ALASKA LEGISLATURE COMMITTEE FILES 1993-1994 8672
8014 HOUSE RESOURCES

REMARKS BEFORE THE NATURAL RESOUP ES COMMITTEE
October 25, 1993

My name is Ernesta Ballard. I live at 705 Main St. in Ketchikan, Alaska.

I served in the United States Environmental Protection Agency as Regional Administrator for Region 10 from 1983 to 1986. I served on the Governor's Water Quality Advisory Committee.

My remarks are based in part on the knowledge I gained when I served on the National Academy of Sciences Committee on Risk Perception. I am the co-author with this committee of a book on risk Communication. We studied thousands of cases such as this in which the public was asked to comment on a proposed rule or regulation that entailed some risk.

We learned that the public fear risks with which they are unfamiliar way out of proportion to their actual safety. People fear death from radioactive fallout more than the danger associated with chains saws and smoking even though the latter are eminently more dangerous.

Much has been said about the proposed risk level to which carcinogens will be regulated. It might help this discussion to look briefly at the history of environmental law and regulation in the United States.

In the early years the EPA used primarily technology based permitting which is, by definition, site specific. In the last decade, and in revisions to the Clean Water Act which result in today's hearing, there had been a trend toward pollutant specific requirements and specifically human health criteria.

In my experience at EPA and the National Academy risk based regulation is not a precise science and has resulted in extremely ineffective use of national resources. The past, present and future costs of achieving compliance with the extremely stringent criteria derived from risk based regulation are virtually incalculable. The opportunity cost of diverting capital from other productive uses is also enormous in lost jobs, lost productivity, lost taxes etc...

The benefits have generally not been shown to outweigh the significant costs of attaining the goals of risk management of this sort.

The designation of a human health risk in association with water discharge permits is a form of risk based regulation. The use of such a criteria will depend on performing dose/response and exposure analyses to calculate human health impacts. Such analyses extrapolate from extremely high does

to extremely low doses and they attempt to correlate human and animal reactions. Then they are use to make a safety decision out of a tool that was originally intended to be a screening device.

The history of risk assessment clearly shows that the early uses of these techniques were to determine exposure levels below which effect or impact could not be measured. They were measurement thresholds, and they established a "de minimum" level beyond which additional measurement yielded no results. They were originally used to establish a level where risk could be considered essentially zero.

As regulatory tools, such risk assessments, and the levels below which no additional risk can be measured, are being used to set a management level for acceptable exposure. If such an approach were used for highway safety, and a one in a million human health level used, speed limits would be set at 1 mile per hour. That is the level below which there is no measurable increase in risk if the automobile is to be operated at all.

Continuing the highway analogy, 1 mile per hour is certainly not the level of acceptable risk. That level is considerably higher.

The public perception of what is the actual risk of exposure has an enormous impact on the public perception of acceptable risk. In other words, if the public believes that nuclear power plants are very, very risky, (even if they are not), then the public will have very little tolerance of nuclear power plants. Many sources that pose measurable risk to society such as automobile emissions, cigarette smoking and even the use of chain saws are regulated less stringently simply because they are perceived by the public to prose less risk than chemicals and metals which, at some levels may be toxic.

Regulators and rule makers respond to real public fear. Public fear may, or may not correspond to real public threat of harm.

I believe that a one in a hundred thousand risk level provides adequate safety. Safety is much more objective than risk. There is no endeavor that is without risk. Everyday we engage in regulated activities that are calculated to be safe, but are not without risk. The issue here is how much risk renders an activity unsafe.

With the industrial era has come modern technology, and modern risk. Life spans are significantly longer, and the risks of dying from waterborne disease, malnutrition, viral or bacterial contamination and trauma are vastly reduced. We

have some new risks to contend with. The risk of surgery, the risk of chemical contamination, the risk of death on the highway are all new risks.

The environmental laws are premised on the concept of permitting development that adequately controls risk and thereby public health. Risk reduction makes regulatory sense as long as it is associated with a measurable benefit. The burden of the regulator is to decide whether or not to make a safety call before de minimus risk reduction makes development impossible altogether.

This process needs to come to closure. It has gone on for two years. Testimony, including my own is repetitive. Much is not based on the facts of this particular issue. Naturally people want to be safe. Naturally they do not want to suffer a public relations fall out from bad information about the safety of our waters or fish.

The delay in this regulation equates to phantom regulation: that is the promise of action when none is forthcoming. The regulated community, and the people whose lives are affected by economic prosperity deserve a decision soon. No action is the worst action in that is will lead to costly litigation in which all that is cleaned up is the public's pocket book.

Thank you.

Alaska State Legislature

Please enter into the record my testimony to the House Resources Committee
committee name

committee on Water Quality, dated 10-26-93.
bill/subject

The water quality standard 10^-5 is unsafe in my opinion. I do not feel that we should allow any risk to human health in Alaska's waters. I would like to see a no risk level for human health and would like to see mixing zones be eliminated, especially when it damages, (or may damage) the food for human consumption.

There are so many tests and discoveries today trying to cure cancer. It doesn't make sense to me that the water of Alaska would have a known poison in it that may kill (cause) one to who knows how many and that we allowed it! Please reconsider the standing water quality standard and provide Alaskans with a no risk standard to human health.

Signed: Maya Rachel
Testifier

Citizens of Sitka
Representing (Optional)

801 Lincoln Street, Sitka AK 99835
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Issues

SURPRISE – IT'S NATURAL

CARCINOGENS: NO CAUSE FOR ALARM

Most cancer rates haven't changed in 60 years – what's going on?

Bruce Ames
Special to The Times

I'd like to tell you about how people are discovering the causes of cancer, why I think in the next decade they will figure out most of the causes of cancer, why the world is full of carcinogens, and why it doesn't matter very much.

The American Cancer Society puts out a brochure every year called "About Cancer." It has a graph that shows all the different types of cancer in the U.S. and what's been happening over the last 60 years. There's one striking line – lung cancer – which was very rare in 1930 and is now our leading cancer. Epidemiologists, scientists who study cancer in humans, have pinned it down – beyond doubt – to smoking.

Smoking accounts for 30 percent of cancer, 25 percent of heart disease, 400,000 premature deaths a year, and eight years off your life for a two pack-a-day smoker. If you remove smoking-related cancer, cancer death rates have been staying the same or going down.

Stomach cancer and soy sauce

Another very striking line on the graph is stomach cancer. Stomach cancer was the leading cancer in the U.S. in 1930. Now it's relatively uncommon. We've done something right, but we're not sure what. The Japanese would like to know, because they have one of the world's highest stomach-cancer rates.

Many very good Japanese scientists are looking at stomach cancer, and they're coming up with a lot of clues. One of the main culprits seems to be salt. Salt isn't your sexiest carcinogen, but the Japanese eat about twice as much as Americans – soy sauce and pickled vegetables are very salty – at levels that irritate the stomach.

Chronic irritation is a risk factor. Whenever you have a chronic irritation, you get oxidization, because the phagocytic cells that defend us against infection clean up debris by incinerating cells with a burst of oxygen radicals.

Since radiation is also an oxygen mutagen, it's as if the body equivalent of irradiating the tissue. It protects us against infection, but there is a price: It's in some ways like irradiating the tissue.

What helps are antioxidants. Vitamin C is probably the most effective antioxidant. You get vitamin C from fresh fruits and vegetables, and the Japanese aren't eating enough of those.

Another source of stomach cancer is a bacteria that infects just below the lining of the stomach. People are finding ways to get rid of that bacteria with antibiotics. In the next decade the Japanese will have figured out stomach cancer.

Other cancers

Liver cancer used to be pretty high but it has been coming down for 50 years. It's one of the most common cancers in the world, but very rare in the U.S. Liver cancer is caused by the Hepatitis C virus, a chronic infection of the liver that is common in China and Africa. The day they get rich enough to immunize people against that virus, they'll be able to solve the liver cancer problem too.

Alcoholic beverages are a carcinogen, just as salt is a carcinogen. You get liver cancer from alcoholic cirrhosis. Five drinks a day is a risk factor for cancer. But one drink a day is the country's average – do we have to worry about that? Probably not.

The major cancers – breast, colon, rectum, prostate – haven't changed much in 60 years. Whatever is causing them hasn't been changing very much. Colon and breast cancer rates are very low in Japan. Colon cancer looks like it's dietary. Fiber seems to be protective; calcium might be protective; high fat and meats seem to be a risk factor. So we should be eating more vegetables and fruit and less fatty meats.

With breast cancer there's a dietary component, but it seems to be mainly due to hormones. If you have children early and often, you have a low risk of breast cancer. If you don't have children, you have a high risk of breast cancer. In 10 years we may know enough about hormone therapy to lower breast cancer rates.

We're making very good progress, and in the next decade we're going to figure out all these things. In any case, there's no evidence that any of this is coming from the modern chemical world.

Rat tests

Epidemiologists are very suspicious of rat tests – there are millions of chemicals in the world, almost all of them natural, and they wonder how we know what to test. But the people doing rat tests say, "We know industrial chemicals at high levels can cause cancer, and we should be testing all these chemicals on rats so that people aren't the guinea pigs."

So we've done a lot of rat tests. Some interesting things have come out of them but we're misinterpreting the results. How do we do rat tests? Thirty percent get cancer anyway, so to see an increase is difficult statistically. You need 50 male rats, 50 female rats, and controls, and it takes two years and $1 million to test a chemical in rats and mice.

They started rat tests with chemicals that were known to cause cancer in people, and they didn't see anything. They went to higher doses and still didn't see anything. Eventually they went to the maximum tolerated dose, and then they started seeing tumors. The maximum tolerated dose is the level under the level that will kill the animal. That's the standard way of doing rat and mouse tests.

About 10 years ago we set up a database of all the animal cancer tests in the world. Dr. Lois Gold and I have been analyzing a lot of these tests to see what they mean. Eighty-two percent of the chemicals tested in rats and mice are synthetic industrial chemicals: pesticides, food additives, solvents and drugs. Half of them are carcinogens.

What about the whole natural world? Almost all the chemicals that get into us are natural. What happens with a low dose? People are getting 1/100,000th of the dose they're giving to the rat. Does it mean anything? To protect public health, to be prudent, they piled worst-case assumption upon worst-case assumption. It was very hypothetical.

But when half the chemicals come out positive, one wants to rethink it. We've looked at natural chemicals, and I'd like to tell you about two groups: chemicals in plants that are the main natural toxic chemicals in the world, and chemicals you get from cooking your food – the amounts of which dwarf anything we're getting in man-made chemicals. Half of the chemicals from each of the groups that have been tested are carcinogens.

Nature's pesticides

Every plant has its own set of 50 or so chemicals to kill insects, fungi, bacteria, or predators. That's how plants have to survive in this world. Plants don't have claws, teeth, or immune systems, and they can't run away. Plant evolution is chemical warfare. They're much better chemists than Dow or Monsanto – they've been at it a long time. Biology is not benign.

We found 52 natural pesticides that have been tested in animal cancer tests – we're eating 10,000 chemicals at enormous levels – and half of them are carcinogens. That shakes one up.

How much of these pesticides are we eating a day? The Food and Drug Administration does a survey every year of all the pesticide residues Americans eat. The teenage boy, who eats the most, eats .09 milligrams of pesticide residues a day, a very tiny amount. The pesticides you eat are 99.99 percent-plus natural, and half of those that have been tested come out positive. We're testing synthetic chemicals because man is "evil." We're not thinking about the natural world.

When plants are attacked they jack up the synthesis of these natural pesticides. Celery normally has 1,400 parts per billion of these two carcinogens, but if you stress the celery it can go up to 25,000 parts per billion. Plant breeders are breeding plants to be insect-resistant. A grower in California made a marvelous new celery. Organic farmers love it because it's insect-resistant. Organic celery has 6,000 parts per billion of carcinogens, and nobody cares – it's been selling all over the U.S.

A part per billion

A part per billion is one person in all of China, an incredibly small amount. It's a tribute to modern science that you can measure a part per billion of anything – you couldn't do that 10 or 20 years ago. But it doesn't mean you should worry about it, or that pollution is necessarily increasing if you find a part per billion of something. Every item in your supermarket has natural carcinogens and teratogens, clastogens and mutagens.

Dioxin is a chemical you get when you burn things. Everybody is terribly afraid of dioxin. It is a potent teratogen. If you give it to pregnant rats or mice it causes birth defects. But let's compare it to the natural world.

Alcohol is a teratogen, and it's a real teratogen, because it causes birth defects in people. Every year 10,000 mentally retarded children are born from pregnant women drinking. Ethyl alcohol also causes birth defects in rats and mice.

EPA is trying to regulate incredibly tiny levels of dioxin. The level of this stuff that EPA is trying to regulate is equivalent to drinking one beer every 8,000 years. That shows the double standard.

We've set up tremendously strict standards on man-made things and completely ignored the whole natural world. We can sell celery full of carcinogens – as long as they are "natural" nobody cares.

There is a compound in broccoli that has all the same properties as dioxin. I calculated a portion of broccoli as 20,000 times the possible hazard of dioxin – but who knows whether either is a hazard at those levels. If we know one thing about epidemiology, it is that we should be eating more fruits and vegetables and less meat and saturated fat.

Burnt material

When you smoke, about a gram of burnt material coats your lungs every day – a gram is about three aspirin tablets worth. If you coat your lungs with that amount every day for 40 years it takes eight years off your life.

What about air pollution? It takes a year of Los Angeles smog to get the same amount of burnt material that a smoker gets in one day. In Contra Costa County, they blamed the refineries for causing extra lung cancer. It never made any sense because in that area, the wind blows off the bay and there is very little air pollution. Knowing that, you have to ask different questions. Who lives around refineries? Blue-collar workers who smoke more than the rest of Californians. My guess is that all of the extra cancer is due to extra smoking.

We've set up tremendously strict standards on man-made things and completely ignored the whole natural world. We can sell celery full of carcinogens – as long as they are "natural" nobody cares.

But where do we get most burnt material? Not from smoking or air pollution, but from cooking our food. We eat grams of burnt material each day, more than a smoker gets. People have been finding all sorts of mutagens and carcinogens in burnt material. We looked at coffee and identified close to 1,000 chemicals. 11 have been used in cancer tests, and eight of those are carcinogens. So there are nine milligrams of known carcinogens in a cup of coffee. But this does not mean that coffee causes cancer. These are chemicals giving cancer to rats at high levels.

Nobody is comparing anything. If you compare things like coffee or beer, pesticide resins just fade away. In addition, pesticides are lowering the price of fruits and vegetables. Anything that lowers the price of fruits and vegetables is good because it gets people to eat more of them and therefore lower cancer rates.

Plants vs. animals

The war between plants and animals has been going on for millions of years. Animals are designed to live in a world of toxic chemicals because they are always eating new plants.

