southeast Alaska which initially attempted to get at the evidence of stream sedimentation and its effects upon eggs and larvae in a comparison of a before and after logging setting. Those studies only partially lived up to the initial proposals and the interpretations were in some cases wrong, and from which their effect is still adversely impacting our perception of logging effects upon pink and chum salmon. The Hollis studies studied in three streams (Harris River, Twelvemile Creek and Indian Creek) in detail and erroneously "measured" supposed effects against a background of population changes subject to effects outside the study area, i.e., the variation due to the ocean environment upon "local" population sizes.

The proposed study takes a different tact by eliminating the population sampling problem through using many streams and comparisons of the output of those streams to the output from corporate lands. "Macro" or emergent property comparisons are used to judge effects, e.g., an overflight and

comparison of stream sedimentation as judged aurally between the logging areas and the control area (proposed sale area). The contrasts would lead to more reductive comparisons. Such an approach is uniquely appropriate for the study area where extensive clearcut logging will be complete by 1977. It is a made to order set of circumstances which bears much consideration before its potential value is discarded, if it is.

The sale area under federal control just happened, of course, to be adjoining and near to a privately owned area extensively clearcut and monitored by the State of Alaska, and is nevertheless ideally suited for the comparisons. Indeed, the private industry could provide the U. S. Forest Service a perfect study area at no cost assuming they would permit federal monitoring on their lands! Possible comparisons may be tailored to certain meteorological events, such as floods, periods of high population abundances, or to other detailed questions which may be asked such as sediment regimes. In addition to studies designed for specific objectives other uses come to immediately to mind. For example, when major rainstorms and rain-on-snow events of major floods occur (p.4-50 of HODEIS) the two sample areas may be immediately compared. I have predicted in enclosure # 3 pages 1 and 2 the dire consequences. We must know about such events and how they will impact the future for fish, as well as humans. Damage to stream channels following large floods on cut over lands is expected (See Enclosure #3, the Prediction).

#### **Further Information and Justification**

It is clear that State of Alaska funding as well as Federal funds may decrease over the future according to recent trends and currently demonstrated with reduced funding proposed for both the Department of Fish and Game and Natural Resources an impairment of monitoring existing logging effects on State, private as well as Federal lands. It would be unwise to permanently close this avenue to potential vital information for the health of southeast Alaska salmon and trout resources by a premature ill conceived logging in one of the few locations in southeast Alaska where such comparisons may be made.

To HODEIS credit the potential change in ocean currents and the multiple-decadal cycle related to fish abundance (p. 4-77) suggests reduction in fish production may be expected in southeast Alaska soon. The mistakes in management are likely to appear through the background variation during this period. The information obtained from the control and experimental watersheds of the recommendation may reveal important information about the sources of variation in commercial catches, efficacy of hatchery production and the effect of cutting policies.

#### **References**

1. This sentiment in the last sentence is mine and are not expressed by Dr. Everest during his December 11, 1995 presentation.
2. Myren, R. T. 1995. Did the U. S. Forest Service care about fish resources on the Tongass National Forest? Juneau, Ak. 13p.
3. Anon. 1995. Salmon: Myths versus knowledge. The Center for the study of the environment. Santa Barbara, CA. Vol. 1, No. 1, Summer. 2p.
4. Also see enclosure #4.
5. The fall hearings in Juneau, Alaska, John Sandor stated (p. 47 of the hearing record).
6. Barton, M.A. 1985. Old-Growth forests and fish. In Fish and Wildlife relationships in Old-Growth Forests, ed. Meehan, W.R., Merrell, W.R. Jr., Hanley, T. Proceedings of a symposium sponsored by Alaska District, American Institute of Fishery Research Biologist, Northwest Section, the Wildlife Society, and Alaska Council on Science and Technology held in Juneau, Alaska August 12-15, 1982. p. 188-189.
7. Anon. 1988. Aquatic habitat management handbook. (Revised). U.S. Forest Service, Region 10. Juneau, Alaska. see p. 64.16a.1a.  
 . . a. retain all coniferous trees 12 inches d.b.h. or less."
8. Anon, 1987. U.S. Forest Service, Region 5. A VCR tape. *Schedadwx* (Cha-Da-Duch) we are told in the brochure (See enclosure # 5) is an Salish indian name given to the pacific salmon. Also note in the brochure begins by citing Kennel Creek, Alaska.
9. Ibid.
10. \_\_\_\_\_, Report of the President's Advisory Panel on Timber and the Environment. U. S. Government Printing Office, April 1973, 541p.
11. Sheridan, W.L., Weisberger, J.E., and C.N. Wilson. 1965. The effects of logging on twelve salmon streams in southeast Alaska. Dept. of Agr., Forest Service, Alaska region. 59p. Mimeo.
12. Zach, L.W., 1951. Past logging affects little of watersheds. Tech. Note. 8. USDA For Serv., Alaska Forest Research Center, Juneau, AK. 2p.
13. A draft copy of this EIS was taken to Washington, D. C. by the then Regional Forester, John Sandor and shown around the Capitol. One could conclude after the legislator read all of these promises, why in Alaska, the National Forest Act of 1976 wasn't really needed.
14. Pella, J.J., R. T. Myren. 1974. Caveats concerning evaluation of effects of logging on salmon production in southeastern Alaska from biological information. Northwest Science. Vol 48, No. 2, 1974. 132-144.

15. Meehan, W.R., Farr, W.A., Bishop, D.M., and J.H. Patric. 1969. Some effects of clearcutting on salmon habitat on salmon habitat of two southeast Alaska streams. USDA For. Ser. Res. Pap. PNW-82. Pac. Northwest For. and Range Exp. Stn., Portland OR. 45 p.

16. My testimony, the "Findings of Fact # 24" at the 1970 Civil No. A-16-70 Statement presented in Sierra Club et al. vs. Clifford Hardin, et al. U.S. District Court, District of Alaska, Juneau, Ak. 1p. The Sierra Club 1972 statement on logging effects on salmon and trout sent to Dave Gibbons, Fishery Research Institute, University of Washington, November 28, 1972 contained similar criticism.

17. Correspondence to R.M Wilson, from R.T. Myren February 24, 1974. 2p. (I was writing as Chairman of the local group of the Sierra Club.)

18. Pella, J.J., R. T. Myren. 1974. Caveats concerning evaluation of effects of logging on salmon production in southeastern Alaska from biological information. Northwest Science, Vol 48, No. 2, 1974. 132-144.

19. Pella and Myren (1974) cited the Sheridan Affidavit Civil No. A-16-70 Statement presented in Sierra Club et al. vs. Clifford Hardin, et al. U.S. District Court, District of Alaska, Juneau, Ak. 15 p. Sheridan and McNeil (1968)\* initially employed and published the same argument that Meehan et al., (1969) used.

\* Some effects of logging on two salmon streams in Alaska. J. For. 66:128-133.

20. Myren, R.T. 1976. A statement charging inadequate protection of the salmon fishery resource by the U. S. Forest Service in southeast Alaska. National Forest Problems in Alaska. Hearings before the Subcommittee on Environment, Soil Conservation, and Forestry of the Committee on Agriculture and Forestry, United States Senate, the Congress, second session. August 18, 1976, Juneau, Alaska, August 21, 1976, Sitka and Ketchikan, Alaska, August 21, 1976. p. 175-185.

21. Myren, R.T. 1976. The evidence of damage to the salmon and trout resources of southeast Alaska. National Forest Problems in Alaska. Hearings before the Subcommittee on Environment, Soil Conservation, and Forestry of the Committee on Agriculture and Forestry of the Committee on Agriculture and Forestry, United States Senate, 94th Congress, second session. August 18, 1976, Juneau, Alaska, August 21, 1976, Sitka and Ketchikan, Alaska, August 21, 1976. p. 123-161.

Sincerely,

Richard T. Myren, Ph. D.

Chairman of the Juneau Group of the Sierra Club

March 25, 1996 (Further edited after submission; endnotes # 8 & #9 added.)

four enclosures

file\_Hodeis2 (formerly file--sierra5)

45 of Encl. #3

17 December 1979

USDA  
Tongass National Forest  
Chatham Area  
P.O. Box 1980  
Sitka, Alaska 99835

Gentlemen:

The Forest Service has repeatedly stated in the Tongass Land Management Plan and the Southeast Alaska Area Guide that it will:

- (1) assure that the management and protection of natural stocks and habitat will remain the primary means of increasing or maintaining fish production (SAAG, p. 78);
- (2) protect and/or enhance fish resources and their habitat (SAAG, p. 79);
- (3) prevent man-induced habitat impairment and repair naturally-occurring habitat damage (SAAG, p. 79);
- (4) maintain the capability of the land and water to produce and sustain levels of fish populations mutually desired by the Forest Service and Alaska Department of Fish and Game (SAAG, p. 79);
- (5) provide for a sustained yield of fish populations through a substantial increase in habitat management (SAAG, p. 78);
- (6) assure that the interdisciplinary team will specify appropriate Fish Habitat Units and prescriptions necessary to meet the fish habitat goals set forth in the SAAG, (SAAG, p. 81);
- (7) implement SAAG policies to adequately protect the present level of natural productivity regardless of other uses and TLMP, p. 128);
- (8) assure that even under LUD IV the biological productivity of fish streams will be protected in all allocation and management decisions (TLMP, p. 54);

(9) maintain a policy that the biological productivity of fish streams will be protected in all allocation and management decisions (TLMP, p. 54);

(10) regard stream productivity as a value which must be protected, and therefore allocation decisions will in no way harm fisheries (TLMP, p. 50);

(11) continue to view the biological productivity of fish streams as a value which cannot be compromised (TLMP, p. 49);

(12) strive to preserve the biological productivity of every fish stream on the Tongass .. (TLMP, p. 92);

(13) implement SAAG policies designed to protect existing salmon spawning and rearing areas (TLMP, p. 174).

The foregoing goals and policies of the Forest Service state clearly that there will be no significant damage to fish resources on the Tongass National Forest through logging activities. Natural rearing is stressed as the primary basis of production which will be protected.

Proposal to Assess Long Term Effects on Logging:  
Attention on Native Lands.<sup>1</sup>

The rapidity of the Native logging in the Port Houghton area provides an excellent opportunity and starting point for potentially disturbed logged watersheds to be compared to a baseline. With the adjacent native logging occurring approximately within the past 20 year period the effects of forest succession on a large amount of regenerating timber of approximately the same age could be followed and compared with the baseline. (Perhaps by fifty years the streams in the native area would look drastically different from those in the baseline, perhaps they would not. Southeast Alaska may not have many discrete large scale logged units where such comparisons to a adjacent similar uncut area in pristine state may be carried out.)

The baseline would also be employed for comparisons between other disturbed lands, not necessary from logging. It would also be employed as calibration forests for expert field review methods and training. With different stream systems and natural variations necessary for the expert review process of the Forest Service that these forest comparisons would also be part of an excellent training facility for all district foresters involved with effects of logging.

