ALASKA LEGISLATURE COMMITTEE FILES 1991-1992 8672
7136 HOUSE RESOURCES

Buy... Use your nose Refrigerate quickly Wash hands, surfaces, utensils Cook thoroughly)
Finally, you might want to speak up about it.

Groth: We think the responsible government agencies at the local level, at the state level, and at the federal level ought to hear from consumers that fish quality isn't what it should be. (Visual of diners at a restaurant)

Lieberman: I think that if people are going to eat more fish, and we all think that people should eat more fish, then they deserve to eat good food and I think as people become better able to choose quality and reject those products that are not very good quality, maybe the retailers will pay more attention.

Lunden: And Paula Lyons joins us now. What is the reaction from the fishing industry and retailers about this report?

Lyons: Well, obviously they're not happy. The marine fish- the National Fisheries Institute which represents processors for the most part had some real problems with the methodologies that Consumer Reports used, have real problems with the way they represented chemical contaminants, which is another part of their story, but they and the Food Marketing Institute, which represents retailers, admit that these problems of deterioration from poor care do exist, and they are now working on a pilot program in cooperation with the FDA and retailers, to try and improve those habits, but- and they do think obviously that this report will escalate that plan.

Lunden: Well, this is not a health issue- you're not going to die from this- it's a consumer issue- you want good quality.

Lyons: You're not getting what you pay for, that's the issue when you talk about bacteria...

Lunden: Get the fish down by the ice, right?

Lyons: You bet.

Lunden: Not up top. All right. Thanks a lot.

# # #

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A Burrelle's Affiliate

TRANSCRIPT

DATE January 16, 1992
TIME 5:30-6:30 AM
NETWORK ABC-TV
PROGRAM ABC World News This Morning

Mike Schneider, anchor:

Now, just when you thought it was safe to go in the water for your main course, a word from Consumer Reports magazine on what you may be getting with your fish. ABC's Richard Davies has details.

Richard Davies reporting:

The catch of the day could be the catch of the week, or two weeks. Fifteen days is how long Consumer Reports says it may take seafood to get from the water to a processing plant and finally to your shopping cart. (Visual of fish in fishing vessel; processing plant; shopper selecting fish in supermarket)

The study found almost one third of the fish tested was spoiled with extremely high bacteria counts. And there may be problems with seafood that really is fresh. The waters where fish live are often dumping grounds for potentially harmful chemicals. The study's authors say pregnant women and children under four should avoid tuna, swordfish, and other seafood that may contain them.

Ned Groth (Consumers Union Spokesman): For everyone else it's OK to eat it occasionally. The best strategy is to vary your choices in fish so that you don't eat too much of a species that accumulates mercury, PCPs, or pesticides.

Davies: The investigation also found that much of the fish wasn't kept clean enough or cold enough. At this fish processing plant in New Jersey a government inspector is on duty but he doesn't have to be here. Unlike poultry and beef there is no mandatory federal inspection of America's fish supply. Consumer Reports says less than a fifth of the fish we eat is government inspected. (Visual of fish processing plant; inspector sniffing fish)

Robert Cerullo (Wakefern Corporation Spokesman): We participate in a voluntary inspection program which means that we have a full-time USDC government inspector on hand here to make sure that the facility meets or exceeds government standards. (Visual of inspector stamping fish packet with US Grade stamp Jan 14 1992)

Davies: But even if the processor gets it right the supermarket

may not. One third of the fish samples was mislabeled. (Visual of seafood section of supermarket) As Consumer Reports puts it in some cases the label had snapper but the testing lab said baloney. Richard Davies, ABC News, New York.

# # #

RADIO TV REPORTS
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Los Angeles, CA 90028
(213) 466-6124
FAX (213) 466-9815

FOR BURSON MARSTELLAR
ATTN: MARTY GORDON

PROGRAM NEWS DAY STATION CNN-TV

DATE JANUARY 16, 1992 6:08 AM CITY LOS ANGELES

CONSUMER REPORTS' WARNING ABOUT FISH

ANNOUNCER: Many health conscious people are turning increasingly to sea food. It's high in protein, generally low in fat. But in today's Food and Health report, Eugenia Halsey says a magazine study has found some of the fish sold in grocery stores and markets spoiled or contaminated.

EUGENIA HALSEY REPORTING: (VOICE OVER FILM REPORT) Fish stores are awash with health conscious consumers, but a new study says the catch of the day might have been caught last week and can get less healthful.

During a six month investigation, CONSUMER REPORTS tested one hundred and thirteen samples of fin fish and shell fish in New York and Chicago stores. It found that almost one-third of the fish was spoiled, nearly half was contaminated with fecal bacteria, and some species were tainted with PCB's and mercury.

TRUDY LIEBERMAN, CONSUMER REPORTS: We think that the fish hadn't been handled properly, particularly at the retail level. The temperatures probably were too high all the way along the distribution chain and finally at the retail level.