Our diet is completely different from that of an African hunter-gatherer. We are always eating new things, and we have general rather than specific defenses. One general defense is that every day we shed the surface of our skin, eyes, inside of our mouth, esophagus, stomach, intestines and colon – any part of us that is exposed to the outside world is thrown away every day. Any of those cells that might get mutated and give rise to cancer cells are thrown away. That is just one of the layers and layers of defense.

So we have all kinds of defenses that we induce when we are attacked; animals are designed to live in a world of toxic chemicals, and we are very well protected. That is why I can't get very worried about a part per billion of anything.

Does it make any sense that half the chemicals could be carcinogens? The more we learn, the more sense it makes that a high percentage of all the chemicals in the world are going to be carcinogens. As for the very high doses that we put in rats, what we are doing is a chronic wounding experiment.

When a cell divides, it is enormously at risk because all this damage that is going on all the time is getting repaired. When you do a maximum tolerated dose in a rat, you are killing cells; neighboring cells divide and then you are in trouble.

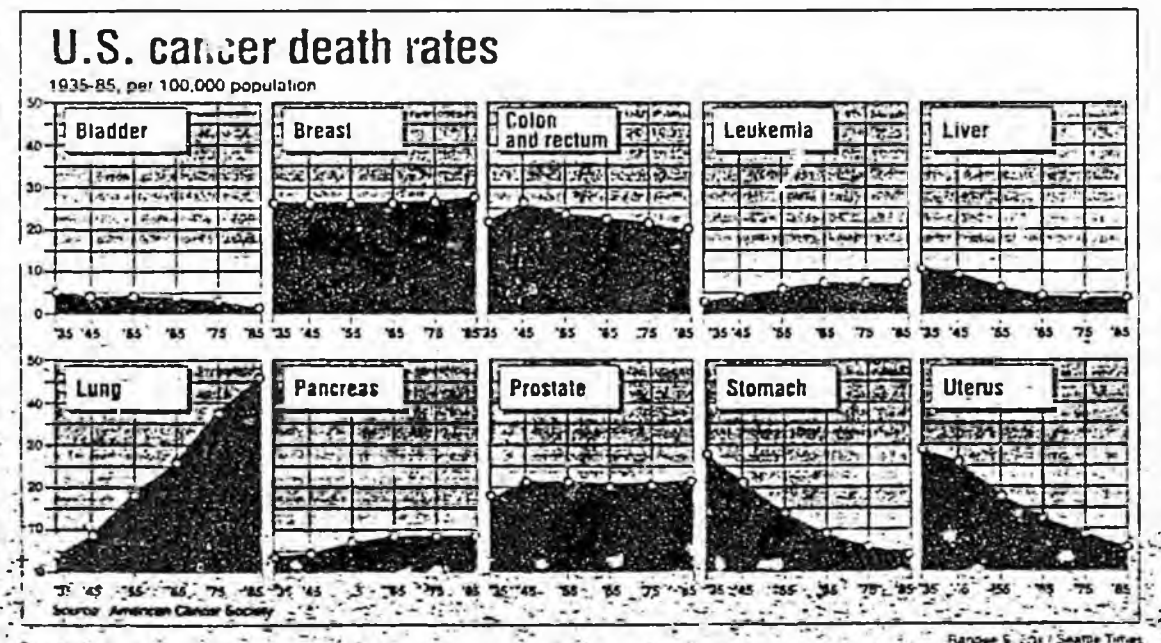
That does not mean that a mutagen could not work at a low dose but you are adding it on to some enormous rate. All sorts of things might influence this. Antioxidants are very important. Where do you get antioxidants? From fruits and vegetables. Fibers are important. Where do you get those? From fruits and vegetables. If we eliminate all the man-made pesticides, we will raise the price of fruits and vegetables and we will raise cancer rates.

Organic food isn't much more dangerous than ordinary food. I wouldn't worry about the difference. If you drive an extra mile to the organic food store, your risks from a car accident will be enormously more than any possible risk from the pesticides.

Life expectancy gets longer every year in Western countries and Japan. Why? Because we have a rich modern technology that has brought us health and wealth. Wealth and health are related. Yet everybody is so worried that technology is doing us all in. We can talk about the ozone layer and global warming, but if those things turn out to be true, which is not quite so clear, there are plenty of things we can do about them. The environment is not causing a lot of cancer.

■ Bruce Ames is a professor of cell biology and director of the Environmental Health Sciences Center at the University of California, Berkeley. This article is the edited transcript of a speech Ames gave to the Commonwealth Club of San Francisco in July.

Robert Neubecker / NEA



Randee St. Nicholas / Seattle Times

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Rollo
Hpi
Ed

MEMORANDUM

FROM: Thorne G. Auchter, Director
Institute for Regulatory Policy

DATE: January 28, 1992

Enclosed for your information are the results of a survey commissioned by the Institute for Regulatory Policy of nearly 1300 health professionals in the fields of epidemiology, toxicology, medicine and other health sciences. The *Health Scientist Survey: Identifying Consensus on Assessing Human Health Risk* is believed to be the largest survey of its kind conducted to date and has broad implications for regulatory policy in the United States. The findings are astounding.

The *Health Scientist Survey* shows that:

- Over eighty-one percent (81%) of the professionals surveyed believe that public health dollars for reduction of environmental health risks in the United States are improperly targeted.

- Nearly eighty-seven percent (87%) of the scientists surveyed agreed that it is impossible to accurately calculate human cancer deaths based solely on extrapolations from animal data (upon which most regulatory and legislative decisions are founded).

- The data overwhelmingly support a better method for assessing environmental health hazards -- a "weight-of-the-evidence" approach that takes all plausible human and animal data into account. Consistency between animal and human data was clearly important to the participants; basing decisions about human health risk solely on animal data was not acceptable to them.

As you know, most of our legislative and regulatory decisions involving human health risks are based primarily on the assumption that animal data alone are sufficient to assess and manage such risks. The *Health Scientist Survey* not only exposes the scientific flaw of that assumption, but it also reflects the view of the vast majority of health scientists that the result has been a massive misallocation of the Nation's health care dollars.

The *Health Scientist Survey* clearly shows the need to:

- Make risk assessments as scientifically objective as possible;
- Make the results of risk assessments more accurate and understandable; and
- Establish the consistency needed for more effective prioritizing and allocation of limited governmental regulatory resources among the many involved agencies and programs.

Testimony of Florian Sever before Alaska House Resource Committee

on ADEC's Proposed Water Quality Revisions

October 25, 1993

I would like to begin by voicing my objections to each and every revision to the current Alaska Water Quality Standards, proposed by ADEC at the current time. The revisions, as written, represent a massive and unconscionable "sell-out" of both, the health interests of the Alaskan public; and, the future welfare of the Alaskan fishing industry . . . all to further the financial health of, basically, one industry --- the timber industry.

Commissioner Sandor's roots can be traced to the largest of all timber industries in America . . . The United States Forest Service. Mr. Sandor has had a long and powerful career in the Forest Service; always acting, ***primarily***, to nurture, enhance and further the financial interests of "big timber" operators . . . especially those operating in Alaska.

Mr. Sandor's "policy decision" to mandate 10 -5th, as Alaska's chosen standard was a decision which ADEC admits was ***not*** grounded in science; but one grounded in political and profit-oriented expediency; and, at the behest of the timber industry. Dave Sturdevant, a spokesman for ADEC, stated "on the record" at an ADEC "workshop" held in Sitka (on October 13, 1993) that a water quality standard of 10 -6th is a virtual certainty, in the near future. If this is so, then why not now? Why throw our fishing industry open to attack from other "fish-producing" states? Why force the innocent people of Alaska to be thrust "in harms way", by compelling them to face a heightened, and totally unnecessary, risk of cancer?

I belive Mr. Sandor's decision was aimed solely at opening a "window of opportunity" to allow both pulp mills is Southeast Alaska to obtain federal, 5-year EPA National Pollutant Discharge Elimination Permits, or "NPDES" permits (regulating water pollution), under a relaxed state standard; and thus, the mills would then be "grandfathered-in" under relaxed state standards for the next five year period; that being the term of both upcoming NPDES permits, for both mills.

Mr. Sandor's personal "policy decision", to mandate and promote the most "pollution-intensive" water quality standard, and all of the other "weasel-wording" contained in ADEC's proposed revisions, are just logical extensions of his past, fervent dedication to furthering the profit-making capabilities of the "industrial logging interests", and in particular, the two pulp mills in Southeast Alaska; those being the masters he has always served.

The federal EPA announced, on Friday, October 22, 1993, that the EPA would **not** issue an NPDES permit to the Alaska Pulp Corporation pulp mill, because of that corporation's prolonged indecision, as to if, and when, that company would resume operations in Sitka. This is all the more reason why Mr. Sandor should abandon his effort

to "pave the way to pollute", embodied in the proposed revisions.

I implore Commissioner Sandor to now hear the voice of the people who will suffer for his actions, if his "1 in 100,000" cancer risk level is not withdrawn in favor of a saner, safer standard. All across the state, the people who live on the land, and work and live off of the sea, ***all*** ask . . . and, indeed . . . ***demand***, a higher standard. **First and foremost . . .** Commissioner Sandor bears the burden of his sworn duty to uphold the public interest, and thus, he owes it to the people of the State of Alaska, to provide them with the highest, safest water quality standard possible.

All of the states on the Pacific Coast . . . **except Alaska** . . . have chosen the 10 -6th, or "1 in 1,000,000" cancer risk level. How long will it be before we hear and see paid advertisements from the Washington, and Oregon, and California fishing industries, calling for buyers in the American and foreign markets, to buy their fish . . . ***because their fish were caught in clean water*** . . . not in the polluted waters of Alaska? Will it be too late, for Commissioner Sandor to change his mind . . . then?

Alaska should, and must, remain as an exemplar of the finest, cleanest, and most healthful sea products producer in the world. To put Alaska's position in the sea products marketplace at risk . . . as the proposed ADEC revisions will most assuredly do, if allowed to be finalized . . . is not only foolish; it's unforgiveable. Alaska cannot remain at the "pinnacle of purity" in the seafood marketplace, while, at the same time, allowing its' water to be polluted; the "1 in 100,000" standard will be, not only the death of the fishing industry in Alaska, but also, the death of 1 out of every 100,000 Alaskans, randomly condemned to suffer the terrible onslaughts of cancer . . . if the Commissioner's ill-conceived "policy decision" is allowed to stand.

There is still time to do the right thing. I, once again, implore Commissioner Sandor to heed the overwhelming cry of the people, and repudiate his "1 in 100,000 policy decision"; and, choose, instead, a standard the ***people*** choose . . . a standard ***higher*** that 10 -5th . . . for the good of all Alaskans.

Thank you,

Florian Sever

Florian Sever

1706 EDGECUMBE DR.
SITKA, AK 99835

Alaska State Legislature

Please enter into the record my testimony to the House Resource Committee
committee name

committee on Water Quality, dated 10/26/93.
bill/subject

I am present to oppose the proposed revisions to Alaska Water Quality standards. Since Alaska has more shoreline than all the rest of the United states it is important that Alaska retains the most stringent standards. I support a ~~one~~ one in a million or better risk level. I have been following this issue for the past two years and have never heard anyone support the one in 100,000 risk level. I have only heard rumors that industries such as logging, mining, and pulp could not survive with more stringent standards, The ADEC is the organization in charge of "conserving the environment," it is time that they focus only on that.

Please establish the 1 in 1,000,000 risk level, keep mixing zones with in the effluent pipe, keep water color units small, and make community water as clean as possible. for the sake of the environment. people and sustainable industry like fishing.

Signed: Katrinka Hibler — Katrinka Hibler
Testifier

Representing (Optional)

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Alaska State Legislature

Please enter into the record my testimony to the House Resource Committee
committee name

committee on Water Quality, dated Oct 25, 1993.
bill/subject

I send you these comments as an Alaska resident, a part time commercial fisherman, and a wilderness guide. As I sit listening to the testimony given regarding water quality standards on Sept. 25 1993 I find myself amazed that so much public comment is necessary to by and persuade D.E.C. to protect Alaska's environment and the people and species living in it. Isn't this supposed to be D.E.C.'s job in the first place? I look forward to our next election when Alaskans will hopefully have the opportunity to elect individuals who show that they truely care about Alaska's economic future by protecting its environment, public health, and fisheries industry. If Alaska [redacted] enacts the proposed

Signed: Richard Wirta
Testifier

Self
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low water quality standards the state will have the lowest water quality standards for domestic particle fisheries. Once word of this spreads somewhere we can expect our fisheries to be devastated. I would like to see D.E.C. stop holding industry's hand and begin to perform their job of protecting Alaska's environment and public health. Otherwise DEC is a sham. Having attended many hearings on this issue, I know the story count is down of greater protection for Alaska's waters. If you fail to respond to this overwhelming public comment it will be obvious that our democracy has also failed. Please do not contribute to the publics loss of faith in their government.

Finally, I would like to ask for at least a 1 in 1 millions risk level or higher protection for Alaska's water. I feel strongly that carcinogens and potential carcinogens should not be allowed in mixing zones. These public waters are our dining plates & should be respected as such. Industry should not be allowed to put public's health at risk for their own profits!

Sincerely,

Richard Wirth

Alaska State Legislature

Please enter into the record my testimony to the House Resource Comm.
committee name

committee on Water Quality Standards, dated 25 October '93.
bill/subject

I would like to thank the Resource Committee for taking the time to gain an understanding of the ADEC's proposed water quality standards. I would like to make my comments general at this time and submit specific recommendations in written form. I occupy a fisher seat on the DEC citizens ~~Advisory~~ group.

Committee members must understand that the proposed WQS will lower the existing water quality standards. This must not be allowed to occur. In light of the environmental degradation in the lower 48, how can ADEC propose standards that would move our state in that direction. We must learn from past mistakes. Alaska fishing and tourism industries are dependant on the highest water quality - real and perceived.

Signed: Steve Lyentaldt
Testifier

Representing (Optional)

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Alaska State Legislature

Please enter into the record my testimony to the House Resources Committee
committee name

committee on Water Quality , dated 10-26-93 .
bill/subject

The proposed changes on the water quality for Alaska waters to 10-5 in carcinogens in my + my colleges opinion is the most dangerous + health wishing proposal to date, having known friends and family that have died of cancer. the mere thought our state government would suggest such an action is incomprehensible. to say that only 1 in every 100,000 persons would be affected by these dioxins, is the same as saying you might as well pull out a gun, + draw names out of a hat + then randomly assassinate those individuals. the only difference is that ethically that would be immoral (as if the proposal isn't) - yet the end results would be the same.

as a fisherman, am appalled that one would think that consumers eat only 5 lbs of fish annually, when that amount is typically consumed daily if not weekly, particularly by those ~~communities~~ communities that mostly sustain themselves by subsistence means.

I feel a 10-7 risk factor should be adopted, and that the DEC should always assume guilty before proven innocent on all future proposals regarding health standards and industry.