The research in these study areas would use the new concepts, such as the expert field review in conjunction with more conventional older methods to increase understanding of logging effects on fish resources. The comparison units may be expected to contain similar estuarine and upland microclimates and the same kinds of geology and stream system attributes. Possibly "macro" or emergent properties, which according to modern theories, may result from the complex integration in which the "sum appears to be more than the parts" which will provide new challenges and possibly leading to new avenues in research. Expert field review methods relieves dependence always on costly large sample sizes of many sampling designs to control variability, the bane of early day comparisons and the common quantitative problem of intractable measurement insensitivity where within stream population variability hides the effects between the experimental and control streams. Assuming both populations from each study area migrate to the same areas in the sea, the spatial and temporal contingency of the study areas remove the effect of differences in fishing morality affecting escapements. Differences in effects may be reduced from interannual variations between the populations from the two

comparison areas in sharing the estuarine environment and similar oceanic conditions. The populations from the comparison areas occupying the same locations (similar ocean survival and feeding conditions) after leaving the streams may reduce differences in variation within the two populations. The comparative observations of the experts to calibrate differences between baseline and the experimental samples could also be used as research tools. For example, the in-depth Wood-Smith et al.,<sup>2</sup> type analysis would be applied. In comparison with Hollis studies no longer would the studies be limited to commitment of large resources to one or two unlogged streams in the proposed plan. The greater flexibility of the experimental designs would no longer require rigid commitment to long-term budgets either. Comparisons could be made when circumstances may require it, though long-term budgets are better, of course.

The formation of the comparison units would help maintain a focus on the broader region wide monitoring program of effects of logging. Rather than addressing complex sampling as suggested previously these comparisons units could also include quick but vital observations of sudden events such as massive flooding, or rain on snow events (p. 4-50 of draft Port Houghton Forest Service EIS), or such as occurred at Sashin Creek, Little Port Walter in the fall of 1941 (described previously). These comparisons could be accomplished, for example, by overflights and comparisons of obvious indicator variables of disturbance, such as suspended sediment as judged aerially: real time between the logging areas and the control area (proposed sale area). Such data and contrasts could lead either way to more reductive comparisons on smaller micro-scales following certain effects in detail or to perhaps macro, holistic comparisons and impressions and to new access or to present, but seldom employed more "subjective" avenues to possible improved understanding. The monitoring program may be designed to include different stream types targeted in advance to respond to certain types of meteorological events of special interest, such as effects of major rainstorms, freezing, periods of high population abundances, or to other detailed questions about differences between the comparison units.

This research and monitoring approach is of course very different from previous studies. The Hollis studies--the only definitive study in southeast Alaska, or the more extensive longer termed Carnation Creek study in British Columbia were the most significant studies in terms of costs and manpower. These studies employed quantitative procedures which were basically reductive by nature. While the Hollis studies, lasting five years, from a quantitative perspective failed (but not completely), the more complex studies over twenty years at Carnation Creek in British Columbia contributed much more to the understanding of logging effects. By initially attempting to get at the evidence of stream sedimentation and its effects upon eggs and larvae in a comparison of before and after

logging comparisons the Hollis sample sizes had to be small (only on three streams) resulting in insufficient measurement of between stream variability for good comparisons (there were other reasons also for the problems). The scales of the comparison areas proposed here, for example, must be large enough and including many streams so chances of single major events such as a landslide could be expected to occur within the comparison units. The Hollis studies which made great contributions to life history studies only partially lived up to the initial proposals of measuring such quantitative effects of logging. (The results of the Hollis studies purported to be quantitative are still adversely impacting our perception of logging effects upon pink and chum salmon. The Hollis studies in fact also failed, because not all the variables were measured, e.g., habitat, and coho production.)

The proposed study plan therefore takes a different tact from the Hollis studies and the Carnation Creek studies in British Columbia, both extremely expensive because of the micro-quantification of the comparisons. The present proposal eliminates much sampling problem through using many streams for quick, low cost comparisons between the public and corporate lands. Of course more expensive studies are also possible, and more desirable.

The Port Houghton sale area as study area therefore provides a unique opportunity which will not return. The sale area under federal control just happened, of course, to be adjoining and near to a privately owned area extensively clearcut and monitored by the State of Alaska, and to date has remained unlogged. The commercially accessible timber on all Native lands have now been almost completely clearcut and the early stages of forest succession already begun thus precluding access of studies to the past successional stages. The single simplest contribution could be simply allowing the comparison units to remain undisturbed over the next century and watch the differences which could develop between the comparison units. Private industry could, in effect, provide the U. S. Forest Service a perfect study area at no cost assuming they would permit federal monitoring on their lands. The people of Alaska and their fisheries would all benefit and be richer for it with the knowledge of how logging has affected the private corporation lands as compared to the unlogged baseline comparison area.

Impairment of monitoring of existing logging effects on State, private as well as Federal lands may occur due to recent trends and currently demonstrated with reduced funding proposed for both the Department of Fish and Game and Natural Resources. Furthermore, logging in one of the few locations adjacent to extensive logging, the Port Houghton sale area, would permanently close the avenue to potential vital information to the health of southeast Alaska salmon and trout resources. It could be ill conceived and unwise.

Reference

1. from Sierra Club comments on Port Houghton and Cape Fanshaw Timber Sale, DEIS December 1995.

2. Wood-Smith, R. and J. M. Buffington. 1996. Multivariate geomorphic analysis of forest streams: Implications for assessment of land use impacts on channel condition. Earth Surface Process and Landforms, Vol. 21, 377-393.

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Honorable Tony Knowles  
Governor  
State of Alaska  
Juneau, Alaska 99801

Dear Governor Knowles:

Thank you for the reply to my letter (Enclosure #1a & 1b) about Senate Bill 2539 and that I send it to Senator Murkowski.

My correspondence with Senator Murkowski has always been minimal and since the Republican reckless attack on regulations I have decided finally to excise myself from further contact with the Alaskan delegation. They have allowed, with the aid of the U.S. Forest Service, the timber resources of the Tongass National Forest to take precedence over the extremely valuable, and for most National Forests, unique salmon resources. The delegation is a living example of why campaign reform is sorely needed (Please note that campaign reform isn't in the Republican Contract for America).

I am sorry I have to mail it to the Senator. It is addressed to you *pro forma*. The original and present letter will be made available to anyone. I welcome anyone to disprove or correct the arguments of the prediction on its merits.<sup>1</sup> I will not debate my personal statements on policy and politics.

#### **The Prediction.**

I have written this letter in order to make a prediction about the health and productivity of southeast Alaska salmon on that portion of the National Forest and private lands subject to past logging. The Forest Service has through logging practices jeopardized the salmon spawning and rearing resource and placed it in a position from which it is not likely to recover. I predict in time we will see the marked decline, already underway, of populations of salmon returning to streams from logged watersheds.

#### **The Problem.**

Biological integrity of a natural stream ecosystem depends upon steady-state inputs of terrestrial input of solid organic material<sup>2</sup> and inorganic material and dissipation through biological decay and downstream movement under the action of streamflow. The removal of trees on one or both sides of the stream changes the solid organic inputs and sets into motion new changes in streambed configuration, width, depth, slope, composition of streambed materials, and pools and riffles. These changes are presently occurring because past logging

practices have removed large old trees from the sides of hundreds of miles of southeast Alaska prime salmon producing streams.<sup>3</sup>

Southeast Alaska lies in a very variable climatic zone in which major rainstorms and floods occur. On unlogged watersheds major floods caused severe damage to salmon spawning and rearing habitat. I base my prediction on observations of occurrences of past flood events in southeast Alaska and northern British Columbia, a few of which are listed:

(1) A rain on snow "event" occurred on Sashin Creek at Little Port Walter, Alaska on 9 January 1942 and caused major streambed damage, bank erosion and restructuring of the stream system. It occurred on a pristine watershed, unlogged and with no roads, which is in one of the wettest precipitation belts in southeast Alaska (227.8 inches precipitation per year) and a stream adapted the frequent floods. The biologists at the stations reported,

. . . The melting of 4 to 7 feet of accumulated snow in the watershed together with heavy rains produced a freshet that not only thoroughly scoured the stream bed but also moved large logs along the banks that had not been dislodged for many years.

. . . Millions of developing eggs and young were washed out of the gravel . . . Thousands were caught in the grass and debris but most of them drifted out of the stream."<sup>4</sup>

The biologists at the Little Port Walter station at Sashin Creek predicted from the weather data and an immense counted spawning in 1941 of 84,304 pink salmon a return of 28,000. The actual counted return was 14,783 and down 56,305 pinks or a 5.7 fold decrease compared to the parent year 1941!

(2) During the 1930s a major flood in Staney Creek, Prince of Wales Island, Alaska transported complete trees one of which destroyed a Federally maintained fish counting weir located on the stream.

(3) Major floods were observed in 1917 removing eggs and larvae from spawning beds of the Skeena River, British Columbia, Canada (Neave, 1953).<sup>5</sup> The Nass River also in British Columbia overflowed in 1917 and drove natives from their village (though reoccupied later, see Shotridge, 1919).<sup>6</sup>

The knowledge of cutting to the stream banks and such events similar to those as listed here has alarmed people concerned with salmon all along the Pacific Coast.

#### Some Characteristics of the Effects on Streams.

The direct quantitative relation between large organic debris and rearing fish abundance dictates the need for protection and future production of large organic debris around fish producing streams. Cutting streamside trees robs the streams of the basic stream structuring element for stabilizing sediment movement and creation of fish habitat.<sup>7</sup> Large anchored stable debris on appropriate upstream reaches also dissipates flood energy through massive trees one hundred or more years old and reduces destructive effects downstream. I refer the reader to the Koski paper, enclosure #2, for further details applicable to southeast Alaska and to Rosgen for additional details.<sup>8</sup> Where cutting has left streamside timber in inadequate amounts such leave strips risk becoming premature blowdown and hence rob future sources of recruitment of new organic debris as stream habitat debris deteriorates and disappears.<sup>9</sup> (Such cutting also preempts future restoration of use of large trees, such as uprooting them, to form the stable habitat structure.)