HALSEY: The investigation also revealed that one third of the fish was mislabeled. In some cases, fish identified as fresh, was actually more than two weeks old or had been frozen. In other cases, inexpensive fish was passed off as "fancy" fish.

So - should you eat fish? CONSUMER REPORTS says, yes, but think twice before eating raw fish. Cook fish thoroughly. And if you're pregnant, avoid eating salmon, swordfish, lake whitefish and tuna since those fish contain PCBs or mercury that could hurt the fetus.

The fish industry agrees on the need for better handling, storage temperatures and inspections, but takes issue with CONSUMER REPORTS' findings about spoilage. It says the presence of a lot of bacteria doesn't mean fish is unsafe.

LEE WEDDIG, NATIONAL FISHERIES INSTITUTE: There are plenty of bacteria out there, and if you follow good hygienic practices and cook your food and then judge the quality of the product with your own nose and how it tastes when you enjoy it, then you will be getting a good meal and you will know that you've got a safe product.

HALSEY: But consumer groups say, not always.

ELLEN HAAS, PUBLIC VOICE FOR FOOD AND HEALTH POLICY: You can't see the PCBs or the DDT residues that might be there. You can't see the vibio villnificus which can kill you.

HALSEY: The Food and Drug Administration says most fish is wholesome but the Agency is working with processors and retailers to strengthen voluntary inspection programs. Unlike meat and poultry, there is no mandatory federal inspection of fish.

HAAS: It's a cruel irony for consumers that such a healthy food has been treated so poorly and that the government is doing nothing about it.

HALSEY: However, consumer groups and the Fish industry agree the fish investigation may finally bait Congress into passing a mandatory seafood safety program.
Eugenia Halsey for CNN, Washington.

# # #

the state's forests."

Mr. Biswell held both a Ful-

NATIONAL REPORT

Study Finds Seafood Contamination

Chronicle Wire Services

New York — In a study of retail fish markets in New York City and Chicago, Consumers Union has found widespread contamination and mislabeling of seafood.

The study was based on 113 samples of fish and clams that were purchased in 40 randomly selected supermarkets and specialty fish shops. Thirty-four samples were spoiled, 50 were contaminated with fecal coliform bacteria and eight of 20 samples of swordfish had more than the permissible level of mercury. One-third of the samples were misidentified, usually as more expensive varieties.

"We clearly know we did not cover the whole waterfront," said Edward Groth of Consumers Union. "We think the look we took is big enough and reliable enough to say there is a problem."

Unlike meat and poultry, the handling of fish is largely unregulated by the federal government. Consumer groups said the report bolsters their contention that mandatory seafood inspection is necessary. But the federal Food and Drug Administration called the findings overblown and said a case could not be made on such a small sampling in just two cities.

Spoiled fish is unlikely to make someone sick because thorough cooking kills the bacteria. However, raw or partly cooked fish may pose a greater risk than fish that is thoroughly cooked.

Plenty of Blame For Rap Stampede

$10,000 reward for information leading to the conviction of the attackers. The victim's father said he will match that reward.

Quick Implant Decision Urged by Surgeons

Washington — Plastic surgeons asked the Food and Drug Administration yesterday to quickly convene a new panel of scientists to review safety information on silicone gel breast implants.

Officials of the American Society of Plastic and Reconstructive Surgeons, based in Chicago, said they have received a significant increase in calls from anxious women who have breast implants. To address their concerns, the group wants the FDA to announce a final decision on the use of breast implants by February 25.

Ten days ago, FDA Commissioner David Kessler asked physicians to stop inserting silicone gel breast implants until agency officials and an FDA advisory committee can evaluate new information on the devices.

Another Indictment For Charles Keating

Phoenix — Charles Keating Jr., whose failed Lincoln Savings and Loan epitomized the national thrift scandal, was indicted yesterday on federal charges of bankruptcy fraud, wire fraud and conspiracy.

Keating and fellow former American Continental Corp. executives Judy J. Wischer and Andrew F. Ligget are accused of fraudulently transferring $975,000 of the company's money for their own use.

The indictment is the third against Keating, who was convicted last year on California securi-

JUDAH, Greta C.
JUDGE, Thomas
KEBLER, Laurence R.
KWAN, PAUL M.
LESTER, Ronald V.
LINDOW, Kenneth R., Col. USAF (ret.)
LOH, Chau Sung
LOUIE, Allen
MACHADO, John
MACHADO, Sybil Q.
MARTIN, Abram V. ("Solko")
MORO, Mario
MURPHY, Dirk Francis
PALANGIAN, Vrej
ROGERS, William K.
RUFFINELLI, John
SARSOUR, Marouzon
SCHUTT, Margaret Wurm
SIEMER, Mabel Jones
SOMMER, Carth
SPENCER, Odelia Ann
TAHIR, Aisha

ARMANINO, Rina — Of Colma, January 14, 1992; beloved wife of the late Guiseppe Armanino; loving mother of Alma Morasco, and Joseph Armanino; dear mother-in-law of Betty Armanino; loving sister of Albert Chiapparli; dearest grandmother of Cathy Horn, Linda Gartner, Karen Wagner, Joey and Rory Armanino, Kelly Rollag, and Robin Johnson; also survived by 15 great-grandchildren; many nieces and nephews; aged 77 years; a member of the Golden Years Senior Citizens Club.

