ALASKA LEGISLATURE COMMITTEE FILES 1981-1982 8672

1875 SRES - CFAB BRIEFING 2/20/81 - ENVIRONMENT CONS. 3/4/81 1875

The maximum amount due SBC during 1980 was $10,500,000; the balance due SBC at December 31, 1980 is $500,000.

NOTE 8 - SHARE CAPITAL:

Shares purchased by the State of Alaska must be repurchased within twenty years by CFAB.

Preferential shareholders rights on dissolution are attached in the order of Class C, Class B and Class A.

Upon issue, the following rights will attach to the three categories of stock:

Class C - No voting or dividend rights. May only be issued to the State of Alaska.

Class B - No voting rights. Class B stock may only be held by members of CFAB, and dividends shall not exceed $10/share annually. Borrowers must purchase and maintain Class B stock in an amount equal to 10% of their loan proceeds. This amount is added to the loan proceeds in determining the loan balance.

Class A - No dividend rights. Each member of CFAB must own one share of Class A stock. Each share of stock carries one vote. To vote, a member must be engaged in commercial fishing or agriculture and must be a current borrower or have borrowed from CFAB during the preceding two years or have retained patronage earnings with CFAB of at least $2,500.

NOTE 9 - CONTRIBUTED CAPITAL:

Certain organization costs and other expenses have been paid by the State of Alaska, some of which were paid prior to May 4, 1979. As it is not the State's intention to require reimbursement of these amounts, such amounts have been treated as contributed capital in the accompanying financial statements.

NOTE 10 - INCENTIVE COMPENSATION PLAN:

All CFAB employees participate in an incentive compensation plan whereby bonuses are awarded based upon goals and objectives established by management and approved by the Board of Directors.

NOTE 11 - PENSION PLAN:

All regular, full-time employees of CFAB are covered by a contributory plan which provides for retirement benefits based upon employee compensation, length of service and age at retirement. Pension costs, which are funded as accrued, totaled approximately $58,000 for the year ending December 31, 1980. The excess, if any, of the actuarially computed value of vested benefits over the total of the pension fund assets is not available.

NOTE 12 - INTEREST ON STATE OF ALASKA LOAN:

On March 13, 1980 the State of Alaska executed a loan agreement with CFAB whereby CFAB could borrow $30,000,000 from the State in two installments. The first installment of $15,000,000 was received at that time. The loan was for a term of twenty years, bearing interest at the rate of 9 1/2% per annum; interest was to be payable annually commencing April 1, 1981 and principal was to be payable in fifteen equal annual installments of $1,000,000 commencing April 1, 1986.

During May of 1980, the Alaska Legislature amended CFAB's enabling legislation to allow the Department of Revenue to purchase CFAB Class C stock. This fulfilled the original intent to capitalize CFAB and cleared the way to convert the $30,000,000 in loans to Class C stock. On July 18, 1980 CFAB received the second installment of its loan which along with the first installment, was simultaneously converted to Class C stock. Interest of $480,205 on the first installment was paid at that time.

DELTA
AGRICULTURE
PROJECT
1-13-82

Alaska State Legislature

Official Business

Resources Committee

Pouch V
State Capitol
Juneau, Alaska 99811

TO: Senate Resources Committee

FROM: Senate Resources Committee Staff

RE: Joint Teleconference on Delta II, January 13, 1982

DATE: January 26, 1982

Please find attached minutes of the Joint Teleconference on Delta II held January 13, 1982. These were prepared by the House Resources Committee, and delivered to us today.

Joint Teleconference on Delta II - January 13, 1982

Meeting opened at 3:00 p.m.

In Attendance: Rep. Halford, Sen. Eliason, Rep. Grussendorf, Sen. Gilman, Sen. Mulcahy, Rep. Vaska, Rep. Carney, Rep. Barnes, Sen. Sturgulewski, Sen. Bradley, Rep. Barnes, and Co-Chaired by Reps. Fanning, Sutcliffe and Sen. Fahrenkamp

Representative Fanning noted that a quorum of House and Senate was present.

Rep. Fanning: Opening Statement - Re: Delta II, Since pulication of its latest description of the Delta II expansion in its 1981 report, the Alaska Ag Council has found it necessary to alter its original plan in the following areas. The size of the original expansion was 55,000 acres, (45,000 in E and 10,000 in W.) Generally size range is the same but, due to poor soils and commercial forrest lands, the amount of disposable land in Delta II E has been reduced to 24,758 acres. In order to make up for this loss, Delta II W has been expanded by the AAC from 10,000 acres to, in excess of 32,000 acres. In total, 57,000 acres will be included in the disposal.

Rep. Fanning: Delta II concerns, 1) ADF&G is concerned about habitat; and they had not been in on planning as they felt they should have been. Commissioner Skoog has stated ADF&G is not opposed to the project. 2) Citizens for Sensible Ag. Dvlp., feel the AAC is moving too rapidly without time for input from those interested. They also feel some problems from Delta I have not been addressed. Specific concerns on Delta II:....suitability of area....stream flow....flooding....soils ....accessibility. Several legislators have also felt concern for the rapid timetable re: Delta II.

Rep. Fanning: Maps and inforamtion packets were prepared for distribution to all concerned areas. Due to weather problems, they are still in Juneau.

Bob Palmer, Special Projects Coordinator, Office of the Governor: Disposal of ag lands in Delta II E and W, and the production from thos lands, must be evaluated in terms of the overall goals of a viable Alaska ag industry. Those goals call for at least 500,000 acres in production by 1990; with the red meat industry using a portion as feed grains; and the surplus being sold to export markets.

Bob Palmer: Export markets are necessary and, they are available. An export elevator is necessary.

Bob Palmer: In March of 1980, there was a public hearing to allow all interested parties an opportunity to present their opinions. Those in favor of Delta II numbered over 2 to 1. Written opinions, out of 68, 66 were in favor of Delta II. Lt. Governor Terry Miller held a public hearing. A pole following

that meeting was taken and 74% of respondents were in favor of Delta II. (Information on the delineation of Delta II W was not included in that pole.)

Bob Palmer: The Ag Council recommended the disposal of Delta II E and W in their annual report to the legislature.

Carl Amstrup, Executive Director, Agricultural Council, Fairbanks: Objective is to get a balanced agriculture; not only commercial grain farms, but the livestock industry the grain can support.

Commissioner Katz, DNR (Introduced Sharon Barton, Special Assistant: Stated respective roles of Ag Action Council in DNR. Ag Action Council is vested with planning authority for major ag projects. DNR is the implementor of that policy, making sure all applicable statutes and regulations have been complied with. Memo of understanding respecting Delta II with the Ag Action Council. Listed the six most important facts of that memo: 1) Two auctions sales (March 13, 1982); 23,000 acres in east, 32,000 acres in west; 2) DNR is responsible for disseminating information respecting the sale; 3) Agreed on two possible appraisal techniques to ascertain the base value of the land; 4) Delta II E (in particular), worked out the timber sale to insure the state will control the sale and be able to find timber market; 5) Disposal does not demand residency requirements or pre-qualification. Both of these have posed legal problems in the past; 6) Buffer zone - for later small disposals. All relevant statutes and regulations have been complied with.

Rep. Fanning: Will you proceed with the March 13 sale?

Comm. Katz: Yes

Dick Bishop, ADF&G: Opening Statement - 1) ADF&G has not made formal objection to the Delta II project. They have expressed concern about the proceedings, the process by which the plans were persued; and habitat concerns.

Rep. Sutcliffe: Wants number of moose that move into Delta II for calving and year-round population.

Dick Bishop: 40-60 for disposal. Calving popultion not monitored, but knows from general inforamtion there is spring movement for calving purposes.

Sen. Fahrenkamp: What about caribou?

Dick Bishop: The Delta caribou herd is about 5,000 animals. They range between principally the Nenana and Delta Rivers. Their use of this area is very limited. Some may use Delta II W as winter habitat, but, it not their prime wintering area nor, calving area.

Rep. Vaska: Will competition with humans put the caribou and moose populations in jeopardy?

Dick Bishop: Conversion of Delta area will not jeopardize either moose or caribou stocks. Unless, significant fencing occurs. Then, movement may be impaired.

Rep. Beirne: Against Delta program. Wants one-half of Delta land put into homesteads. This way, a comparison of success of the two programs can be made.

Rep. Randolph: Agrees with Rep. Beirne's suggestions. He feels large chunks of land controlled by the State should be available for homesteading. Let people take these areas that have been identified as agriculturally viable take their chances. They would have to comply with pre-determined development criteria and earn title to the land as a homestead. Be it 40 acres or 640 acres. Ag can develop. Against Delta II.

Rep. Barnes: Agrees with Rep. Randolph and Rep. Beirnes.

Rep. Moss: Agrees with homsteads but thinks they can be combined. In favor of Delta II E and W.

Rep. Bettisworth: Development depends on funds, more funds will be needed. What is needed is a statewide ag development program which will give the legislature something to look at and decide where, and to what percent, they want to go. 100% for ag development. Does not disagree with homesteading. Opposes Delta II W, in favor of Nenana-Tochacket.

Rep. Barnes: How much more money is needed in funding other than that already allocated for Delta II?

Rep. Bettisworth: It will cost approximately $400. per acre to get into production. So, another $27 million. Budget should be from $30-$40 million/year.

Rep. Carney: The $30-$40 million per year is not money the State loses is it? Isn't that partly loans?

Rep Bettisworth: Yes, the majority of it is loans.

Rep. Grussendorf: Asked what other investments would State have to make.

Frank Geiger, President of the Board - Delta C. of C.: Opposed to land giveaway. Opposed to outcry sale. In favor of Delta II.

Sen. Eliason: Objected to the comparison of support for farmers versus that of support of fisheries.

Al Jones, Vice President Alaska Sportsman, Fairbanks: Against Delta II, unless certain conditions are met. Read Sports Council resol.

Rep. Sutcliffe: Asked Mr. Jones if he expected the Alaska Sportsman's Council to pass recommedations on all similar land sales?

For Immediate Release
January 11, 1981

Contact: John Manly or
Pat Lawler
465-3715

HOUSE AND SENATE RESOURCE COMMITTEES TO HOLD JOINT HEARINGS ON DELTA II PROJECT

In an attempt to receive an accurate update on what has become a controversial subject, the House Resources Committee will hold a joint teleconference on the Delta II Project with the Senate Resources Committee on Wednesday, January 13, at 3:00 pm PST.

The announcement of the joint meeting was made following a meeting between Senate Resource Chairperson Bettye Fahrenkamp, D-Fairbanks, and House Resource Co-Chairmen Ken Fanning, L-Fairbanks, and Eric Sutcliffe, R-Unalaska. Fanning and Sutcliffe had already announced plans for a Delta II hearing, but feel that by holding it jointly with the Senate committee, duplication of legislative effort can be avoided.

Testimony is to be given first in Juneau by representatives of the Alaska Agriculture Action Council and DNR officials involved with the project, as well as concerned Legislators. Those initial comments will then be followed by the testimony of concerned groups and individuals in Anchorage, Fairbanks and Delta Junction, via the teleconference network. Any person wanting to speak is asked to notify the Legislative Information Office at one of the three sites prior to the teleconference.

more

The hearing will be conducted from the House Resources Committee room, 118 in the Capitol Building in Juneau. Oral testimony from the public will be taken in Juneau and at the three teleconference sites as long as time allows. Written testimony will be accepted at any time during the next two weeks.

The House Resources Committee has prepared an informational packet on Delta II for distribution at the meeting and at the involved teleconference sites.

Delta II Update

Since publication of its latest description of the Delta Project Expansion, in its 1981 Annual Report, the Alaska Agriculture Action Council has found it necessary to alter its plans in the following areas:

Tract sizes are approximately as proposed, ranging in size from as small as 640 acres to 2880 acres. The original proposal put the range at 1800 to 2700 acres.

The size of the project expansion was originally pegged at 55,000 acres, with 45,000 in the east portion and 10,000 in the west. The total size of the project is still in that range. However, due to unanticipated poor quality soils, coupled with commercial forest lands, the amount of disposable land in Delta II East has been cut to 24,758 acres. In an effort to recoup those approximately 20,000 acres lost in the east, the AAAC has expanded the Delta II West portion westward from 10,000 acres to 32,980 acres. The disposal now contains a total of 57,738 acres.

The original proposal called for the assessment and disposal of all commercial timber stands with the sale of the farm tracts. This was changed, due to 1.) the reluctance of timber processors to deal with individual farmers; 2.) the lower class of soils left after the timber is removed; and 3.) the longer period of time required for clearing commercial timber from the farmland. Current plans for timber management call for large timber sales to be conducted by the state division of forestry, with small amounts of commercial timber on some tracts to be assessed and sold with the tracts.

Current plans call for the tracts in both Delta II East and West to be sold at public outcry auction.

In addition to the above developments, a number of concerns have been voiced by various groups, including the Department of Fish and Game, and a Delta Junction group calling itself Citizens for Sensible Agriculture Development. A number of individuals have also expressed concerns.

ADF&G concerns are based primarily in the expanded version of Delta II West, and in the fact that the department wasn't in on the planning for the additional acreage as they should have been. Commissioner Skoog has emphasized that ADF&G is not opposed to the project. They are, however, concerned with the loss of habitat for moose, caribou and bear, and with exacerbating the bison problem in the area. See attachment one.

The basic complaint the Citizens for Sensible Agriculture Development have is that the AAAC is moving too fast in its expansion, and has not realistically addressed the problems apparent in Delta I. They also enumerate several specific concerns as to the suitability of the project area, soils, streamflow and flooding, as well as accessibility. See attachments two through five.

For further clarification of project status, the Memorandum of Understanding between the DNR and the AAAC is included as attachment six. It delineates what is required of DNR in connection with the expedited disposal of Delta II.

A map of the project area, showing its geographical relationships to the Delta area is included as attachment seven.

TO: William H. Copeland
Acting District Manager
Department of Natural Resources
Norchcentral District Office

DATE: December 8, 1981

FILE NO:

TELEPHONE NO:

SUBJECT: Delta II West

FROM: J. Scott Grundy
Regional Supervisor
Habitat Division
Department of Fish and Game

Attachment one

We have recently become aware of the activities of the Department of Natural Resources (DNR) in the implementation of the Delta II Agricultural Project, and we are very concerned about the Delta II West portion of this project. We have had a long history of involvement in state land management in the Delta area, both as a planning team member in the development of the Delta Land Management Planning Study, initiated by DNR in 1974, and as a reviewing agency for land actions initiated or implemented by DNR such as land disposals, agricultural projects, grazing leases and other actions.

While we have been closely involved with DNR in the planning process for the Delta II East portion of the project, implementation of Delta II West is now proceeding at a rapid pace with no apparent attempt to formally include the Department of Fish and Game in any interagency review process. In view of the potential conflicts between agriculture and wildlife in this area, we believe this is a serious mistake.

Certainly part of the problem lies with the fact that the Alaska Agricultural Action Council (AAAC) is the body initiating this project, while DNR is in the position of implementing the AAAC's plans. In recognition of this, the Habitat Division has contacted the AAAC on several occasions, requesting an opportunity to provide input, to no avail. However, we are also concerned that the interagency review process normally followed by DNR in implementing such projects seems to have been neglected.

Although DNR has not formally requested input from Fish and Game, Habitat Division staff members have informed themselves of DNR's plans for implementing the Delta II project. Because of the serious implications of this departure from normal review processes and because of the potential conflicts with wildlife, we are taking this opportunity to inform you of our position on this project, to provide you with information concerning the potential impacts of the Delta II West project on wildlife, and to recommend mitigatory measures.

Wildlife Resources and Utilization in the Delta II West Area

1. Bison. Part of this area is currently utilized as late winter habitat by the Delta Bison Herd. The bison then move south in the spring to calving grounds along the Delta River. During the summer months the bison utilize the west side of the Delta River, primarily the military lands south of the Delta II West project. However, bison also regularly utilize state

land as far north as Quartz Lake. This past summer approximately 100 bison frequented areas as far north as the confluence of the Delta and Tanana Rivers; this was confirmed by ADF&G radio tracking. This is the second most valuable area for development of alternate fall and winter range.

2. Moose. The area is high value moose calving habitat for both resident moose and animals from the nearby Tanana Hills and Shaw Creek. The Department of Fish and Game's ongoing wolf reduction program will increase the value of this calving habitat. The resident moose population is at a moderate level, receiving moderate hunting use.