The selective removal of streamside trees is unique and historic. The severity and wide extent of these changes have not been present southeast Alaska since the last ice age. Also major salmon producing streams are poor in large organic debris because of stream clearance activities occurring since the very beginning of concern for protecting salmon production. These ill conceived attempts imagined to correct deleterious blowdown effects may, in fact, have created the unwanted effect. Blowdown<sup>10</sup> from logging activities has in the past appeared unsightly and clearing (the effects of blocking salmon migration were the exception rather than the rule) of streams became popular without studies to determine the effect on fish habitat nor studies show blowdowns create poor habitat for the fish. For example, on Survey Creek, Kosciusko Island, on Sea Otter Sound near Prince of Wales Island logging to near the stream bank occurred in 1941 and stream cleaning occurred even though the pink run was large at the time of cleaning.<sup>11</sup> Perhaps there are no major fish producing watersheds in Alaska which have not already experienced some "stream improvement" along lower reaches near tide water and this question has already escaped finding an answer.<sup>12</sup> Upstream, in less accessible reaches, pristine conditions are present and the streams appear well adjusted to the inputs of debris and cleaning appears unnecessary.<sup>13</sup> Recent studies in Washington and Oregon also show stream cleaning of large debris reduced the species richness and numbers of fish present compared to debris collections which were uncleared.<sup>14</sup>

The chronic degradation of fish habitat through cutting to the streambank, and well documented throughout the United States, not only the Pacific Northwest, can only be reversed by stopping such cutting and allow the repairing process to begin. The slow growth of spruce and hemlock and the necessary blowdown and senescence proceeds on scales of centuries. For the present, one therefore may only watch continual

degradation and ecological backlash while streambank and near streambank trees achieve sufficient age and mass to become large sized stable and senescent members of the community, let us say the massive centurions and post-centurion guards, keystone species of the ecotone,<sup>15</sup> which bring and maintain stream structure as they fall--sometimes the rooted end remaining on the land, sometimes the whole tree partially buried in the streambed--and recreate the necessary forest-stream ecosystem and fish habitat. In the style of David Attenborough's *The Private Life of Plants*, one could imagine in the mind's-eye a time-lapse speed-up of the march of living young trees into the riparian zones after cutting and the growing to the towering centurion giants once gracing the stream banks and as occasionally one falls to add stream debris.

The present situation is therefore of degradation enhanced by sudden flood disturbances and certain predictability over the long term. A local example of effects of cutting on stream morphology and habitat showing the adverse effect of such "blow-outs" and "unraveling" on channel morphology and fish habitat may be found at Harris River, near Hollis, a drainage which was logged and roaded (1956-1962). The effect of such degradation due to logging was clearly evident in the summer of 1993 (photographed at that time) more than 30 years after logging. Additional effects may be seen on Harris River of further fish habitat destabilization, bank erosion and disturbance of existing streamside trees following an intense rain storm of fall 1993 and flood particularly below the bridge to Hydaburg. (What if the "floods of the century" of the week of March 12 in California had occurred in southeast Alaska?)

We may with confidence, therefore, and in time and, at least, for some of us, see sudden major "blow-outs" following floods at levels perhaps similar to the one observed at Sashin Creek in 1942 but with even more damage because of a previous history of logging. Otherwise, the cumulative persistent effects of ever present slow "unraveling" through organic decay and deterioration of stream structure and fish habitat will be observed.

#### **Why Current Salmon Production Shows No Evidence of Damage.**

You may be told at this point after reading my prediction, (especially should you relay this letter to Murkowski to determine an answer that his friends in the timber industry will use), that you merely have to look at the large sizes of recent commercial catches of salmon in southeast Alaska to feel that all is well on the logged watersheds. But the argument which they have used to establish that claim is patiently unfounded and has been thoroughly discredited.<sup>16</sup>

The resource was in good shape as the Forest Service would once say. But how would it know. To detect even a large effect of logging on a single stream using escapement is improbable unless prohibitively expensive sampling designs are employed or only extreme catastrophic sized changes are of concern. For example, let us assume we have a stream in which

we have observed the natural escapement of pinks salmon for 5 years before logging, the watershed is cut, and then we make the observations again for 5 years after logging. If a judgment is made on the known variability of the escapement the error in judgement is horrendous. For example,

If one chooses the probability of making a mistake (there is an effect of logging when, in fact, there is none) to occur 10 times in 100 trials ( $\alpha = \alpha = 0.10$ ), and using the known variability in escapement, then, for a stream observed 5 years before logging and 5 years after logging a real decline in mean escapement of 50 % will go undetected 75 % of the time. That is, if sets of 5 before and after logging observations could be replicated 100 times, a difference of 50 % in the mean number of spawners between the before logging and after logging comparison 25 results would indicate the decline and 75 results would indicate no decline. (see pages marked in Pella et al., of Enclosure #3). Also see footnote 9.)<sup>17</sup>

(If the 5% significance level is used ( $\alpha = 0.05$ ) instead of the 10 % level thus when a 50% level is not detected 75% of the time the 5% level of testing would not detect it about 83% of the time!)

That is, even when the runs decreased catastrophically by 50% there is a good chance it would not be detected! You may ask if such a large change of 50% occurs in production wouldn't it be recognized? Yes, it would be but not over 5 years of before and after observations and then only 25 % of the time (I hope you observed the unsettling uncertainty here because of the 25-75 percent split between in believing an effect exists or not, when in fact there was an effect). This is because the decrease in annual productivity (measured by escapement in the present case) is lost in the natural variation or noise of the annual fluctuations in the levels of production. Over a greater period of time, if an adverse effect is present, a gradual decline would begin to appear and eventually the productivity would stabilize at the 50 % reduction. That slow, wearing, decline would be the period of uncertain economic activity. Eventually the vitality of the fishing industry would wane and so forth until it dawns upon every one that the fishery has been lost. (Doesn't this sound familiar?).

Smaller changes have less probability of being detected. A decrease, for example, of only 10% of the run is a significant economic impact. It would be extremely hard to detect, and a longer term period of observation would be required for it to be noticed and appear in the catch. When the argument that one can judge the health of a run to a stream by the escapement is extended to using commercial catch and an index to such escapement and using it as a measure of the effect over all logged streams of southeast Alaska the argument is ridiculous if it

were not so serious and the fishery would be hurt so seriously under such egregious misconceptions.

But such a toothless argument against exacting scientific logic has been an old story.<sup>18</sup> For example, it appeared in the first published document introduced in the spring hearing record of the Congressional debate in 1976 over the National Forest Management Act in a 1969 Forest Service publication.<sup>19</sup> It claimed spawner populations could detect logging effects, and finding no effects claimed logging was not damaging the fish resource.<sup>20</sup> The publication, complete with cover page, appeared in the esteemed position of the first published document of the fall hearing record. It had been introduced to the record by the then famous Senator from Idaho, James McClure, a well known advocate of the timber industry. But the 1969 publication had been placed in the hearing record after the staff of the Forest Service in Alaska knew the document had been discredited by Pella et al., 1974 (See last text sentence page 144 of the publication of enclosure #3). I had also personally explained to John Sandor, then the Alaska Regional Forester and before he went to Washington D.C. to testify at the hearings and for which both he and his staff had been apprised of the Pella et al., criticism. The Forest Service had been a party to a deliberate attempt to misinform Congress.

#### **Why the Unexplainable Variation in Salmon Production?**

The major decline in productivity on logged watersheds has not been obvious, as measured by adult population indices because of short and long term unexplained fluctuations in ocean productivity affecting the sizes of fish populations, survival rates and size of fish. Large long term changes in ocean populations of fish are well known.<sup>21</sup> The fluctuations which includes the effects of fishing overwhelm most freshwater effects upon production and their causes are often not satisfactorily understood.<sup>22</sup> And furthermore there is evidence that abundance may be determined in fresh water before the eggs are deposited, namely that previous conditions, including the ocean, determine size of pink salmon and that size is related to time of spawning which then becomes a main determinant of survival in fresh water because earlier spawners may be in more favorable survival conditions.<sup>23</sup>

The causes of variability in spawning populations of salmon arising from fluctuations in ocean productivity are complex, puzzling and large. Cycles of abundance of salmon on the east and west sides of North Pacific ocean may appear in phase<sup>24</sup> but asynchronous for selected populations, such as between Bristol Bay Red salmon and Frazier River Red salmon.<sup>25</sup> Naturally spawning coho populations and productivity off Oregon and Washington shifted from high ocean survival and production prior to 1976 to low production but after 1976 it reverses with high production in northern British Columbia and Alaska waters and low production to the south.<sup>26</sup> Production of pink salmon declined after early 1941 to middle century in southeast Alaska while it was high

further south.

Cycles of abundance in the ocean appear associated with the Aleutian low pressure system<sup>27</sup> and with El Niño phenomena. Small El Niño cycles have been identified to occur 2 to 7 years with an average of about 4 years.<sup>28</sup> Closely related to El Niño phenomenon are the Southern Oscillation (SO) over the tropical South Pacific Ocean with an irregular oscillation period in the range of 2 to 7 years<sup>29</sup> and the two phenomena are closely connected and known as ENSO.<sup>30</sup> Major ENSO events have occurred within a period of approximately 20 years.<sup>31</sup> Intrusions into the Gulf and Alaska of warm water carrying southern species of life occur. During the low and declining pink production in the late 1940's and 1950's an exception to the decline was heralded by albacore<sup>32</sup> caught and sold in numbers in Ketchikan in 1948. A large pink salmon run occurred in 1949.<sup>33,34</sup> An apparent high fresh water survival of pink salmon migrating fry in 1950, 1951, and 1952 predicted a large return from the ocean in 1953<sup>35,36</sup> but the return was a disaster (the lowest return at the time) and appears to have taken place in the absence of an El Niño. However new changes also appear in store. The major 1982-1983 El Niño, for example, has had no distinct termination which historically is unprecedented. It is reported to make professional weathermen to now speculate if the Green House effect is involved (Enclosure # 4).<sup>37</sup> If GH is true, then the effect of increased evaporation may be more water returned to earth and an increase in flood frequency and size in such high precipitation areas such as southeast Alaska. (Since the original of this letter general consensus within the scientific community of the reality of GW has occurred.)<sup>38</sup>

Ocean productivity expressed in numbers of salmon can also be expressed in size of salmon further demonstrating the complexity of effects and variability in the ocean. Chum salmon have declined in size from the late 1950's in Alaskan waters and the western Pacific and the numbers have increased though it is most developed for the western Pacific stocks.<sup>39</sup> Some pink salmon populations when large tended to be composed of small in sized individuals and migrate late, and when large in body size then to be small in numbers and early in migration.<sup>40</sup> There is evidence that large pink salmon migrate from sea to spawn earlier and smaller salmon hence deposit eggs earlier in spawning gravel and develop faster because of warmer temperatures and hence survive over the winter better compared to later spawning pink salmon.<sup>41</sup> Perhaps even intraspecies competition occurs. From 1926 through 1937 and in 11 of the 12 consecutive years (1931 was the exception) for both odd and even year cycles when the runs of pink salmon were large the fish were small and when the runs were small the fish were large.<sup>42</sup>

#### After Ocean Residence.

The uncertainties and the complexity of ocean productivity therefore merely impresses upon the mind the importance of quality of the freshwater environment and the effect of stream degradation. When the natural populations return to spawn from the ocean, the one final and

ultimate environmental factor that awaits them is always the quality of the spawning environment, whatever the former environmental complexity of the ocean ecosystem, the size of population or size of individual and time of arrival to spawn." Cushioned by the low density the widely dispersed populations in rearing and feeding areas of the ocean become focused into limited areas in fresh water requiring stringent and narrowly defined environmental constraints for survival. The entire population is invested in high density, local concentrations of eggs, totally at the mercy of a potentially hostile environment. There, resting within 6 to 10 inches of the stream bottom, the next generation, the entire population, in the form of fertilized eggs and developing embryos, must remain and experience over an entire winter the possible effects of stream dewatering, freezing, siltation and suffocation, dislodgement from gravel shifts, disease and predation.