Signed: CHRISTINE YOUNG.
Testifier

Self + STC students (250+)
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Alaska State Legislature

Please enter into the record my testimony to the HOUSE RESOURCE
committee name

committee on WATER QUALITY, dated 10-25.
bill/subject

Standards

Im in opposition of proposed standards — Demand Higher
I.E.C sumarized the hearings and concluded with a "but"
the economics - they ignored the downside of economics
of lower standards, ① litigation due to interpretation of
confusing wording in the proposed regulations ② clean up
of resultant pollution (12 Billion in EPA studies alone
of superfund sights) ③ detrimental effects on effected industries
tourism fishing

they propose mix zones yet don't have any data beyond
the mix zones. ~~the~~ the water was contaminated enough beyond the
mixzone to warrent the closure of cleaning the fish if I can't
clean the fish how would I eat one the grew here
no tests are available on the fish here so how would I know
if its safe to eat?

Need scientific back up for stronger standards?
DEC did it in '89

Signed: Cheryl Pritchard
Testifier

Self consumer at 200 lb fish/year owner operator
Representing (Optional) own fish business

Box 6209
Address

Sitka AK 99835
Phone No.

Alaska State Legislature

Please enter into the record my testimony to the DEC
committee name

committee on water quality, dated _____.
bill/subject

I feel the DEC should be tightening, not loosening the water quality regulations. As a fisherman my family's income is 100% dependent on clean water. Fishing is a healthy industry - using a very renewable resource - A resource ~~re~~renewable every few years - varying on species - To endanger this for non renewable uses is ludicrious. I realize timber is renewable - but not even once in Ak. in your + my lifetime whereas fish will renew ~~many~~ many times in your + my lives. ~~MINING~~ never will

I feel the people at DEC should be in the business of protecting our environment not encouraging its demise!

I really object to the 1/100,000 cancer level it should

Signed: Carolyn Nichols
Testifier

Representing (Optional)

305 Islander Dr. Sitka Ak
Address

747-3146
Phone No.

9/86 Legislative Information Office

(over)

be much higher - My family eats far more seafood then your risk level is calculated on - and the actual risk level is far higher than you admit as that's for each cancer causing pollutant - not as a whole. I do not feel my family should run about a 30th higher risk because we eat a lot of seafood. You have no right to condemn anyone else who eats lots of fish. Fish + tourism are #1 + 2 in our state. - With the stroke of your pens you can ruin this or keep this. The choice should not be yours - it is the publics as the public lives here - owns the waters & has the right to say on it & All over the state people are objecting to your proposed regulations - Listen up - If you don't our only hope is that the EPA will for you.

The Department of Environmental Conservation huh. I would hope you know this - or does DEC really stand for the Department Encouraging Castrophies?

To: House Resource Committee

From: Roland Wirth, 407 B Degroff, Sitka, Alaska 99835 (907) 747-1473

Regarding: Water Quality Standards - Written Testimony

Date: October 25, 1993

I appreciate the opportunity which the public hearing process has provided for Alaskans to express their views regarding the water quality proposals currently being considered. Thank you for taking the time to listen. Contrary to the point of view expressed by Rollo Pool at this hearing, (APC spokesperson) I strongly support the democratic process of the public hearing and hope that you will consider all testimony in your decision process. I would like to take this opportunity to share my testimony with you as I was unable to do during the teleconference due to the lack of time.

1. First, I would like to state that I believe in the importance of maintaining a healthy economy in Alaska. The resources of this state provide the backbone for our economy. For this reason, it is critical that the state examine the potential negative impact which the passing of the currently proposed water quality standards could have on Alaska fisheries industry The fisheries are a renewable resource which rely heavily on clean water and a healthy environment if they are to serve Alaska's economic future when all the oil wells and mines have ceased producing. If our current policy makers have any foresight and concern for Alaska's future they will seek higher water quality standards for their state.

2. I strongly disagree with two points made by Rollo Pool (APC spokesperson) during his testimony. He compared the public hearing process to a barroom brawl. To the contrary, I would like to take this opportunity to contend that what has happened at these hearings reflects democracy at its best (if it is listened to). It is the public's exposure to increased cancer rates which we are discussing here and the public's views should be heeded most closely on this issue. I would like to see the state select a risk level of 1 in 1 million or lower in best interest of environmental and public health. For the same reason, carcinogens and potential carcinogens do not belong in mixing zones. These are public waters and we need assurance that we can gather seafood from local waters without fear of increased risk of cancer.

3. Mr. Pool also suggested that although a very large percentage of individuals giving testimony have expressed their opposition to the proposed water quality standards they represent only a small proportion of the state's population. <u>This is bad math at its worst</u>. I do hope that the proper analysis will be used when considering the testimony which is received on this issue. I am sure you recognize that the percentage of testimony from either side of the debate must be viewed as representational of an equal percentage of the source population. Obviously this provides only a rough indicator of public sentiment but it certainly cannot be ignored or considered totally invalid. The vast majority of public comment on these proposed standards strongly favors greater protection for Alaska's environment, public health and fisheries. It would make the whole public process a sham if public comment is not weighed heavily in the final

decision in this situation where the voice is so overwhelmingly in favor of higher water quality standards.

4. Finally, I would like to say that I was disappointed that not all interested parties were provided opportunity to give testimony at today's hearing. I realize we were running short on time but I feel the situation was handled in a biased manner as the final testimony was taken only from Ketchikan participants (with a large pro-industry contingent) and that Rollo Pool's testimony was taken out of order, bumping two other Sitkan individuals who would have advocated for higher water quality standards.

Sincerely,

10/25/93

Alaska State Legislature

Please enter into the record my testimony to the House Resources
committee name
committee on Water Quality, dated 10/25/93.
bill/subject

I am totally disgusted that so many people were heard from Ketchikan while so many people in Sitka were excluded.

I recommend you be fairer in the Future.

DEC should be ashamed 10^-6 is the minimum level.

Signed: Eric Jordan
Testifier

Representing (Optional)

103 Gibson, Sitka AK 99835
Address

747-6743
Phone No.

Alaska State Legislature

Please enter into the record my testimony to the House Resource Committee
committee name

committee on Water Quality, dated 25 OCT 1993.
bill/subject

It has been really hard for me to come to talk with you. I went to the D.E.C. hearings in Sitka & heard people ask ~~you~~ D.E.C. to reconsider ~~your~~ THEIR proposed water quality regulations; to adopt the most protective cancer risk level possible, to keep Alaska's existing law that prohibits mixing zones for carcinogens, to keep existing standards for hydrocarbons, color & total suspended solids. It was a meeting where people spoke with depth of feeling. I saw Mothers, Fathers, husbands & ~~wife~~ wives, fishermen, children, students, environmentalists, and friends speak with clarity, honesty, concern, and thought.

The newspaper reported the comments of the governor upon hearing of this meeting in Sitka. He was quoted as saying that these people have a political agenda. Are you kidding? Where is my gain? How much money do I make off these proposed regulations? Isn't it the industry ~~is~~ that stands to benefit? Isn't it true ~~you~~ D.E.C. has

Signed: June Eidler
Testifier

Representing (Optional)

P.O. Box 1673
Address

747-5354
Phone No.

made up their minds & the public outcry is an exercise in futility?

What do we have to prove, to show you or how much money do we have to give to convince public officials that the public doesn't want these regulations?

This is not a political issue for me nor is this an economic one. That is an issue for government & industry. This is because I want to see my children & their children's children all have the oceans for their food & pleasure. The ocean is not an open system; it is closed - When you keep dumping sludge, PCBs, chlorine, high levels of toxic elements, garbage & carcinogens in the ocean where do you think it goes? Do you really think organisms in the sea will not be effected? How much can you pour in for how long? Why do politicians close one eye & open only the eye that means money for a few. Water may migrate out of Sitka, but it doesn't disappear. The ocean is for all of us. ~~[illegible]~~ I think a government that cares about its people, can have a cleaner vision - Non chlorine bleaching ~~pulp~~ pulp mills, small saw mills & cleaner industries.

But it is time to stop having public meetings and taking up everyone's time with talk if indeed the decisions are already made & any disagreement is called a private agenda. Over whelming public opposition to these new regulations should have all public officials re-evaluating what they are doing.

(1)

TESTIMONY

House Resources Committee
October 25, 1993

Alaska Pulp Corporation
Rollo Pool, Manager of Public Relations

My name is Rollo Pool. I am manager of public relations for Alaska Pulp Corporation in Sitka. We own two large manufacturing facilities in Southeast Alaska and have a current workforce of 450. During the last month, we have closed our largest facility, a pulp mill in Sitka and have laid-off about 300 people.

I am going to spend most of my time today talking about communication and not about dioxin and arsenic. I hope I can take this discussion to some higher plane. I also would like to offer some advice for that think public hearings are in the public's best interest.

Over the passed few weeks, the headlines have been nearly unanimous. "Critics Speak out against water quality changes." "Proposed water standards criticized at hearing." "Southeast Raps DEC at Hearings on Water Regs," the headlines read.

The logical presumption of these glaring headlines and stories must be that the people have spoken. Perhaps 100, maybe 200 people have paraded before the ADEC officials and officially spoken. And loudly. That represents 200 of 550,000 residents, or .03 of the state. Even if I am off by a factor of 2, only 1/2 of 1 percent of the population has spoken.

Basically, the state has heard from the environmentalists and their various shades of coalitions, and from some of those who fish for a living, a few moms worried about cancer, and a couple folks from the industry.

To me, as a communicator, what this water quality debate and quagmire has shown is **not** that public has spoken. It has shown that DEC has done a horrible job of communicating risks, and of putting into perspective various pollution risks. They have produced fodder, called fear, for the group of people that advocates zero risk, not low risk. We have confused actual risk with acceptable risk with no risk at all.

Our side - the industry perspective – has done a horrible job of organizing its forces to public hearings on this issue. Our company, also absent, has been focusing on its mill closure.

(2)

What we have learned from the DEC hearings on WQ Standards:

- There is nothing more precious to us than water. People care both about purity of water and availability of water.

- The Public Hearing Process is flawed when used to interpret public opinion and sentiment. If you like bar-room fights and traveling circuses, you'll love Alaska's public hearings.

What we have not learned from the past.

- There are ways that DEC can deal with these issues in a less confrontational environment.

- If DEC really wanted to educate and also learn from the public it would move into the 20th Century. It would use communicators, not technicians to express its ideas and to forge a consensus. It would use focus groups and public opinion surveys. It would hold workshops over several months.

- DEC should learn from the lopsided debate that public hearings are not a good way to gauge public concern.

- The AK Forest Association in 2 of the last three years has done statewide public opinion surveys of voters. What they find is an overwhelmingly accepting public of logging. In fact, the support is about 75%. Public opinion surveys in Juneau also show high approval for mining. This runs contrary to what we hear and see in the media.

- A survey done last year by the Institute for Regulatory Policy (epidemiologists, toxicologists, clinicians and other public health scientists) found that 81% of 1300 health professionals in the US felt that public health dollars for reduction of environmental health risks are improperly targeted. Also, 87% said it is impossible to accurately calculate human cancer deaths based solely on animal studies.

Their findings:

1) Make risk assessments as scientifically objective as possible;
2) Make the results of risk assessments more accurate and understandable

RISK:

People are talking about risk at a purely personal level. An emotional level. If one has a choice, whether to die sooner or later, most choose later. We make personal choices for different types of risk. And there are several types of risks/ We smoke cigarettes, we burn wood, we charcoal-broil our steaks, we eat too much, we eat the wrong foods. There are known risks for sunbathing, for driving automobiles. We have to distinguish between voluntary and involuntary risks, natural or man-made, fair or unfair, familiar or unfamiliar.

Activities that increase the chance of death by one in a million:

One chest X-Ray
Eating 40 tablespoons of peanut butter
Drinking 30 12-oz. cans of diet pop with saccharin
Drinking Miami city water for 1 year
Drinking 1/2 liter of wine
Smoking 1.4 cigarettes
Living 2 days in New York or Boston
Living 2 months in an average stone or brick building

How far will we take risk reduction? Just think what might happen for those that enjoy peanut butter with a nice Cabernet. What about coffee? It has some 826 volatile organic chemicals. Broccoli has a known toxin in it that is 20,000 times more potent than dioxin.

10^{-6} only represents a 0.0003% chance over our current 1 in 3 chances of developing cancer. It is no small wonder that studies are now reporting that billions of dollars are being spent to reach 10^{-6} only to find there are no appreciable reductions in impac[illegible] to public health or the environment.

• When choosing an acceptable risk level, regulators should also consider the public health risks caused by regulation. The costs of regulation reduce real family incomes by increasing the costs of goods and services, and in some areas reducing the level of jobs and those that can afford to purchase health care. If regulatory costs are excessive, the regulator may inadvertently cause more harm to the health status of families that will be prevented.

Before we bankrupt our companies and send thousands of workers scrambling for food lines and unemployment (and away from the family doctors), shouldn't we have a better understanding of what we are going to achieve and what it is going to cost – either companies or communities.

TYPES OF RISK

But we have to distinguish first between risk and hazard and hazard and outrage. Risk is a probability of hazard that can be estimated by

scientists. A different component of risk is outrage. The outrage factor elevates risks that scientists may think are unimportant or small to global proportions. One is estimated empirically or objectively; one is estimated subjectively, and, I might add, with a lot of raw emotion. Public debate has been taken over by enviro-demagogues espousing incredible illogical parodies. DEC planted the seed for the perception of crisis.

What DEC has found, and public relations studies show this, is that it cannot communicate a LOW HAZARD when OUTRAGE IS HIGH and there is no attempt made to mitigate it. It can be mitigated when fairness, openness to public participation. The public has a right to expect that reasonable improvement over time in the quality of life and the quality of the environment.

Can you image what will happen if DEC does not bend to the will of the people; if it decides in its judgment that the proper risk is 1 in a 100,000 – the same as about 1/4 of the other United States? The OUTRAGE will continue.

How to do it right:

EPA is trying to use mediation for the first time on the water permits for the two pulp mills. It hasn't begun, but it's a step in the right direction.

1) The process should be participatory. You should have industry, community, business, environmentalists put in a room and ordered to hammer out a plan using an old fashioned method of mediation.. This could be done in communities through advisory committees.

2) Foster and maintain open communications., providing information in a timely manner before issues explode. How many times do we go to a public meeting and later ask, "What did that mean?" or "That person had all the numbers reversed.

3) You need to understand that there will be outbursts from time to time as emotions surface. This is human behavior being uncorked.

4) Foster involvement of broad-based community groups. Chambers, League of Women's Voters, City of Sitka. I would not trust a plan developed in a vacuum by the Sitka Conservation Troop, nor would they sit still for a plan developed by Alaska Pulp Corporation.

5) Use PR Tools like visuals. Informational handouts. Public opinion.