3. Bear. The area is presently habitat for black and grizzly bear, but primarily black bear. The margins of the numerous small lakes in the area are utilized in spring and early summer.

4. Fisheries. A major chum spawning ground exists at the mouth of the Delta River. This is the most important chum spawning area in the Upper Tanana drainage, being utilized by an average of 12,700 salmon (this is an average over the past five years). Other important fisheries areas include the headwaters of the Richardson-Clearwater Creek, a number of clear water sloughs along the Tanana River just downstream from the Delta River, and Rainbow Lake.

5. Waterfowl. The numerous lakes in the area are waterfowl nesting habitat, especially for ducks and trumpeter swans. The alluvial islands of the Delta River from the Tanana River to Donnelly Dome form the most important roosting area for sandhill cranes migrating through the Upper Tanana Valley. Each spring and fall about 60% of the world's sandhill crane population (about 150,000 to 200,000 birds) passes through the Upper Tanana Valley on their way between wintering grounds in the southwestern United States and nesting grounds throughout northern and western Alaska.

6. Caribou. While the area does not contain significant caribou habitat, it does receive some use by caribou, particularly during the winter months.

7. Public Use of Wildlife Resources. Hunting pressure in the Delta II West area is expected to increase as adjacent military lands become more restricted to public use and as other land in the Delta area is developed for other purposes. The area is also used by a number of trappers and fishermen.

Recommendations of the Delta Land Management Planning Study

Volume Four of the Delta Land Management Planning Study (DLMPS) recommended that a 28,160 acre area now encompassed by the Delta II West project be established as a bison habitat management area, and that the land be classified as Wildlife Habitat. It also recommended that a 1,440 acre area around Rainbow Lake be retained in public ownership and classified Greenbelt. Both these classifications were made in 1977 and are still in effect. The

remainder of the project area was classified as either Resource Management or as Timber (along the Delta River). In making the recommendations concerning bison, it was specifically stated that "the Delta bison herd is the largest and most viable in Alaska. It is felt that the herd should be maintained as wild and free-ranging, with its numbers being controlled by annual public hunting."

Recommendations of the Department of Fish and Game

In January of 1981 you did contact us, requesting our input on the Delta II project. However, at that time the West portion of the project was only an 11,000 acre area along the Delta River. At that time our recommendation was "that no disposal occur in this area until a transportation plan is developed and soil surveys are conducted to facilitate a comprehensive disposal plan" for all the state land west of the Delta River (January 8, 1981 memo by Grundy to Copeland). Although the soil survey has been done for a portion of the state land, a transportation plan has not and no comprehensive disposal planning has taken place. Thus, our original recommendation is still valid.

We strongly recommend that the Delta II West disposal be postponed until a comprehensive disposal plan can be done for all the state land north of Ft. Greely and west of the Delta River. In this way, all the resource values can be considered before making final and irrevocable land use decisions, uses of other resources can be planned for, and an interagency review can be accomplished.

If the Delta II project is to be implemented without the benefit of any planning, then the mitigation measures outlined below should be followed in order to minimize conflicts with the wildlife resources.

Potential Wildlife Conflicts and Mitigation Measures

1. Bison. Agricultural development of Delta II West will likely result in crop depredation by bison and we can anticipate the same kinds of conflicts which have occurred in Delta I. To alleviate this problem, we suggest that some acreage within the project be set aside as a management area for the development of alternate bison summer range. This might serve as a buffer between existing bison summer habitat and the agricultural project. Since military land is unavailable for this purpose, it is necessary to reserve state land. If agricultural development does take place, there is a possibility that farmers may be able to utilize bison-proof fencing to help alleviate depredation problems. In conjunction with the development of alternate habitat and if properly done, this could be an effective measure. However, it should be noted that moose are often killed attempting to cross such fencing and this would be detrimental to moose populations and movements. We will address the specifics of size and location of a bison management area at the December 8, 1981 meeting with you.

2. Moose. Crop depredation by moose is a possibility. The loss of moose habitat to agriculture, however, is likely to result in lowered moose populations.

3. Bear. The loss of bear habitat will also result in lowered bear populations. There is the possibility of bear conflicts as farms are initially developed and livestock depredation will occur if a red meat industry is established.

4. Fisheries. Agricultural development adjacent to the Delta River chum spawning area, the Richardson-Clearwater Creek, the Tanana River sloughs or Rainbow Lake could detrimentally impact these fisheries resources through stream bank degradation or agricultural runoff into the water. To prevent this we recommend that no agricultural development take place within the following areas:

T.8S, R.9E, F.M.
Sec. 19, 24, 28 through 34

T.9S, R.8E, F.M.
Sec. 13, 14, 24
Sec. 23, NE¼

T.9S, R.9E, F.M.
Sec. 19, W½
State land within the following:
Sec. 1, 2, 3, 4
Sec. 11, N½
Sec. 12, N½

T.9S, R.10E, F.M.
Sec. 7

In addition, we recommend that a ¼ mile greenbelt be retained in public ownership along the Delta River to protect the integrity of the river bank, to help prevent direct agricultural runoff into the river and to provide for public access along the river.

5. Waterfowl. Agricultural activity could result in the obliteration of the lakes used by nesting waterfowl, or in simple disturbance of waterfowl using the lakes. To alleviate this problem, we recommend that easements be retained around all these lakes to provide a buffer. It should be noted that there is probably nothing that can be done to prevent impact on trumpeter swan nesting in the vicinity.

Agricultural activity could also result in disturbance of sandhill crane roosting areas on the Delta River. To alleviate this problem, we recommend that a ¼ mile greenbelt of natural vegetation be retained along the Delta River as a buffer. This is particularly necessary because of the fact that the peak of the fall migration, mid September, often coincides with a time of high agricultural activity associated with harvesting.

Another potential conflict is crop depredation by sandhill cranes, Canada geese and some ducks. This has not been a problem to date, but with the development of another large area, particularly one so close to an

existing crane roost, a problem of some magnitude could develop in years of late harvest. Completing the harvest prior to about September 10 would alleviate this problem.

6. Caribou. Agricultural development will remove existing caribou habitat; this cannot be mitigated.

7. Access concerns. There are two points of concern regarding access. One concern is with crossing the Delta River. Since the State evidently has no plans to build a bridge across the Delta or Tanana Rivers to provide surface transportation to this project, the farmers will have to cross the Delta River to access their farms. Under Title 16, the Department of Fish and Game has statutory authority over crossings or riverbed alterations of this river. Because of the importance of the chum salmon spawning area mentioned earlier, certain stipulations must apply to crossing activities. No crossings will be allowed within two miles of the confluence with the Tanana River. Anywhere along the Delta River, all river modifications, alterations, fills, etc., which would prohibit the passage of fish must have ADF&G Title 16 approval. Because of the importance of the spawning area, we are extremely concerned with any upstream activities that could affect it. We therefore request the opportunity to review plans for any river crossings or construction activity between the banks of the Delta River.

   The other access concern is with public access through the project. Adequate access must be provided for both in the layout design and through farm units in order to prevent conflicts with hunters, trappers, and other users of the wildlife resources.

Summary

To summarize, the lack of interagency coordination prior to the implementation of the Delta II West project is a serious problem which disturbs us. There are potential conflicts with wildlife resources, many of which may be mitigated if addressed in the planning stages of the project. The Department of Fish and Game stands ready to provide further input and to assist in resolving conflicts.

cc D. Snarski - DP
   D. Lowery - ADEC

RECEIVED NOV 13 1981

Citizens for Sensible Agricultural Development
PO Box 862
Delta Junction, Alaska 99737

November 5, 1981

Attachment two

Mr. W.I. Palmer
Special Projects Coordinator
Office of the Governor
Pouch A
Juneau, Alaska 99801

Dear Mr. Palmer:

Agriculture is a welcome addition to the Delta area. It has brought money into the area, provided jobs, and brought new people with bold new ideas into the community. But, it has not been without cost, both in terms of dollars and in terms of other resources. Now, Delta II is on the horizon, and we are beginning to be concerned about these costs.

We believe Alaskans deserve frank answers to some very serious questions about Delta II:

1. There are good soils in Delta II, but the soil maps we have seen are
   a) wrong in many places about which we have personal knowledge, and
   b) indicate discontinuous distribution of arable soils. Is it in the best interests of the state's agricultural enterprise to dispose of land with marginal soils?
2. There are a minimum of 14 million board feet of good usable sawtimber in Delta II--much more than Interior sawmills can use in one or two years--and this estimate does not even cover firewood. How do you intend to insure that this valuable resource is going to be used, instead of generally wasted or "accidentally" burned as was the case in Delta I?
3. Delta II West is on the opposite side of a substantial river. There are now no roads. Nowhere have we seen a bridge and transportation plan for that area; yet a bridge alone will cost millions of dollars. When will Alaskans see such a plan and the associated costs?
4. It is well known that the bison move north along the Delta river in late summer up to a month before moving east to the Delta Bison Range and the existing agricultural area. Delta II West will be right in their path. Bison also use the area in late winter. At least 19 bison have died because of farmers since Delta I, two recently, and more may follow if threats are any measure of this danger. How do you intend to avoid an escalation of this conflict?
5. The Delta Land use plan, developed with considerable citizen and agency input, calls for agricultural development much smaller in size than Delta I plus Delta II. How do you reconcile the difference between your ambitious plans and the desires of local residents?
6. The markings of recent flood waters on the trees in Delta II East are plain for all to see. How do you intend to protect farms from Gerstle and Tanana River flood waters?

7. Finally, what has been the real cost of Delta I and how does that compare with return; and what will be the real cost of Delta II? We do not believe you and the Agricultural Action Council have painted a realistic picture of either, and that many costs have not yet been divulged or have been hidden in other agencies or appropriations.

Please understand. We do not oppose agriculture; in fact, we welcome an agricultural enterprise that can be integrated into the many facets of life in the Upper Tanana Valley, It is clear to us, however, that the Delta II brand of agriculture that you and the Council appear to be pushing so desperately fails that test.

Sincerely,

Deans Cummings

Deans Cummings, Chairman

cc: Delta Paper, Fairbanks Daily News Miner, Anchorage Times, Southeast Alaska Empire, Gov. Hammond, Nick Carney, Ron Skoog, John Katz, Alaska Legislature

bcc: Fairbanks Advisory Committee, Delta Advisory Committee

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

November 20, 1981

Attachment three

Mr. Dean W. Cummings
Chairman
Citizens for Sensible
Agricultural Development
P. O. Box 862
Delta Junction, Alaska 99737

Dear Mr. Cummings:

I have received your letter to me and the newspapers of Alaska dated November 5, 1981, regarding your concerns about Delta II. Although your letter was addressed personally to me and we have never met, much less had any discussions face to face or by telephone, I read your letter to me in the newspaper almost two weeks before receiving it in the mail.

If you are, or were, sincerely interested in answers to your questions and a constructive debate on the issues, I wonder why you did not contact me before going to the media. At any rate, I will give you the benefit of assuming your integrity and will respond to your questions.

1. Soils

The Alaska Agricultural Action Council (AAAC) depends upon and contracts with the U.S. Soil Conservation Service (USSCS) for soil testing and analysis. While some previous work of the USSCS did appear to contain errors, these have now been corrected as a result of an investigation by AAAC staff and USSCS personnel.

I also cannot help but wonder why this criticism was not directed at the Division of Agriculture, rather than the AAAC. You met with Mr. Nick Carney, Division Director, several days before posting your letter to the newspapers and it is his agency, not the AAAC, which drew up the tract layout that included the marginal soils you question.

2. Timber

We agreed weeks ago that the commercially valuable timber in question would be sold with a 3-1/2 year harvest schedule (not one or two years, as you state) to allow orderly marketing of the resource. How would you propose to utilize, economically, the non-commercial scrub trees, which are common on Delta II, as they were on Delta I?

3. A number of farmers have worked farms on the west side of the Big Delta River for years without an expensive bridge. You and I both know, Mr. Cummings, that we can wade that river most of the summer and cross on the ice most of the winter.

Many influential people are working diligently to have the Alaska Railroad extended through that area. It has been requested that we hold up for a bit on our bridge planning to see if it can be tied into a railroad crossing. That appears to make sense.

4. The AAAC officially went on record almost a year ago, and I have personally done so a number of times, in supporting ADF&G's efforts to solve the bison problem. Most people in your group appear to have confidence that Fish and Game can cope with the situation, and we support your viewpoint.

5. It is our understanding and belief that the Delta II program is completely compatible with the desires of the majority of the logical, clear-thinking citizens of the area.

As a result of the public hearing on Delta II, which the AAAC held in the Delta School on March 13, 1980, 38 people signed up to testify and 68 Delta residents submitted their written comments after attending the hearing.

Of the 38 who signed up, 35 testified:

IN FAVOR OF DELTA II:	21
OPPOSED TO DELTA II:	10
ADDRESSED OTHER SUBJECTS AND DIDN'T MENTION DELTA II:	4

Of the 68 residents who submitted their testimony:

IN FAVOR OF DELTA II:	66
OPPOSED TO DELTA II:	2

At the Public Hearing, Mayor Elizabeth Leng read Resolution 80-02, passed on February 13, 1980, by the City of Delta Junction, which stated:

"WHEREAS, the development of agriculture is advised as a part of the Delta Land Management Plan, and;

"WHEREAS, the development of agriculture is of benefit to the broadening of the economic base of Delta Junction, and;

"WHEREAS, the development of an agricultural base will add to the stability of the economy of the Delta area, and;

"WHEREAS, an agricultural area will contribute to the migrating waterfowl well being and preservation of/and local wild life.

"NOW, THEREFORE, BE IT RESOLVED by the city council that we support and encourage the development of agriculture and its related support services in the Delta area."

Signed: Elizabeth A. Leng, Mayor
Leonard A. Lemon, Council Member
Fran C. Lombo, Council Member
Henry W. Brewis, Council Member
Kenneth E. Ryther, Council Member

In summary, of the 103 responses to the Public Hearing on Delta II, 87 supported the planned project and 12 opposed it.

Also, Lieutenant Governor Miller's Office conducted a survey among Delta residents in mid-1980, as a result of a public hearing that he held in Delta, regarding issues relevant to the area. Five questions contained in a questionnaire were distributed to Delta residents, and of the responses received, 74% answered the following question in the affirmative: "Do you believe that the Administration should set in motion the Delta II Agriculture Project by commencing surveying and other preliminary work at this time? (This would allow for actual disposal of Delta II agricultural tracts during Fiscal Year 1982, and would approximately double the acreage committed to large scale agriculture in Delta)." Twenty-six percent answered "No" and no one answered "Unsure". Delta residents then clearly supported Delta II by a three to one margin.

6. Apparently, other observers just as knowledgeable as yourself dispute the "markings" as indicating flood waters at all! At any rate, we have relied on and used the guidance of the U.S. Soil Conservation Service in protecting farmers from flood damage.

7. The real costs of Delta I are public knowledge for all those who care to read. All monies used have been appropriated by the legislature. How does that compare with the return? May 31, 1982, is the date for completion of clearing of Delta I. 1983 will be the first year possible for harvesting the entire project.

If you, Mr. Cummings, pay for a 1,000-acre timber contract -- to be harvested over five years -- how do you answer at the end of two years, if asked: "How does your real cost for the project compare with the return?"

I am encouraged that you, speaking for your group, welcome agricultural development in your community. We continue to invite any and all of you -- as we have since 1976 -- to meet with us, or call us, and help identify a course of agricultural development that is economically feasible and satisfying to all concerned.

Sincerely,

ALASKA AGRICULTURAL ACTION COUNCIL

W. I. "Bob" Palmer
Chairman

cc: Delta Paper
Fairbanks Daily News Miner
Anchorage Times
Juneau Empire
The Honorable Jay S. Hammond
The Honorable John Katz
The Honorable Ronald Skoog
Mr. Nick Carney
Members, Alaska State Legislature
Fairbanks Advisory Committee
Delta Advisory Committee

December 4, 1981
Box 44
Delta Junction, Alaska 99737

Attachment four

Dear Govenor Hammond,

I believe there are some questions that need to be answered before agriculture expands with Delta II:

(1) Is the planning process adequate? Delta I provides instances where planning was incomplete or nonexistent. Examples of poor planning include: a.) an unrealistic picture of the normal fall weather conditions which can affect harvests, b.)an unrealistic timetable for full scale production, c.) insufficient fire control procedures, d.) inadequate plans to minimize bison/barley conflicts, e.) inaccurate estimates of the protein content of Alaskan barley, and f.) poor estimates of the marketability of barley on the world market.