Friends may visit Thursday 1-4PM at DUGGAN'S SERRA MORTUARY, 500 Westlake Ave., D.C., and after 7:30PM at Holy Angel's Church, 107 San Pedro Rd., Colma, where a Vigil Service will be held at 8PM. Funeral Mass, 10AM Friday at Holy Angel's. Thence to Italian Cemetery.

THE BUD DUGGAN FAMILY

BLOUNT, Lucy Ellen — In San Francisco, January 12, 1992.

Graveside services being held in Lexington, KY. Friends are invited to attend a memorial service Sunday, January 19, 1992 at 2:00 pm at 847 Haight St., SF.

BOWEN, Maureen, Nurse Practitioner — In Oakland, January 14, 1992; beloved wife of Ralph "Danny"; loving mother of Cathleen, Michael, and Robert; grandmother of Dylan Glover, Nicholas, Alexis, and Jaimie Bowen.

Friends may attend the Memorial Service at St. Leo's Church, Piedmont Ave., Oakland at 6PM Friday, January 17, 1992. Donations may be made to Breast Cancer Action, P.O. Box 460185, San Francisco, CA 94146.

GRANT MILLER MORTUARY
2850 Telegraph Avenue, Oakland, CA
(510) 451-6434

BRATT, Frank Ellis — Died Jan. 14, 1992, in San Francisco; loving husband of Fumiko; devoted father to son Arron and daughter, Jennifer; survived by brothers Scott of Laguna Niguel and James of Orange Vale and parents, Russell and Marion Bratt of Vallejo, CA; Frank was born in Vallejo, CA. and attended Vallejo High School; Frank was an instructor at City College of San Francisco for 20 years and previously worked as a chef at the Canlis Restaurant and at the Fairmont, St. Francis and Jack Tarr Hotels.

It was Frank's wish to be cremated and to have his ashes scattered at sea with no Memorial Service. Donations in Frank's name may be made to the Kaiser Hospice of S.F., 4131 Geary, S.F., CA 94118.

CASELLI, Joe — In Santa Rosa, January 14, 1992; Joe Caselli, devoted father of Mrs. Jo Ann Testa of Fairfax, Kathy Pelagi of Napa, Gail Kitching of Delaware, and Nancy Caselli of Walnut Creek; loving brother of John and Jerry Caselli, and Maria Colombini; dear grandfather of Vicki and Joe Testa, Kenny Pelagi, Ron and Randy Kitching; a

of Barbara Williams and Be loved and respected friend Jones and survived by a relatives and friends.

A Celebration of Life will City of Refuge Community 14th St., San Francisco, CA January 16, 1992, at 1:00 P Service will take place Frid 1992, at 1:30 P.M. at Oak Hill under the direction of OAK HOME, 300 Gartner Ave., S

JONG, Gee Ben — Died at Chin San Francisco, January 14, beloved mother of Walter, Ross, Peter, and Paul; mo Jimmie Wong, Arthur Fong, ti, and Cleo; aunt of William Carol; godmother-in-law grandmother of Kimberly, and Debbie, Kenneth and Na Peter, Lori, Lesli and Andy, Calvin, Lewis and Karen, W mela, Michael, and Kevin; gr er of Ronald and Patsy, and grandmother of 6, god-great of 3.

Visitation, Saturday 1-4PM 1992 at GREEN STREET MO Green St., SF. Funeral by GREEN STREET MORTUA may be sent to On Lee.

JUDAH, Greta C. — At home January 13, 1992; born Noven Laverton, Australia; she w the late Captain Chester Ju and was then married to Sydney, Australia; returnin the Philippines, she bore a raised their three children Eileen, and Henry Raymond ing family to Tiburon, Calif. her old and developed many ful friendships; the cherish grandchildren, Jennifer, Jim and Kellen; with her death, beautiful light has gone out felt by her family and her m most deep.

A celebration of her life a ment of her remains will b

JUDGE, Thomas — In Los Gato 1992; son of J. Eugene & P. brother of Roxanne Judge M erin-law of Austin McCann; of Kevin and Michael McCann nephew of Mrs. Bill O'Neil Mrs. Robert Forbes of El Ce late Graham Judge Sr. for San Jose, aged 39; a native of S.

A Memorial Service will be Montalvo in Saratoga, Thur 16, 1992 at 11am.