Will the near 1800 initial eggs pink salmon female and male-female pair be sufficient to bring back another pair to maintain the population level at their parents level? And what of the deterrents of stream structure, perhaps the slow widening and channel changes of the stream or a black root snag plowing through the bed remorselessly, loosed out of a stream bank initiated by a mindless environmental policy concocted decades earlier and sending the seeds of a new population into the past. At the end of the oceans intransigence there is then another unforgiving hurdle in freshwater to which man has considerable responsibility and some control, and upon which the future of the populations depend, the ultimate quality of the spawning environment. But now in many major fish producing watersheds it is seriously damaged.

#### Some Causes of Streamside Habitat Destruction.

##### U. S. Forest Service.

The fact of the matter is that the U.S. Forest Service has betrayed the public and fishermen and fisherwomen." It assured the public in the middle 1970's through a remarkable document, the Southeast Alaska Area Guide (SAAG) that the fish resource would not be damaged, and claimed even enhancement of the runs (Summary in enclosure #5). But leave strips were not part of that protection and enhancement. The draft SAAG also accompanied Regional Forester John Sandor to Washington D.C. to testify at the National Forest Management Act spring hearings of 1976. In the fall hearings in Juneau, Alaska, John Sandor stated (p. 47 of the hearing record),

. . a point has been made that we should have mandatory leave strips on the salmon streams of southeastern Alaska. Research has shown that this would be unwise. Salmon runs have declined on both streams that have been logged, and those that have not been logged. Research has shown that the trees left in leave strips particularly Sitka spruce and western hemlock, are shallow rooted and would likely windthrow . . "

Nothing in the Regional Forester's statement is correct, without correcting qualifications of which none were made! And a long time and a lot of damage occurred through Reagan and Bush Administrations until leave strips became mandatory but then only enforced seriously until after the reorganization of the Forest Service in 1992 under the new Administration. In regard to the veracity of the 1976 draft SAAG claims to Congress in 1976, and to the public in general latter, it was hogwash! They intentionally substituted the word enhancement for degradation!

#### **The State of Alaska.**

A request for protection from logging of the watersheds of thirty of the prime salmon producing watersheds of southeast Alaska was made to the Forest Service by Clarence Anderson (the first Commissioner of the Alaska Department of Fish and Game of the newly formed State) in 1961 (Enclosure #6). It was denied. The second Commissioner, Walter Kirkness, repeated the request in 1962 (Enclosure #6). It was also not granted. The Forest Service was just too powerful, arrogant and incompetent, and forestry too greedy.

The State's failure to gain adequate protection of fish stream habitat under the 1978 Udall legislation of Congress was a large mistake. The State had been faced in 1975 with the lowest runs ever recorded since the history of the fishery even below the lowest level previously recorded by the once, much maligned, Federal control. A study commissioned by the State of Kramer, Chin and Mayo, Inc.<sup>45</sup> concluded that the regional effect of the middle 1970 decline in salmon production was due to overfishing though other inferior environmental factors on individual streams might have also have been at work. Kramer et al., did in fact identify habitat degradation from improper logging occurred on a localized basis. Because low populations equated to the effects of overfishing could not show the effects of logging they provided the screen for Regional Forester Sandor and later by Michael A. Barton replacing Sandor to hide local logging effects--on the discredited basis the sizes of such populations could show effects. A criticism of the ADFG letter to the late Senator Jackson, lawyer Jim Clark's attempt to influence United Fisherman of Alaska with the ADFG misreporting of the problem, and my response reviews the basic problem of failure of identification of hidden deleterious effects of logging on the fishery resource is shown in enclosure #7. These letters document what has already been said. (Dams on the Columbia River may have played a similar role as the ocean in being a source of confusion, as well as a real effect upon the populations, and hiding actual effects of logging.) The discredited argument of no apparent effect of logging upon salmon production was becoming tiresome even by 1978 and it was still being applied by the Forest Service and supported by the State of Alaska, and always by the timber industry.

#### **Federal Hearings and Recommendations on Leave Strips.**

The need for leave strips was well recognized in professional fishery

circles by 1976 and presented in the testimony of the National Marine Fisheries Service for the NFMA hearings or a good 12 years before National legislation was passed mandating them. The 1976 testimony presented by Dr. Kay Koski appeared in the same hearing record as Regional Forester John Sandor's testimony against them.<sup>46</sup> More argument against leave strips appeared in the hearing record by James Rynearson of Alaska Pulp and Lumber Co, Sitka, Alaska (pages 69-74). Later examples of opposition continued. For example, in 1983 the Regional Forester Barton, who replaced Sandor, cited<sup>47</sup> (1) the Forest Service continued to measure the effect of logging on single streams by the size of the regional commercial catch and (2) argued the Forest Service was protecting fish resources and enhancing them. That, though seeming to mark a significant change in the Forest Service position, was a deception. No specific reference to leave strips was made. Barton stated,

[Riparian vegetation is important but] . . . it makes little difference whether this vegetation is old-growth, second-growth or planted . . ." (Text in brackets and underlining added for explanation and emphasis inserted.)

Protection of fish habitat did not recognize leave strips was because cutting to the stream bank in fact was allowed of all trees greater than one foot in diameter!<sup>48</sup>

The Forest Service had not abandoned its position of cutting to the stream bank and was still allowing cutting. Logging operations from the beginning of cutting through the 1980's into the 1990's was to the streambank for which the two major pulp mills<sup>49</sup> and several sawmills had benefited from for over thirty years or more. Part of the logs taken from the forest were from cutting to the streambanks in some of the best fish producing watersheds in southeast Alaska. And it was still allowing cutting to the streambank. Further-more, the 100 foot minimum required by law was arbitrary and by no means necessarily adequate. The Forest Service reform consisted of a few segments of the streams with leave strips in which trees less than one foot in diameter were protected. And cutting was intense. For example, by 1992, Staney Creek, one of the major fish producers of southeast Alaska, and a stream on the Commissioners list requested for protection, 88.5% of the riparian zone had been cut!<sup>50</sup> The Forest Service could not allow even a fringe of trees to be left along much of the streambanks of this important salmon producing stream.

#### **Native Matters.**

The 1970 Claims settlement, support of native rights, and subsistence under Federal regulation until State of Alaska demonstration of a fairness doctrine all certainly deserve support but the State leave strip regulations do not. The timber industry attorney, James Clark, and others of the timber industry successfully argued against 100 foot minimum strip (and mandated in 1991 by Federal law on National Forest

lands in the Tongass Timber Reform Act) to 66 feet in State law for private lands; States lands 100 foot minimum. What kind of protection of the fishery resource is this? If one looks at native logging along streams it is a disgrace, and present practices required by the Forest Service, if TTRA is obeyed, in comparison, is like the difference between night and day, though a dark day. I am sure many of the more reticent natives must consider it a disgrace. (I presume tribal law and customs discourages public protest.) The transfer of the National Forest lands into private ownership will certainly further degrade the fish production potential of Alaskan lands, and decrease the number of naturally reared fish available to the commercial and sport fisheries. In the heart of a major private native logging country it is a fact that the largest counted run of pink salmon recorded anywhere in Alaska occurred in 1930 by weir count at Klawock Creek Federal weir, next to the village of Klawock on Prince of Wales Island, 1,407,912 million pink salmon and 13,240 chum salmon. Such large runs are no longer apparent. The three spawning streams emptying into the lake from which Klawock Creek originates have been logged. The smallest of the three, No Name Creek experienced landslides in the fall of 1993 which damaged fish habitat.

Since the inception of the non-native fishery of the late 19th century Federal management had occurred during the times of the great runs in Klawock Creek.<sup>51</sup> If runs have declined the basic cause was not due necessarily to early Federal management or later State management but human greed, the canneries and the fishing industry which caused the problem in the beginning. (The mouth of Klawock Creek can be seen from the village.) The runs as well as the forests were in better shape before the presence of "white man" and his fish traps (of course). But there must have been great fluctuations in salmon numbers since the inception of knowledge of the runs. And, of course, no one from the village ever went above the "no fishing markers" (and got those fish that escaped the traps). But the problem which is brought on is not one created by the native culture but of the invaders. But this does not excuse the natives of responsibility.

Regionally, steelhead trout and cutthroat trout both of which rear in fresh water which already appear to be at low abundance cannot be helped by stream habitat destruction through logging.

#### **Summary.**

Natural rearing and production of salmon from watersheds logged to the streambanks will decline on time scales of centuries through natural causes because of removal of streamside vegetation and will continue until the natural levels of large organic debris inputs become restored. These effects are wide spread in both the Pacific Northwest, British Columbia and timbered coastal Alaska, particularly, southeast Alaska where traditional logging had been practiced.

The physical evidence of deterioration will proceed at low levels punctuated by unexpected abrupt major change and ratchet to higher level of damage after each major flood. The quantitative biological effect of the deterioration on salmon production will continue as stream structure simplification proceeds, though hidden for a while, through natural variations and noise generated primarily by ocean productivity. It will emerge in time as new lower levels of productivity of the fishery. This process is on-going now, ". . . as sure, and as clean a fact, as there ever was a fact,"<sup>32</sup> High runs on logged streams which would have been higher than presently occurring appear already as real but unobserved deficits in the existing catches.

The blame for such events can be focused on political and economic pressures combined with the Forest Service and the Alaska Congressional delegation's blind, haughty, and arrogant commitment to cut to the streambank in spite of frequent public pressures and complaints (once common from native communities) about the activity occurring since logging began in Alaska. Congressional action of mandatory leave strips supported by the Federal agency, the National Marine Fisheries Service of NOAA, and not the Forest Service, resulted in the single most important act to protect the resource (though there is a question whether such strips are wide enough). The U.S. Forest Service though in opposition to adequate leave strips had been better with land protective policies than the State of Alaska and State regulations for private lands.

The British scientist, and intellect, C. P. Snow wrote,

. . . If the scientists have the future in their bones, then the traditional culture responds by wishing the future did not exist. It is the traditional culture, to an extent remarkably little diminished by the emergence of the scientific one, which manages the world." (From The Two Cultures and the Scientific Revolution (1959))

C. P. Snow was not referring to the traditional native culture, of course, but to the culture of the industrial society, if not to its origins. Therefore, it is up to you to either put your heads in the sand and let someone else manage the world or to face the problem and stand up against disastrous logging policies and do what can be done with what remains.

The legacy of long term salmon stream destruction which no amount of high Congressional pronouncements from the warm Washington D.C. offices of the Alaska delegation can now undo any more than they may make the raging, silt laden, over-bank flood waters following days of thrashing cold rainstorms retreat and clear, nor make the log like the one which once destroyed the Staney Creek weir, go back up stream.