One only has to look back over the last three years to see that the progression of events surrounding Delta I provides a confusing picture of what the project's goals are. Are we selling barley to the Far East? Or are we going to develop an in-state red meat industry? Perhaps we will use our barley to make alcohol? This lack of a definitive direction also points to poor planning in the beginning stages of the project.

(2) Has there been sufficient evaluation of the first three years of Delta agriculture? It appears that the planners of Delta II have not learned from the mistakes of Delta I. Why hasn't there been a proper evaluation of Delta I?

(3) How justified is the prediction that more land will answer the economic problems of barley production? Has a cost/benefit analysis of Delta I proven that more land will greatly increase the benefits while minimizing costs and solve the economic woes of Delta I?

(4) Will Alaskan agriculture be able to sustain itself over the longterm without heavy state financing? Can barley farmers ever hope to repay outstanding loans? Or will many barley farmers soon go bankrupt and be replaced by new barley farmers who will, in turn, borrow large amounts of state dollars?

(5) Was there an element of haste underlying the Delta I disposal and is Delta II being driven by the same force? 1982 is an election year. It is possible a new administration will have different views of how to proceed with agriculture development. Is there political pressure from the govenor's office to get Delta II moving before next November?

In conclusion, I propose that most people opposing Delta II are not against agriculture but rather the <u>manner</u> in which agriculture is being brought to the upper Tanana valley. This

letter and others have raised legitimate questions concerning the proposed Delta II disposal. It would be in the best interest for these questions to be answered so that further agricultural development will benefit. Can the agricultural community meet this challenge?

Sincerely,

Tim Jennings

Tim Jennings

Attachment five

December 29, 1981

Tim Jennings
Box 44
Delta Junction, Alaska
99737

Dear Mr. Jennings:

Governor Hammond has asked that I respond to your letter of December 4, 1981.

(1) The planning process is adequate. Your points (a) and (b) are, I believe, not accurate.

(c) Can anyone adequately predict the conditions under which a fire will occur? It is quite possible that fire control measures on the scene could have been more effective. As a matter of fact, the planners of Delta I, who did not have authority over fire fighting methods, recommended radically different control measures than those used by the agency that did have authority.

(d) Crop/bison conflicts are a serious problem. Apparently, few, if any, people felt that the problem would be of the magnitude that it has become. It is also significant that, even now, those experts with the most experience are still searching for definite answers to the problems.

(e) Feed trials in Japan, as well as official testing labs in Seattle, have verified the excellent quality of Alaskan barley.

(f) The world markets are there and waiting as proposed in the initial planning.

Our prime objective has always been to ensure the availability of the fundamentals in competitively priced feed grain, and an efficient meat processing infrastructure so that the private sector will be able to develop a livestock industry. This is occurring. The export market is a necessity to assure the grain producer of a market for all his production. A grain producer must

not be placed in a position where he has to [illegible] market -- the livestock producer -- and, therefore, faced with the impossible task of determining how large that market is going to be each year, how much grain other farmers are going to produce each year, and how much of that limited market he can expect to capture. The export market serves as safety valve to take all the excess available over and above the domestic demand.

(2) Yes, there has been sufficient evaluation of Delta I.

(3) Delta I has already proven production of barley quite feasible, both economically and technically.

Additional land in production is necessary to produce additional volume of business for all sectors of the infrastructure serving the embryonic industry. Can a gasoline service station afford to stay in business if there is only one automobile in the area?

(4) Yes, we believe it will.

[5] No. Yes. No.

It is my understanding that about twelve citizens of your area formed a group called Citizens for Sound Agricultural Development, and became very vocal in the meeting -- expressing some of the same concerns that you have. I understand also that this group found that the planning had been done in much greater depth than they were aware of, and that most of the questions raised had been adequately answered. It is also my understanding that of the twelve initial members of the group, only five are still active in the "campaign".

I appreciate your approach in asking the questions first, and hope that my response will be of some help to you.

Sincerely,

W. I. "Bob" Palmer
Coordinator
Special Projects Office

Attachment six

MEMORANDUM OF UNDERSTANDING

BETWEEN

THE ALASKA AGRICULTURAL ACTION COUNCIL

AND

THE ALASKA DEPARTMENT OF NATURAL RESOURCES

DELTA II

November, 1981

WHEREAS, the Alaska Agricultural Action Council herein referred to as AAAC is directed by AS 44.33.470(2) to evaluate the need for farm conservation plans for land under agricultural production in the state; and

WHEREAS, the AAAC is directed by AS 44.33.470(4) to make recommendations for the promotion of agriculture in the state; and

WHEREAS, the AAAC is directed by AS 44.33.470(5) to provide technical information and make recommendations to the Commissioner of the Department of Natural Resources regarding classification of state land having agricultural potential; and

WHEREAS, the AAAC is directed by AS 44.33.470(a)(6) to act as administrator of the Delta agricultural development project; and

WHEREAS, the AAAC has recommended to the Governor and the Commissioner of the Department of Natural Resources that the areas known as Delta II East and West be classified for agricultural development based on soil surveys in those areas; and

WHEREAS, the development of the agricultural potential of the Delta area will be influenced by the administration of both the original Delta Agricultural Development Project and the sale of the Delta II East and West areas; and

WHEREAS, AS 38.05.035 directs the Department of Natural Resources herein referred to as DNR to manage state lands, including entering into such contracts as best serve the interests of the state; and

WHEREAS, DNR is empowered by AS 38.05.050 to determine the land to be sold for private use; and

WHEREAS, AS 38.05.300 authorizes DNR to classify lands for surface uses where it is considered necessary and proper; and

WHEREAS, AS 44.37.020 directs DNR to administer state programs for the conservation and development of natural resources, including land, agriculture and soil conservation;

WHEREAS, AS 38.04.010 clarifies that the public interest in conveying rights to state land to private parties is to make such lands available to persons for direct use in areas classified as suitable for such purposes; and

WHEREAS, AS 38.04.045 directs that the subdivision of land for disposal shall be such that the lots and tracts are of a size which fits the requirements of the proposed use and the physical characteristics of the land; and

WHEREAS, AS 38.05.321 restricts the sale of lands classified as agricultural to the transfer of rights for agricultural purposes:

NOW, THEREFORE: both AAAC and DNR mutually agree that it is necessary to clarify responsibilities with respect to the preparation of the proposed Delta II agricultural land sale;

The AAAC, in consideration of AS 44.65.010 and DNR, in consideration of AS 38.05.020 and AS 44.65.010, further agree that:

1. DNR will make every effort to offer a combined Delta II East and West sale in the shortest possible time. Toward that end, all preliminaries (survey, appraisal, public notice, layout) will be expedited. Specific time requirements for accomplishing the preliminaries will be presented to Commissioner John W. Katz and to Chairman Bob Palmer by December 1, 1981. The final decision will then be made to proceed with the proposed combined disposal according to a timeline to be jointly approved by DNR and the AAAC, or to hold the proposed Delta II West for later disposal, both subject to the completion of all legal requirements, including a best interest determination by the Commissioner of DNR.

2. DNR will monitor subsequent requests for assignments to obtain data concerning the relationship between method of disposal and occurrence of assignments.

3. Conditions of transfer will be specified in the land sale contracts including the completion of the development schedule as defined by the AAAC. Clearing loans made by the AAAC will fall due upon assignment. DNR will advise the AAAC promptly upon receipt of requests for assignment. These conditions will not apply when the assignor remains a principal in a partnership or corporation.

4. DNR will be the official public contact point for the proposed sale and will disseminate all information pertinent to the sale. DNR will make all materials available to the AAAC for review prior to printing.

5. Two appraisal methods will be used for the Delta II disposal, the standard comparables method and a product end value method, to be developed by DNR after consultation with the University of Alaska agricultural economists. The appraisals will be reviewed and a decision made by DNR after consultation with the AAAC on the method to be used for establishing the fair market value for the sale. Information from the Delta I clearing experiments will be provided by the AAAC.

6. The soil surveys for those areas within the proposed Delta II East and West containing commercial timber are currently being re-examined. Any areas which are not Class II or III soils may be deleted from the proposed agricultural project.

7. The failure of the SCS to provide accurate soil type data necessitates a number of changes in preliminary parcel layout and thus affects the proposed timber sale. Commercial timber on the parcels will be sold according to the following criteria:

a. The state may offer commercial timber stands for sale prior to the sale of the land. In this case, the land sale will be subject to the timber sale.

b. The timber may be sold to the land purchaser along with the land. In this case the sale contract will provide that the purchaser manage the timber in such a manner as to ensure full utilization of commercial timber and the conservation plan shall include this management practice.

c. In either case if the method of timber harvest used will result in increased clearing costs to the purchaser, the land appraisal will reflect the extra cost. Increased clearing costs are defined as those costs for clearing land which are greater than the costs established as the standard for lands in the Delta II agricultural development project without marketable commercial timber.

d. If (a) above is followed, timber removal times will be made as short as possible, consistent with market conditions and mill capacity, but in any event will not exceed 3 1/2 years on Delta East.

e. On a parcel in Section 19, T12S, R15E, containing commercial timber, a 20 acre tract has been selected as the most favorable farmstead site by Division of Agriculture and will be reserved from the timber sale.

8. Joint consideration will proceeed for reclassification of appropriate portions of the 1/4 mile buffer along the highway for small agricultural disposal. Since DNR must provide the opportunity for public review and comment prior to reclassification, public notice will be given as soon as possible. A final decision on reclassification and disposal will follow the public notice period. A definition of small farms will result from AAAC-DNR discussions.

9. Upon receipt of funds transferred from AAAC by Reimbursable Services Agreement, DNR will accomplish the following services:

a. The disposal process for both proposed Delta II East and Delta II West areas of agricultural land;

b. Complete the area plan and reclassification for Delta II West;

c. Conduct appraisals, develop disposal brochures, and conduct auction procedures; and

d. Develop and execute land sale contracts;

e. Review and approve farm conservation plans for each parcel; and

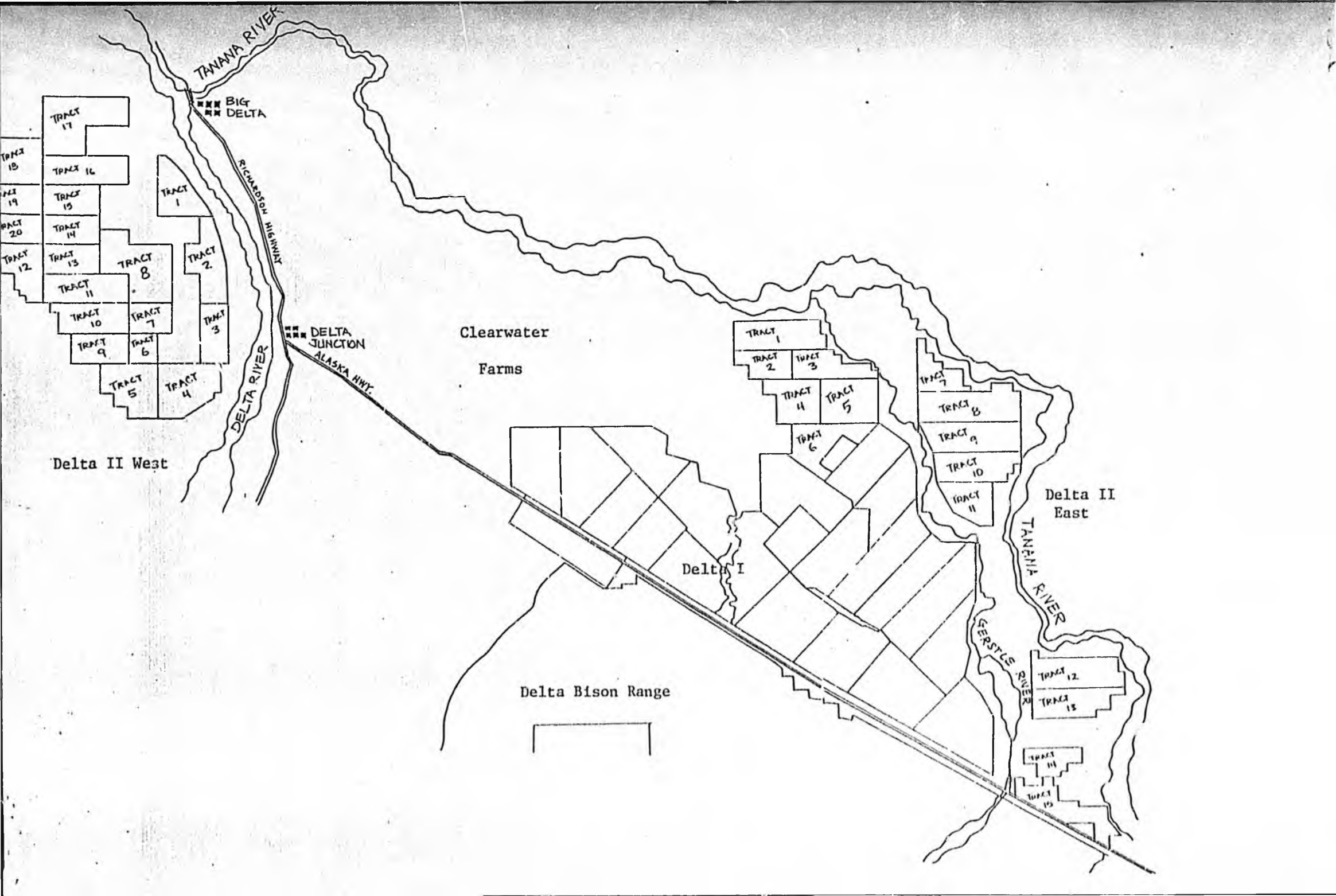
f. Purchase and establish two weather stations.

10. AAAC will transfer additional funds to DNR for preparation of eventual timber sales on Delta West.

Signed this 1st day of December, 1982

Chairman
Alaska Agricultural Action Council

John W Katz
Commissioner
Alaska
Department of Natural Resources


TANANA RIVER
BIG DELTA
RICHARDSON HIGHWAY
DELTA JUNCTION
ALASKA HWY.
DELTA RIVER
Clearwater Farms
Delta II West
Delta I
Delta II East
Delta Bison Range
TANANA RIVER
GERSTLE RIVER
TRACT 1
TRACT 2
TRACT 3
TRACT 4
TRACT 5
TRACT 6
TRACT 7
TRACT 8
TRACT 9
TRACT 10
TRACT 11
TRACT 12
TRACT 13
TRACT 14
TRACT 15
TRACT 16
TRACT 17
TRACT 18
TRACT 19
TRACT 20

DEPARTMENT

OF

ENVIRONMENTAL

CONSERVATION

3-4-81

Alaska State Legislature

BETTYE FAHRENKAMP, CHAIRMAN
VIC FISCHER, VICE-CHAIRMAN
BRAD BRADLEY
DICK ELIASON
DON GILMAN
BOB MULCAHY
ARLISS STURGULEWSKI

POUCH V
STATE CAPITOL
JUNEAU, ALASKA 99811
(907) 465-3834
(907) 465-3835

Senate

Committee on Resources

March 4, 1981
1:30 p.m.

Beltz Room
211 - Capitol

MEMBERS PRESENT

Senator Fahrenkamp
Senator Fischer
Senator Mulcahy
Senator Sturgulewski
Senator Eliason
Senator Gilman

The Committee was briefed by the Department of Environmental Conservation. Ernie Mueller, Commissioner, Glenn Akins, Director Environmental Quality Management, Gary Hayden, Chief, Water Quality Management and Environmental Health, Joe Cladouhos, Chief Sanitarian, Tom Hanna, Chief, Air and Solid Waste Management, Deena Henkins, Director, Environmental Quality and Dr. Honsinger, State Veterinarian and head of the Office of Seafood and Animal Health.

Commissioner Mueller described how the Department is organized and how it generally operates.

Glenn Akins, stated that his Division defines environmental problems and then tailors programs to meet those problems. One of the Divisions goals is to delegate as much authority as possible to local governments.

Gary Hayden, stated that the responsibility of his Division is establishing water quality standards that fit Alaska's special conditions, and assuring that the public has a safe water supply. He said they are in the process of revising wastewater regulations and have been conducting extensive meetings with the public on the subject.

Tom Hanna, stated that his division is responsible for air quality, hazardous waste, solid waste and litter. He said that air quality is a major health problem in Anchorage and Fairbanks. They are working with the local communities to

provide techinical assistance.