KEBLER, Laurence R. — in thi 15, 1992; dear husband of D also survived by other lovin native of San Francisco; re U.S. Immigration Service and Assoc. of California.

Friends are invited to atte Blessing Service Friday CHAPELS OF ARTHUR J. SUL 2254 Market St., bet 13th Committal at Holy Cross C flowers please.

SULLIVANS FUNERAL SERVI

KWAN, PAUL M. — at rest in S January 7, 1992; beloved hus Dang Kwan for 63 years; sist of Lily Wong Kwan; loving fat S., Philip S., and Pauson K Chan, Doris Yee, Pearl Jue, Fr and Esther Ponticuti; father Jean Kwan, David Chan, Thornton Jue, and Peter K grandfather of 19; also surv other relatives; born in Canto 85 years.

Friends and relatives ar attend the services on Satu 18, 1992 at 1:00 pm at the Cha Street Mortuary, 649 Green vice Friday, 7:00 pm. Interme memorial Park.

GREEN STREET MOR
FREE VALET PARK

LESTER, Ronald V. — Died Jan complications from AIDS; as associate with Genstar and A Lester had been with Genst ates for the last seven y

San Francisco Chronicle

Thursday January 16, 1992

MEMORANDUM

TO: Members of the Alaska State Legislature

FROM: Kim Elton, ASMI Executive Director

DATE: January 15, 1992

RE: *Consumer Reports* Press Release and Article

The last 36 hours have been hectic but it is important to pause and outline what has happened and what we are doing about it.

In a press release, *Consumer Reports* hypes an article scheduled for the February edition. That edition will hit the streets January 28. The press release was issued earlier this week and it is "embargoed" until Thursday morning (tomorrow) at 6 a.m. The press release has generated significant interest, including but not necessarily limited to, CNN, Wall Street Journal, New York Times, Good Morning America. NFI is talking with them. The pertinent parts of the press release include:

*". . .PCBs--potential carcinogenic and reproductive hazards--were found in 43 percent of the salmon tested. . ."
*"30 percent of the fish (not just salmon) tested. . .was spoiled."
*"Pregnant women or women who expect to become pregnant should avoid eating salmon. . ."
*Most healthy adults should not "eat salmon, swordfish, or lake whitefish more than once a week."

We have also received a bootleg copy of the article scheduled to appear. The article is the featured article on the magazine cover. The cover includes a picture of fishermen unloading a net of fish on deck with the headline teaser "IS OUR FISH FIT TO EAT?"

The article focuses on fish handling practices--especially at the retail level. We have a poor quality fax of the article that cannot retransmit but do expect to get a better copy by Fed Ex--hopefully today. When we receive a copy, I will fax to all. While the entire article is extremely negative, the most pertinent part may be the discussion of PCBs.

Alaska Seafood Marketing Institute
1111 West 8th Street, Suite 100
Juneau, Alaska 99801
Phone: (907) 586-2902
FAX: (907) 463-3273

I've retyped the following paragraphs directly from the article. The quotes follow a discussion of the FDA setting the level for PCBs in fish at 2 parts per million.

"Given these facts, we think even 1 part per million of PCBs in fish is too high. Our laboratory detected levels ranging from 0.2 to 2.1 parts per million in our whitefish, swordfish, and salmon. Three out of ten samples of whitefish contained PCBs exceeding 1 part per million: three out of 20 samples of swordfish did.

"Seven of ten salmon samples we purchased in New York contained PCBs ranging from 0.7 to 1.3 parts per million. Thirty percent of the samples from Chicago had detectable levels, ranging from 0.2 to 0.8 parts per million.

"Some of our Chicago salmon samples were probably species from the west coast, at least that's what the store clerks told us. Those salmon may have come from less-contaminated waters than fish from the Atlantic or the Great Lakes, the possible sources of fish we purchased in New York. However, because the package labels, store clerks, and signs were not always believable, we could not tell for sure where our fish was from.

"Nor could we tell whether it was farm-raised as some salmon is. Just because salmon is farm-raised doesn't mean it is contaminant free. Farm-raised fish spend part of their time in pens in the ocean. Their diet also consists of manufactured feed, which is based largely on fish that may have contained PCBs."

Other than the last paragraph, there is no discussion of origin or species of salmon in the article and no discussion at all in the press release. In our discussions with the magazine (only at the functionary, not policy, level--they won't let anybody talk to anyone other than people in their PR department), they indicated that no distinction was made in the tests between species or point of origin. Magazine buyers apparently bought 20 salmon samples (10 in New York City and 10 in Chicago) in steak and fillet form. Based on this extremely small sample size and lack of data about species or origin, the sweeping indictment of salmon is totally irresponsible. FDA agrees and is preparing, according to their director of policy, attack quotes--especially on the outrageous statements about salmon.