Sincerely,

Richard T. Myren  
3320 Fritz Cove Road  
Juneau, Ak. 99801  
March 28, 1996 (original March 11, 1995)  
file\_knowel21 (from knowel19)

Reference

1. A few minor corrections have been made to the original of March 11, 1995. One additional change is a more thorough explanation and citations of the El Niño phenomenon and the Southern Oscillation (SO) (see endnotes #28 - #31 and endnote # 38)).
2. Sedell, J..R. , Everest, F. H., and F.J. Swanson. 1981. Fish habitat and streamside management: Past and present. In Proceedings of the Technical Session of Effects of Forest Practices on Fish and Wildlife Production. A Joint Technical Session (ed. H.C. Black), Society of American Foresters, Orlando, Florida. September 29, 1981. p. 41-52.
3. Admitted by the Forest Service.
4. Davidson, F.A. and S. J. Hutchinson. 1943. Weather as an index to abundance of Pink salmon. Pacific Fisherman, Miller Freeman Publication, Seattle, Washington. May, p.21-29. p. 25.
5. Neave, F. 1953. Principles affecting the size of pink and chum salmon populations in British Columbia. J. Fish Res. Bd. Can., 9(9):450-491.
6. Shotridge, L. 1919. A visit to the Tsinshian Indians. The Museum Journal, Univ. of Pennsylvania. Philadelphia. Vol X March-June 1919. No. 1 and 2. 49-67. p. 64.
7. Koski, K.V. 1993. Riparian zone functions and interactions with sediment. In Proceedings, Technical Workshop on Sediments. Sponsored by the U.S. Environmental Protection Agency and U.S. Forest Service. 3-7 February 1992. Corvallis Oregon. p. 61-69.
8. Rosgen, D.L. 1993 (draft). A Classification of Natural Rivers. Wildland Hydrology, 1 Stevens Lake Road, Pagosa Springs, Colorado 81147.
9. Murphy, M. L. and K. Koski. 1989. Input and depletion of woody debris in Alaska streams and implication for streamside management. An Abstract. In Proceedings of Watershed '89: A Conference on the Stewardship of Soil, Air, and Water Resources. Ed. Alexander. Juneau, Alaska March 32-23. 215p. p. 99.
10. The amount of blowdown on salmon streams may be over rated. For example, Sheridan, W. L., Weisgerber, J. E. and C.N. Wilson. 1965. The effects of logging on twelve salmon streams in southeast Alaska. Forest Service, Alaska Region, Juneau, 59p. found the leave strips of 12 streams were all standing. Harris, A.S. 1989. Wind in the forest of southeast Alaska and guides for reducing damage. Gen. Tech. Rep. PNW-GTR-244. Forest Service, Pac. Northwest Res. Station, Portland OR reported (p. 52), "Windfirmness of streamside leave strips was not evaluated because so few areas were identified on aerial photos." This was a major study of windfirmness of trees in southeast Alaska.

11. Galazia, J. 1970. Habitat improvement project on Survey Creek, Kosciusko Island. U.S. Forest Service, Craig Ranger District, South Tongass. 5p. with photographs. He reports,

. . In 1970, the pink salmon run amounted to between 40,000 and 50,000. The coho run was not complete at the time this report was edited (10/8/70)."

For the size of the stream the estimate of the run was very large. Also apparently, the blowdown had also created rearing habitat of an extensive coho salmon population.

12. Several streams with weir counted escapements during the large runs of the 1930's and pristine conditions could have provided a historical data base for such studies but most such streams have consistently been logged under Forest Service management without consideration of the value of such a data base.

13. Some observations in the Pacific Northwest suggest pre-settlement natives burned forests accessible to them and mature and excessive mature and senescence tree blowdown that may not have been present. In inaccessible regions it has been speculated that the absence of such native burning activity has led to an over abundance of organic debris and poor fish habitat. However, these effects do not appear to be present in southeast Alaska rain forests where natural and man-made fires are rare.

14. Maser C. and J.R. Sedell. 1994. From the forest to the sea: The ecology of wood in streams, rivers estuaries and oceans. St. Lucie Press, Delray Beach, Florida. 200p. p.144-148.

15. Ecotone. "A narrow and fairly defined transition zone between two or more different communities. Such edge communities are typically species-rich. Ecotone arise naturally, e.g. at land-water interfaces, but elsewhere may often reflect human intervention (e.g. . . clearance of formerly forested areas.)" Concise Oxford Dictionary of Ecology. ed. M. Allaby. Oxford University Press. Oxford, New York. 1994.

16. Pella, J.J. and R.T. Myren 1974. Caveats concerning evaluation of effects of logging on salmon production in Southeastern Alaska from biological information. Northwest Science, 48(2):132-144.

17. The trials are theoretical, of course, and occur on paper because they cannot be conducted in the field, the variables cannot be controlled, and it is usually be too expensive. The method employed is the statistical procedure called "Power of the Test" in which methods specify two frequency distributions, one for the hypothesis that the effect is present and the other for absence of the effect. The degree the two distributions over lap provides the probabilities of detecting and not detecting an effect for a given  $\alpha$ . Once one becomes used to thinking of an effect as being present and absent at the same time one can deal with the test more readily.

18. A short listing of published Forest Service statements of the "no evidence argument" based upon observations of escapements or the catch is given in the 1976 fall hearing record of the U.S. Senate for the NFMA of 1976. See, Myren 1976 The evidence of damage to salmon and trout resources of southeast Alaska. In, National Forest Problems in Alaska. Hearings before the subcommittee on environment, soil conservation, and forestry etc. Ninety-fourth Congress, Second session. U.S. Gov. Printing Office. August 18 and 21, 1976 in Juneau, Sitka and Ketchikan, Alaska. 303p. p. 137.

19. Meehan, W.R., Farr, W.A., Bishop, D.M., and J.H. Patric. 1969. Some effects of clearcutting on salmon habitat of two Southeast Alaska streams. USDA For. Ser. Res. Pap. PNW-82. Pac. Northwest For. and Range Exp. Stn., Portland OR. 45 p.
20. Though the 1969 publication recognized abolishment of salmon traps following Alaska Statehood in 1959 then it states returns therefore " . . could have masked any change in production due to logging if a change occurred" (p. 40). However, the number of days for net fishing were also reduced and hence further reduced the fishing intensity and more deeply masked a change in production, if it occurred (from discussion with Stan Swanson, State management supervisor at the time). Nevertheless, the efficacy of the initial masking or the more intense masking had little effect upon the conclusion. The report stated, ". . clearcutting apparently did not adversely affect the salmon spawning habitat based upon the returns of pink and chum spawners" (p. 41)!
21. Pella, J. J. 1979. Climate trends and fisheries. In, Predator-prey systems in fisheries management. H. Clapper, (ed.). International Symposium on Predator-Prey Systems in Fish Communities and the Role in Fisheries Management. Atlanta, Georgia. 24-27 July 1978. Sport Fishing Institute, Washington, D.C. p, p. 35-46.
22. The effect of fishing is known because the catch is known and if ocean productivity was constant and no fluctuation then changes in the populations could be resolved to the quality of the freshwater environment and the number of fish allowed to be caught and to spawn .
23. Skud, B. E. 1973. Factors regulating the production of pink Salmon. Conseil International Pour L'Exploration De La Mer, Extrait des Rapports et Procés-verbaux, Vol. 164. p106-117. p. 112.
24. Pearcy W.G. 1992. Ocean ecology of North Pacific salmonids. University of Washington Press, Seattle Washington, and London United Kingdom. 179p. p. 99.
25. Ibid.
26. Cone, J. 1995. A Common Fate: Endangered salmon and the people of the Pacific Northwest. Henry Holt, New York. 340p. p. 282.
27. Pearcy, Ocean ecology of salmonids, p. 96.
28. Cane, M. A. 1983. Oceanographic events during El Niño. Science. Vol. 222, No.. 4629. 16 December. p. 16.
29. Mysak, L.A. El Niño, Interannual Variability and Fisheries in the Northeast Pacific Ocean. Can. J. Fish. Aquat. Sci., Vol 43, p. 464-496. p. 464.
30. Ibid.
31. Ibid., p. 468. Figure 6 shows a 20-year cycle from 1900 plus or minus a few years with major ENSO events (in parenthesis): 1900 (1899-1900), 1920 (1918-19), 1940 (1940-41), 1960 (1957-58), and 1980 (1982-83). Two major additional events are identified for 1911-12, and 1925-26.
32. One of the several species of fish associated with warmer water moving from the south. Other species observed in Alaskan waters in 1983 include Pomfrets, Pacific bonito, Triggerfish.

33. Thompson, S. H. 1948. Alaska Fishing and Fur Seal Industries: 1948. Statistical Digest No. 23, 60p.

. . Tuna landings were reported in 1948 for the first time in the territory commercial-fishing history. Local boats operating off Dixon Entrance, south of Ketchikan, late in August landed 132,000 pounds of albacore"

34. Anon, 1949. Fish and Wildlife Service studies tuna off coast. Wrangell Sentinel. October 28, 1949.

. . a good showing of tuna was found 50 miles off Cape Flattery.  
. . The most northerly point at which tuna were caught was the Welker Seamount area . . about 300 miles off Baranof Island."

35. Thompson, W. F. 1953. Overfishing vs. natural causes. Pacific Fisherman, December 1953, p. 23.

. . Further evidence supporting the importance of natural causes came from out of observations of the abundance of young in 1950, 1951, and 1952, which indicated no particular lack of young fish reaching the sea, but was followed by the catastrophic failure of 1953.

36. M. G. Hanavan described in the Pacific Fisherman, July 1952, pg. 23, the expectations of a large pink salmon return in 1953 also,

. . . Early indications from seven migrant counting stations in Southeast Alaska show a definite increase in the abundance of Pink salmon fry compared with the three previous years .

. . . the survival rate at Little Port Walter will exceed 5% compared with an 11-year average of less than 2%. Substantial increases in pink fry are also noted at Katlian, Snake, and Herman Creeks and runs developed on later migrant streams are expected to show similar improvement.

Adequate spawning escapements in most areas and moderate winter weather contribute to the early success of the 1951 brood."

37. Petit, C. Signs of a changing climate: Recent rains, new El Nino renew global warming debate. San Francisco Chronicle, Friday, February 3, 1995.