Joe Cladouhos, stated that his division is responsible for protecting public health and sanitation. The division has 15 sanitarians that perform inspections.

Deena Henkins, stated that the district and regional offices provide technical assistance, conduct inspections and enforce the Department's regulations.

Dr. Honsinger stated that his Division's 5 inspectors are responsible for conducting meat, poultry and seafood inpections and assuring animal health. There 325 inspection units, 101 floater processing vessels and 190 shore based processing plants in the state.

Alaska State Legislature

BETTYE FAHRENKAMP, CHAIRMAN
VIC FISCHER, VICE-CHAIRMAN
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JUNEAU, ALASKA 99811
(907) 465-3834
(907) 465-3835

Senate

Committee on Resources

TO: SENATE RESOURCES COMMITTEE

FROM: SENATE RESOURCES COMMITTEE STAFF

DATE: MARCH 2, 1981

RE: DEPARTMENT OF ENVIRONMENTAL CONSERVATION - BRIEFING MARCH 4, 1981

Attached please find the following background information for the briefing by the Department of Environmental Conservation:

1. Department of Environmental Conservation - a brief description of the Department.

2. Department of Environmental Conservation - Issue Papers.

3. Public Opinion on Alaska's Environment - Results of a survey by the Alaska Department of Environmental Conservation Summer 1980.

4. Dutch Harbor - Unalaska Water Quality Survey - November 1980.

Attachments

DIVISION OF ENVIRONMENTAL QUALITY MANAGEMENT

Director
Glenn Akins
7056 R26

Chief, Water Quality Mgmt.
Gary Hayden
7150 R22

Drinking Water Program
- Reporting system to assure safety of public water supplies
- Statewide drinking water regulations
- Investigation of disease outbreaks
- Federal grants administration
- Training and technical assistance for Regional staff

Oil Spill Program
- Regional Response Team coordination for oil spills
- Spill cleanup and contingency plans
- Local community spill response

Water Pollution Control
- Statewide Water Quality Standards
- Wastewater Disposal Regulations
- Permits for large industrial facilities
- Technical Assistance on outfalls, diffusers and mixing zones
- Secondary treatment requirements and waivers
- Best management practices (e.g. Forest Practices, Placer Mining)
- Water quality problem assessment and information system
- Federal grants administration

Environmental Sanitation
- Statewide Sanitation Regulations
- Response to disease outbreaks
- Technical assistance to business/ industry
- Training of field staff

Chief, Mgmt. & Technical Assist.
Richard Marcum
7077 R22

Permit and Project Coordination
- Single contact for industry on all environmental permits
- Major project review (EIS and funding for projects and issues of statewide significance)
- Representation on Interagency Policy Committees and Task Forces

Technical Assistance
- Development of guidelines to assure consistency of regulation statewide (wetlands, navigable waters, hydroelectric projects)
- Guidelines for community watershed protection
- Development of local coastal management projects
- Biological monitoring for large facilities

Management Assistance
- Alternative methods of regulation
- Coordination of statewide environmental research program
- Effectiveness of performance measures and objectives

Chief, Air & Solid Waste Mgt. Section
Thomas Hanna
7040 R22

- Statewide Air Quality Plan and regulations
- Air permits for large facilities
- Solid waste regulations
- Statewide solid waste inventory, plan and regulations
- Statewide hazardous waste program and inventory
- Litter control and recycling program
- Technical assistance to Anchorage and Fairbanks (control of carbon monoxide from vehicles)
- Air/solid waste federal grant & fiscal administration
- Enforcement & technical training for regional staff

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

The Alaska Department of Environmental Conservation was created by the Seventh Alaska Legislature in 1971 and given primary responsibility to protect the quality of the state's natural resources and the health and quality of life of its people.

Specifically, the department carries out the policy set down in Title 46 of the Alaska Statutes: "It is the policy of the state to conserve, improve and protect its natural resources and environment and control water, land, and air pollution, in order to enhance the health, safety and welfare of the people of the state and their overall economic and social well-being."

The department has broad regulatory authority in the areas of water quality control, water supply, air quality control, land and subsurface pollution prevention, pesticides, radiation protection, public health, and meat, dairy and seafood inspection. In addition, the department manages several water, sewer and solid waste facility construction programs in urban and rural areas.

In October of 1979 the department reorganized. Reorganization took place at top levels to streamline the former management. Public contact and regional office operations were strengthened by grouping together the programs which provide the most direct services to the public. Also, specific programs such as air, land, and water quality were combined into one unit, making the inter-relationships between these aspects more apparent in any given environmental problem.

In July of 1980 the department's public health, meat, dairy and seafood inspection programs were transferred from two other departments to Environmental Conservation. The move was made primarily to reduce the number of duplicative visits made to businesses and establishments by combining inspection functions under the same organization.

Office of the Commissioner

The commissioner's office is responsible for overall management of the department, setting departmental goals and evaluating performance of lower units of management. Information disseminated to the general public is produced or coordinated through the commissioner's office, and assistance is given to other departmental units in providing opportunities for public involvement in the various programs.

Here regulations receive their final departmental approval, and emergency orders are issued from this point to halt or alleviate situations which pose a great danger to health of people or the environment.

The administrative services section is responsible to the commissioner and performs accounting, fiscal management and budgeting, payroll, personnel and supply functions for the department.

The office of seafood and animal inspection has duties which include inspection and/or permit issuance for seafood processing plants, importation of animals, milk processors, milk products, frozen dessert manufacturers, sale of biological products, and meat production from slaughter to retail.

Division of Environmental Quality Operations

The division's basic responsibility is to carry out the department's laws, regulations, objectives, policies and programs through direct contact with the public, municipalities, businesses, industries and other government agencies.

The division is composed of the following units: the director's office, three regional offices and their satellite district offices, the facility construction and operation section, the laboratory and monitoring section and the permit coordination section.

The director's office is responsible for the budgetary and policy functions of the division and the pesticides and data mangement personnel.

The pesticides program consists of training and certification of applicators, permit issuance, enforcement and research.

In the data management office, data on public water supplies and water quality are stored and maintained on a computer system which is linked to other such systems nationwide.

The three regional offices, headquartered in Juneau, Anchorage and Fairbanks with district offices in Sitka, Ketchikan, Kodiak, Soldotna, Wasilla, Valdez, Tok and Nome, provide technical assistance to persons and groups to comply with the state's laws and regulations. If voluntary compliance is not achieved, various administrative, civil and criminal remedies are available.

Typical activities include response to complaints, plan review for public water supplies and subdivision sewage disposal, periodic quality testing of public water supplies, inspection of on-lot water and sewage disposal facilities for bank loan approval, permit review, gas pipeline surveillance, certification that activities requiring federal permits meet state water quality standards, assistance in community clean up campaigns, and inspection of food services, public institutions and tourist accommodations. Within the Fairbanks, Soldotna, and Kodiak offices is staff of the seafood and animal inspection services.

The facility construction and operation section administers state and federal grant programs to assist incorporated municipalities with the construction of water supply and sewerage facilities. The village safe water group supplies state funds to smaller villages and second class cities for construction and operation of facilities with potable water, sewage disposal, laundries, showers/saunas. Special grants from the legislature are awarded to villages for construction of water and sewerage facilities. A training and certification program for water and sewerage system operators is also run by this section.

The major functions of the laboratory and monitoring section are to develop a comprehensive strategy to monitor environmental problems, analyze samples from regional office enforcement efforts, measure ambient air quality, and design and conduct sampling programs to obtain baseline water quality data.

The permit coordination section oversees the processing of permits and certifications so that the rather complicated review procedure is handled efficiently and quickly. A Directory of Permits is also revised and distributed, and permit information centers in Juneau, Anchorage and Fairbanks are managed by this group. The responsibility falls here for the design and operation of a master permit application process and for coordinating administrative appeals and enforcement actions.

Division of Environmental Quality Management

The two basic responsibilities of the Division of Environmental Quality Management are:

1. providing specialized, professional advice to industry, local governments, other agencies and the department's regional offices, and

2. maintaining current standards, plans, and other management tools for the air, solid waste, drinking water, water pollution control, oil pollution and environmental sanitation programs.

The division is comprised of four sections: water quality management, air and solid waste management, management and technical assistance, and environmental sanitation.

Drinking water, water pollution control, and oil pollution programs are the responsibility of the water quality management section. In addition to planning and overseeing these programs statewide, the section develops and revises water-related regulations and standards. It also coordinates water quality planning between agencies and is responsible for preparing Alaska's contingency plan for spills of oil and hazardous substances.

Major responsibilities of the air and solid waste management section include managing the air quality, solid waste, and pesticides programs for the department. There are two units in this section. The air quality control program unit produces and updates the state's air quality control plan, policies and procedures for compliance with air standards, and air quality regulations. This unit also reviews and issues permits for air quality. The solid waste and pesticides management unit assists industry and local communities to correct disposal practices which endanger public health, develops Alaska's solid waste management plan, keeps solid waste and pesticide regulations current, ensures that pesticides are used safely, and promotes recycling and litter reduction.

The management and technical assistance section provides assistance to industry, local government, and other agencies to ensure that development in Alaska is environmentally sound. It also develops legislation, serves as the department's coordinator for development of policies, evaluates the department's effectiveness, represents the department on various interagency task forces, and provides technical assistance to ADEC's regional offices on permits and project review.

The overall management, planning and coordination of the statewide environmental health program is handled by the environmental sanitation section. Responsibilities include plan review, regulation development and revision, prevention and control of environmentally related communicable disease, food service and food processing sanitation, environmental health education, water and sewage systems in public facilities, sanitation conditions at public accommodations and facilities, and federal regulations and programs. This section advises and coordinates with district offices and public and private agencies.

3

PUBLIC OPINION ON ALASKA'S ENVIRONMENT

Results of a survey by the
Alaska Department of Environmental Conservation
Summer 1980

Prepared by the
Information Office
Department of Environmental Conservation

"THIS IS WHAT WE THINK"

SUMMARY OF RESPONSES TO STATEWIDE PUBLIC OPINION QUESTIONNAIRE SUMMER 1980

This summer the Department of Environmental Conservation (DEC) sent out a questionnaire to determine what Alaskans view as the greatest environmental problems in their communities. A copy of the questionnaire is attached. Results came back from 292 people all over the State. Results were tabulated by four regions: Anchorage (101 respondents), Fairbanks (29), Southeast Alaska (66), and rural Alaska excluding Southeast (96). The last category may be a bit of a misnomer since it includes all areas except the three listed above and therefore includes the Kenai Peninsula, the Mat-Su Borough, Valdez, and other communities.

This was not a random survey. The questionnaires were sent to people on DEC's mailing list, which includes public officials, business and industry representatives, chambers of commerce, and others who have stated an interest in environmental matters. Those on the list are by no means necessarily supporters of the Department's actions. Most are listed because they wish to keep informed about the agency's actions. The results are given in percentages; these do not always total 100, due to unanswered questions and duplicate answers to some questions. No attempt has been made to determine the statistical significance of the figures--the results of the questionnaires are to be used by Department and EPA personnel primarily to incorporate into the State/EPA Agreement and to determine any trends, directions, or useful information.

Most Critical Environmental Problem

Litter came in first place in the State as the most critical environmental problem, with land use planning, air quality, solid waste, and oil spills close contenders. Here is a regional breakdown of the responses:

	Anchorage	Fairbanks	Southeast	Rural
1	Litter	Air Quality	Land use	Litter
2	Land use	Land use	Litter	Land use
3	Air quality	Litter	Solid waste	Solid waste
4	Stream pollution	Solid waste	Drinking water	Stream pollution
5	Solid waste	Stream pollution	Stream pollution	Drinking water
6	Drinking water	Drinking water	Oil spills	Oil spills
7	Oil spills	Hazardous waste	Air quality	Air quality
8	Hazardous waste	Oil spills	Hazardous waste	Hazardous waste

Water Pollution

Of those who felt water pollution was a problem, sewage was listed as a reason by 15% (19% in rural Alaska), garbage and refuse by 10%, stormwater by 7% (20% in Anchorage), and industrial waste by 3 1/2%. Other sources suggested were autos, construction siltation, nature, mining effluent, seasonal pumping into rivers, oil spills, and land development.

Air Quality

In Anchorage 51% and in Fairbanks 66% of those responding said they are concerned that air quality in their community may be unhealthy due to pollution. In rural Alaska and Southeast, only 14% expressed this concern. Causes of air pollution were listed as, in Anchorage, autos by 57% and dust by 40%; in Fairbanks, autos by 76% in Southeast, dust by 35%, industry 20%, none by 18%, and sources such as wood stoves, sawmills, and winds by 18%; and in rural Alaska, dust by 35% and none by 27%. Other sources listed included garbage, dumps, generators, inversions, aircraft, and diesel trucks.

A solution to air pollution listed by 33% was to pave roads. Car pooling scored high in Anchorage and Fairbanks with 51% of the respondents. Vehicle inspection and maintenance was seen as a good solution by 30% of the Anchorage people and 17% of those from Fairbanks. Regulation of industry was emphasized only among those questionnaires returned from Southeast. Other suggested solutions were: cold weather studies, revegetation, street flushing, trains, nuclear power, education, free enterprise, oiling of roads, stop open burning of trash, conversion to electricity, lower speed limit, and less government. It appears that the people responding from Anchorage and Fairbanks, where the greatest air pollution problems are, have a fairly high recognition of that fact and a fairly good understanding of where the problem comes from.

Sixty-one percent of the 292 said they would be willing to change their lifestyle if they knew motor vehicles were making their community's air unhealthy.

Solid Waste Disposal

The current method of solid waste disposal was found to be inadequate in 47% of the responses. Of these, 66% used a city or community landfill. Southeast Alaskans expressed the most dissatisfaction with 57% of the responses indicating inadequate solid waste disposal means.

Hazardous Wastes

Twenty-five percent of the respondents indicated a concern that areas of their community contain hazardous wastes, with the highest concern expressed by 40% from Fairbanks. Fifty-seven percent said that disposal of hazardous waste in isolated areas would not eliminate danger. Fifty-nine percent felt that an approved disposal site for hazardous wastes should be designated in Alaska if the need arises. The fairly large percentage responding with concern about hazardous wastes is probably at least a reflection of the lack of information about the existence of these substances in Alaska.

Litter

Litter in their community is a problem to 78% of those who responded, and 76% said they participate in local cleanup activities. Fifty-nine percent support the new litter law, and a notable 25% said they are not sure whether or not they do. The low percentage of supporters of Alaska's new litter law is understandable since the comprehensive anti-litter and recycling program is just beginning activities, and only time will show what it produces. A little over half of those that can recycle actually do: inconvenience and the newness of opportunities probably accounts for much of this. It remains to be seen whether a statewide program to encourage recycling will increase this usage.

Oil Pollution

Oil pollution is seen as a threat to wildlife, the land, jobs, lifestyles or other community resources by 53% of those who replied, with the highest being 64% in Southeast. The responses to the question "does the technology exist to clean up oil spills well enough?" were fairly split, with 44% saying it does exist.

Statewide, 32% of the responses indicated the attention given oil spills by State government is good (48% in Fairbanks, 19% in rural Alaska, 36% in Southeast and 28% in Anchorage). Sixteen percent said the State gives too much attention, 25% said the State pays too little attention, and 12% said they didn't know (19% in rural Alaska).

By comparison, 19% rated the federal government's attention to oil spills as good (scoring most poorly in rural Alaska), 24% said "too much," 36% said "not enough," and 13% said they didn't know.

Those who said the State pays too little attention to oil spills or who just didn't know if the State pays enough attention will be a good base figure to ultimately judge the perceived success of the new State oil spill program just now being implemented.

Overall Responsiveness

The questionnaire asked the readers to rate DEC and EPA's responsiveness to concerns expressed to them. The replies were: for DEC - 35% good, 8% bad, and 25% don't know; for EPA - 17% good, 15% bad, and 43% don't know. Some reasons given for poor responsiveness on the part of DEC were: "not doing enough, not enough staff and travel, lack of enforcement, goes by the books, no action taken, pass the buck, not effective, they just lock up land, indifferent to rural communities." Reasons given for EPA's poor responsiveness were: "lack common sense, little flexibility, bureaucracy, no local office, inadequate, no cooperation between DEC and EPA, don't like feds, too much power to check, not rational, overloaded."