On Tuesday, ASMI:

--initiated data collection from EPA and FDA on all tests of Pacific salmon;
--arranged to have Alaska salmon sampled for PCBs at a NMFS lab and independent lab;
--began working with Burson-Marstellar, the crisis public relations agency we used following the oil spill;
--contacted our Washington, D.C., counsel who arranged to have one of the partners with extensive experience with the apple\Alar and Chilean grape food contamination cases, and who has contacts at Consumer Reports, work with FDA and the surgeon general for supportive statements re: Alaska salmon and the lack of PCB point sources in the North Pacific;
--that counsel will also talk directly to *Consumer Reports* about the irresponsible reporting and determine how strong letter to follow should be written;

--met with state cabinet level officials from Fish and Game, Environmental Conservation, Commerce and Economic Development, and Health and Social Services about the dangers ahead, briefed the governor's office by memo and phone (face-to-face meeting in gov's office at 1:30 today);
--initiated a "talking point" paper to distribute to board, industry, congressional delegation, state agencies (we are revising now that we've got the article and will distribute when completed)--this will be developed into an "action" page for distribution to trade based on monitoring of the news stories by Burson-Marstellar and their advice; and
--worked with NFI on coordinated approach.

We will continue to keep you updated on the situation. If you have any additional questions or need more information, please feel free to contact Mary Gore on my staff.

Facts you should know about Alaska salmon

- Experts from the FDA, EPA and the Alaska Department of Environmental Conservation have stated that there are no PCB problems with Alaska salmon.

- There is no indication that any of the estimated 20 salmon samples tested by *Consumer Reports* were wild Alaska salmon. All of the salmon was labeled "fresh" and purchased within the last six months, a time when very little salmon is commercially harvested in Alaska.

- Salmon is distinguished by species and point-of-origin. *Consumer Reports* completely ignored this fact, to the detriment of the Alaska seafood industry and the consumer, in their statement that 43% of salmon samples tested positive for PCBs. The consumer is hurt because the info is misleading and incomplete.

- These are serious allegations and the Alaska Seafood Marketing Institute (ASMI) is doing everything in its power to get *Consumer Reports* to clarify the data. At this time, *Consumer Reports* has not been forthcoming with any additional information regarding their testing.

- The Alaska Seafood Marketing Institute has submitted wild Alaska salmon for PCB testing to both a federal agency and an independent research firm.

- 20 salmon samples taken from two markets, with no species identification or point-of-origin information, does not approach an acceptable amount of data from which one can issue such a sweeping indictment.

- Since its inception more than 10 years ago, ASMI's Seafood Quality Assurance Program has helped ensure the proper handling of Alaska seafood products through the distribution of educational and technical information to fishermen, processors, cold storage operators, distributors, foodservice and retailers. By way of these materials, videos and learning aids, serious efforts are made to educate each of the critical links in the distribution chain about how to maintain the quality of Alaska seafood on its way to the consumer.

- To ensure Alaska seafood is wholesome and safe, the Alaska DEC has a year-round seafood inspection program. Alaska inspectors examine seafood for contamination and decomposition and monitor distribution operations within Alaska. State inspectors visit processing plants to make sure they are run according to an approved plan of operation, that equipment is running properly, and seafood is handled appropriately.

- Alaska has the most pristine waters in the world, according to research by the National Oceanic and Atmospheric Association (NOAA). Analysis of strategic sample sites conducted by NOAA, such as the "National Benthic Surveillance Project: West Coast," shows Alaska's fishing grounds are located in waters free of pollutants.

For more information write the Alaska Seafood Marketing Institute at
1111 West 8th Street, Suite 100, Juneau, Alaska 99801-1895,
call (907) 586-2902, or FAX (907) 463-3273.

TALK PAPER

FOOD AND DRUG ADMINISTRATION
U.S. Department of Health and Human Services
Public Health Service 5600 Fishers Lane Rockville, Maryland 20857

T92-3
Jan. 16, 1992

Chris Lecos
(202) 245-1144

FDA's Seafood Safety Program

FDA has been receiving inquiries about the safety, quality and labeling of seafood, as a result of the announcement of articles on the subject in February's Consumer Reports magazine.

The following can be used to answer public inquiries:

* While we agree with Consumers Union, which publishes the magazine, that there is room for improvement in the handling, labeling and sale of seafood at retail, we believe, as a 1991 National Academy of Sciences (NAS) report concluded, that the overwhelming preponderance of seafood, as sold, is safe to eat. FDA believes that Consumers Union's warnings to consumers not to eat

* certain species are unfounded, particularly when based on just 113 seafood samples, as stated in the article.

FDA agrees that consumers should eat a variety of foods, including seafood, and avoid eating excessive amounts of any particular food item. Consumers should also heed state advisories that address local contaminant problems.

Fish and shellfish can be an important part of a healthy diet, but they also are highly perishable products that can spoil or lose quality at any point from harvesting to consumption. Like other flesh foods, fish and

-MORE-

shellfish begin to decompose as soon as they are harvested. Preservation methods can slow the process but not arrest it entirely. For the most part, however, the degree of decomposition found on seafood being sold affects its marketability, smell and taste, but not its safety.