P.O. Box 7263
Ketchikan, AK. 99901
12 November 1993

To: The Honorable Bill Williams
The Alaska State House Resource Committee
Alaska Department of Environmental Conservation
Environmental Protection Agency, Region X

From: Marilyn Lee
Robin Emmens
Allis May Davis
Kathy Lockhart

Subject: Water Quality Standards

On November 1, 1993, we met with Mr. Williams to express our concerns over the ADEC's proposal to weaken Alaska's Water Quality Standards. Our opinions, concerns and research appeared to be of little interest to Mr. Williams. He said he did not want to hear that "the sky is falling," and asked that we return with additional scientific evidence. Here, in brief and with supporting documents, are some of our concerns and research.

I. ADEC conducted a study in 1987 researching Ward Cove's water quality. They conclude that, "the present and historic studies provide a picture of a biologically declining marine environment in Ward Cove" due to:

1. Sludge deposits composed of both waste from KPC and a Ward Cove seafood processor facility. Sludge contributes to oxygen depletion in the bottom waters.
2. Limited flushing ability in the cove.
3. KPC's effluents, which deplete oxygen concentrations, raise water temperature,and emit sulfite waste liquor (SWL), other toxic materials, and color (which modifies light penetration). SWL is inherently toxic to aquatic fauna and can diminish primary productivity of phytoplankton.

This report also says, "there is historical evidence that Ward Cove had a diverse and healthy benthic community and had relatively good water quality prior to the beginning of operations of KPC in 1953." A series of studies from 1952 through 1990 document the gradual decline of biological activity and water quality.

A study of Silver Bay by the Federal Water Quality Administration and U.S. Fish and Wildlife recommends sludge removal, SWL reduction, and minimizing the mixing zone because of the diminished water quality resulting from APC's discharges. Considering that Silver Bay has a much greater flushing ability (40:1) than Ward Cove (14:1), citizens of Ketchikan have a very real concern over the proposed cancer risk level of 1 in 100,000.

II. There is controversy over whether contamination risk is diminished in migratory fish.

In 1991, the ADEC collected and analyzed salmon tissue. Dioxin was found in "all four composite samples." The samples ranged from 0.45ppt to 1.8ppt, far above EPA's calculated health advisory concentration for

children at 0.1ppt over a 10-day period. It should be noted that ANY detection of dioxin in food classifies it as carcinogenic. We conclude that dioxin in harmful amounts exist in migratory fish in Ward Cove.

III. Testimony was given in Ketchikan that, "there are no cancer clusters in this area." We disagree that any conclusive cancer study has been conducted in Ketchikan, and, in fact, suspect that there may indeed be a cancer cluster among residents living in the vicinity of KPC. All four of us are community health care professionals, two of us nurses, two case managers, all noticing the disproportionate incidents of cancer ("young" victims) "north of town" and are organizing to encourage the local medical community or another impartial research group to conduct a local cancer study or create a Cancer Registry.

Scientists know little about the effects of many individual chemicals because it has not been a priority of chemical companies or users to observe a chemical's effects on living things and the environment, rather on production and marketing. Even less is known about the combined effects of chemicals, and in Ketchikan we are talking about approximately 126 toxic substances, each of which could be allowed to exist at a 1 in 100,000 risk level if the State were to have its way. Dioxins suppress the immune system and enhance the carcinogenic effect of other chemicals.

This we know. Cancer is caused by carcinogens. Industrial supporters frame the cause of cancer as a problem of behavior rather than one of exposure to cancer-causing agents. Testing must be done not only to detect birth defects, but the long term, delayed effects, from fertility and carcinogenicity in offspring through three generations in order to determine real evidence of harm. We feel Alaska could benefit from the Veteran Administration research on the harmful effects of dioxin exposure, plus numerous comprehensive studies done in the Great Lakes region, as well as our own local study.

KPC is distinguished as the greatest polluting mill in the Pacific Northwest, eliminating staggering amounts of dioxins, furans, chloroform and other chlorinated compounds, creating a publlic health hazard, particularly for those living in proximity of the mill.

IV. The EPA recentiy proposed regulations that would greatly reduce dioxin discharges and other pollutants by U.S. pulp mills. This change is based on scientific evidence, quickly becoming "common knowledge," that widespread unregulated toxic pollutants do interfere with public health and the environment.

We recommend the following:

1. That Alaska adopt a risk level of no less than 1 in 1,000,000 .
2. We object to mixing zones, and at the very least support Alaska's existing law that prohibits mixing zones for carcinogens.
3. Treatment works should not be exempt from water quality standards.

Thank you for your attention to this matter.

Sincerely,

Robin Emmens, M.S.

Allis May Davis, R.N.

Marilyn Lee B.Ed.

Mary K. Burke RN/BSN

Water Quality Standards Petition

FAX TO: Dave Sturdevant / WQM
Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, AK 99801-1795

FAX: (907) 465-5274

Dear Mr. Sturdevant,

It is our understanding that the deadline for comments on the proposed Water Quality Regulations has been extended to November 15, 1993.

We the undersigned support the DEC recommended human health risk level of 10 to the minus 5th and the work of DEC to make logical and reasonable changes to the Alaska Water Quality Regulations. Please add our comments to the official record on this issue.

Signature	Name (Print)	Address
	PAUL RUDIFER	12760 Pintail ST ANCH AK 99516
	ERIC EGGERS	12760 PINTAIL ST ANCH Alaska 99516
	Clark Hirsch	1114 Bascott Dr. S.L.C. Ut
	Edwin Hansen	12213 So Janice Rd. SLC Ut.
	TODD COURTNEY	10130 JAMESTOWN Dr. #H ANCHORAGE 99
	Maria Garrett	6231 A Collins Way
	John Heatcoole	1032 Smith Ave Harrisonburg, Va
	RANDALL ERVIN	2200 W. Parkwood Ave Hendersonville NC 2874
	Jason R Brossler	3640 W. 66th Anc AK 99502
	MAX FACKLER	P.O. BOX 2227 SEWARD AK 99664
	MARY FACKLER	BX 2227 SEWARD AK
	GARY LEVIN	3407 SEPPALA, A-CH, AK 99517
	DAVID D. ROWLAND	201 BARROW ST. #202 ANCH. 99501
	BILL SHAFFER	705 MULDOON RD. #46
	STEPHEN R. SAUNDERS	P.O. BOX 110611 ANC, AK 99511
	KENNETH BOBBE	3470 NOVA, ANC, AK. 99503
	GERALD DUHAMEL	5317 So. 297th PLACE: AUBURN, WA 98001
	John Hislop	45 W. VINE Grantsville Utah 84029

FAX this page to DEC at the number above and to State Rep. William Williams, Chairman, House Natural Resources at (907) 225-8546.

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Signature	Name (Print)	Address
	Rick Sadler	18-28 Kennedy Eagle
	Joe Radlin	5521 Whispering Spruce 99516 Anch
	Walter Foster	2172 Otter Dr North Pole
	Ronal L. Bissette	11920 Timberland Anchorage
	Donald Gerbeck	2028 Brandon Anchorage
	Floyd Stretch	6935 Whitehead St. Anch
	Jerry Harms	500 West Potter Suite 102
	Kris Harms	500 W Potter Suite 102
	Gregg Parsley	4338 Warwick Pl. Anch 99508
	James H. Johnson	121 Timberland Drive Fairbanks AK 99709
	Norman R. Lutz	2140 Arcadia Dr. Anchorage AK 99517
	William T. Morgan	1424 W. 11th Anchorage, Alaska 99501
	Dennis L Hahi	1555 Birchwood St ANC, 99508
	Kevin M Hartman	9631 Nonya Cir. AK 99577
	Ron Lemke	8244 Endicott AN 99502
	Gregory R. Weller	27955 Canyon Road Caldwell ID 83810
	David Beamer	6696 Wade Rd. Delta BC
	David P. Farmer	2110 E 50th Tacoma Wa. 98445

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We the undersigned support the DEC recommended human health risk level of 10 to the minus 6th and the work of DEC to make logical and reasonable changes to the Alaska Water Quality Regulations. Please add our comments to the official record on this issue.

Signature	Name (Print)	Address
	Joseph Kurtak	3301 C. St. Suite 525 Anchorage AK 99501-3935
	Debra Reid	1273 Woodpecker Dr Anch 99508
	Eskil Anderson	924 W 22nd Ave Spokane WA 99210
	Peter Robinson	1417 Cloverleaf St PO Box 6356 Fairbanks AK 99701
	Philip Rush	
	Ted Dunn	
	Roger C Burggraf	830 Sheep Creek Rd Fbks 9971
	Joseph E. Vinton	1577 C ST ANC AK.
	Raymond C. Rose	1577 C St. Anc AK 99501
	Forest A Haydon	PO Box 110930 Anc AK 99511
	STEVE TELLER	P.O. BOX 454 CHUGIAK AK 99567
	Bruce C. Stren	11525 Our Rd Anch 99516
	Wm K. Blessington 24236 Hearthstone Dr	24236 Hearthstone Dr Chugiak 99567
	R.H Trent	1000 EAGLE RIDGE RD FBKS 99712
	Richard Wilmarth	Flat AK 99584

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Signature	Name (Print)	Address
Roger Burleigh	Roger Burleigh	4401 E 145th Anch., AK 99516
Michael W McClain	Michael W McClain	E505 W 7th Ln. Spokane WA 99207
A.T. Tunley	A.T. TUNLEY	3748 Mt BLANC Cir. ANCHORAGE. AK 99508
Jed B Lewis	JED B. LEWIS	Box 877562 Wasilla AK 99687
[illegible]	John J. Kito	4601 Spenard Ln. Juneau AK 99801
[illegible]	[illegible]	3475 [illegible] Anchorage
PAUL A. HARMON	Paul A Harmon	1700 DAIRY HEIGHTS CORDOVA, CA 95742

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	Chuck Drummond	1346 Sawline Dr, Anch. Ak 99508
	Jim Hallowa	6225 Hackberry Anch AK 99502
	Michael G. Nelson	1904 Coronado Ave., Fairb, AK 99709
	GANG CHEN	1260 Airport Way, 3F2 Fbks, AK 99
	Dan Snodgress	1245 Lake Lane FB., Ak. 99712
	Lawrence Nerenberg	3154 Tide Ave, Ketchikan AK 99901
	Earl H Beistline	PO Box 80143, Fbks Ak 99708
	Bill Ohman	PO Box 11094, Fbks, AK 99710
	[illegible]	
	Edward J Neuser	634 Fischer Av Anch AK 99518
	Kathleen M. Charlie	P.O. Box 74774, Fairbanks AK 99

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Signature	Name (Print)	Address
David W. Lappi	David W. Lappi	4900 Sportsman Dr. Anch. AK 99507
Brenda Roper	Brenda Roper	3501 Denali #1 AK 99503
Paul Frangier	Paul FRANGIER	9525 King St Anch Ak 99515
Kevin Krause	Kevin Krause	3429 Newcomb Dr. Anch. 99508
Dennis Steffy	Dennis Steffy	155 Smithmeyer, Soldotna 996

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Signature	Name (Print)	Address
D. Halligan	Dan Halligan	HC 32 5552 Ceasilla
Helen Warner	Helen Warner	POB 80674, College, AK 99708
Dean Wiggers	Dean Wiggers	HC 32 Box 6322 Wasilla AK 99654
[illegible]	[illegible]	[illegible]
Leslie Maxwell	Leslie L Maxwell	3910 Loc South Anch 99516
Jan Borland	JAN BORLAND	8611 Barney Cir. Anch 99507
Barbara Maxwell	Barbara Maxwell	3910 Loc South Anch 99516
Thomas S. Sparks	Thomas S. Sparks	Box 1008 Nome AK 99762
S M Ellis	S M. Ellis	1007 W. Third #400 99501
Jacqueline E Glavinovich	Jacqueline E Glavinovich	2910 Eastern Loop Anch. AK 99516
PAUL A. HARMON	PAUL A Harmon	1700 Bay Ave #145 Capitola CA 95010
Mary A. Nordale	MARY A. NORDALE	600 F St. #4 Juneau 99801
Irene Anderson	Irene Anderson	Box 1974 Nome AK 99762

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FAX: (907) 465-5274

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Signature	Name (Print)	Address
	Mark K Johnson	13631 Windward Circle Anch
	David C Bushell	Box 214 Hoon. Alaska 99694
	Carol Aubertin	9501 Kavik St. 99515
	Lorraine Helenar	19241 Alak Ci. E.R 99577
	Sam Weir	9300 Arlon 22-3995
	Tom Hand	Box 2301 Homer AK 99603
	Richard Flanders	187 Becker Ridge Rd Fbks AK 99709
	C. ROCKINGHAM.	2552 SWINBURNE AVE N. VANCOUVER BC.
	Cindy Roberts	2634 John St Juneau 99801
	Jeff Foley	3331 Reflection Dr. Anch. 99517

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Water Quality Standards Petition

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Signature	Name (Print)	Address
[signature]	Terri Campbell	437 Willow Circle AK 9984
[signature]	Shelley Szarzy	POB 87005 Lakeville 99687
[signature]	Toni K. Mannel	P.B 83102 Fairbanks 99708
[signature]	Barbara Hayden	P.O. Box 11093 Birch Ak 99511
[signature]	J.C. Todd	PO Box 4560 Sparks NV 89432
[signature]	Erlene Tachick	P.O. Box 3503 Soldotna, Ak 99669
[signature]	Wendy Tachick	P.O. Box 3503 Soldotna AK 9966
[signature]	James C. Lewis	27907 Raven ct Chugiak, A
[signature]	DALE E. HENKING	P.O. BOX 240361 Douglas, AK. 99824
[signature]	Stanley C. Rybacki	PO Box 55698 N. Pole AK 99705
[signature]	Rose Rybacki	Box 55698 North Pole AK 9970
[signature]	KEN NESTING	7330 Silver Birch Anc., Ak. 99502
[signature]	George Seuffert	PO Box 156 Central AK 9951
[signature]	ED J NEUSER	634 FISCHER AV ANCH AK 99518
[signature]	Wm. C. Tachick	Box 3503 Soldotna Ak 9966
[signature]	Ernest M. Chase	701 S Klevin 108 Anch
[signature]	George E Meyer	Box 2752 Palmer AK 99645
[signature]	Gardner Foster Jr.	2605 Aspen Dr. Anchorage AK 99517

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Signature	Name (Print)	Address
	Vernon Christianson	3038 Rampart Dr. Anchorage, AK 99504
	JOHN LARSEN	14060 SW Sexton Mtn Dr Beaverton, ORE. 97005
	NATHAN RATHBUN	5315 Dubon Ave. Anch. AK. 99504
	Joseph Kurtak	5621 W Whispering Spruce 99516 Anch. AK
	John DiMARCHI	2700 S. CUSHMAN ST FAIRBANKS AK 997
	LLOYD TWAITES	212 BROADSBANK AVE N. VAN B.C. CANADA
	SUE DORATT	503 'C' St, Fairbanks, AK 99701
	Norman Pilsbury	3912 Dubro Dr. Fairbanks, AK 99709
	Edward Belsky	36320 114 AVE. E. PUYALLUP, WA 98373
	KIRK BUTCHER	12901 KILLEY ST. ANCHORAGE, AK 99515
	GEORGE HOGAN	[illegible]
	DAVID E. MURPHY	3021 Iowa Dr. AK 99507
	Jeffrey T. Jacobsen	4610 Canterville Ct. Anch. 99502
	DAN LEE	1403 Box 1853 Palmer 99645
	EARNEST A. PARHAM	1401 College Rd F. B.
	Leo Mark Anthony	2020 Lake Otis, Anchorage 99503
	JOHN PROFFETT	P.O. Box 111253 ANCHORAGE 995
	Judy Patrick	PO Box 870565 Wasilla AK 9766

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Signature	Name (Print)	Address
James R Coldwell	James R. Coldwell	P.O. Box 34572, Juneau, AK 99803
Bryan L. Granath	Bryan L. Granath	P.O. Box 32, Kenai AK 99611-0003
Gene A. Granath	GENE GRANATH	BOX 574 Kenai Ak. 99611
Edwin B. Krooger	Edwin B. Krooger	1022 Prindle Court, Fbx, 99709

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Water Quality Standards Petition

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We the undersigned support the DEC recommended human health risk level of 10 to the minus 6th and the work of DEC to make logical and reasonable changes to the Alaska Water Quality Regulations. Please add our comments to the official record on this issue.