Environmental Quality

The quality of Alaska's environment has decreased, according to 55% of those answering. Reasons listed included more people, more litter, industrial wastes, citizen apathy, greed, noise, dust, stream pollution, poor planning, oil development, reduced wilderness, federal control, government intervention, and too many parks. Numbers of people and poor attitudes accounted for many of the responses.

Would the private sector continue improving or maintaining the quality of Alaska's environment if government funds were reduced? Not according to 54% of the people; although 36% believe that private industry is capable of controlling its pollution without government regulations.

Public Participation

A question was asked concerning which of three choices is most necessary for effective public participation in environmental decisions. Those choices are: (1) increased responsiveness by government to take into account what is heard through public participation - 53%; (2) information and facts about the environment and environmental programs - 38%; and (3) increased opportunity to participate in decisions about environmental problems - 16%. The total exceed 100% because some checked more than one item. The responses to this question are worth noting, particularly since most of the respondents have attended public hearings. Information and facts about environmental problems are needed before anyone, including a member of the general public, can make an intelligent decision and then those who do bother to participate in the making of decisions must in some way feel they have contributed to those decisions. The decisions cannot always be made the way each person would like, but studies have documented decreased frustration and increased acceptance of decisions where the participants felt they were heard and understood why the decisions were made. The primary issue seems to be the quality of opportunities to participate. Those responding characterized the opportunities given by DEC to participate in decisions as: enough - 35%, too many - 7%, and too few - 41%. For EPA the same question turned up 23% for enough, 13% for too many, and 46% for too few.

"SO WHAT ARE YOU DOING ABOUT IT"

SUMMARY OF DEC ACTIVITIES RELATING TO ISSUES IN THE 1980 OPINION QUESTIONNAIRE

In addition to the multiple-choice questions appearing in the survey, open-ended questions were asked which invited comment on what more the department should be doing; that is, which problems need more (or less) attention. This summary was prepared to show major issues raised by the questionnaire results and how these issues are or will be addressed by the Department's programs.

Enforcement

Many comments dealt with enforcement, including the need for more enforcement staff. This concern has been addressed in part through the transfer of 16 environmental sanitarians, several meat, dairy, and seafood sanitarians and inspectors, the creation of several new positions in the regional offices for the oil spill program, and three new positions in the regional offices for the anti-litter and resource recovery program. Combination of the environmental sanitation program and meat, dairy and seafood inspections will streamline and extend DEC's enforcement capabilities. The Department now has three new field offices in Tok, Nome, and Kodiak, making both enforcement and technical assistance easier in areas formerly remote for our staff. Current plans are for transferring a position to Unalaska/Dutch Harbor for better coverage of our responsibilities to the Chain. One suggestion was made for more experienced personnel - and the Department this year is considerably upgrading and increasing staff training. The Department also will soon add a training officer to the staff.

Mining

Comments were made both to make less and more of an effort to enforce laws regulating mining activities. The Department has recently developed a program for working with Alaskan placer miners to protect water quality in the State. The program consists of technical advice to miners through a demonstration project to test settling pond techniques and transfer of information to miners about successful ways to maintain water quality. Also, the three State agencies with regulatory authority over placer mining activities have signed an agreement spelling out enforcement priorities and authorizing the use of a single, one-page application for permits from all three agencies, as well as the Department of Revenue. In addition, the Department greatly increased the number of visits to mining operations this summer, providing suggestions on maintaining water quality and creating awareness of the Department's intent to monitor for violations.

Public Information

A large number of comments recommended increased public information and education efforts. The Department sees this as a very important part of achieving its goals, as well as a necessary part of tracking environmental problems and issues in Alaska. The Department will conduct extensive

public participation activities (including workshops and radio and television programs) to initiate the statewide litter and resource recovery program and to gather public recommendations on petrochemical development in the State.

DEC's public information office will provide more public information through all media this year than in the past, and two new school curriculum units on safe drinking water and air quality in Alaska will be introduced into Alaskan schools. DEC's newsletter, Alaska Environment, will increase in circulation from 5,000 to 6,000 people.

Regulations

Many comments were directed at regulations. Reducing regulations was a common recommendation. At this time there are not efforts underway to eliminate or simplify specific regulations, and to streamline existing programs. General permits and permits by regulation will eliminate the need for many individual applications.

Both DEC and EPA will develop a general permit for certain types of activities (such as placer mining and seafood processing), meaning that one permit will be written for a type of operation rather than one for each operator or discharger. This will save much paperwork while providing uniform performance standards for all who run certain types of operations.

Soon, permits will no longer be necessary for about 250 operations currently requiring air quality permits. These operations will be kept in compliance with State regulations by good operating and maintenance procedures and continued surveillance. Also, Alaska's solid waste regulations are being revised to eliminate the need for solid waste permits for certain types of facilities.

All of these forms of regulatory reform place more emphasis on self-regulation among businesses and other operations.

Solid Waste

Several comments were made about the need for assistance in solving Alaska's solid waste problem--landfills, junked cars, recycling, and litter. There will be two new programs addressing the problems. The 1980 Alaska Legislature passed legislation for a bond initiative, which would provide $33 million to communities for sanitation services which can include solid waste facilities. And the Legislature also created a comprehensive anti-litter and recycling program for Alaska to tackle litter problems and encourage recycling. The program will include grants to local governments and organizations, stiffer fines and penalties for littering, a large public information and education program, youth litter patrols, and a network of well-maintained litter barrels. The use of prosecuted litterers to pick up litter was suggested in one of the responses and is already part of the penalties listed for littering.

Increased State Role

More State control of Alaska's environment was mentioned in the survey responses as desirable. The State/EPA Agreement reflects this in several federal programs that the State of Alaska will administer during the coming year. Several parts of the federal air quality program will be administered by DEC as will most of the federal wastewater facility construction grants program. DEC has taken an inventory of solid wastes in Alaska and is considering taking over the federal hazardous waste program. DEC, with a program newly-strengthened by State legislation enacted in the 1980 session, will take a lead role in oil spill prevention and cleanup. DEC already has authority to administer the federal safe drinking water program in Alaska, and is proceeding on a multi-year schedule to assume the National Pollutant Discharge Elimination System, a federal program for permitting industrial wastewater discharges.

Alaska Natives

More attention to Alaska Natives was a comment received on what more DEC should be doing. While the Department makes its efforts where pollution problems are rather than where certain people are, it is true that DEC's main efforts are in larger cities. Rural areas with smaller populations often have fewer problems, but are also more expensive and difficult to reach due to the usual restraints of travel budgets and small staff. In the past, our Village Safe Water program has funded construction of water and wastewater facilities in some 20 communities in rural Alaska. Money will be available in 20 more villages for sanitation services, including for the first time solid waste services. Solid waste problems in rural areas have been difficult to solve without local revenue sources, and poor solid waste disposal practices may be a much greater health threat than questionable drinking water and sewage disposal. Two years ago a contractor for DEC reported that the Department must pay more attention to oil spills in rural areas, and this year, with new authority, more staff, and a $1 million dollar a year cleanup fund, DEC will respond to oil spills in more rural areas, such as the recent problem in Kotzebue.

Regional staff have begun to focus on inquiries and complaints received from many rural communities in water and sewage systems provided by the federal Public Health Service or in areas where none is provided. Efforts are underway to increase technical assistance for management of village facilities. With the slight increase in staff in the Department's Village Safe Water program and regional offices, greater response can be provided to the multitute of rural environmental problems.

Land Use Planning

Better zoning and land use planning was mentioned a few times as something the State should do more of. Land use planning and zoning is primarily a local responsibility, at least in incorporated communities whose governments have assumed that authority. Actual land uses are decided, however, in a highly fragmented series of processes involving local governments, State and federal agencies, private developers, financial institutions, home buyers, speculators and planners. Air quality is

often a function of where pollution sources are sited: power generating plants, industries, roads, shopping centers, etc. Development on land above or around a drinking water source can result in contamination of that water for drinking. DEC participates with all other State agencies in the Alaska Coastal Management Program, under which decisions by agencies must be reviewed for consistency with local and State coastal standards. The Department also reviews subdivisions for adequacy of water and wastewater disposal systems for residential development. Land use planning is probably at the heart of many of the problems DEC deals with.

Wetlands

DEC is increasing its involvement in wetlands protection. One response to the questionnaires indicated that DEC needs a much stronger stand on wetlands. Activities planned for the next few years in wetlands protection are: (1) identification and classification of wetlands; and (2) local planning to determine development needs consistent with State and federal laws.

Energy

Several people suggested that DEC encourage technology that conserves energy. Through its regulatory programs, the Department can significantly affect energy use at the local level. In the solid waste program, the Department is attempting to find appropriate local or regional solutions to solid waste problems emphasizing material and energy recovery. Additional funding is available to communities incorporating recycling in their solid waste disposal facilities. In building sanitary facilities in remote villages, the Department is encouraging villages to use a renewable energy resource. And the Department is supporting exemptions from federal secondary sewage treatment requirements in towns where such treatment is not necessary and creates excessive cost burdens through energy requirements.

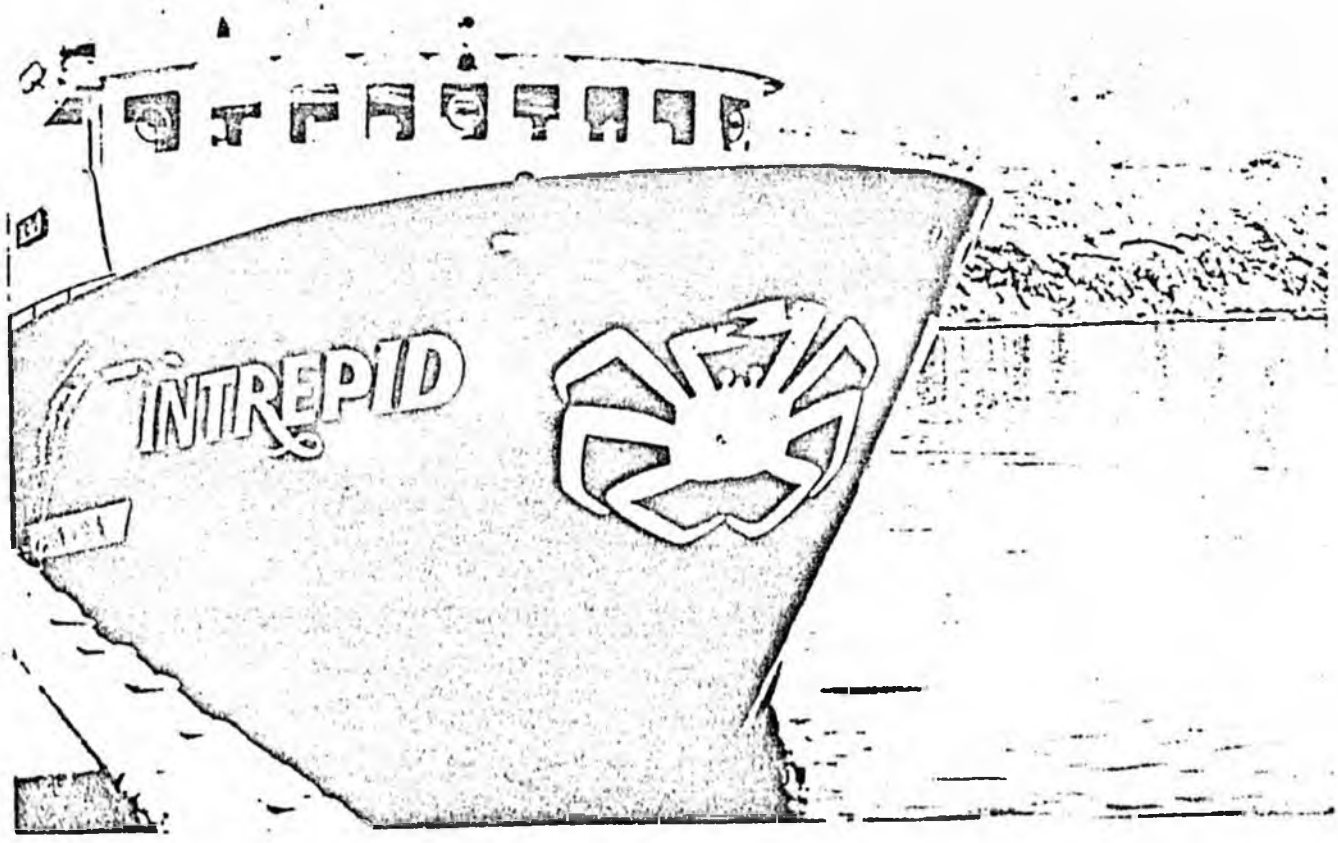
The Department is also active on a number of interagency planning task forces including those addressing OCS activities, coal, geothermal resources, the Susitna dams, and rural energy. The Department strongly advocates energy efficiency and development of renewable resources and makes use of opportunities such as project review, feasibility studies, and proposed legislation to promote energy conservation.

(4)

DUTCH HARBOR - UNALASKA WATER QUALITY SURVEY

NOVEMBER, 1980

. A WORKING PAPER



ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION
DIVISION OF ENVIRONMENTAL QUALITY OPERATIONS
ENVIRONMENTAL QUALITY MONITORING AND LABORATORY OPERATIONS

A working paper presents results of investigations which may be limited or incomplete. Therefore, conclusions expressed or implied are tentative. Mention of trade names or commercial products does not constitute endorsement or recommendation by the State of Alaska.

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PURPOSE

During the early 1970's, the seafood processors operating in Dutch Harbor - Unalaska were advised by State and Federal agencies to take steps to abate local marine water degradation. The problem was created by years of indiscriminate disposal and accumulation of processing wastes in the marine environment. In response to this mandate, the discharge outfalls were relocated from the enclosed bays to areas of increased water circulation. Also, the outfall pipes were shortened to mixing zones more strongly influenced by wind and tides. By 1978, improvements in water quality were found, at least seasonally. By the spring of 1980, changes in the mode of waste disposal were completed.

The purpose of this survey was to determine the quality of water in the enclosed bays from which waste disposal outfalls were removed and to assess water quality in those areas now subject to waste disposal. However, due to poor weather and time limitations, it was not possible to determine water quality in current zones of waste disposal. This portion will be deferred until the next study in this area.

During the planning stages of this study an outbreak of gastro-intestinal illness in Dutch Harbor - Unalaska prompted ADEC to conduct a comprehensive investigation of drinking water and marine water for evidence of mammal induced bacterial and protozoan contamination. This marine water quality survey was intended to compliment the drinking water survey as much as possible.

Finally, this study is part of this Department's on going monitoring program to ensure the quality of waters throughout Alaska.

INTRODUCTION

The islands of Amaknak and Unalaska are located in the central Aleutian Islands about 880 miles southwest of Anchorage (Figure 1). The waters of Iliuliuk Bay, Iliukiuk Harbor, Dutch Harbor and Captains Bay on the Bering Sea side of Unalaska Island, are interconnected and provide the only deep water port in the central Aleutians (Figure 2). These waters exchange with the southern portion of Unalaska Bay.

Dutch Harbor, on Amaknak Island, was an important Naval base during World War II. The town of Unalaska, on Unalaska Island, is now encompassed by the abandoned military ruins of Fort Mears. At present, the economies of both communities are dependent upon the crab processing industry, an activity that requires unpolluted marine water for processing and propogation of shellfish species.

Of interest oceanographically in the study area is the existence of sills at the northern ends of Captains Bay and Iliuliuk Bay. A sill is the terminal moraine of a glacier that is left behind when a glacier recedes Sills produce shallow areas in fjords which tend to restrict deep water exchange with neighboring water. This condition increases the residence time of water in the fjord and often makes the system more subject to pollution.

The waters of the study area are clearly marine rather than estuarine. Salinities found in the stations sampled ranged from 31 0/00 (parts per thousand) to 33 0/00. Only a small quantity of freshwater run-off

occurs in the area. This situation is actually advantageous for the purpose of maintaining a homogenous water column.

Large amounts of freshwater run-off can create density stratification. Fresh water will flow onto the surface of marine waters with little mixing for some distance. The large difference in specific gravity between fresh and saline water causes the stratification. In these situations, the body of water can act as two separate water masses with little or no exchange between them. When this happens, the presence of organic matter in either the fresh or salt water portion may deplete the dissolved oxygen of that portion regardless of the oxygen content of the other.

Thus, a strongly stratified body of water has a greater tendency of exhibiting low dissolved oxygen levels than one weakly stratified or well mixed. However, in the case of Dutch Harbor - Unalaska, the water is only weakly stratified.