Consumer Reports is correct in stating that, by the time most seafood reaches retail, it is nearing the end of its normally brief shelf life. Consumers should examine seafood before purchasing it and consume it shortly thereafter.

There are some 3,852 processing plants, 1,830 wholesale plants and 300,000 retail seafood outlets in the United States. FDA administers a $40 million program to inspect seafood processing and wholesale plants and train state inspectors to ensure safety and quality of seafood at the retail level. The budget for this longstanding program was increased 60 percent in the past year.

The agency has endorsed and is responding to recommendations NAS made for strengthening government regulation and enforcement, particularly to encourage the use of a Hazard Analysis Critical Control Point (HACCP) plan to assure seafood safety and quality. The HACCP plan identifies the critical points at which problems are most likely to occur, and concentrates preventive efforts there.

The Consumer Reports article focuses on problems resulting from poor sanitation and fish handling practices at the retail level. These are problems being addressed by FDA and the National Oceanic and Atmospheric Administration's National Marine Fisheries Service (NMFS) through a pilot HACCP program started last October in retail stores. Twenty-five supermarkets operated by 13 chains in 12 states are participating. The program calls for each participant to put into practice a HACCP plan that is designed to ensure that seafood products being offered for sale are safe,

-MORE-

percent of the seafood consumed in the United States is imported. Samples to be analyzed are selected carefully from countries with a history of problems so as to be most likely to catch any violations.

Among the special projects completed last year was FDA's analysis of 220 cans of domestic and imported tuna for methyl mercury. All of the samples were below the FDA's action level of 1 part per million. The 220 samples averaged 0.17 ppm. Fifty samples showed only trace or undetectable levels, and 39 others had less than 0.10 ppm.

FDA's increased emphasis on enforcement has resulted in more than 50 recalls of adulterated seafood products and 23 actions against firms for misbranding during fiscal years 1990 and 1991. The adulteration problems were principally microbiological--problems that cannot be detected by visual inspection alone. The misbranding cases ranged from undeclared ingredients to unsupported health claims and the illegal substitution of a cheaper species of fish for a more costly one. Since the start of fiscal year 1992 on Oct. 1, 1991, FDA has issued 16 warning letters to the seafood industry, 11 for misbranding and 5 for adulteration.

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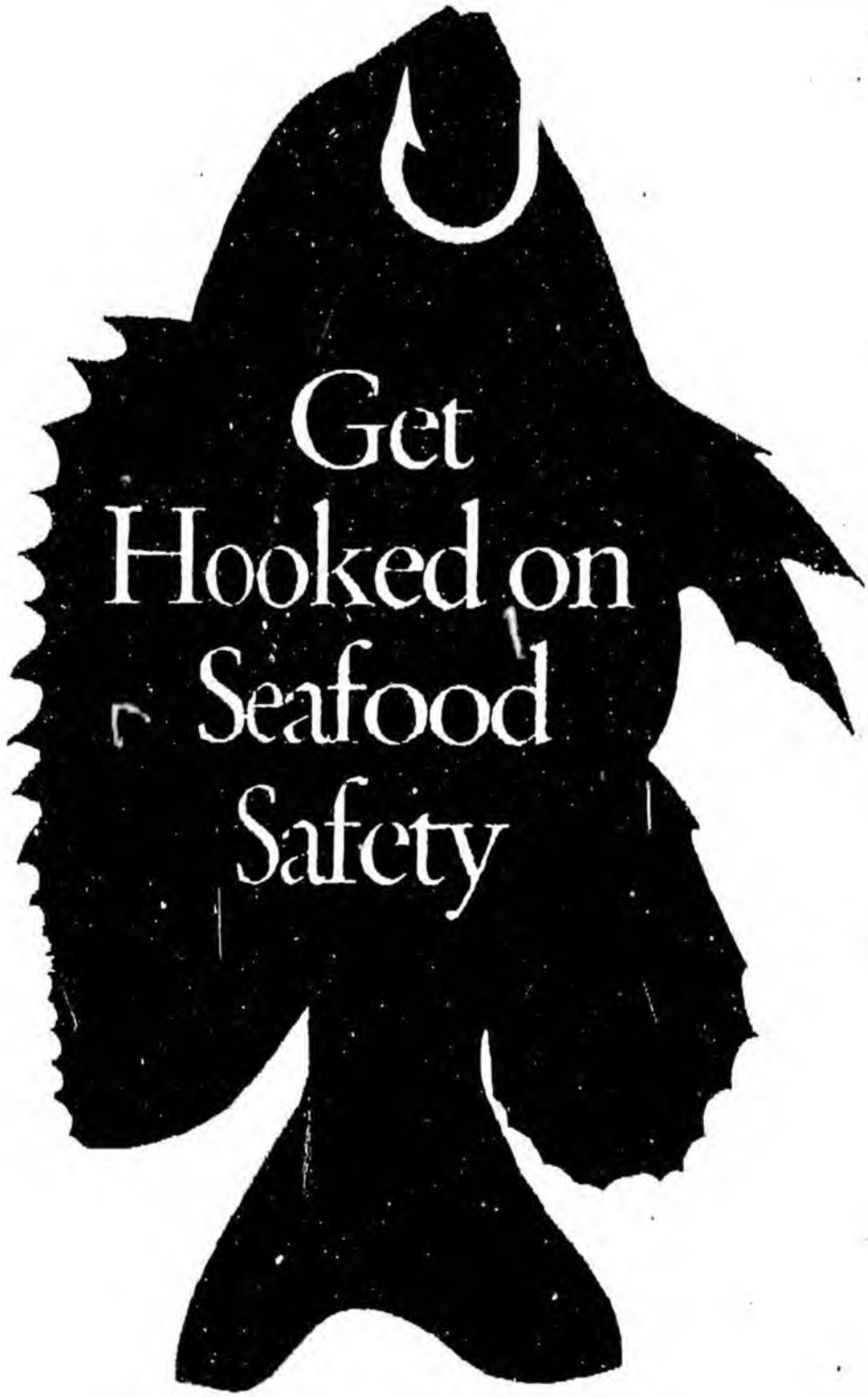
(For further information, see FDA Backgrounder on Seafood Safety, May 1991, FDA press release PJ91-10, March 28, 1991; and FDA Talk Paper, T91-11, March 7, 1991).