38. Darren Goetze, writes in *Nucleus* Vol 18, No. 1 pgs. 1-3, p. 12 of the Union of Concerned Scientists reports a consensus of world weather scientists believe [ who have warned against the danger in not accepting environmental problems such as population, ozone, and n\more recently] the Green house effect is present and human activity is part of the contributory cause over possible back ground natural increases. For the oceans he writes,

. . The worlds oceans show the secondary effects of this warming trend, with a 4-10 inch rise in global sea level in the last hundred years resulting from expansion of warmed oceanic water. In addition, the warming event in the southern Pacific ocean known as El Nino has occurred more frequently and more persistently since 1976, recently lasting from 1990 to 1995--the longest duration recorded in 120 years of observation." p. 3

And, . . If global warming forces increased water evaporation at the beginning of this process, heaviest rain or snowfall would result at the end of it, and likely in a pattern of more frequent extreme

precipitation. Last year Thomas Karl, a scientist at the National Oceanic and Atmospheric Administration published a statistical analysis of weather indicating that just this kind of pattern is already starting to emerge in the United States." p. 12

39. Helle, J. H. M. S. Hoffman. 1993. Size decline and older age at maturity of two chum salmon (*Oncorhynchus keta*) stocks in western North America, 1972-92. In R. J. Beamish [ed.] Climate change and northern fish populations. Can. Spec. Publ. Fish. Aquat. Sci. 121. p. 243-258.

40. Davidson, F.A. and E. Vaughn. 1941. Relation of population size to marine growth and time of spawning migration in the pink salmon (*Oncorhynchus gorbuscha*) of Southeastern Alaska. J. Mar. Res. 2 (3): 231-246. p. 244.

41. Skud, Factors regulating pink salmon, p. 112.

42. Davidson, F. A., and A. E. Vaughn 1939. Cyclic changes in time of southeast Alaska Pink salmon runs. Pacific Fisherman, Seattle, Washington. p. 22-24. See page 23, Chart II for relative abundance and size.

43. Skud, Factors regulating pink salmon, p. 112.

44. Fishers are four legged flesh eating north American mammals (*Martes pennanti*) valued for their fur.

45. \_\_\_\_\_, 1975. Alaska Salmon Study--Part I, Management Study. Consulting Report submitted November, 1975 to the Commissioner of the Alaska Department of Fish and Game. 83p.

46. Anon. 1976. National Forest Problems in Alaska. Hearings before the Subcommittee on Environment, Soil Conservation, and Forestry of the Committee on Agriculture and Forestry United State Senate. Ninety-fourth Congress, 2nd Session.

47. Barton, M.A. 1985. Old-Growth forests and fish. In Fish and Wildlife relationships in Old-Growth Forests, ed. Meehan, W.R., Merrell, W.R. Jr., Hanley, T. Proceedings of a symposium sponsored by Alaska District, American Institute of Fishery Research Biologist, Northwest Section, the Wildlife Society, and Alaska Council on Science and Technology held in Juneau, Alaska August 12-15, 1982. p. 188-189.

48. Anon. 1988. Aquatic habitat management handbook. (Revised). U.S. Forest Service, Region 10. Juneau, Alaska. see p. 64.16a.1a.

. . a. retain all coniferous trees 12 inches d.b.h. or less."

49. Ford, C. and F. Dufresne. 1956. Lost Paradise. Field and Stream. September. p. 41, 110-114. Greeley reported (p. 114),

. . Ironically, . . Southeastern Alaska forests are not so good as they were first thought to be. The timber is spotty; the best trees grow along the streams where there is good drainage."

Here, while the Forest Service officials would tell us they were cutting to the stream bank to prevent blowdown, they were really cutting to the streambank to get the best trees!

The main architect of the third long term timber sale and the mill the writers had quoted was Arthur Greeley, yes, the son of William Greeley, the second Chief Forester of the United States after Gifford Pinchot, and Washington D.C. forester and planner.

The sale was first challenged by the Sierra Club by injunction on the sale of timber in 1968, the largest single long term sale of timber ever made by the Forest Service. Of all the oral testimony presented at the trial, Greeley's testimony was to make up the largest in volume of any individual testifying and saying least.

50. Anon. 1993. Central Prince of Wales Final Environmental Impact Statement. Ketchikan Pulp Co. Long-term timber sale contract. Forest Service. Volume 1, Chapter 3. p. 53.

51. The Federal government fish counting weirs established certain knowledge about the sizes of escapements which otherwise would have been uncertain because of errors in estimating, and that such a large run occurred in Klawock creek. Weir counts confirm sizes of populations which cannot be believed. For example, a spawner population of about 15,000 by a weir count at the relatively small salmon stream of Sashin Creek, at Little Port Walter, would appear as immense and that the stream could not hold another fish to an observer walking along the stream or from an over flight. However in 1941 a weir count of over 84,304 was made to the stream!

52. Paraphrasing Mark Twain.

**HB**

**51**

SFIN

FILE

# SENATE FINANCE COMMITTEE REPORT

DATE: 4/17/97

FURTHER: SFC 4/16/98

DATE TURNED

IN TO OFFICE: 16 April 98

Finance Committee considered

CS FOR HOUSE BILL NO. 51(RLS) am

"An Act relating to the Department of Environmental Conservation; amending Rules 79 and 82, Alaska Rules of Civil Procedure; and providing for an effective date."

and recommends:

be replaced with S CS CS HB 51 (FIN)

adopt previous CS \_\_\_\_\_

attached amendment(s)

adopt Letter of Intent by \_\_\_\_\_ Committee

further referral to the \_\_\_\_\_ Committee

Senate Bill:

- same title
  - new title
- House Bill:
- same title
  - technical change
  - new: SCR# \_\_\_\_\_

SIGNING DO PASS	DP	OTHER RECOMMENDATIONS	NR	DNP	AM
<i>Roller</i>	<input checked="" type="checkbox"/>	<i>Paula Donley</i>	<input checked="" type="checkbox"/>		
<i>John Adams</i>	<input checked="" type="checkbox"/>	<i>Alan R. Farrell</i>	<input checked="" type="checkbox"/>		
<i>John Meyer</i>	<input checked="" type="checkbox"/>				
<i>[Signature]</i>					
Co-Chair: <i>[Signature]</i>	<input checked="" type="checkbox"/>	Co-Chair:			
Co-Chair: <i>[Signature]</i>	<input checked="" type="checkbox"/>	Co-Chair:			

**NEW FISCAL NOTE(S):**

Department                      Date      Zero      Fiscal

DEC; Drinking Water	4/16/98	<input checked="" type="checkbox"/>	
ADF&G			
Habitat & Restoration			
Fiscal Note			
Forthcoming			
4/16/98			

**PREVIOUS FISCAL NOTE(S):\***

Department                      Date      Zero      Fiscal


APPROPRIATION -- no fiscal note

\*include fiscal notes accompanying Governor's bill

# FISCAL NOTE

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SSC 4/16/98

**STATE OF ALASKA**  
**1998 LEGISLATIVE SESSION**

**BILL NO. SCS CSHB51 (FIN)**

Revisor: Date (Note if correction) <u>16-Apr-98</u>	<u>Dept. Affected</u> Environmental Conservation
Title <u>An Act relating to the Department of</u>	<u>BRU</u> Environmental Health
<u>Environmental Conservation; amending Rules 79 and 82,...</u>	<u>Component</u> Drinking Water
Sponsor <u>Rep. Rokeberg</u>	
Requester <u>Senate Finance</u>	<u>Component Serial No.</u> 2066

**Expenditures/Revenues** (Thousands of Dollars)

OPERATING EXPENDITURES	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04
Personal Services	0.0	0.0	0.0	0.0	0.0	0.0
Travel	0.0	0.0	0.0	0.0	0.0	0.0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0
Grants & Claims	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL OPERATING</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

<b>CAPITAL EXPENDITURES</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
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<b>CHANGE IN REVENUES ( )</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
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**FUND SOURCE** (Thousands of Dollars)

FUND SOURCE	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04
1002 Federal Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1003 GF Match	0.0	0.0	0.0	0.0	0.0	0.0
1004 GF	0.0	0.0	0.0	0.0	0.0	0.0
1005 GF/Program Receipts	0.0	0.0	0.0	0.0	0.0	0.0
1037 GF/Mental Health	0.0	0.0	0.0	0.0	0.0	0.0
Other (Specify Type)	0.0	0.0	0.0	0.0	0.0	0.0
<b>TOTAL</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>

Estimate of any current year (FY98) cost: 0.0

**POSITIONS**

POSITIONS	FY 99	FY 00	FY 01	FY 02	FY 03	FY 04
Full-time	0	0	0	0	0	0
Part-time	0	0	0	0	0	0
Temporary	0	0	0	0	0	0

**ANALYSIS:** (Attach a separate page if necessary)

This bill now provides DEC with administrative penalty authority for drinking water violations as required by the Safe Drinking Water Act, 42 USC 300f - 300j-26.

Prepared by <u>Janice Adair, Director</u>	Phone <u>269-7644</u>
Division <u>Environmental Health</u>	Date <u>4/16/98</u>
Approved by Commissioner <u><i>Wichayan</i></u>	Date <u>4/16/98</u>
Agency <u>Department of Environmental Conservation</u>	

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0-LS0091\AA  
Lauterbach  
4/14/98

*Sen Ingraham moved for  
adopt  
Sen Adams  
obj. removed  
no obj. - adopted*

**SENATE CS FOR CS FOR HOUSE BILL NO. 51(FIN)**

**IN THE LEGISLATURE OF THE STATE OF ALASKA**

**TWENTIETH LEGISLATURE - SECOND SESSION**

**BY THE SENATE FINANCE COMMITTEE**

**Offered:  
Referred:**

**Sponsor(s): REPRESENTATIVES ROKEBERG AND KELLY, Foster, Hodgins, Vezey, Bunde,  
Cowdery, Mulder, Kohring**

**A BILL**

**FOR AN ACT ENTITLED**

1 "An Act relating to the Department of Environmental Conservation; amending  
2 Rules 79 and 82, Alaska Rules of Civil Procedure; amending Rule 602(b), Alaska  
3 Rules of Appellate Procedure; and providing for an effective date."

4 **BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF ALASKA:**

5 \* Section 1. FINDINGS. The legislature finds that

6 (1) the federal government has required, in the federal Safe Drinking Water  
7 Act amendments of 1996 (P.L. 104-182), that states have minimum administrative penalty  
8 authority in order to maintain primary enforcement authority for the federal drinking water  
9 program (42 U.S.C. 300f - 300j-26);

10 (2) the state cannot receive federal money for construction of public drinking  
11 water systems unless it maintains primacy under the federal program (sec. 130, P.L. 104-182);

12 (3) maintaining state primary enforcement authority for the federal program  
13 is in the best interests of the state so as to provide maximum flexibility and local control of  
14 this program and to ensure continued federal money for Alaska public water supply system

1 construction projects;

2 (4) ensuring public health through protection of public water supplies is of  
3 fundamental importance to the people of the state;

4 (5) sec. 3 of this Act advances the public interest by enacting administrative  
5 penalty authority in order to meet the minimum federal requirements for maintaining state  
6 primary enforcement authority for the federal drinking water program.