The Dutch Harbor area has a cold maritime climate with temperature ranging from 40°F to 60°F in summer to 27°F to 37°F in winter.[1] Annual precipitation is 58 inches including 81 inches of snow. Most of the precipitation falls between September and March. The least precipitation occurs in July, 1.9 inches, and the most, 7.9 inches, in October. Frequent winds blow from the southeast at an average speed of 9.6 knots, and extreme winds can blow from the east at 70 knots. Inclement weather is common and characterized by low cloud cover. High winds and low clouds often interfere with airline transportation.

In 1980, the extreme low tide for the area was minus 1.1 foot in June and July and the high tide was in December at 4.7 feet.[2]

NATURE OF THE LOCAL SEAFOOD INDUSTRY

The first crab processing plant began operating in the early 1960's. Prior to this, there had been a salmon and herring processing industry. After a sharp downturn in 1970, the crab industry has shown a resurgence and processors are diversifying into salmon and bottomfish. Currently, there are nine major seafood processors in the Dutch Harbor - Unalaska area (Figure 2).

In 1979, 136.8 million pounds of commercial fish worth 92.7 million dollars were landed at Dutch Harbor - Unalaska.[3] This was the highest dollar value for any U.S. port in 1979. Presently, two species of king crab, two species of tanner crab and shrimp are processed. Crab and salmon seasons occur such that a processor utilizing finfish and shellfish may operate year-round.

The quantity of waste resulting from processing crab is variable ranging from zero if the product is frozen whole, to 80 - 85 percent of live weight if shelled. Waste from shrimp ranges from 80 to 85 percent of live weight when shelled. The current practice to treat waste is to grind prior to discharge. Minimum annual seafood solid waste production is reported to be between 13 and 14 million pounds.[4] If allowed to

accumulate on the seafloor, this vast amount of waste has the potential to reduce benthic habitat and alter established biotic community structures ie., animal and plant species diversity and abundance.

PREVIOUS STUDIES

In June of 1968, personnel from the University of Alaska, Institute of Water Resources, conducted a brief water quality survey in the Dutch Harbor-Unalaska area.[5] The objective of this study was to determine the fate of processing wastes on water chemistry by the measurement of nutrient concentrations and dissolved oxygen. The study found both increased nutrient levels and low dissolved oxygen and concluded that this resulted from bacterial degradation of accumulated seafood wastes.

In October of 1975 and October of 1976, the Alaska Department of Environmental Conservation in conjunction with the U.S. Environmental Protection Agency conducted water quality surveys.[6] The objectives of these studies were to determine 1) water circulation, 2) effects of shellfish waste on water quality, 3) extent of seafood waste sludge deposits 4) check compliance of processors with NPDES permit requirements. The objectives were fulfilled: degradation of water quality was still apparent.

In the early fall of 1977, the University of Alaska, Institute of Marine Science carried out a water quality survey for the Association of Pacific Fisheries.[7] The objectives of this study were to assess water quality and determine suitability of a location between Hog and Amaknak Island for an outfall by measuring current speed and direction.

This study found oxygen and nutrient levels in Unalaska Bay to be typical of Bering Sea waters in the fall with no elevated nutrient concentrations or dissolved oxygen levels. Bottom waters in Dutch Harbor and Iliuliuk Harbor were found to be anoxic, that is, without oxygen. The report also concluded that the northern portion of Hog Island - Amaknak Island channel would be a suitable location for an outfall as would be the northeast side of Amaknak Island.

A Brown and Caldwell study in March 1978, further investigated areas suitable for outfalls, evaluated various diffuser systems and investigated the nature of crab waste.[8]

The investigation concluded that the northeast side of Amaknak Island would be a suitable location for an outfall, recommended fine grinding and a multi-port diffuser system and suggested an experimental shallow water outfall. All sampling stations had at least 9.9 mg/l of dissolved oxygen to the ocean bottom in contrast to anoxic conditions found the previous fall. This suggested that water mixing caused by winter storms may relieve anoxic conditions seasonally.

The Environmental Protection Agency in October 1979, hired Industrial Underwater Services, Inc., to conduct an outfall survey.[9] The objective of this study was to photographically document the outfall piles, measure their extent and depth and accurately fix their location. Some violations of EPA's criteria of a maximum of 3 inches depth of wastes 30 meters from the outfall were noted.

The consulting firm of Brown and Caldwell (March 1980), was contracted by the Pacific Seafood Processors Association to (1) determine the extent of present outfalls, (2) inspect shoreline for appropriate discharge sites with better mixing characteristics and (3) to compare and contrast the dispersal characteristics of a shallow water waste discharge with a deep water waste discharge (minus 42 feet MLLW or greater).[10] It was determined that the shallow (less than minus 42 feet MLLW) outfalls were somewhat better for the purposes of dispersal than deep water outfalls. This is possible because the near shore zone is an area of high energy and mixing.

In June of 1980, the National Marine Fisheries Service conducted a survey of waste outfalls and evaluated habitat destruction, biota recolonization and benthic population density and diversity. They concluded that the vast amount of waste being discharged did indeed cause severe local habitat destruction, altered community populatior structures and hindered recolonization in these areas.

To summarize the findings of the previous studies, poor water quality documented by the University of Alaska in 1968, was followed by movement of the discharge outfalls to areas of better mixing and increased water circulation and mixing. Poor water quality in the area of the former outfall locations was apparent until the Spring of 1978. At this time it is not clear if acceptable water quality is now the norm or a seasonal effect of mixing brought on by winter storms. Outfall waste piles were photographically documented and measured in depth and breadth. Benthic habitat destruction was documented by the 1980 NMFS study.

METHODS AND MATERIALS

Six sampling stations were selected for water quality measurement. Locations are as shown on Figure 2. Samples were taken at depths of 0,1,5, and 10 meters. Water samples at depth were taken by means of a messenger tripped Van Dorn type water sampler. Temperature, salinity and dissolved oxygen were measured by instrument. This was accomplished by means of a cable and probe lowered from the sampling vessel to the appropriate depth. The sampling vessel was a 21 foot fiberglass hull runabout with cabin and twin 70 HP outboard engines contracted from Dutch Harbor Transit, Inc.

Color, turbidity and total nonfilterable residue analysis were performed on samples sent to the Douglas Laboratory Facility of ADEC. Residual free chlorine analysis was done immediately on board ship with a LaMotte-Palin DPD chlorine test kit. Analysis for pH was also done immediately aboard ship with a pH meter. Fecal coliform and surface BOD samples were sent to Chemical and Geological Laboratories of Alaska at Anchorage for analysis. Prepared bottles and appropriate shipping containers were taken. Instruments and techniques are described on Table 1.

RESULTS AND DISCUSSION

The Dutch Harbor - Unalaska Island waters exhibited typical wintertime conditions of low temperature, 4°C to 5°C, high salinity 31.0 0/00 to 33.5 0/0, and high dissolved oxygen content, 8.6 mg/l to 13.4 mg/l. Oxygen saturation at 4°C and 31 0/00 salinity is 10.7 mg/l.

Much of the water examined was found to be supersaturated with respect to oxygen. (See Table 2). The less protected waters of stations CB-2, IB-1 and IB-2 contain more dissolved oxygen than the more protected stations of DH-1, DH-2 and IH-1. This is probably due to the differences in wind stress with the less protected stations receiving the most wind mixing, greater aeration and hence, higher dissolved oxygen.

The waters examined were very clear with a color content of 5 PCU (Platinum Cobalt Units). Total nonfilterable residue was low (53 mg/l or less). Turbidity was also low with no samples greater than 0.8 NTU (Nephelometric Turbidity Units).

Results of the BOD analysis of surface waters show the water to contain only small amounts of oxidizable organic matter. It should be reiterated that these samples were taken from the former outfall areas and not near any active discharge outfall. Three stations gave positive results for fecal coliform but levels found were well under the limits set by the Alaska Water Quality Standards."

The small variability in the parameters within a station is indicative of winter conditions ie., lack of freshwater run-off, cold temperatures and frequent winds lessening stratification and causing the water column to be homogenous.

The pH values are lower than open ocean "average" values of 7.8-8.3. The reason for this is unclear. Their similarity from station to station, including those distant from processors, may indicate larger scale processes at work ie., a property of the southern Bering Sea water mass in winter rather than influence from seafood waste discharges.

CONCLUSIONS

At the time of this report the water quality of the study area appears acceptable. The suggestion of good water quality first prompted by the high dissolved oxygen values of the Brown and Caldwell study of March 1978, is again seen in the high oxygen values found in this study. This report could not, however, determine if the acceptable water quality is a seasonal or permanent marine feature. Nor could we determine if the acceptable conditions went to the bottom as our sampling terminated at 10 meters depth. The water quality of the former discharge areas continues to improve. The water quality in the area of the present discharges on the west side of Amaknak Island remains unaddressed.

Table III shows fecal coliform contamination from water in close proximity to the seafood processors. This implies that water near the processors is contaiminated with human waste to a greater extent than more distant waters. However, levels of fecal coliform bacteria are well below the maximum contaminant level as defined in Alaska Water Quality Standards.

No parameters could be found in violation of the AWQS. There remains, however, a problem of habitat destruction and degradation found by other investigators not apparent from water quality measurements.

RECOMMENDATIONS

Comprehensive seasonal water quality surveys that sample to the bottom are needed to determine spatial and temporal extent of incompletely documented acceptable water quality in the former discharge areas.

Water quality of the present discharge areas needs to be investigated with the intent of determining spatial and temporal variabilities more completely.

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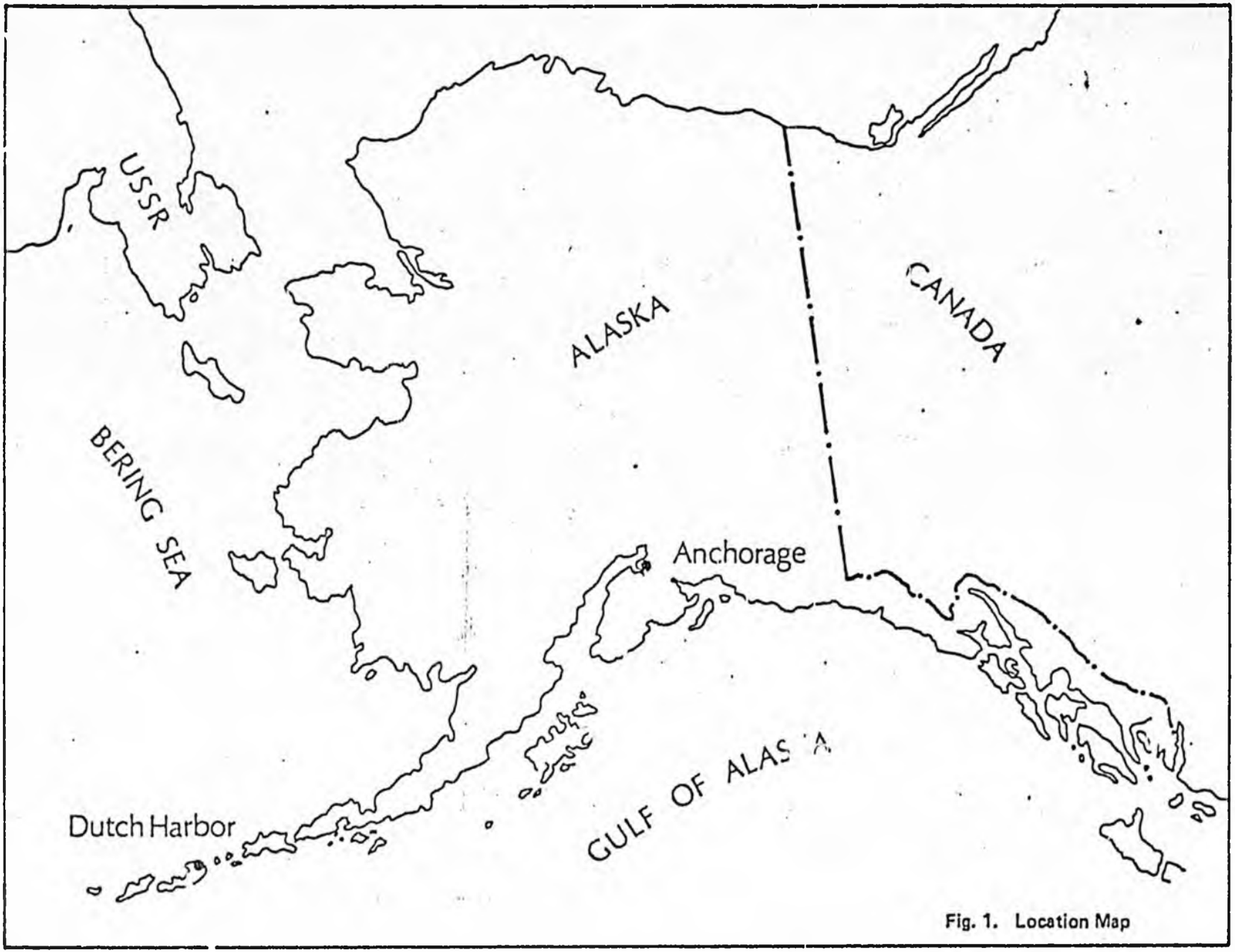


Fig. 1. Location Map

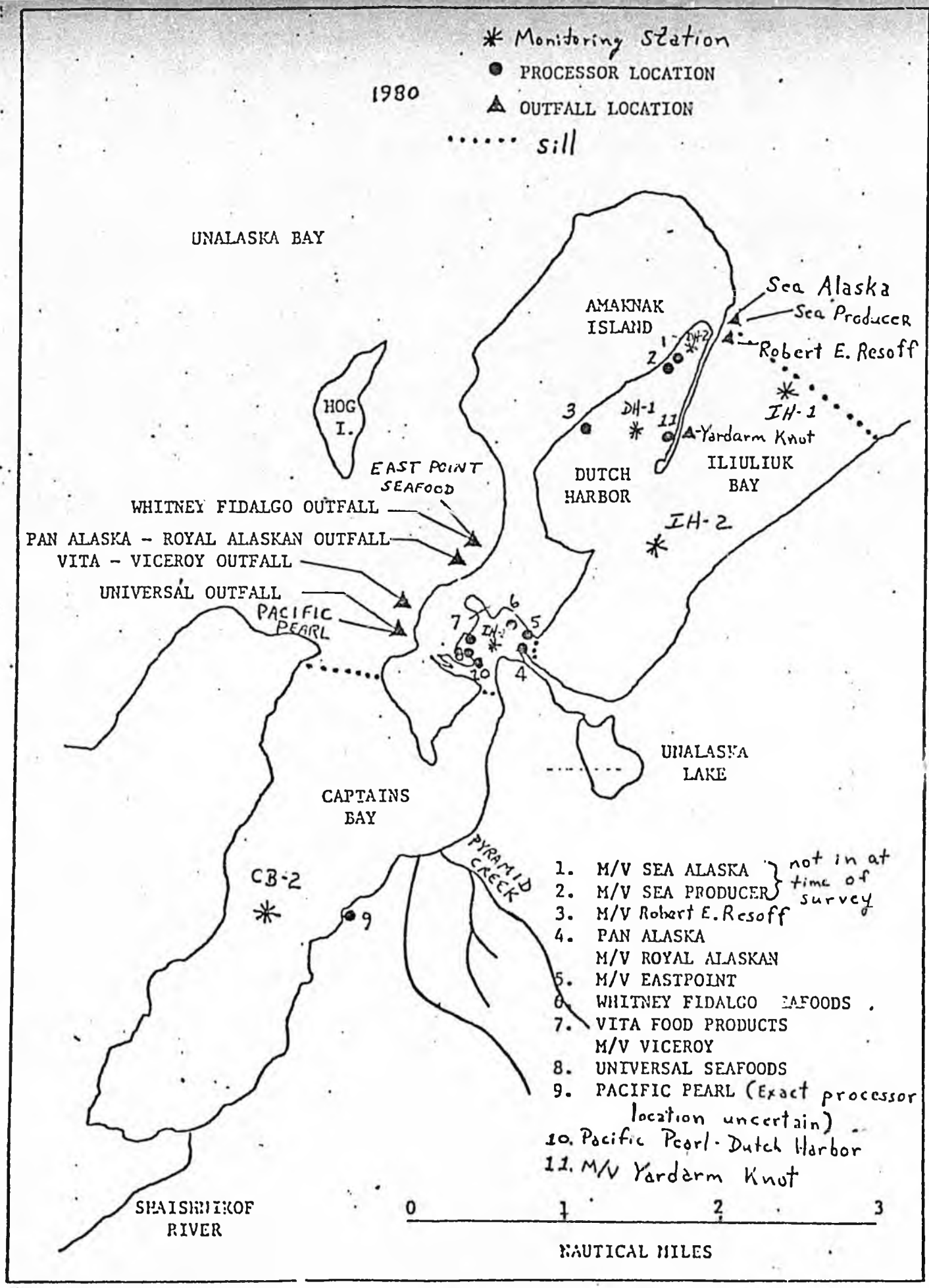


FIGURE 2

Location of Processors, Outfalls, and Monitoring Stations

TABLE I

Instruments and Techniques used in Dutch Harbor - Unalaska Monitoring Survey.