FDA CONSUMER

DEPARTMENT OF HEALTH AND HUMAN SERVICES

by Roger W. Miller

What food is nutritious, wholesome, tender, easy to digest, and yet subject to a bad press? The answer: seafood.

Yes, despite its growing popularity in a country in which counting cholesterol has become almost as important as counting calories, seafood has often been pictured in the media as unsafe. Last year, for example, editorial writers for the *New York Times*, *Washington Post*, *Atlanta Constitution*, and the *Dallas Morning News* all quoted statistics claiming that eating fish was 25 times more likely to make you ill than dining on beef and 16 times more likely than downing poultry or pork. Both CBS TV's "This Morning" program and TV station WABC in New York City repeated those statistics in features on fish safety.

The editorial writers and the TV producers also called for new legislation to provide more government inspection of fish so that we'd be better able to keep down our seafood.

All of which caused then Acting FDA Commissioner James S. Benson to tell the *New York Times* in a letter to the editor, "You have been severely misled."

Supporting Benson was a report last January from the National Academy of Sciences. Completing a two-year study of seafood safety, the academy concluded: "Most seafoods available to the U.S. public are wholesome and unlikely to cause illness in the consumer."

The statistics used by the editorial writers applied to "outbreaks" of illnesses reported to the national Centers for Disease Control in Atlanta, the federal agency responsible for collecting and analyzing health statistics. (An outbreak is two or more illnesses linked to a common source.) The news people failed to pick up the distinction between outbreaks and illnesses, and failed to appreciate that CDC only tabulated those incidents reported voluntarily by state and local health authorities. These authorities tend to report only major incidents, such as outbreaks involving two or more people.

To get a truer picture of the safety of seafood, FDA's Center for Food Safety and Applied Nutrition, in cooperation with CDC, did a risk assessment study. It showed about one illness per million servings for seafood when raw or partially cooked molluscan shellfish (mussels, scallops, clams and oysters) were excluded from the calculations. (In comparison, the risk assessment for chicken is about one illness for every 25,000 servings.)

Beware Raw Mollusks

Now add raw mollusks to the statistical stew and, as Hamlet said: "Ay, there's the rub." According to the FDA risk assessment, the chance of illness for seafood overall with the raw shellfish jumps to something like 1 in 250,000 servings. That's still 10 times safer than eating chicken, but the agency figures that those raw oysters, clams and mussels—so savored by gourmets—account for a whopping 85 percent of all the illnesses caused by eating seafood.

Mollusks are troublemakers because most cannot move and have to feed by filtering water through their systems, pulling out nutrients in the process. In so doing, they also can pick up and store harmful bacteria and viruses that can cause a string of illnesses. When people eat these pathogen-packed shellfish raw they ingest the viruses and bacteria.

Or, as Anthony Guarino, director of FDA's fishery research branch on Dauphin Island, Ala., asks: "What other animal do we eat, digestive tract and all, without cooking it first?"

These mollusks have long been consumed raw by humans, and no doubt they have made people ill throughout history. However, the threat they pose today may be greater because of increased pollution of the waters in which they live. Mollusks are usually found in estuaries, which is where rivers and seas meet. And estuaries these days are more likely to be closer to cities and thus more apt to be polluted than offshore waters.