Signature	Name (Print)	Address
	J.S Drechsler Jr	PO 773594 Eagle River AK 99577
	Howard F Covey	1927 W 13th Anchorage 99501

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Signature	Name (Print)	Address
	Thomas E. Holmes	2317 Tulik Dr. Anchorage 99503
	Thomas Austin	4175 Tudor Centre, Anch. 99508
	[illegible]	[illegible]
Kathleen Tarr	KATHLEEN TARR	255 W. Redoubt Ave Soldotna 99669
Jill Gates	Jill Gates	3637 West 100th Ave Anch. AK 99515
Kim C. Aasand	KIM C. AASAND	800 E. Dimond #3-400, Anch. AK 99515

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Signature	Name (Print)	Address
		952 Gilruth Court Anchorage AK 99504
	Roger Bowen	P.O. Box 937 Douglas Ak 99824
	Dennis Coghlin	Indian, AK
	J. Wayne Erickson	1921 Waldron Dr - Mat-Su AK 99507
	Paul Mayer	Box 83102 Fairbanks 99708
	Paul Mayer	P.O.Box 73607 Fairbanks 99707
	John Trajstino	3516 Rosie Cr. Rd Fbks AK 99709 7724 Arlene Anch AK 99502
	Carolyn Crusey	P.O. Box 871617 Wasilla AK 99687 3512 Caribou Hill Mat-Su Dist Wasilla AK 99654

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Signature	Name (Print)	Address
[signature]	Hank J Nogi	1535 Mary Ann St. Fairbanks 997
[signature]	Dave Bronte	2550 Denali St Anc
[signature]	Hidetoshi Takaoka	602-700 W. Georgia St. Vancouver B.C
[signature]	Steven Rowland	300 W Fireweed Ste 203 Palmer AK
[signature]	Paul A. Harmon	1700 Dairy Ave #145 Corcoran Ca 93212
[signature]	Curt Freeman	Box 80268, Fbk, AK 99708

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Signature	Name (Print)	Address
Tim McKay	Tim McKay	2552 Steese Hwy N. Fbks AK 99712
Rocky MacDonald	ROCKY MACDONALD	BOX 61618 FBX AK 99706
Alvin Agoff	ALVIN AGOFF	Box 2791 PALMER, AK. 99645
Donald E. Mullikin	DONALD E. MULLIKIN	P.O. Box 750, Homer, AK
Deryl A. Box	DERYL BOX	P.O. BOX 33391 JUNEAU, AK 99803
Paul Wharton	Paul Wharton	PO Box 401 Girdwood AK 99587
Lee Barker	Lee Barker	211 Henry St Whitby Ont
Ernest M Chan	ERNEST M. CHAN	BOX 141 ANVIK AK 99558
Judy Rock	Judy Rock	Box 141 Anvik AK 99558
John T Lawson	John T Lawson	1937 Old Steese N Fbks 99712
Paul A Harmon	P.A. HARMON	221 Potter Rd. Anch AK 99515
P. Jeffrey Burton	P Jeffrey Burton	6311 Debarr Rd #301, Anchorage AK 99504
W.M. Massengale	W.M. Massengale	2500 Cordova Place #7 Anchorage 99503

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Signature	Name (Print)	Address
[signature]	Stuart Hainsworth	2175 Union Ave Ste Fairbanks, AK
[signature]	TRISH MILLERBRAND	1037 DENALI ST #2 FAIRBANKS, AK 99
[signature]	Gregory F. Durocher	3707 Bisquine Dr. 99508
[signature]	Shari Durocher	
[signature]	June Fowler	2022 Crabtree Cr
[signature]	MARY A. NEUBAUER	443 Cowles Fbks 99701-4434
[signature]	Richard C. Davis	14870 Snowshoe Lane-Alsn 99516
[signature]	Brian L. Martin	P.O. Box 34641 Juneau, AK 9980
[signature]	Ronald Alan Brooks	POB 10416 Fairbanks AK 99710
[signature]	Rob Sykes	Box 75 Central AK 99730
[signature]	George Paranka	130 W Int'l Rd 99518
[signature]	RALPH SUMMERHAYES	Box 101801, Anc.
[signature]	Dale Thrip	Box 20191 99520

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Signature	Name (Print)	Address
	Chuck Dumont	1896 Sandpiper, Anch. AK 99508
	Jean Hallam	6225 Blackberry Anch. AK 99502
	Michael G. Nelson	1904 Cavern Ave., Fairbanks, AK 99709
	GANG CHEN	1260 Airport Way, 3F2 Frbks, AK 99701
	Dan Snodgress	1245 Lake Lane FB, AK. 99712
	Lawrence Nerenberg	3154 Tide Ave, Ketchikan AK 99901
	Earl H Beistline	PO Box 80148, Fbks AK 99708
	Bill Ohman	PO Box 10194, Fbks, AK 99710
	~~Robert Hamilton~~	
	Edward J Neuser	634 Fischer Av Anch AK 99518
	Kathleen M. Charlie	P.O. Box 72377, Fairbanks AK 9970

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	Norval KANE	4203 Wilson Anch. 99503
	RONALD L. RICKETTS	269 TOPSIDE RD. FAI 99712
	JAMES A. [illegible]	[illegible]
	EILEEN McLAREN	8361 TOP OF THE WORLD S.C.C. UT 84121
	L.R STILLWELL	557 2nd St, FAIRBANKS AK 99701
	Douglas Tweet	Box 1712 Nome AK 99762
	BRUCE H TWEET	Box 1126 Nome, AK 99762
	Robert I. GREIG	POB 22434 JUN AK 99802
	Juni K Hindeman	11341 olive Low ANC 99515
	DAN DOLANDER	7802 ARLENE, ANCH 99502
	Martin D. Conyne	8721 Pluto Dr., Anchorage 99507
	Jim St. George	1165 Cranberry Drive, Anch 99515
	SANDRA EGGREN	1039 Beach Court Anch. 99504
	Russell K[illegible]	11911 Rainbow [illegible] Anchorage 995
	BARBARA A. JONES	PO Box 24345, Seattle Wa 98058

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Signature	Name (Print)	Address
Roger Burleigh	Roger Burleigh	4401 E 145th Anch., AK 99516
Michael W Miller	Michael W Miller	E505 W. Fourth Ln Spokane WA 99201
A. T. Tunley	A. T. TUNLEY	3748 Mt BLANC Cir ANCHORAGE AK 99508
Jed B Lewis	JED B. LEWIS	Box 877562 Wasilla AK 99687
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]

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Signature	Name (Print)	Address
	Joseph Kurtak	3301 C. St. Suite 525 Anchorage AK 99501-3935
SABRA REID	Sabra L Reid	1275 Annapolis Dr Auke 99508
	Eskil Anderson	914 W 22nd Ave Spokane WA 99203 Kelf cluster 4
	Peter Robinson	P.O. Box 6356 Ketchikan AK 99901
	Paul R Shea	
	Tom Day	
	Roger C Burggraf	830 Sheep Creek Rd Fbks 9970
	Joseph P. Vio	1577 C ST ANC AK
	Raymond O. Rose	1577 C St. Anc. AK 99501
	Forest A Haydon	PO Box 110930 Anc AK 99511
	STEVE TELLER	P.O. BOX 454 CHUGIAK AK 99567
	Bruce Co. Sipher	11525 Our Rd Anch 99516
	Wm K. Blessington 24236 Heartstone Dr	24236 Heartstone Dr Chugiak 99567
	R.H. Ireland	1000 EAGLE RIDGE RD FBKS 99712
	Richard Wilmarth	Flat AK 99584

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Signature	Name (Print)	Address
	Rick Saddler	1228 Kennedy Fbks
	[illegible]	[illegible] 99516
	[illegible]	[illegible]
	Brad Bissett	1920 Cumberland Anchorage
	Donald Gresch	2029 Rainbow Anchorage
	Floyd Stretch	6455 Whitehall St. Ntch
	Terry Harms	500 West Potter Suite 102
	Kris Harms	500 W Potter Suite 102
	Gregg Bursiek	7000 Lambert Pl. Anch. 99507
	James H. Johnson	121 Trimble Drive Fairbanks AK 99701
	Norman E. Lutz	2140 Gravelly Dr, Anchorage
	William T McQuade	1424 W 11th Anchorage, Alaska 99501
	[illegible]	1515 Mid Hummock Anch, 99508
	Kevin M Hartman	9631 Noaya Cr Anch 99577
	Ron Lemke	2214 Eielson Ln Ak 99502
	Christy K. Wells	2711 Campus Road Chapel Hill NC 27514
	Doug Bevans	6696 Wade Rd. Delta BC
	Donald E Forster	206 E 5th Juneau AK 99801

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Paul J. Wescott
P.O. Box 231
Sitka, AK 99835

TEL 907-747-0549 (H)
TEL 907 747 5500 (W)

October 20, 1993

Dave Sturdevant, WQM
ADEC
410 Willoughby Ave., Suite 105
Juneau, AK 99801-1795

Ladies and Gentlemen:

I won't bother to rebut the goofy reasoning of Sitka's environmental fanatics, but I would like to say that many people avoid public hearings on such matters BECAUSE these folks pack the meetings. My old boss used to say that mentally impaired folks could ask more questions than a wise man could answer - Bill Cosby, "Why is there air?" Likewise, religious fanatics - oops, I mean those terribly concerned with the environment and MY health, damn the cost! - can twist reason into some pretty bizarre shapes.

Most people I know have plenty to do without having to defend their pocketbooks from these folks. We trust you to do so. They are certainly not the majority; they are simply the noisiest and most, well, fanatical.

Ok, OK, I can't resist.

Tim Hines and Don Muller are quick to trot out numbers and projections. If they are right, say about Sitka's pulp mill, there should be a big blip in our cancer stats. After all, the mill, built in the late '50's, has, according to Hines, been spewing out 50 times the currently recommended minimum daily requirement of dioxins. There is no such blip that I know of.

They fail to tell everyone that better than ninety percent of the carcinogens we are exposed to are natural in origin, so what's the big deal?

Mssrs. Hines and Muller neglect to point out that losing jobs, moving, etc., is incredibly stressful. I wouldn't be surprised if far more pathology attends the mill closure than does an order-of-magnitude reduction in pollutants at their present rarified concentrations. Ask Don what effect his favorite organization's screwball campaign against alar may have had on the apple-growing community.

Advances in production methods and technologies - and a reasonable amount of attention to environmental matters - lead naturally to a reduction in undesireable emissions; the environuts

are like a doctor telling his/her patient to take ALL the medicine NOW, none of this "twice daily until gone" stuff.

The environuts as reported in the Sitka Sentinel assume that everyone in Sitka catches all their fish at the mouth of Silver Bay. With gazillion miles of coastal waters, bays, estuaries, Don and Tim fish by the mill, you bet. The author of Field of Dreams originally had environmentalists in mind: "Build a pulp mill, they will come," but he didn't figure alarmists with ponytails would attract box office like a baseball team would, hence the switch.

At this point in time, I trust you guys to figure out a balance between the economy and a reasonably healthy environment. You're proposals are just fine with me.

Thanks,

[signed]

Water Quality Standards Petition

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Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, AK 99801-1795

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	Paul Rivifler	1276 Pintail ST ANCHAK 99516
	Eric E. Fiedler	12760 Pintail St Anch Ak 99516
	Mark Hinsche	11124 Prescott Dr. S.L.C. UT
	E. Dwayne Hansen	2227 E. James Dr. Cave Cr
	Jan. Caraffey	10230 Jamestown Dr #4 Anchorage 99
	Marian Curtis	6851 H Collins Way
	John Hentrodt	108 Smithark Harrisonburg Va.
	RANDALL BRINK	3300 Kenilworth Ave Hyattsville MD 20785
	Jason R. Brooks	2040 W. 46th Ave, Ak 99502
	MAX FAFKIER	P.O. BOX 111 CHUGIAK, AK 99567
	Mary Fackler	BOX 2021 Talkeetna
	Gary Levin	3407 Seppala, Anch, AK 99517
	David D. Rowland	201 Barrow St. #202 Anch 99501
	Bill Schaffer	705 Mulldoon Rd. #46
	Siemonne Swinkels	12 Baxwood Pine, AK 99511
	Kenneth Bowne	3470 Nunaka Ave, AK. 99503
	Gerald Duhamel	5311 So. 297th Place, Auburn, WA 98001
	John Wesley	W.C.W. Vine Grantville Utah 84029

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Michael Leccese
107 Kincroft Way
Sitka, Alaska 99835

November 15, 1993

Mr. Dave Sturdevant
Water Quality Management
Alaska Dept. of Environmental
Conservation
410 Willoughby Ave., Suite 105
Juneau, Alaska 99801-1795

Dear Mr. Sturdevant:

I am writing to protest the proposed changes to the Alaska Water Quality Regulations.

It is alarming to believe any State or Federal agency would consider using a greater risk factor in a time when pollution throughout the world is endangering our lives. The technology is available to prevent much of the pollution of our rivers and oceans as well as the air we breathe. The days of acid rain, turbid waters could be coming to an end yet Alaska, the most pristine State in the Union is willing to allow industry to dictate our standards.

My family lives mainly on subsistence foods of which a large percentage is derived from the waters of Sitka Sound. We have been unable to use the clams that are most accessible to us in the Eastern Channel area due to the brown water and sludge. Even the meat of the clams has a dark color. This limits our food supply considerably and the cost of traveling further to fish and gather seafood is high.