Parameter	Instrument or Technique	Where Measured
Salinity	YSI Model 33 S-C-T Meter	in Situ
Dissolved Oxygen	YSI Model 57 Oxygen Meter	in Situ
Temperature	YSI Model 33 S-C-T Meter	in Situ
TNFR	per Standard Methods 14th. ed.	by grab, Douglas Lab
Turbidity	Hach Model 2100A Turbidimeter	by grab, Douglas Lab
Color	Visual Comparison Method per Standard Methods 14th. ed.	by grab, Douglas Lab
Fecal Coliform	per Standard Methods 14th. ed., membrane filtration	by grab, Chemical and Geological Laboratories of Alaska
BOD_5	per Standard Methods 14th. ed.	by grab, Chemical and Geological Laboratories of Alaska
pH	Orion Research Ionalyzer Model 407A	by grab, aboard ship
Residual Free Chlorine	LaMotte - Palin DPD Chlorine Test Kit Model LP-18	by grab, aboard ship

TABLE II

DUTCH HARBOR - UNALASKA WATER QUALITY RESULTS

NOVEMBER 21, 22, 24, 1980

Sta.	Depth Meters	Temperature °C	Salinity 0/00	Dissolved oxygen mg/l	Free Chlorine mg/l	pH	Color PCU	Turbidity NTU	Fecal Coliform per 100ml	B.O.D.+ mg/l	Total Nonfilterable Residue mg/l
CB-2	0	4.0	31.0	13.2	0	6.2	<5	0.75	0	2	41
	1	4.0	31.0	13.4		6.3		0.50	0		14
	5	5.0	32.0	13.0		6.5		0.65	0		14
	10	5.0	32.5	12.1		6.9		0.45	0		11
IB-1	0	4.0	32.5	13.1		6.1		0.55	0	Broken	16
	1	4.5	32.0	13.8		6.5		0.50	0		18
	5	4.5	32.0	12.8		6.5		0.60	0		8
	10	4.5	32.0	12.7		6.7		0.60	0		10
IB-2	0	4.0	32.0	13.3		6.1		0.60	0	2	Lost
	1	4.0	32.0	13.3		6.2		0.65	0		37
	5	4.5	32.0	13.1		6.4		0.70	0		41
	10	4.5	32.0	12.8		6.8		0.50	0		20
DH-1	0	4.0	33.5	9.9		* -		0.65	0	4	45
	1	4.0	33.5	9.8		-		0.70	0		9
	5	4.0	33.5	9.7		-		0.50	0		12
	10	4.5	33.5	9.5		-		0.53	3		10
DH-2	0	3.5	33.0	9.3		-		0.65	6	2	41
	1	3.5	33.0	9.2		-		0.50	3		62
	5	4.0	33.5	9.2		-		0.70	0		8
	10	4.0	33.5	9.2		-		0.55	0		25
IH-1	0	4.5	31.5	9.6		6.0		0.40	13	2	34
	1	4.5	32.0	9.4		6.2		0.80	13		16
	5	5.0	32.0	9.0		6.4		0.55	13		46
	10	5.0	32.0	8.6	0	6.6	<5	0.65	4		44

*pH meter batteries discharged
Note: Oxygen saturation at 4 C and 31 0/00 Salinity = 10.7 mg/l
+ only surface samples taken

TABLE III
SEAFOOD PROCESSOR SURVEY
NOVEMBER, 1980

Untreated Salt Water Facility	Date	Result	Test
Barge Vita	11-18	40	Total
		40	Total
		8	Fecal
		12	Fecal
Barge Unisea	11-18	128	Total
		152	Total
		44	Fecal
		24	Fecal
	11-19	43	Total
	11-20	TNTC	Total
P/V Viceroy	11-18	10	Fecal
	11-21	0	Total
Pacific Pearl Dutch Harbor Fac.	11-18	5	Fecal
	11-18	62	Total
Pacific Pearl Captain's Bay Fac.	None		
Pan-Alaska Shore Facility	11-19	12	Total
	11-19	7	Fecal
Vessel Magellan	11-19	2	Fecal
Vessel Yard Arm Knot	11-19	6	Total
	11-19	3	Fecal
Barge Whitney	11-19	2	Total
	11-19	0	Fecal
Vessel Robert E. Resoff	11-19	2	Total
	11-19	2	Fecal

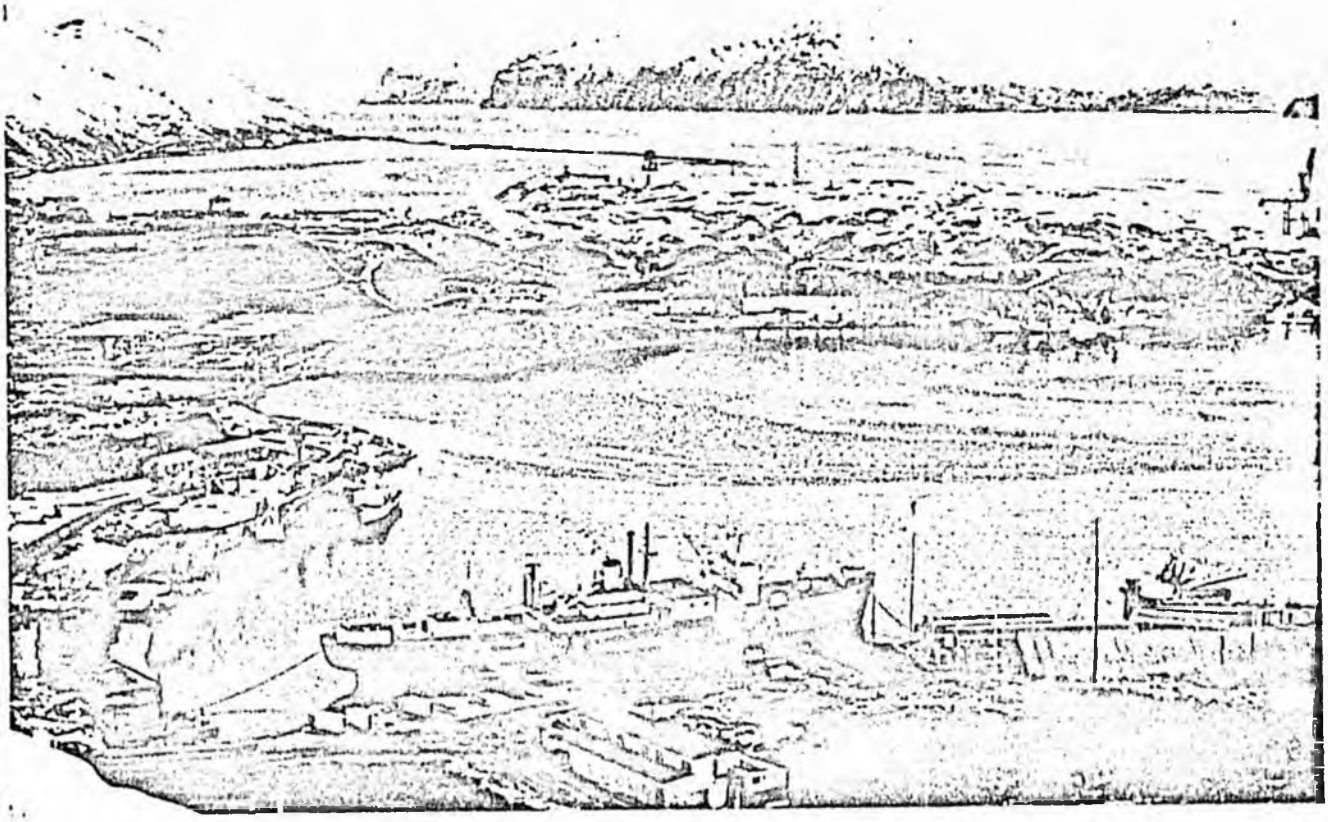
TABLE III CONTINUATION

East Point Shore Facility	11-19	0	Fecal
	11-19	10	Total
P/V East Point	11-19	15	Total
	11-19	5	Fecal

These samples were collected from each processor's salt water intake pipe. The salt water was used in the processing of crab. The Alaska Water Quality Standards specify that the average fecal coliform levels shall not exceed 20 FC per 100 ml taken from a minimum of 5 samples in a period of 30 days. No more than 10 percent of the samples should exceed 40 FC per 100 ml.

APPENDIX A

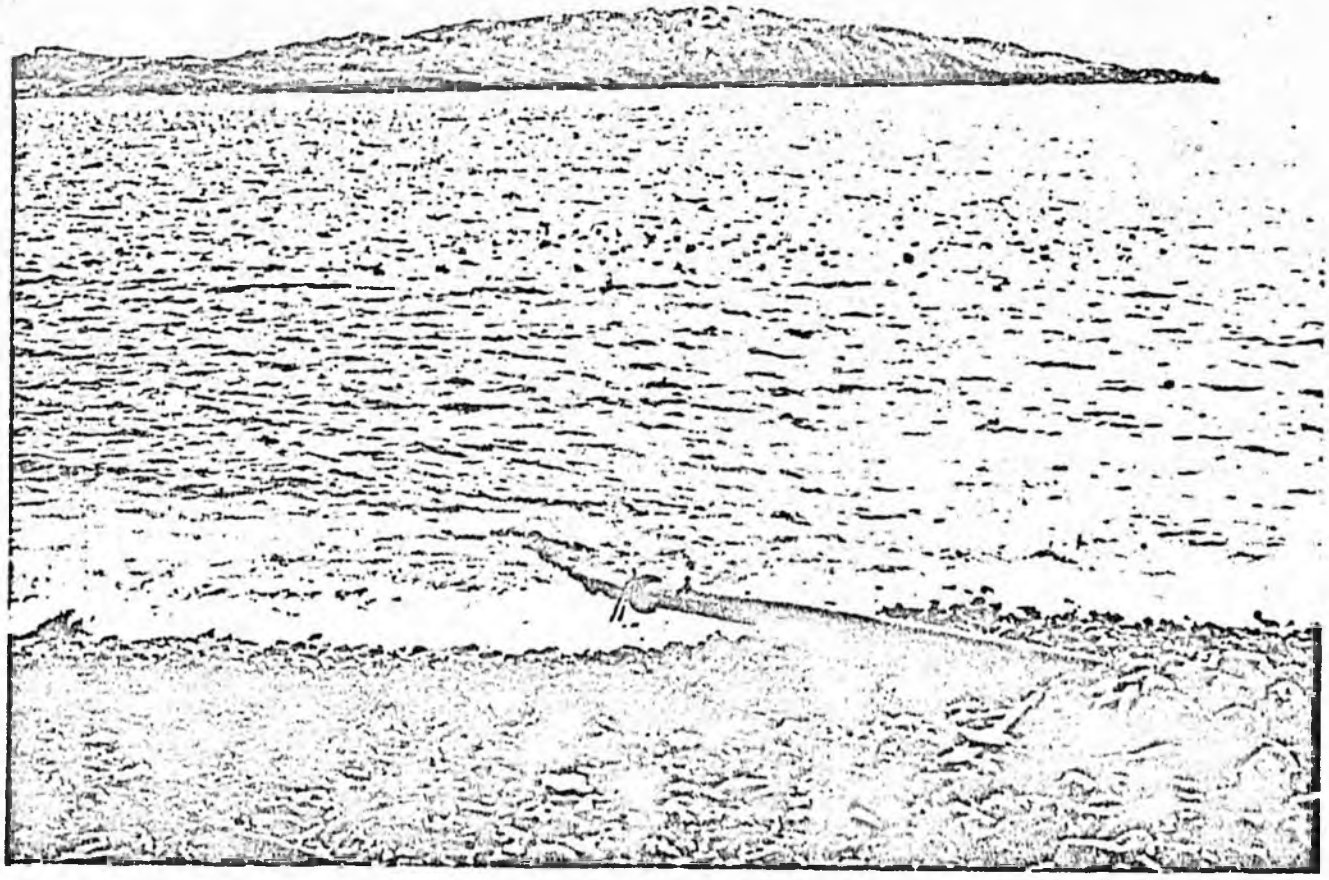
Photographs from ADEC's
Monitoring Library



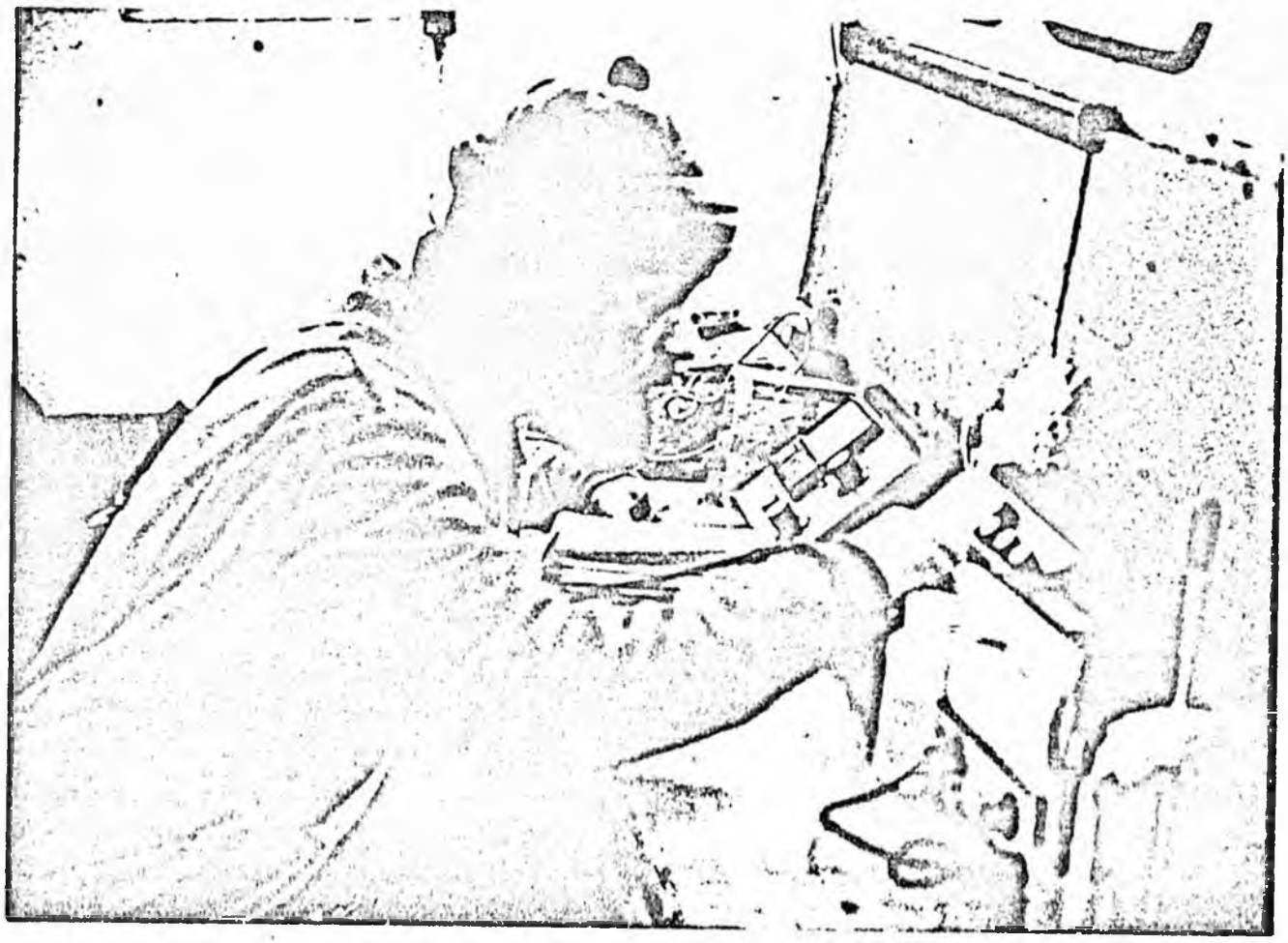
Iliuliuk Harbor. View north toward Dutch Harbor.