7 \* Sec. 2. AS 46.03.020 is amended to read:

8 **Sec. 46.03.020. Powers of the department.** The department may

9 (1) enter into contracts and compliance agreements necessary or  
10 convenient to carry out the functions, powers, and duties of the department;

11 (2) review and appraise programs and activities of state departments  
12 and agencies in light of the policy set out in AS 46.03.010 for the purpose of  
13 determining the extent to which the programs and activities are contributing to the  
14 achievement of that policy and to make recommendations to the departments and  
15 agencies, including but not limited to, environmental guidelines;

16 (3) consult with and cooperate with

17 (A) officials and representatives of any nonprofit corporation or  
18 organization in the state;

19 (B) persons, organizations, and groups, public and private,  
20 using, served by, interested in, or concerned with the environment of the state;

21 (4) appear and participate in proceedings before any state or federal  
22 regulatory agency involving or affecting the purposes of the department;

23 (5) undertake studies, inquiries, surveys, or analyses it may consider  
24 essential to the accomplishment of the purposes of the department; these activities may  
25 be carried out by the personnel of the department or in cooperation with public or  
26 private agencies, including educational, civic, and research organizations, colleges,  
27 universities, institutes, and foundations;

28 (6) at reasonable times, enter and inspect with the consent of the owner  
29 or occupier any property or premises to investigate either actual or suspected sources  
30 of pollution or contamination or to ascertain compliance or noncompliance with a  
31 regulation that may be adopted under AS 46.03.020 - 46.03.040; information relating

1 to secret processes or methods of manufacture discovered during investigation is  
2 confidential;

3 (7) conduct investigations and hold hearings and compel the attendance  
4 of witnesses and the production of accounts, books, and documents by the issuance of  
5 a subpoena;

6 (8) advise and cooperate with municipal, regional, and other local  
7 agencies and officials in the state, to carry out the purposes of this chapter;

8 (9) act as the official agency of the state in all matters affecting the  
9 purposes of the department under federal laws now or hereafter enacted;

10 (10) adopt regulations necessary to effectuate the purposes of this  
11 chapter, including, by way of example and not limitation, regulations providing for

12 (A) control, prevention, and abatement of air, water, or land or  
13 subsurface land pollution;

14 (B) safeguard standards for petroleum and natural gas pipeline  
15 construction, operation, modification, or alteration;

16 (C) protection of public water supplies by establishing minimum  
17 drinking standards, and standards for the construction, improvement, and  
18 maintenance of public water supply systems;

19 (D) collection and disposal of sewage and industrial waste;

20 (E) collection and disposal of garbage, refuse, and other  
21 discarded solid materials from industrial, commercial, agricultural, and  
22 community activities or operations;

23 (F) [REPEALED

24 (G)] control of pesticides;

25 (G) [(H)] other purposes as may be required for the  
26 implementation of the policy declared in AS 46.03.010;

27 (H) [(D)] handling, transportation, treatment, storage, and  
28 disposal of hazardous wastes;

29 (11) after consultation with other state agencies and local government  
30 officials, identify and propose for addition or deletion, by regulation, other licenses,  
31 permits, or authorizations for which the provisions of AS 46.35 are applicable;

1 (12) [REPEALED

2 (13)] inspect the premises of sellers and suppliers of paint, vessels, and  
3 marine and boating supplies, and take other actions necessary to enforce AS 46.03.715.

4 \* Sec. 3. AS 46.03 is amended by adding a new section to read:

5 **Sec. 46.03.761. Administrative penalties.** (a) The department may assess  
6 an administrative penalty against an entity that violates or causes or permits to be  
7 violated a provision of AS 46.03.720(b) or a term or condition of a regulation, order,  
8 permit, approval, or certificate of the department issued or adopted under  
9 AS 46.03.720(b).

10 (b) Before assessing an administrative penalty under this section, the  
11 department shall

12 (1) communicate about the alleged noncompliance with the entity and  
13 the governing body of the community or municipality whose residents are served by  
14 the public water system; communication under this paragraph must be in language  
15 designed to be easily understood by the entity and governing body and must clearly  
16 describe the nature of the alleged noncompliance;

17 (2) offer technical assistance to aid in correcting the alleged  
18 noncompliance when the department has reason to believe that the entity may lack the  
19 resources or expertise to get technical assistance from other sources; and

20 (3) unless the alleged noncompliance poses an immediate threat to the  
21 public health, give the entity a reasonable amount of time to correct the alleged  
22 noncompliance after the department has complied with (1) and (2) of this subsection.

23 (c) If, after complying with (b) of this section, the department determines that  
24 noncompliance still exists and the violation is subject to a penalty under this section,  
25 the department may make a preliminary determination to assess the penalty. The  
26 department shall provide notice to the entity of its preliminary determination. The  
27 entity may, within 10 days after receiving the notice, request the department to  
28 reconsider its decision. If a timely request for reconsideration is made, the department  
29 shall reconsider its preliminary determination and may affirm or modify the  
30 determination. The department shall notify the entity of the decision. If a timely  
31 request for reconsideration is not received or if, after reconsideration, the department

1 determines that a penalty should be assessed, the department may assess the penalty.  
2 The department shall provide notice of the assessment and instructions for contesting  
3 and appealing the assessment to the entity by personal service or by certified mail,  
4 return receipt requested. The notice must inform the entity of the amount of the  
5 proposed penalty and that the entity has 45 days within which to file a notice with the  
6 department contesting the proposed penalty. If, within 45 days after receiving the  
7 notification issued by the department, the entity fails to file a notice contesting the  
8 proposed penalty, the proposed penalty is considered a final order. The department  
9 may extend the time periods specified in this subsection for good cause.

10 (d) If an entity sends notice to the department contesting a proposed penalty  
11 under (c) of this section, the department shall afford an opportunity for a hearing in  
12 accordance with its adjudicatory hearing procedures. After an opportunity for a  
13 hearing, the department shall issue an order, based upon findings of fact, affirming,  
14 modifying, or rescinding the administrative penalty. The order must include notice that  
15 the entity may appeal the order to the superior court and the address of the appropriate  
16 superior court. The order is the final agency action on the penalty.

17 (e) An entity against whom an administrative penalty is assessed under this  
18 section may obtain judicial review of the administrative penalty by filing a notice of  
19 appeal in the superior court as provided by the Alaska Rules of Appellate Procedure.  
20 An order of the department under (d) of this section becomes final and is not subject  
21 to review by a court if a notice of appeal is not filed with the superior court within the  
22 period provided for by the Alaska Rules of Appellate Procedure.

23 (f) Unless the notice of appeal is incomplete or otherwise not in conformance  
24 with court rules, a notice of appeal under (e) of this section is considered to be filed  
25 with the superior court on the day the entity delivers the appropriate documents and  
26 fee to either the appropriate superior court or to a district court within the area served  
27 by the appropriate superior court. If a notice of appeal is delivered to a district court  
28 under this subsection, the district court shall promptly forward it to the superior court.  
29 Determining whether the notice of appeal is complete and otherwise in conformance  
30 with court rules is the responsibility of the superior court.

31 (g) An administrative penalty assessed under this section may not exceed (1)

1 \$1,000 a day for each violation if the affected public water supply system serves a  
2 population of more than 10,000 persons; (2) \$250 a day for each violation if the  
3 affected public water supply system serves a population of 10,000 or fewer persons but  
4 more than 1,000 persons; and (3) \$100 a day for each violation if the public water  
5 supply system serves 1,000 or fewer persons. Each provision, term, or condition  
6 violated is a separate and distinct violation. If a violation of a provision, term, or  
7 condition continues from day to day, each day is a separate violation.

8 (h) In determining the amount of a penalty assessed under this section, the  
9 department shall consider

- 10 (1) the effect of the violation on the public health or the environment;
- 11 (2) reasonable costs incurred by the state in the detection, investigation,  
12 and attempted correction of the violation;
- 13 (3) the economic savings realized by the entity by not complying with  
14 the requirement for which a violation is charged;
- 15 (4) any previous history of compliance or noncompliance by the entity  
16 with this chapter, AS 46.04, AS 46.09, and AS 46.14;
- 17 (5) the need to deter future violations;
- 18 (6) the extent and seriousness of the violation, including the potential  
19 for the violation to threaten public health or the environment;
- 20 (7) whether the entity achieved compliance with the requirement  
21 violated within the shortest feasible time; and
- 22 (8) other factors considered relevant to the assessment that are adopted  
23 by the department in regulation.

24 (i) If an entity fails to pay an administrative penalty assessed under this section  
25 after the penalty becomes final, the department may bring an action to collect the  
26 penalty. The amount of the penalty is not subject to review by the court in such an  
27 action.

28 (j) If the department prevails in a collection action brought under (i) of this  
29 section, the court shall order the entity to pay full reasonable attorney fees and costs  
30 incurred by the department in the collection action.

31 (k) Action under this section by the department does not limit or otherwise

1 affect the authority of the department to otherwise enforce this chapter, AS 46.04,  
2 AS 46.08, AS 46.09, AS 46.14, or regulations adopted under those statutes, or to  
3 recover damages, restoration expenses, investigation costs, court costs, attorney fees,  
4 or other necessary expenses. The court shall set off against a judicial civil assessment  
5 subsequently awarded under AS 46.03.760 an amount ordered to be paid under this  
6 section by the same entity for the same violation.

7 (I) In this section, "entity" means the owner or operator of a public water  
8 system.

9 \* **Sec. 4.** AS 46.03.900 is amended by adding a new paragraph to read:

10 (36) "compliance agreement" means a mutual understanding and  
11 voluntary, enforceable agreement on a course of action for a specific set of  
12 circumstances entered into by the department and a person to control, prevent, or abate  
13 air, water, land, or subsurface land pollution.

14 \* **Sec. 5. COURT RULE CHANGES; ATTORNEY FEES AND COSTS.** (a)  
15 AS 46.03.761(j), added by sec. 3 of this Act, has the effect of amending Rules 79 and 82,  
16 Alaska Rules of Civil Procedure, by allowing the recovery of full reasonable attorney fees and  
17 costs in certain actions.

18 (b) AS 46.03.761(j), added by sec. 3 of this Act, takes effect only if this section  
19 receives the two-thirds majority vote of each house of the legislature required by art. IV, sec.  
20 15, Constitution of the State of Alaska.

21 \* **Sec. 6. COURT RULE CHANGE; FILING.** (a) AS 46.03.761(f), added by sec. 3 of  
22 this Act, has the effect of amending Rule 602(b), Alaska Rules of Appellate Procedure, by  
23 providing that delivery of a notice of appeal to a district court constitutes filing of the notice  
24 of appeal with the associated superior court.

25 (b) AS 46.03.761(f), added by sec. 3 of this Act, takes effect only if this section  
26 receives the two-thirds majority vote of each house of the legislature required by art. IV, sec.  
27 15, Constitution of the State of Alaska.

28 \* **Sec. 7. REGULATIONS FOR ADMINISTRATIVE PENALTIES.** The Department of  
29 Environmental Conservation may immediately proceed to adopt regulations to implement  
30 changes made by sec. 3 of this Act. The regulations take effect under AS 44.62  
31 (Administrative Procedure Act), but not before the effective date of sec. 3 of this Act.