We have noticed a gradual clearing of the waters around Sitka since the closing of the Pulp Mill but it will likely take years before the ocean bottom is cleared of the toxic sediment from the years of operation allowing for safe use of local sea life.

If the State wants to encourage industry, make sure it's a clean industry meeting the most stringent requirements possible. Then we will be setting an example for other states as well as meeting the more restrictive standards that are surely to be required in the next few years.

Thank you for the opportunity to comment on this most important matter.

Sincerely,

Michael Leccese

cc: Charles Findley, Director
Water Division, EPA Region X

Bill Williams
State Representative

P.O. Box 7263
Ketchikan, AK. 99901
12 November 1993

To: The Honorable Bill Williams
The Alaska State House Resource Committee
Alaska Department of Environmental Conservation
Environmental Protection Agency, Region X

From: Marilyn Lee
Robin Emmens
Allis May Davis
Kathy Lockhart

Subject: Water Quality Standards

On November 1, 1993, we met with Mr. Williams to express our concerns over the ADEC's proposal to weaken Alaska's Water Quality Standards. Our opinions, concerns and research appeared to be of little interest to Mr. Williams. He said he did not want to hear that "the sky is falling," and asked that we return with additional scientific evidence. Here, in brief and with supporting documents, are some of our concerns and research.

I. ADEC conducted a study in 1987 researching Ward Cove's water quality. They conclude that, "the present and historic studies provide a picture of a biologically declining marine environment in Ward Cove" due to:

1. Sludge deposits composed of both waste from KPC and a Ward Cove seafood processor facility. Sludge contributes to oxygen depletion in the bottom waters.
2. Limited flushing ability in the cove.
3. KPC's effluents, which deplete oxygen concentrations, raise water temperature,and emit sulfite waste liquor (SWL), other toxic materials, and color (which modifies light penetration). SWL is inherently toxic to aquatic fauna and can diminish primary productivity of phytoplankton.

This report also says, "there is historical evidence that Ward Cove had a diverse and healthy benthic community and had relatively good water quality prior to the beginning of operations of KPC in 1953." A series of studies from 1952 through 1990 document the gradual decline of biological activity and water quality.

A study of Silver Bay by the Federal Water Quality Administration and U.S. Fish and Wildlife recommends sludge removal, SWL reduction, and minimizing the mixing zone because of the diminished water quality resulting from APC's discharges. Considering that Silver Bay has a much greater flushing ability (40:1) than Ward Cove (14:1), citizens of Ketchikan have a very real concern over the proposed cancer risk level of 1 in 100,000.

II. There is controversy over whether contamination risk is diminished in migratory fish.

In 1991, the ADEC collected and analyzed salmon tissue. Dioxin was found in "all four composite samples." The samples ranged from 0.45ppt to 1.8ppt, far above EPA's calculated health advisory concentration for

children at 0.1ppt over a 10-day period. It should be noted that ANY detection of dioxin in food classifies it as carcinogenic. We conclude that dioxin in harmful amounts exist in migratory fish in Ward Cove.

III. Testimony was given in Ketchikan that, "there are no cancer clusters in this area." We disagree that any conclusive cancer study has been conducted in Ketchikan, and, in fact, suspect that there may indeed be a cancer cluster among residents living in the vicinity of KPC. All four of us are community health care professionals, two of us nurses, two case managers, all noticing the disproportionate incidents of cancer ("young" victims) "north of town" and are organizing to encourage the local medical community or another impartial research group to conduct a local cancer study or create a Cancer Registry.

Scientists know little about the effects of many individual chemicals because it has not been a priority of chemical companies or users to observe a chemical's effects on living things and the environment, rather on production and marketing. Even less is known about the combined effects of chemicals, and in Ketchikan we are talking about approximately 126 toxic substances, each of which could be allowed to exist at a 1 in 100,000 risk level if the State were to have its way. Dioxins suppress the immune system and enhance the carcinogenic effect of other chemicals.

This we know. Cancer is caused by carcinogens. Industrial supporters frame the cause of cancer as a problem of behavior rather than one of exposure to cancer-causing agents. Testing must be done not only to detect birth defects, but the long term, delayed effects, from fertility and carcinogenicity in offspring through three generations in order to determine real evidence of harm. We feel Alaska could benefit from the Veteran Administration research on the harmful effects of dioxin exposure, plus numerous comprehensive studies done in the Great Lakes region, as well as our own local study.

KPC is distinguished as the greatest polluting mill in the Pacific Northwest, eliminating staggering amounts of dioxins, furans, chloroform and other chlorinated compounds, creating a publlic health hazard, particularly for those living in proximity of the mill.

IV. The EPA recently proposed regulations that would greatly reduce dioxin discharges and other pollutants by U.S. pulp mills. This change is based on scientific evidence, quickly becoming "common knowledge," that widespread unregulated toxic pollutants do interfere with public health and the environment.

We recommend the following:

1. That Alaska adopt a risk level of no less than 1 in 1,000,000 .
2. We object to mixing zones, and at the very least support Alaska's existing law that prohibits mixing zones for carcinogens.
3. Treatment works should not be exempt from water quality standards.

Thank you for your attention to this matter.

Sincerely,

Tom Emmens, M.S.

Marilyn Lee B.Ed.

Allie May Davis, R.N.

Nancy L. Burkey RN

Albert W. Wilson
P. O. Box 597
Sitka, Alaska 99835

November 15, 1993

Dave Sturdevant, WQM, ADEC
410 Willoughby Ave., Suite 105
Juneau, Alaska 99801-1795

Dear Mr. Sturdevant:

Please include the following remarks in your review of public comments concerning the proposed water quality regulations.

I am an Alaska Native. I have spent my life in the construction industry. I have lived adjacent to Eastern Channel in Sitka Sound for over thirty years. I am a cancer victim. In late '92 I was diagnosed with cancer of the colon. In December I had a lower anterior resection, a complex surgical procedure from which I am still recovering and I am told by my doctors it may still be a year before I can lead a normal life.

In thirty-three years I have seen Eastern Channel and adjacent waters go from pristine to the sewer it is now and as it will remain until Alaska Pulp Mill cleans up the toxic waste in these waters left from its operation. I dove using scuba gear commercially, for subsistence foods, and for pleasure extensively in the 60's and until 1980. From observations made during this time I can say the effluent from the pulp mill has become worse through the years, not accumulatively but seemingly by change of the pulp mill operation and in spite of added pollution control equipment. It seems the addition of pollution control equipment has little effect when no control of the effluent upstream from the equipment exists and the mill operator chooses to use a dirtier, perhaps more economical, processing system.

In 1989 I brought clams gathered from beaches twenty miles south of Sitka to our residence on Berry Island and hung them in a sack off our dock. The next day all of the clams were dead. After that day my family discussed at length the apparent increase in pollution from the pulp mill such as the dark colored water, the sludge floating on top of the water and the stench in the air when temperature inversions exist in the atmosphere and the smog floats out of Silver Bay. We had been aware of this pollution before but now were alarmed that we must do something to protect ourselves from what now appeared to be dangerously toxic materials. We stopped using all clams, abalone and other sealife for food from anywhere around Eastern Channel or Silver Bay.

When diagnosed with cancer, I read at length and discussed with my doctors the causes of colon cancer. The first main reason cited is hereditary but no one im ny family ever had cancer. Another main cause cited was type of diet. My own diet consists largely of subsistence gathered seafoods, wild game, berries and home grown

vegetables. I came from a family that has lived the same way including growing their own vegetable garden and these eating habits are deeply ingrained in me so there appeared to be nothing wrong with my diet. The other main reason cited is pollutants. Pollutants that largely contaminate the food we eat. When I told my doctor I stopped eating seafoods from the polluted areas of Sitka Sound two years before the first symptoms of my illness appeared, he replied I should have stopped eating these foods four years before because that was how long it takes for a tumor such as mine to develop. I cannot take this information without feeling I am the "one" in the "one in one hundred thousand" you say is okay to have cancer. When I think of the terrible uncertainties that existed leading up to my diagnosis of cancer; the traumatic troubled time for myself and my family thereafter; the extensive testing, surgery, hospital stay and tremendous illness and discomfort that followed; of spending the entire day after returning home from the hospital in the bathroom vomiting while family and friends sat in our living room the day of our 25th wedding anniversary; and the continuing loss of income as a result of this illness; there is nothing I can say to you that would adequately express the anger I feel that you would allow toxic pollutants to exist in our waters to the extent you have. Strong as this anger is, it is quickly displaced with fear. Fear that this could have happened or may happen to another member of our family, my wife, my child, or my grandchild. Now you intend to loosen the standards for toxic pollutants to the benefit of a few large corporations that already have shown they have little regard for human lives.

Strangely, I find there are many "ones" of the "one in one hundred thousand" here in Sitka. Herman Kitka has colon cancer and continues to survive. My friends Ray Ozawa and Conrad Baines did not survive nor did many others. There is no statistical data available on incidence of cancer in Alaska and perhaps there should be but my doctor here has told me colon cancer is the most prevalent form of cancer in the Sitka area. Let's look at this more closely. I don't believe anyone would contradict the statement that all Alaska Natives use subsistence foods consisting mostly of seafoods. These seafoods are not only fish and shellfish but plant life such as seaweed and kelp along with herring roe. Much of these foods have been taken right out of the waters polluted from effluent from the Alaska Pulp Corporation's pulp mill. Clearly, the Alaska Native is at higher risk than others in the highly theoretical numbers establishing risk level. One could say since Alaska Natives comprise 17% of Alaska's population that the risk level for the Alaska Native as proposed in the State Water Quality Regulations is one in seventeen thousand. This is even more true when considering the much higher amount of seafood consumed by Alaska Natives than the 5.2 pounds per year you say you will use to "calculate" risk level.

It is a sham that Mr. Sandor would publicly claim he will continue to promote the water quality regulation proposals as they stand in the interest of protecting the health of the Alaska Native. If you indeed wish to protect the Alaska Native or at least provide us the same level of risk afforded others, then adopt the most stringent risk level available to you instead of the least. Protect the waters from which we obtain our foods from toxic chemicals. This is not an impossible task. The technology exists today to reduce or eliminate these toxic chemicals from polluting our waters. We care very much more for the health of our families than we do economic gain.

Sincerely,

Al Wilson

cc: Rep. Bill Williams
House Resources Committee

Alaska Federation of Natives
Health Committee

Charles Findley, Director of Water Division
EPA Region X

"Cross Town Insurance"
P.O. Box 71410
Fairbanks, AK. 99707

Located: 1741 College Rd
Phone: 907/452-6891 Fax: 907/452-4858

Date: 11/11, 1993 From: Tamara Knight

To: State of Alaska Dept DEC

Person: Policy:

RE: Water Quality Regulations & Mining
This Cover Plus 1 Pages.

Subject:

We are in support of Representative Jeanette James position on Water Quality standards stated in Her letter of Nov 2nd.

The current regulations are prohibitive to mining operations in Alaska for resorses and jobs. Mining money in Alaska directly effects small business more than the Oil Industry.

Regulations should say a good sence approach the Federal Goverment has lacked causeing discriminatory and selective enforcment tainting the public opinion more so than the Water.

In support

Tamara Knight

"Cross Town Insurance"
P.O. Box 71410
Fairbanks, AK. 99707

Located: 1741 College Rd
Phone: 907/452-6891 Fax: 907/452-4858

Date: 11/11/93 From: CHERYL A LAVALLEY

To: STATE OF ALASKA, DEC.

Person: COMMISSIONER JOHN A SANDOR

RE: WATER QUALITY REGULATIONS & MINING
This Cover Plus 1 Pages.

Subject:

WE ARE IN SUPPORT OF REPRESENTATIVE JEANETTE JAMES POSITION ON WATER QUALITY STANDARDS AS STATED IN HER LETTER OF 11/2/93.

PLEASE CONSIDER THE FOLLOWING 8 POINTS AS YOU COMPLETE YOUR REVIEW, LETS BE FAIR AND USE A LITTLE GOOD SENSE!

THANK YOU!

captive with their emotional and silly observations, and powerful, tainted public testimony.

I fully support the comments made by the Alaska Miners Association, I will elaborate on some of their comments that I feel quite strongly about.

Comments

1. I strongly support the DEC's choice of 10 to the minus 5th for the human health risk factor.

2.I support the DEC's change to use "settleable solids" to define sediment. The current standard of "no measurable increase" is not realistic.

3. I support the use of the phrases "unless available evidence reasonably demonstrates" and "water body as a whole" now appearing in the section on mixing zones. The new regulations will be more objective and workable.

4. I support the definition of "treatment works". This definition is logical and workable.

5. Remove phrases "at the discretion of the Department" and " other information deemed necessary". These phrases leave the door open for arbitrary, capricious, discriminatory and selective application and enforcement.

6. Replace the phrases "all organisms" in the definition section and "biota" in the mixing zone section with the phrase "commonly used indicator species". The regulations need to tailored to the site and not applied Statewide.

7. Eliminate the phrase" as small as practicable" from the mixing zone section. The real issue is effective mixing, not the size of the mixing zones.

8. Change the mixing zone site definition to allow the mixing zone for placer mining to extend "downstream to the point of complete mixing or the point of the next substantiated use if that use is farther from the point of discharge. The current

October 25, 1993

Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801-1795

Attn: Dave Sturdevant/WQM

Dear Mr. Sturdevant:

The following are my comments on the proposed water quality regulations:

First, I support the 10^{-5} (one in 100,000) for the "human health risk level". I think that level is safe and more reasonable than the 10^{-6} (one in 1,000,000) level.

Second, I oppose any "color" limits. The water around Southeast changes color dramatically every time it rains. I do not think the color is harmful and is certainly inconsequential compared to the natural "color" changes that occur.

Lastly, I support the DEC's decision to allow mixing zones. There is such a vast amount of shoreline and waterway in Southeast Alaska that local mixing zones would not be a health hazard or significant harm to the environment.

Sincerely,

Owen J. Graham

Owen J. Graham
Post Office Box 9023
Ketchikan, Alaska 99901

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

576(7/77)

October 25, 1993

Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801-1795

Attn: Dave Sturdevant/WQM

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Lastly, I support the DEC's decision to allow mixing zones. There is such a vast amount of shoreline and waterway in Southeast Alaska that local mixing zones would not be a health hazard or significant harm to the environment.

Sincerely,

Owen J. Graham

Owen J. Graham
Post Office Box 9023
Ketchikan, Alaska 99901

October 25, 1993

Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801-1795

Attn: Dave Sturdevant/WQM

Dear Mr. Sturdevant:

My comments on the State's proposed water quality regulations are listed below:

1. I believe the 10^{-5} (one in 100,000) "human health risk level" is safe and more reasonable than the one in 1,000,000 level.

2. I oppose the color limit. I have lived in Southeast Alaska for the last 30 years and know how the water color can change when it rains. I am sure this color change is not harmful.

3. I support the DEC's decision to allow mixing zones. With the vast amount of shoreline and the strong tidal current in Southeast Alaska, this should not pose any health hazards.