Processor Unisea in center foreground.

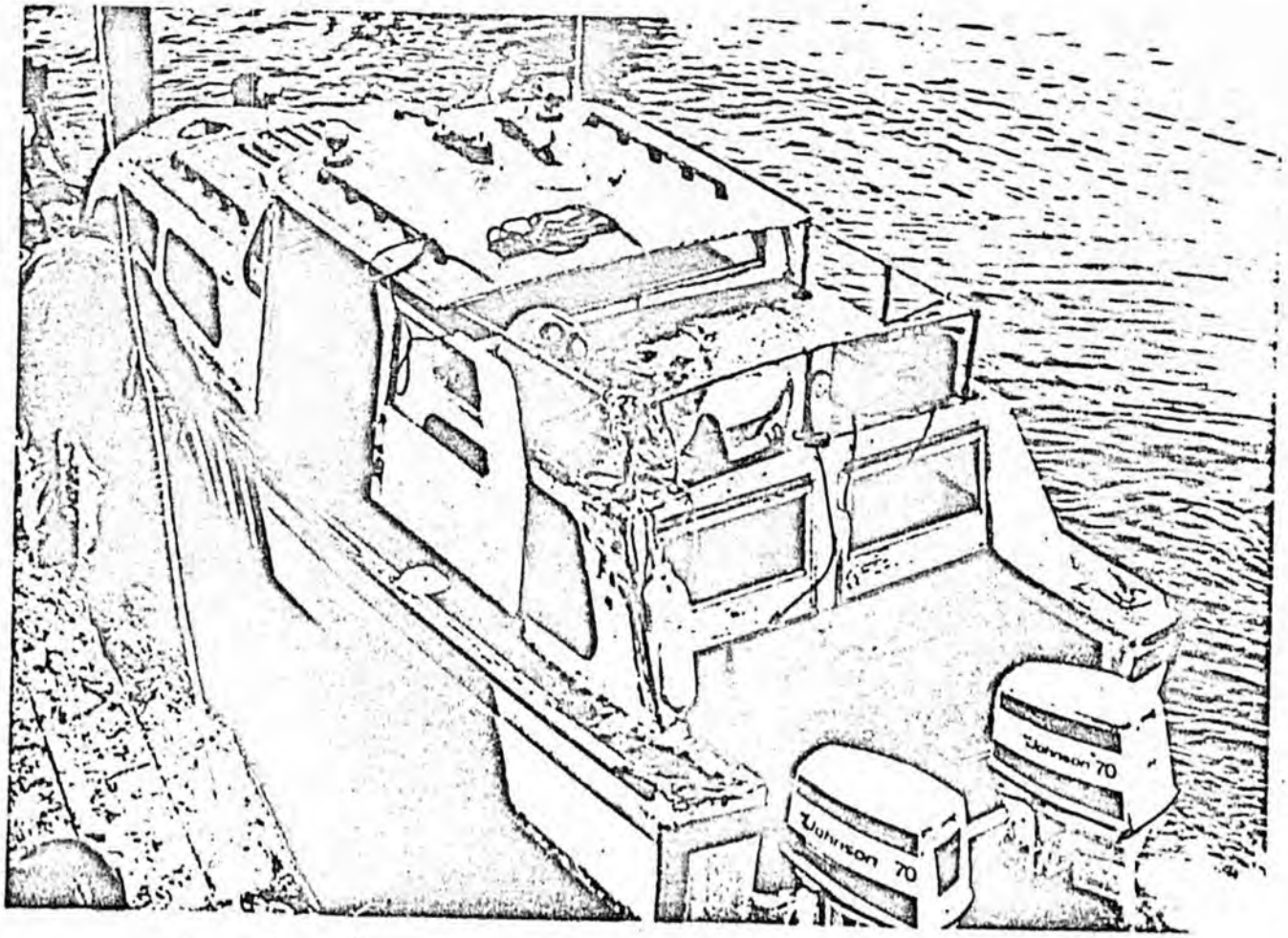
Dutch Harbor spit visible at upper center.



Unidentified processor discharge pipe on West side of Amaknak Island. Note gulls feeding on processor waste.



Alaska Department of Environmental Conservation personnel monitoring instruments aboard sampling vessel.



Sampling vessel contracted from Dutch Harbor Transit Inc.

MEMORANDUM State of Alaska

TO: Resa King
Senate Resources Committee
Alaska State Legislature

DATE: March 2, 1981

FILE NO:

TELEPHONE NO: 465-2600

FROM: C. Deming Cowles
Deputy Commissioner
Department of Environmental Conservation

SUBJECT: Senate Resources Committee Briefing

Enclosed is our proposed format for the agency briefing on March 4 at 1:30 p.m. I'd appreciate your thoughts--adjustments can be made to expand or contract presentations. Give me a call at 2600.

Thanks.

Cushions during or after presentation

48 min

SENATE RESOURCES COMMITTEE BRIEFING

March 4, 1987

Department of Environmental Conservation

Commissioner's Office (5 minutes)	- How we're organized - what we do generally. Our general philosophy: preventive action, assumption of programs and decentralization of services to the public.
Glenn Akins, Director, Environmental Quality Management (3 minutes)	- what the management division is, - defining problems and tailoring programs to meet those problems, - making federal programs work in Alaska, - delegation to local governments.
Gary Hayden, Chief, Water Quality Management and Environmental Health (3 minutes)	- Drinking Water Program: - assumption of federal program, - municipalities in general compliance, - emphasis now on small and rural, villages, - attempts to simplify program.
Gary Hayden (5 minutes)	- Water Pollution Control: - water quality standards - to fit Alaska's special conditions, - wastewater regulations revisions - extensive meetings with public and public comments, - list of 208 projects high-lighting placer mining, village sanitation, on-lot and sludge disposal.
Joe Cladouhos, Chief Sanitarian (3 minutes)	- Environmental Health: - what, generally.
Tom Hanna, Chief, Air and Solid Waste Management (5 minutes)	- Hazardous Waste: - problems in State, - developing a good State program, - why and how State program may encompass federal program, - State bill.
	- Air Pollution: - assumption of federal program, - what problem areas (Fairbanks, Anchorage), - what are we doing about them?
	- Litter: - problem most often recognized by Alaskans, - what are we doing about it?

Andy Spear (3 minutes)	-	Oil Pollution: - State program to supplement, not duplicate, federal efforts, - emphasis on local planning and response (Yakutat), - assumption of federal duties, - industry planning.
Deena Henkins, Director, Environmental Quality (10 minutes)	-	- Regional Offices - what they do--why it's good to decentralize--what efforts at more regionalized decision making.
Keith Kelton, Chief, Facilities Construction and Operation (5 minutes)	-	Construction Grants: - federal program, - State "municipal," - State "rural," - how we review for energy efficient operation and precautions to requiring substantial State outlays of operating, maintenance, and replacement.
Dr. Honsinger, State Veterinarian and head of the Office of Seafood and Animal Health (5 minutes)		Seafood Program: - what we do, why, - importance of strong inspection effort for marketability of fish in multi-billion dollar industry, - how attachment to DEC has improved the program (more people, more emphasis, coordination of other inspections, less bureaucratic hassle for industry), - what emphasis in future.
Deming Cowles, Deputy Commissioner (1 minute)	-	- permit and regulatory reform efforts, - legislative response.

WEDNESDAY MARCH 4TH

1:30 P.M. SJR 21 RELATING TO FEDERAL PREEMPTION OF OF STATE OIL POLLUTION LEGISLATION.

BRIEFING

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

DEMMING COWLES, DEPUTY COMMISSIONER --

WILL INTRODUCE OTHERS -- THEY WILL SIT ON FIRST ROW.

TAKE QUESTIONS FROM THE COMMITTEE AS THEY ARISE.

BLENN AKINS, DIRECTOR, ENVIRONMENTAL QUALITY

GARY HAYDEN, CHIEF, WATER QUALITY MANAGEMENT AND ENVIRONMENTAL HEALTH

JOE CLADOUHOS, CHIEF SANITARIAN

TOM HANNA, CHIEF, AIR AND SOILD WASTE MANAGEMENT

DEENA HENKINS, DIRECTOR, ENVIRONMENTAL QUALITY

DR. HONSINGER, STATE VETERINARIAN AND HEAD OF THE OFFICE OF SEAFOOD AND ANIMAL HEALTH

(2)

DEPARTMENT OF ENVIRONMENTAL CONSERVATION

I S S U E P A P E R S

Department of Environmental Conservation
Issue Papers

TABLE OF CONTENTS

OIL POLLUTION CONTROL

A new law relating to the prevention and control of oil pollution (AS 46.04.010 - .120) has increased the Department's responsibilities for the prevention of damages from oil spills. This law sets out procedures for prompt cleanup of oil spills, using money from a $1 million spill expense reserve, in cooperation with federal agencies. The measure also calls for the state to seek prompt reimbursement for cleanup costs from either the Federal government or through direct action in State Court against the spiller.

The law provides the greatest protection and coverage for areas not now covered under federal law, such as offshore rigs in state waters. Although very similar to the past laws the Department now has a funding mechanism for spill cleanup previously lost by Court action, Alaskans are provided direct access for reimbursement of damages from spills and those who handle large amounts of oil must be financially responsible enough to pay such claims. In addition, it is required that oil spill contigency plans specific to the Alaska environment be prepared.

With this new emphasis on oil pollution, the principal functions of the program involve developing and establishing regulations to implement the new law and hiring personnel to conduct the necessary field investigations, inspections and spill response. In addition, the Department laboratory services will be significantly enhanced to provide oil identification, emergency monitoring and spill analysis.

The need for this program is continually illustrated by spills occurring year-round. For instance, in the last year there were two major oil spills in Alaska and one that was barely averted. The Ryuyo Maru spill at St. Paul demonstrated the highly toxic nature of diesel fuels commonly used in Alaska: the beach at English Bay Lagoon was littered with dead animals poisoned by the oil; birds that ate the infected animals also died. The Lee Wang Zin spill near Ketchikan showed how wide-spread the effects of the spills can be: over 100,000 gallons were spilled affecting more than 250 miles of coastline. The near grounding of the Prince William Sound, carrying 35 million gallons of crude oil points out the need for safeguards to prevent future catastrophies. Hopefully large spills will be few, but each year there are hundreds of small spills which affect public health, productivity of plants and animals and that create nuisances. These spills, particularly in undeveloped areas, can be devastating to fish and wildlife by direct contact and by ingestion through the food chains. A major spill in highly productive fishing areas could have a drastic economic affect on a large portion of Alaska's fishing industry.

The over-all policy of oil pollution control is the protection of public health and the environment through effective spill response, technical assistance, education and implementation of applicable State statutes and regulations.

Authority: AS 46.03.740-.770
AS 46.03.822
AS 46.04.010-.120

Department contact: Andy Spear, 465-2686

ENVIRONMENTAL QUALITY MONITORING & LABORATORY

Environmental monitoring is the process of observing and measuring existing conditions within a given geographic area. The information gained is needed to determine how to retain existing resource values prior to the start of any potentially impacting activity. Monitoring is also needed to check the effectiveness of programs that are designed to avoid or stop pollution from activities already underway.

Monitoring data can be applied in a variety of ways. For example, levels of carbon monoxide have been measured in Anchorage and Fairbanks for many years. By studying the long-term trends of carbon monoxide levels, it is possible to determine whether local programs such as traffic rerouting or vehicle inspection and maintenance help to lower carbon monoxide levels. Monitoring is also used to determine if levels found are in compliance with national or state standards. Finally, if carbon monoxide levels are found to be so high that human health is endangered, the public can be alerted to avoid contaminated areas.

It is important to know what, when, and how much of certain contaminants are being released into our air, soil or waterways. In Alaska, most of our vital renewable resources and communities are closely linked to our water and depend upon the high quality of the water. Some municipal and industrial contaminants can render our water unfit to support life and unsafe to use and enjoy. Therefore, the state has given us the responsibility to monitor water courses to assure that only safe, allowable amounts of pollutants are released to them. This is compliance monitoring, a function which may serve as the basis for action taken by field officers to stop pollution. In many instances, industry and developers work cooperatively with our monitoring efforts to provide the best data possible to protect the resources we all share.

Only some data such as temperature, dissolved oxygen and pH (a measure of acidity) can be measured directly in the field. Most environmental contaminants of concern to the public cannot be detected by field instruments or by human senses and must be measured under laboratory conditions.

Measurements of arsenic, lead, mercury, cyanide, DDT, PCB's, bacterial and radioactive contaminants in water, air, soil, and living organisms require skilled scientists and sophisticated equipment. This department operates a lab facility in Douglas that has the capability of detecting and measuring these and many other potentially harmful substances. In addition, the lab is looking at the feasibility of a bio-assay program whereby living organisms, mostly fish, will serve as indicators for the presence of suspected contaminants. Such measurements can provide a fast means of detecting a problem within a given system.

In order to extend and regionalize its capabilities, the lab/monitoring section of DEC is conducting a program of approving private laboratories to perform analyses of public water supply samples. Thus far, 17 laboratories have received approval to conduct microbiological, inorganic chemical, organic chemical and radiochemical analyses. This program will ensure comparability of analysis, and will provide water samplers with a choice of laboratories that can produce acceptable data.

When the laboratory/monitoring personnel are in the field, they relate to area residents for first-hand observations and input. Such contact is important to the monitoring process as it frequently results in increased public support, awareness and involvement. Of equal importance is the need to work closely with personnel in the department's regional offices who maintain a close working knowledge of environmental situations and concerns of residents within their areas.

The lab/monitoring staff also works closely with program managers when interpreting and applying the varied types of information. Cooperation within the department assures that useful information is obtained, that samples are being collected and analyzed according to strict procedures, and that the data will be correctly interpreted.

Authority: AS 46.03.020(5)

Department contact: Tom Tribble, 364-2165

UNIFIED OR "HOLISTIC" APPROACH TO ENVIRONMENTAL MANAGEMENT AND REGULATION

Development projects and activities frequently affect the environment in several different ways. Regulations usually address a single environmental problem (such as solid waste). Addressing a single aspect of a project may result in the creation or enhancement of adverse environmental effects in another area. Requiring certain types of air or water pollution control machinery, for example, may result in the creation of solid waste (in certain industries in Alaska, to the level of several tons per day.) In applying regulatory controls, a project must be addressed as a whole, rather than by each of its parts, in order to provide the most environmentally-acceptable and cost-effective approach.

In Alaska, disposal of wood wastes generated by lumber mills has been an important concern. In the past, mills generally used "tepee burners" (industrial-scale, enclosed outdoor fireplaces with a conical shape) to burn these wastes. Air quality regulations required ending this practice due to poor combustion and resultant smoke emissions. As an alternative, some mills are now landfilling wood wastes. When decomposition takes place, however, toxic materials tend to be leached out into surrounding land and water, and may create serious health (drinking water) and environmental problems. The best solution environmentally is probably the use of wood wastes as a fuel in a manner efficient enough not to cause air pollution. Some mills are already burning wood wastes to fire a boiler for production of electricity and others are considering this process.

A second example concerns the treatment of wastewater discharged from pulp mills. The mills were required by the Environmental Protection Agency to construct treatment plants to reduce pollutant content of the wastewaters, including solids and biochemical oxygen demand.

Treatment of wastewater to remove solids creates the problem of disposal of wet sludge. Burning may create an air quality problem and placing sludge in a landfill may create both solid waste and water pollution problems. Burning also requires energy, in the form of expensive liquid fuel, to dry the sludge.

Reducing the amount of organic material (biochemical oxygen demand) in the wastewater creates still more sludge, which also increases air quality or solid waste problems.

To achieve an overall solution requires a complete analysis of a project, the environment of the area where it is located, and the concerns and interests of nearby communities.

The Department assigns a single staff member to deal with a project or a facility (such as a pulp mill). This person becomes familiar with the plant process, problems and economics, and provides technical assistance on meeting all applicable state and federal environmental standards. This lead staff person coordinates regulatory decisions by DEC programs (air, solid waste, water quality) and regional staff. Industry has expressed agreement with this approach to environmental management.