1     \* **Sec. 8.** Except as provided in sec. 9 of this Act, this Act takes effect on the effective date  
2 of regulations adopted by the United States Environmental Protection Agency implementing  
3 the state administrative penalty requirement for state primary enforcement authority under 42  
4 U.S.C. 300g-2 of the federal Safe Drinking Water Act or, if the Environmental Protection  
5 Agency determines that regulations are not necessary, on the date the Environmental  
6 Protection Agency requires under the authority of that statute that the state must have  
7 administrative penalty authority to maintain its state primacy over the federal drinking water  
8 program, whichever occurs first. The commissioner of environmental conservation shall notify  
9 the lieutenant governor and the revisor of statutes of the effective date of the state  
10 administrative penalty authority requirement.

11     \* **Sec. 9.** Section 7 of this Act takes effect immediately under AS 01.10.070(c).

Sen. Pearce moved  
into objection adopted

0-LS0091\0.2 ✓  
Lauterbach  
4/21/97

AMENDMENT #1

OFFERED IN THE SENATE

SEN. PEARCE  
BY REPRESENTATIVES KELLY

TO: SCS CSHB 51( ) ("O" Version)

AND ROKEBERG

- 1 Page 3, line 2, following "purity.":
- 2       Insert "If the baseline data to determine the natural condition of the water is not
- 3 obtainable or if the baseline water quality has been altered by historical or upslope activity,
- 4 then the background condition, as defined in AS 46.03.088, will apply."
  
- 5 Page 3, lines 5 - 6:
- 6       Delete "If the baseline data is not obtainable or if the baseline water quality has been
- 7 altered by historical or upslope activity, then "natural condition" has the meaning given to
- 8 "background condition" in AS 46.03.088."
  
- 9 Page 3, line 12, following "background":
- 10       Insert "condition"
  
- 11 Page 3, line 18:
- 12       Before "background":
- 13       Insert "either"
- 14       Following "discharge":
- 15       Insert "whichever is determined by the department to be applicable"
  
- 16 Page 3, line 19:
- 17       Delete "permitting"
- 18       Insert "the location and authorization of"
  
- 19 Page 3, lines 24 - 25:
- 20       Delete "a larger mixing zone will adequately protect human health and the

1 environment outside the mixing zone"

2 Insert "these size limitations can be safely increased"

3 Page 6, lines 27 - 29:

4 Delete all material.

5 Renumber the following paragraph accordingly.

6 Page 9, following line 3:

7 Insert new bill sections to read:

8 "\* Sec. 6. AS 46.03.900(28) is amended to read:

9 (28) "standard," with respect to air and land, means the measure of  
10 purity or quality for air [, WATER,] and land in relation to their reasonable and  
11 necessary use as established by the department; with respect to water, "standard"  
12 means water quality standard;

13 \* Sec. 7. AS 46.03.900 is amended by adding new paragraphs to read:

14 (36) "contamination," with respect to water, means the man-made or  
15 man-induced chemical, physical, biological, and radiological compounds or  
16 components that are deleterious in water;

17 (37) "water quality criterion" means a designated concentration of a  
18 constituent that, when not exceeded, will protect an organism, an organism  
19 community, or a prescribed water use or quality with an adequate degree of safety;

20 (38) "water quality standard" means a legally enforceable measure of  
21 purity or quality for a particular reach of water or for an effluent that is reasonable  
22 and necessary to protect uses of the water and that is based on a water quality  
23 criterion in a way that takes into account local conditions, including actual or  
24 proposed uses, presence or absence of important species, characteristics of the water  
25 such as naturally occurring constituents, the importance of a particular waterway,  
26 economic considerations, or the degree of safety to a particular ecosystem that may  
27 be desired;

28 (39) "unit" means a quantity or measurement adopted as a standard of  
29 measure."

30 Renumber the following bill sections accordingly.

SENATE FINANCE  
COMMITTEE

Amendment Number: #2  
Bill Number: HB 51  
Sponsor: Torgerson Date: 4/16/98  
Logged In By: Mindy

0-LS0091VAA.3  
Lauterbach  
4/15/98

AMENDMENT

OFFERED IN THE SENATE

BY SENATOR TORGERSON - *moved*

TO: SCS CSHB 51(FIN), Draft Version "AA"

*adopt no object*

1 Page 6, lines 28 - 30:

2 Delete all material and insert:

3 "(j) In a collection action under (i) of this section, the court shall award the  
4 prevailing party full reasonable attorney fees and costs incurred in the collection  
5 action."

6 Page 8, line 11:

7 Delete "Section 7 of this Act takes"

8 Insert "Sections 2, 4, and 7 of this Act take"

SENATE FINANCE  
COMMITTEE

Amendment Number: #3  
Bill Number: HB 51  
Sponsor: ~~Torgerson~~ Date: 4/16/98  
Logged In By: Mindy

0-LS0091VAA.1  
Lauterbach  
4/15/98

AMENDMENT

OFFERED IN THE SENATE

BY SENATOR TORGERSON-mixed

TO: SCS CSHB 51(FIN), Draft Version "AA"

adopt res ~~with~~  
objection

- 1 Page 1, lines 2 - 3:
- 2 Delete "amending Rule 602(b), Alaska Rules of Appellate Procedure;"
  
- 3 Page 5, lines 26 - 28:
- 4 Delete all material.
- 5 Insert "fee to the appropriate superior court."
  
- 6 Page 7, lines 21 - 27:
- 7 Delete all material.
  
- 8 Renumber the following bill sections accordingly.
  
- 9 Renumber internal references to bill sections in accordance with this amendment. Below are
- 10 all internal bill section references in this bill:
  
- 11 Page 2, line 4
- 12 Page 7, line 15
- 13 Page 7, line 18
- 14 Page 7, line 21
- 15 Page 7, line 25
- 16 Page 7, line 30
- 17 Page 7, line 31
- 18 Page 8, line 1
- 19 Page 8, line 11

04/21/97

18:31:30

TCN: 70689

DATE & TIME: 04/21/97 18:00 TO 21:00 STATUS:5 IN PROG

\*\*\*\* ORDER SUMMARY \*\*\*\*

SPONSOR: SFIN SENATE FINANCE CHAIRS: PEARCE  
 PURPOSE: PUB PUBLIC HEARING LEGISLATIVE SHARP  
 CONTACT: LARRY TEL#: (907)465-3004  
 CHAIRING SITE: JUNEAU CAPITOL CAP532  
 TOLL FREE: (800)478-7612 DIAL-UP: LIO:(800)478-9908

SPONSOR REMARKS(PUB): TESTIMONY:Y ALLOWED 2 MINUTE LIMIT  
 TESTIMONY WILL BE TAKEN WITH A 2 MINUTE LIMIT.  
 SEE COMMITTEE SCHEDULE IN BASIS

SPONSOR REMARKS(LIO): BACKUP MATERIAL:N MEETING IN PROGRESS:N MAX. SITES.10  
 OTHER SITES MAY ADD THRU THE JNU LIO.  
 TCN REQUESTED ON 04/21/97 AND HAS 7 UPDATES

\*\*\*\* AGENDA \*\*\*\*

1 HB 51 DEPT OF ENV. CONSERV./WATER/PENALTIES

\*\*\*\* PARTICIPATING LIOS \*\*\*\*

ANC ANCHORAGE	716 W 4TH, #200	LOCATION STAFF
COR CORDOVA	705 2ND STREET	LOCATION STAFF
FBX FAIRBANKS	119 N CUSHMAN ST	LOCATION STAFF
HOM HOMER	126 W PIONEER #4	LOCATION STAFF
* JNU JUNEAU	CAPITOL CAP532	LOCATION STAFF
KEN KENAI LIO	145 MAIN ST LOOP	LOCATION STAFF
VAL VALDEZ	STATE BLDG. #13	LOCATION STAFF

\*\*\*\* VOLUNTEER & OFFNET SITES \*\*\*\*

SIT HNS HAINES	CITY HALL	ALETA ADKINS	(907)766-2294
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PARTICIPANTS IN: ANCHORAGE

ANC

1	JEFF	PARKER	AK. SPORTS FISH	TSFY. HB 51
			AK	(907)000-0000
2	MARTHA	LEVENSALE	NAT.WJLDLIFE FED	TSFY. HB 51
			AK	(907)000-0000
3	DORTHY	CHILDERS		TSFY. HB 51
			AK	(907)000-0000
4	CLIFF	EAMES	AK.CENTER/ENVIR	TSFY. HB 51
			AK	(907)000-0000

*Becky Gay*

PARTICIPANTS IN: CORDOVA

COR

1 MS.	CHERI	SHAW	CDFU	TSFY. HB 51
	PO BOX 939		CORDOVA	AK 90574 (907)424-3447

PARTICIPANTS IN: FAIRBANKS

FBX

1 MR.	RON	YARNELL		TSFY. HB 51
			AK	(907)000-0000
2 MR.	DALE	ANDERSON		TSFY. HB 51
			AK	(907)000-0000
3 MR.	KARL	HANWEMAN	AK MINERS ASSOC	TSFY. HB 51
			AK	(907)000-0000
4 MS.	MARLA	MCPHERSON		TSFY. HB 51
			AK	(907)000-0000
5 MR.	MIKE	MCDUGALL		TSFY. HB 51

04/21/97

LEGISLATIVE TELECONFERENCE NETWORK SYSTEM

LTN1150

18:04:44

PARTICIPANT LIST (ALL PARTICIPANTS)

BY:KEN

TCN:70689

SCHEDULED FOR:04/21/97 18:00 TO 21:00

FOR:KEN

PUBLIC HEARING

SENATE FINANCE

LOCATION: ~~XXXXXXXXXX~~

HB 51	MR.	DENNIS	RANDA	TROUT UNLMTD.	TESTIFY
HB 51	MS.	LINDA	WRIGHT	SELF	TESTIFY
HB 51	MS.	CHERI	EDWARDS	SELF	TESTIFY
HB 51	MR.	DALE	BONDDURANT	SELF	TESTIFY

04/21/97

LEGISLATIVE TELECONFERENCE NETWORK SYSTEM

LTN1150

17:51:40

PARTICIPANT LIST (ALL PARTICIPANTS)

BY:ANC

TCN:70689

SCHEDULED FOR:04/21/97 18:00 TO 21:00

FOR:ANC

PUBLIC HEARING

SENATE FINANCE

LOCATION:ANCHORAGE

HB 51

JEFF

PARKER

AK. SPORTS FISH TESTIFY

Vc

04/21/97

18:12:19

TCN: 70689

DATE & TIME: 04/21/97 18:00 TO 21:00 STATUS:5 IN PROG.

\*\*\*\* ORDER SUMMARY \*\*\*\*

SPONSOR: SFIN SENATE FINANCE CHAIRS: PEARCE  
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		AK	(907)000-0000
4 MS.	MARLA MCPHERSON		TSFY. HB 51
		AK	(907)000-0000
5 MR.	MIKE MCDUGALL		TSFY. HB 51
		AK	(907)000-0000
6 MR.	CHRIS MILLER		TSFY. HB 51