Sincerely,

Edward M. Coville

Edward M. Coville
Post Office Box 1259
Ward Cove, Alaska 99928

October 25, 1993

Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801-1795

Attn: Dave Sturdevant/WQM

Dear Mr. Sturdevant:

The following are my comments on the proposed water quality regulations:

First, I support the 10^{-5} (one in 100,000) for the "human health risk level". I think that level is safe and more reasonable than the 10^{-6} (one in 1,000,000) level.

Second, I oppose any "color" limits. The water around Southeast changes color dramatically every time it rains. The stream which crosses my property is muskeg fed. If I were to take water out of it and not do anything to it, under the proposed color regulations I could not dump it back in due to its natural color. This is ridiculous! Please do not adopt a color regulation.

Lastly, I support the DEC's decision to allow mixing zones. There is such a vast amount of shoreline and waterway in Southeast Alaska that local mixing zones would not be a health hazard or significant harm to the environment.

Sincerely,

Roger M. Ziesak

Roger M. Ziesak
15033 North Tongass Hwy.
Ketchikan, Alaska 99901

October 25, 1993

Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801-1795

Attn: Dave Sturdevant/WQM

Dear Mr. Sturdevant:

The following are my comments on the proposed water quality regulations:

I am in favor of the 10^{-5} (one in 100,000) for the "human health risk level". I think that level is safe and much more reasonable than the 10^{-6} (one in 1,000,000) level.

I oppose any "color" limits. The fresh water in Southeast has natural color and it changes dramatically every time it rains. I do not think the color is harmful.

Lastly, I support the DEC's decision to allow mixing zones. There is such a vast amount of shoreline and waterway in Southeast Alaska that local mixing zones would not be a health hazard or significant harm to the environment.

Sincerely,

Thomas G. Hicks
Post Office Box 825
Ward Cove, Alaska 99928

October 25, 1993

Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801-1795

Attn: Dave Sturdevant/WQM

Dear Mr. Sturdevant:

The following are my comments on the proposed water quality regulations:

First, I support the 10^{-5} (one in 100,000) for the "human health risk level". I think that level is safe and more reasonable than the 10^{-6} (one in 1,000,000) level.

Second, I oppose any "color" limits. The water around Southeast changes color every time it rains. I do not think the color is harmful and is certainly inconsequential compared to the natural "color" changes that occur.

Lastly, I support the DEC's decision to allow mixing zones. Local mixing zones would not be a health hazard or cause significant harm to the environment.

Sincerely,

Jerry Kilanowski

Jerry Kilanowski
Post Office Box 18153
Coffman Cove, Alaska 99918

RALPH D LEWIS
3338 1st Street
KETCHIKAN ALASKA

October 25, 1993

Department of Environmental Conservation
410 Willoughby Avenue, Suite 105
Juneau, Alaska 99801-1795

Attn: Dave Sturdevant/WQM

Dear Mr. Sturdevant:

The following are my comments on the proposed water quality regulations:

First, I support the 10^{-5} (one in 100,000) for the "human health risk level". I think that level is safe and more reasonable than the 10^{-6} (one in 1,000,000) level.

Second, I oppose any "color" limits. The water around Southeast changes color dramatically every time it rains. The stream which crosses my property is muskeg fed. If I were to take water out of it and not do anything to it, under the proposed color regulations I could not dump it back in due to its natural color. This is ridiculous! Please do not adopt a color regulation.

Thirdly, ~~Lastly,~~ I support the DEC's decision to allow mixing zones. There is such a vast amount of shoreline and waterway in Southeast Alaska that local mixing zones would not be a health hazard or significant harm to the environment.

Lastly and most important - The state has a job to do people and economies - We can not be a keeper and leader in the world without jobs. Set the regulations which allows us to continue to go forward. As technology changes and the rest of the world climbs on board we will opt to 0 discharge. We can't change overnight. It's your job to make decessions without ~~and~~ "Chicken Little's sky is falling" mentality making your decessions.

Thank You

Ralph D Lewis

Kristen Griffin
3708 Halibut Point Road
Sitka, Alaska 99835
(907)747-4955

October 27, 1993

Dear Rep. Williams:

I am writing in reference to the proposed change in Alaska water quality standards. I am not affiliated with any environmental group or industry; at present I am an at-home mother. My family has lived in Alaska for eight years which has been long enough that I now can't imagine living anywhere else. The familiar "downsides" to living in Alaska (distance from family, high cost of living, unavailability of some services) are a small enough price to pay for raising children in a healthy setting with a spectacular natural environment at our door.

The most important reason I am writing is to express my dismay at the lack of moral and ethical reasoning that went into the proposed decision to allow increased water pollution-related cancer rates with the goal of fostering more favorable profit margins for certain industries. Although I do not feel qualified to address the technical aspects of water quality, I oppose any revision of water quality standards that poses even a slight increased health risk to the public.

I further believe that this decision is incredibly short sighted from an economic point of view. Times are changing all over the world. Due to the inevitable dwindling supply of raw materials, economies are moving away from intensive (quantity not quality based) mining of natural resources. Alaska is unique in that we still have some natural resources, some environmental quality, left. I believe that in the not very distant future, Alaska's natural beauty and purity will be <u>the</u> most important "natural resource" that Alaska has; it will be the reason that people want to live and visit here, it will be the reason that people put a premium on our unpolluted seafood, it will be the reason we still have quality timber to harvest, it will be the very key to our economy. Our government should be leading the fight to preserve every shred of Alaska's environmental quality. Thank you for the opportunity to comment.

Sincerely,

Kristen Griffin

Kristen Griffin

Nancy Lord
P. O. Box 558
Homer, Alaska 99603

(907) 235-8252 phone
(907) 235-8253 fax

November 11, 1993

Dave Sturdevant, WQM
Alaska Department of Environmental Conservation
410 Willoughby Ave., Suite 105
Juneau, AK 99801-1795

COPY

RE: STATE WATER QUALITY STANDARDS

Dear Dave Sturdevant:

I strongly object to any weakening of Alaska's water quality standards. As a commercial fisherman, coastal resident, and person who depends on Alaska's clean water for my life and livelihood, I cannot see how weakening our current standards can possibly be in the best interest of Alaskans.

In particular, I ask that the regulations protect us from levels of pollutants that increase cancer risk. One in one million is certainly not too much to insist upon. Like most coastal Alaskans, I eat a great deal of seafood. I easily eat several hundred pounds of salmon each year in the form of fresh, frozen, smoked, canned, and jerked salmon, and salmon caviar. I regularly eat, in addition, halibut, cod, clams, crab, Dolly Varden, steelhead, octopus, herring roe, and scallops.

I don't believe that mixing zones for carcinogens or other pollutants result in anything other than dilution of poisons. Surely the burden should be upon industries to prove the safety of any mixing zones.

I'm concerned as well with the proposed exemption for "treatment works." We should simply not allow any bodies of water to pose health dangers to Alaskans or to adversely affect fish and wildlife, including birds.

Bottom line--We should maintain or strengthen, not weaken, our existing water standards. In an increasingly polluted world, there's nothing more valuable than protecting the health of our environment, ourselves, and our children. Furthermore, the industries that depend on clean water--particularly fishing, mariculture, and tourism--should not be sacrificed to polluting industries.

Sincerely,

NL

Nancy Lord

cc: Charles Findley, EPA
Rep. Bill Williams, House Resources Com.

To: The House Resource Committee
State Capitol
Juneau, AK 99801-1182

10-27-93

Honorable Committee Members:

My name is Marilyn Lee and I have lived in Ketchikan for 21 years. My husband and I have built our home here and we are raising our family here. As a family, we love to sportfish and commercially hand troll. My husband also is a licensed charter boat operator. Tourism and fishing are of great importance to us and fish is the mainstay of our diet. I feel the D.E.C.'s proposed revisions to the water quality standards regulations are not in the best interest of the health and well being of Alaskans. I support the Alaska Trollers' Association's position on the proposed revisions. Specifically, I think:

- Mixing zones should not be allowed. As a State we would be moving away from rather than toward upholding the Clean Water Act.

- Treatment works should not be exempt from water quality standards. This exemption would allow unlined & uncovered tailing ponds of several hundred acres without provision for adequate monitoring or restoration when the mining activities are done.

- Maximum protection for cancer risk should be established. I ask the D.E.C. to consider in their figuring of an acceptable cancer risk level that rural Alaskans eat an average of 256 pounds of fish per

year (ADEC.'s statistic). The risk level should be set at least at 1 in 1 million based on the average fish consumption of rural Alaskans. To do anything less follows the alarming trend in this country of rural & minority populations bearing the brunt of risk from pollutants. 36 States have established the 1 in 1 million risk level as reasonable, practical, and attainable, including all the Pacific Northwest states. Please keep in mind that the proposed risk level is asking the citizens of Alaska to determine how many lives are reasonably acceptable to sacrifice to cancer for the benefits of economic development. Can we not afford protection at least as great as the rest of the Pacific Northwest?

Sincerely,

Marilyn Lee
Box 1081
Ward Cove, AK 99928

C.C. Dave Sturdevant, WQM, ADEC
Charles Findley, EPA Region X

Ward Cove Silver Bay Problems - Fish Kills

Ward Cove Water Quality Assessment Jones Stokes, 1989

Submitted by Marilyn Lee, 11/15

Chapter 1 INTRODUCTI(

Overview

Ward Cove, located near Ketchikan in southeastern Alaska, is the site of a pulp mill operated by the Ketchikan Pulp Company (KPC) and a fish processing plant. Ward Cove is located on the north side of Tongass Narrows about 5 miles northwest of the City of Ketchikan (Figure 1-1). The Cove is located at 55°24' N Latitude and 131o44' W Longitude. The cove is 0.3 mile wide at the entrance, 0.5 mile wide at the widest point, and about 1 mile long. At mean lower low water (MLLW), the cove contains approximately 30,000,000 m3 (25,500 acre feet) of water.

The country surrounding the cove is mountainous, rising steeply from the seacoast. The steep slopes are forested with areas of muskeg dispersed throughout. The entire shore of Ward Cove is of a permanent rocky nature and appears typical of the many coves in the area.

Ward Creek is a swiftly moving stream dropping quickly from the mountains to the head of the cove. Three small lakes provide brief stretches of calm in its otherwise rapid descent. Stream discharge is subject to wide variation, as the stream collects water quickly from the steep mountain slopes from and between which the stream passes. The cove is located in an area of heavy rainfall, receiving an average of 150 inches annually. Ward Cove has no sill; therefore, water column stratification is expected to be similar to that in Tongass Narrows, with the exception of effects of surface runoff and local wind.

Following reports of a fish kill in Ward Cove in Fall 1987, the Alaska Department of Environmental Conservation (ADEC) reviewed the water quality monitoring data collected in Ward Cove by KPC at established water quality stations (Figure 1-2) as required by their wastewater discharge (NPDES) permit. ADEC examined dissolved oxygen (DO), pH, temperature, and salinity data for the months of May-October 1985 and 1986, and May-August 1987.

The ADEC analysis (Kruse and Viteri 1988), summarized in Table 1-1, showed surface DO levels were depressed below Alaska Water Quality Standards (6.0 mg/l in the upper 1 m of water) for significant periods of time. Figure 1-3 plots the surface DO observations for each of the KPC monitoring stations.

Reasons for low DO in the surface waters were attributed by Kruse and Vitari (1988) to: 1) BOD, chemical oxygen demand (COD), TSS, and temperature of the pulp mill effluent;

2) dredging; and 3) the cove's limited flushing ability. Reasons for low DO in the bottom waters were attributed by Kruse and Viteri (1988) to: 1) the oxygen demand from the sludge mat, bark, and wood waste deposited by the effluent; 2) dredging; 3) the cove's limited flushing ability; and 4) BOD in the waste discharge of a seafood processor located on the southeast shore of Ward Cove.

During the summer of 1988, studies were carried out in the cove to assess the levels of pollution within the cove and in particular to look for factors potentially contributing to fish kills. The present and historic studies provide a picture of a biologically declining marine environment in Ward Cove.

There is historical evidence that Ward Cove had a diverse and healthy benthic community and had relatively good water quality prior to the beginning of operations of KPC in 1953. Ward Cove was studied in 1952, 1955, 1965, 1968, 1974, and 1987. Additional evidence of conditions within the cove is provided by monthly KPC discharge monitoring reports (DMRs) which are required as a part of their NPDES permit. The series of studies documents a gradual decline in biological activity and in water quality, in particular with respect to dissolved oxygen (DO), and prior to 1978, sulfite waste liquor (SWL) concentrations. These two factors (and possibly others) have combined to cause an often stressful situation for phytoplankton, fish, invertebrates, and benthic fauna.

The mill effluent modifies the aquatic environment by contributing oxygen demand, heat (which reduces oxygen saturation levels), sulfite waste liquor (SWL), other toxic materials, and color (which modifies light penetration). In addition to being inherently toxic to aquatic fauna, SWL also can diminish primary productivity of phytoplankton, resulting in the reduction of an important oxygen-production mechanism. Wood wastes and fibers (sludge) deposited on the bottom contribute to additional oxygen depletion in the bottom waters.

Objectives

The primary objective of this report is to identify and characterize sources of water pollution problems in Ward Cove. An important focus of the study is on depletion of oxygen in the waters of Ward Cove because low oxygen conditions are expected to result from the BOD load of current and historical discharges. An understanding of effluent toxicity and oceanographic processes is also needed to assess if changes in mill operations would substantially improve water quality conditions within the cove.

The following is a list of the questions that are addressed with a review of historical data integrated with field and laboratory studies carried out as part of this study.

- What is the toxicity of the mill ...

Dioxin KA #1 1

KA #1

ATTACHMENT V

Ketchikan Dioxin: October 1990 Sampling

Summary statement:

On October 11, 1990 ADEC carried out a preliminary sampling effort to determine the possibility of Dioxin contamination in fish caught in the Ward Cove area. A total of 20 salmon were collected from 2 sites upstream of Ward Lake, Ward Creek and Signal Creek. 4 composite samples, consisting of 3 to 7 whole individual fish, were analyzed. One of the composites was analyzed after removal of the livers and a composite of the livers was analyzed separately. All samples showed the presence of 2,3,7,8-Tetrachlorodioxyfuran (2,3,7,8 TCDF). Concentrations ranged from .45 parts per trillion (ppt) in the composite without the livers to 1.8 ppt in the liver composite. No other Dioxin analogs were detected.

The samples were analyzed by Alta Labs of El Dorado California. A thorough data review verified that all analytical and quality control requirements were met.

Results:

Composite #	Site	2,3,7,8 TCDF	Tox.Equivalent ~?
1 (whole)	I	1.4 ppt	.14 ppt
2 (whole)	I	1.4 ppt	.14 ppt
3 (whole)	II	0.54 ppt	.054 ppt
4 (whole)	II	0.45 ppt	.045 ppt
5 (liver)	II	1.8 ppt	.18 ppt

Sampling Sites :

Site I, Ward Creek about 300 yards upstream of Ward Lake
1 1/4 miles from mill.
Site II, Signal Creek about 150 yards upstream of Ward Lake
1 mile from mill.

Description of Composites:

Composite 1 (Whole Fish) Site I, 3 Pink Salmon

Composite 2 (Whole Fish) Site I, 7 Sockeye Salmon

Composite 3 (Whole Fish) Site II, 3 Pink Salmon

Composite 4 (Whole Fish. minus livers) Site II, Pink Salmon

Composite 5 (Liver) Site II, Liver from 3 Pink Salmon from composite III

2. Effects of Pulp Mill Wastes on Receiving Waters at Silver Bay, Alaska, 1974. USEPA WQ office NW region. The report evaluates waste treatment and disposal practices at APC and water quality impacts on Silver Bay and Eastern Channel. Data were collected, during different seasons in 1963 and 69 by the Federal Water Quality Administration and the US Fish and Wildlife Service. Data included DO, SWL, temperature, salinity, currents, biota. The report establishes significant (adverse changes to the waterquality resulting from the discharges and concludes that waste water treatment at APC is insufficient to achieve water quality standards. Compared to 1957, the diversity of aquatic organisms was lower.

Sludge. Sludge deposits, consisting of fibers and wood chips were found over 0.2 sq.miles, causing emmission of H_2S, and preventing establishment of aquatic organism found elsewhere in similar habitats. Anaerobic bulking has resulted in floating sludge mats.

Fish kill. 100,000 fish were killed in 1970 as a result from H_2S released form floating sludge.

SWL. High sulfite waste liquor (SWL) concentrations were measured through half of Silver Bay (136 -300 ppm). SWL concentrations near the outfall are up to 9600 ppm.

Toxicity. SWL was found to be toxic to copepods at 10 ppm and Salmon at 500 ppm. In comparison 10 1956, 57 data a significant reduction of mussels was observed.

Dissolved oxygen. Inability of waters of Silver Bay to effectively disperse SWL and Solids - have resulted in reduced DO from 9-1 ppm in 1957 to 4- 6 ppm at some surface locations in Silver Bay and Eastern Channel.

Report recommendations. 1. Remove all settleable solids, remove 70% of volatile solids, modify log handling practices, remove all sludge beds.

2. Implement SWL reduction plan to achieve reduction of SWL to < 10 ppm at 0 - 10 m below surface.

3. Construct an outfall system that minimizes the diaperaion (mixing) zone and locate it away from near-shore areas. Submit plans for oceanographic an water quality studies to EPA and ADEC. Implement secondary treatment.

Notes: Useable data on SWL concentrations, some toxicity information. Determine if WQ and oceanographic plans were submitted and obtain copies. Determine if bottom deposits were removed and when.

Post-it™ brand fax transmittal memo 7671	# of pages ▸
To Gershon Cohn	From Linda S.
Co.	Co. ADEC
Dept. 766-2488	Phone # 465-5362
Fax # 766-2080	Fax # 465-5362

PO Box 21966
Juneau, AK 99802
November 15, 1993

Dave Sturdevant WQM
ADEC
410 Willoughby Ave, Suite 105
Juneau, AK 99801-1795

Dear Mr. Sturdevant:

I object to the proposed water quality standards that would increase our exposure to pollutants and raise our risk of cancer. Given the very close tie between Alaskans and our coastal waters, for food and subsistence, recreation, and our jobs, it is foolhardy to risk the cleanness of that water.

I urge adoption of the 1 in 1 million cancer risk level; keeping existing standards for hydrocarbons, color, total suspended solids and fecal coliform; and keeping our existing law that prohibits mixing zones for carcinogens. We must not exempt "treatment works" from water quality standards nor can we allow industry to use "natural conditions" as a loophole to avoid water quality standards.

In short, we must be <u>more</u> diligent than these proposed standards to protect all of the citizens of our state, as well as our renowned environment and wildlife. While these proposed regulations would have a short term benefit for a few industries, they have a very high long term cost for all Alaskans that we can't afford.

Please keep our water clean!

Sincerely,

Laura S. Dameron

Laura Dameron

cc: Charles Findley, US EPA
Representative Bill Williams, House Resources Committee

FROM: Amy Kruse

TO: MeadT JUNEAU/ADEC

DATE: 06-17-91
TIME: 14:51

CC: Amy Kruse
Dick Stokes
Ron Flinn
ursula spannagel
Jim Hayden CENTRAL3/ADEC

SUBJECT: Ktn. Pulp Dioxin - Cost Recovery
PRIORITY:
ATTACHMENTS:

Let me try to fill in some more of the details on where we are and try to answer some of your questions. I agree with your theory of cost recovery. Here's a very condensed history of this project. EPA has completed a study of several pulp and paper plants around the country as part of their study on dioxin generation from this industry. They generated lists of the mills that had measureable dioxin in either effluent, sediments or biota from areas adjacent to the plant. KPC was listed because dioxin was found in two species of fish during a study conducted in about 1985. This study was the only known bit of information on dioxin concentrations around Ward Cove. APC was not listed, mostly because there was no information on dioxin in Silver Bay. However, during this time period EPA was just completing their multi-media investigation of APC, which included dioxin analysis of effluent, sediment and biota. Some of the info generated from the multi-media study is available now. I don't have the details, Dick knows more. When EPA released their li with KPC on it Ketchikan residents started to ask us some tough questions about how safe the seafood was to eat, what was their exposure level, worker saftey, etc. Ward Cove has a personal use fishery for crab, salmon and steelhead. ADF&G, FRED division has been running an enhancement project for Steelhead for several years. They are soon going to include King and Coho enhancement on Ward Creek. Ward Creek is directly adjacent to the mill property. There have been several documented fish kills in ward cove and dissolved oxygen levels are below standards frequently. DEC committed to try to answer some of the public's questions, that is why I asked for $ 75,000 from Jim Hayden's shop to complete some preliminary studies. We have managed to collect and analyze salmon tissue for dioxin concentrations. The results show measureable amounts of 2,3,7,8-TCDF in all four composite samples (three composites of tissues, one composite of livers). The concentrations ranged from 0.45 parts per trillion to 0.54, 1.4 and 1.8. No other dioxin or furan compounds were above detection levels. According to the U.S. Public Health Service document Toxicological Profile for 2,3,7,8-tetrachloro-dibenzo-p-dioxin, the EPA calculated health advisory concentration for children is 0.1 ppt over a 10 day period. The life time health advisory for adults is 0.035 ppt. The study further states "The EPA also calculated the amount of 2,3,7,8-TCDD in ambient waters (lakes and rivers) that would be associated with increases in one additional incidence of cancer over background cancer incidence in a population of 1,000,000 to be 0.013 pp quadrillion, an extremely small amount. This calculated measurement takes into account that 2,3,7,8-TCDD concentrates in fish; hence, exposure may occur through both the drinking of water and the eating of fish." The EDA says no serious health concerns below 25 ppt for 2,3,7,8-TCDD in fish tissue(EPA. 1985. Health Assessment Document for Polychlorinated Dibenzo-p-Dioxins. Washington, DC. Office of Health and Environmental Assessment. EPA report number 600/8-84-014). We talked to Ms. Dana Devoll, toxicologist for EPA in Region X. She says that FDA numbers should not be taken too seriously, because they are based on low seafood consumption rates

and Alaskan rates are much higer. She said the relative toxicity of 2,3,7,8-TCDD to 2,3,7,8-TCDF is 10:1 (e.g. TCDD is 10 times more toxic). She also gave us some numbers for dioxin in fish from the Columbia River, > 80 ppt. I don't know what kind of fish that was, species accumulate dioxin differently. We should also be concerned about concentrations in other species like crabs.

We were not expecting to find measurable levels in pelagic migatory fish (salmon). The previous fish samples were bottom dwelling resident fish and were expected to have higher exposure rates and thus higher concentrations.

You asked what the handles were. I don't quite know what you mean, but one handle may be the pending renewal of the NPDES permit. A draft version is being worked on now by Region X. They may release it in late summer. I think they are trying to wrestle with the dioxin question too. I have only had preliminary conversations with Ben Cope, the permit writer for KPC. So, the bottom line to your answers is we have only done very preliminary work to try to identify the concentration of dicxin in Ward Cove. We found some in fish, which was unexpected. SERO recognizes the importance of this issue. We also recognize the public's interest and the potential visibility of this problem. However, that still doesn't get us past the lack of staff...

Hope this fills in some of your questions. Let me know if you want more. Also, FYI, the dept. put out a press release 9/24/1990 that said we were going to investigate and gave some idea of the scope.

REPLY FROM: Amy Kruse
FROM: Mead Treadwell

TO: Barbara Frank
AmyK SERO/ADEC

DATE: 06-14-91
TIME: 17:57

CC: Dick Stokes SERO/ADEC

SUBJECT: Ktn. Pulp Dioxin - Cost Recovery
PRIORITY:
ATTACHMENTS:

Dick, Amy, Barbara -- you may want to look at the Commissioner's recent memo on 470 funds because our interest in cost recovery does not mean we don't spend from the fund if there is a real emergency. We want cost recovery in place for many reasons, including the fact that if we're creating a financial liability for someone else its only fair, in a non emergency situation, that the person be informed and have the right to move forward.

Is there a violation of law or regs suspected here? What are the handles? Us spending money the only one? Can we modify a permit to require monitoring, with reports by an independent lab? If this is a chronic problem, and a commitment has been made to work on it, I hope we're not going to find ourselves being blamed for reversing a commitment -- because we did not.

Thanks. MT

REPLY FROM: Mead Treadwell FROM: Amy Kruse

TO: Barbara Frank JUNEAU/ADEC

DATE: 06-14-91
TIME: 09:37

Oct. 25, 1993

TO: THE WATER QUALITY HEARING BOARD

FROM: RICHARD SHEN, KETCHIKAN RESIDENT 2619½ 3rd AVE

COMMENTS RE THE COLOR STANDARD AND 10^{-5} RISK LEVEL

I DO NOT BELIEVE IN THE NEED FOR ANY NUMERIC COLOR RESTRICTIONS. AS A DRINKING WATER STANDARD, THE STATE FINDS THE COLOR UNIT TO BE UNENFORCEABLE AT 15 CU FOR WATER THAT IS TREATED AND DISTRIBUTED FOR CONSUMPTION (18 AAC 80.50). WHY, AS A WATER QUALITY CRITERIA, IS THE COLOR LIMIT 15 ENFORCEABLE FOR [70.020(b) II(B)(i)] CONTACT RECREATION USE? IT APPEARS THAT BECAUSE THE STATE IS RELUCTANT TO CLASSIFY A LARGE NUMBER OF WATERBODIES, ALL USERS ARE RESPONSIBLE FOR MEETING THE MOST RESTRICTIVE STANDARD. THE COLOR RESTRICTIONS PROPOSED BY THE WATER QUALITY STANDARDS ARE SEVERE AND OVERALL BENEFITS ARE DEBATABLE AS COLOR IS AN AESTHETIC ISSUE RATHER THAN A WATER QUALITY ONE.

I ALSO BELIEVE THAT ADEC IS CORRECT IN SUPPORTING A 10^{-5} OR 1 IN 100,000 RISK LEVEL ASSESSMENT.

Richard Shen

Comments on the Proposed State of Alaska s Water Quality Standards. 10/25/93

It's important to all of those who live and work in Alaska that the decisions made regarding the State's Water Quality Standards are based on science and not on emotion.

To date there is no evidence to show that color has a detrimental affect on phytoplankton, as shown by research done by Wildish, Kiefer and others. There is no evidence that shows color to be toxic. From an economic standpoint, color removal to low levels is very difficult and costly.

The natural background water color, as we all know, is significant because the decaying material in muskegs imparts a significant amount of highly colored organic acids ("humic acid") to Southeast streams. This fact needs to be taken into account if a color standard is going to be established.

Mills in other parts of the country that have had color standards placed on them have had the standard take effect only after complete mixing outside a mixing zone. Mixing zones are a necessary part of industry's use of natural bodies of water and should be part of the decisions made in regard to the Water Quality Standards.

I support ADEC's Human Health Risk of 10^{-5} . This would not cause any measurable increase in risk to the population, but would be much more reasonable than 10^{-6} for industry to meet.

Alaska needs industry to provide a reasonable standard of living for its people. We must make room for it in our pursuit of a healthy environment. I feel Ketchikan Pulp is asking for reasonable standards that will allow it to operate profitably while still maintaining environmental quality.

Sincerely
J. Troy Olivadoti

P.O. Box 8574
Ketchikan, AK
99901

November 10, 1993 - Unalaska

Mr. Dave Sturdevant
Water Quality Manager
Alaska Department of Environmental Conservation
410 Willoughby Ave., Ste 105
Juneau, Ak 99801-1795
FAX: 465-5274

Dear Mr. Sturdevant,

What follows is comment on particular issues facing the Aleutian Community of Unalaska/Dutch Harbor as well as other areas of the region as they relate to the proposed revisions to the Alaska Water Quality Standards - Regulation 18 AAC 70.

Most people who live here in Unalaska/Dutch Harbor work an average of 6 days a week 10 hours a day. One way or another we are all linked to the primary industry of fishing. Most of us are not highly educated in the sciences, and the arcane subject of statistical manipulation, but we all have eyes. We have witnessed a tremendous decline in the last 15-20 years (accelerated in the past 4-5), of the numbers of sea mammals, fish, crab and shrimp that inhabit our local waters. Additionally, we have seen significant declines in numbers and species of sea and wetland birds that live here year round, as well as of those that winter over or migrate through the Aleutians. We have witnessed increasing amounts of oil contaminated waters, increasing amounts of biological waste and other more toxic pollutants in our local bays and harbors. There is a connection between the two.

During this period of declining wildlife, fish, crab and shrimp stock, the Fishing Industry, particularly the bottom fish industry has developed into a formidable killing machine. The high seas processing fleet is over capitalized and destructive to the point of obscenity. The onshore plants here in Unalaska, while having made considerable strides at reducing waste stream, did so only because of pressure brought to bear by ADEC and EPA. These two agencies only acted because of local citizen concern and demands that water quality be improved and that a cessation of pollution occur. It was only after considerable agitation that the Region X EPA office began sending personnel here to investigate the situation and begin the process of regulatory control After that changes began to be evidenced. However, since we only have a "revolving door" ADEC office here, we feel that there are still many more actions that need to be made by your Department before we feel confident that ADEC is working to benefit the general public of Alaska and Unalaska/Dutch Harbor in particular.

For example, in areas such as Akutan, where there was not as much pressure to comply with State and Federal regulations, the fishing industry was allowed to create a waste pile and dead zone that is astonishing. Only now, years and years into the destruction of a beautiful Bay's natural and formerly highly productive marine environment, are ADEC and EPA making serious demands that Trident clean up its act.