FDA's risk assessment study concluded that 1 out of every 1,000 to 2,000 servings of raw mollusks is likely to make someone ill. For that reason, these shelled creatures could stand a little *more* press attention. Not enough people realize the danger in eating them uncooked, particularly when they are taken from contaminated warmer waters or held and shipped without adequate refrigeration. The warmer the temperature, the quicker the bacteria multiply.

Two states—Louisiana and California—now require warning notices about eating raw shellfish at places where they are sold. In Louisiana, the following notice is required:

WARNING

Raw oysters, raw clams, and raw mussels can cause serious illness in persons with liver, stomach, blood or immune disorders.

The California notice requires a similar tag on the sack or container of oysters from the Gulf of Mexico. The message is much the same. That state specifies that retail establishments must display the notice in signs, menu warnings, table tents, or "other visible warnings at point of sale . . . ."

Oysters taken from the Gulf of Mexico, particularly from March through October, may contain a naturally occurring pathogen called *Vibrio vulnificus*, which is particularly pernicious to persons with liver disease, such as heavy drinkers. Cancer patients, people with iron metabolism disorders, and those with weakened immune systems (such as AIDS victims) may also be vulnerable. The risks are high. The fatality rate for at-risk individuals who become infected is more than 50 percent, with death usually occurring within two days.

(For more on *Vibrio vulnificus*, see "Fewer Months 'R' Safe for Eating Raw Gulf Oysters" in the June 1988 *FDA Consumer*.)

While raw or undercooked shellfish continues to pose problems, the fact that, overall, seafood is a safe and nutritious part of the diet means that it's likely Americans will continue to put more seafood on their forks in the coming years. Indeed, the National Fisheries Institute, a trade organization, has set a goal of 20 pounds per citizen by the year 2000. Seafood consumption in 1989 was figured at 15.9 pounds per person, not including recreationally caught fish (which adds another 3 to 4 pounds per person). That was an increase in consumption of commercially caught fish of 25 percent since 1980. These increases occurred while beef and pork consumption declined (poultry eating also gained). All of which probably reflects health concerns of consumers.

FDA Steps Up Programs

Reflecting this growing preference for fish, FDA has stepped up its programs to ensure the safety of seafood. Last March, the Office of Seafood was created within the agency's Center for Food Safety and Applied Nutrition to strengthen the agency's domestic and imported seafood programs. The office will reinforce the agency's mandate to conduct enforcement, research, educational, and training activities on seafood. Creation of the new office was announced in a *Federal Register* notice published Feb. 26, 1991. Na-

FDA inspector Al Carreras checks the temperature of clams being shucked in a seafood warehouse in Baltimore, Md.

tionwide, FDA presently has some 300 people engaged in various seafood safety programs. An additional 270 scientific and inspectional staff positions will be added to the program over the next two years. Congress has authorized approximately $9.5 million for 122 new positions for seafood programs in the current fiscal year, and FDA has requested another $15 million for 150 more positions for the 1992 fiscal year beginning Oct. 1.

The responsibilities of the new Office of Seafood include:

- overseeing seafood inspection programs undertaken by FDA in cooperation with other federal and state agencies
- researching and testing methods to detect and evaluate the effects of chemical and microbial contaminants that may present public health hazards in fish caught in the ocean and coastal waters, and in seafood products developed through aquaculture
- developing methods to identify economic fraud
- administering the National Shellfish Sanitation Program, which works to maintain the safety of shellfish
- evaluating the effectiveness of the agency's seafood initiatives
- participating in programs to increase industry awareness of FDA seafood regulations and enforcement programs
- overseeing the development of training programs in seafood safety for FDA, state and local inspectors. This would result, in part, in upping the number of FDA shellfish specialists from 12 to more than 50.

Together with the states, FDA is developing a program to more comprehensively monitor waters from which fish and shellfish are taken, and, in March, FDA announced that it had launched a special inspection of the nation's seafood processing plants and other seafood establishments and has begun the first of several pilot programs aimed at further ensuring the safety and quality of seafood through surveillance from ship to final sale.

FDA plans to complete its special inspection of all seafood establishments listed with the agency within the year to get a picture of the state of current seafood handling and any new or generalized problems in the various parts of the industry.

The new pilot program is a cooperative effort with the National Marine Fisheries Service (NMFS) of the Department of Commerce. It applies the techniques of identifying and controlling critical processing points (a system called Hazard Analysis Critical Control Point methods), which FDA has already applied with great success to the canning industry.

FDA also is strengthening its work with the coastal states and NMFS, aimed at making criminal cases against "shellfish bootleggers," who harvest and sell shellfish illegally from contaminated waters.

In announcing the inspection program, Assistant Secretary for Health James O. Mason, M.D., explained, "These new programs do not mean that fish are not safe food. What these new programs do mean is that FDA is enhancing its seafood inspection program to keep up with this increasingly important part of the American diet."

Mason said the Institute of Medicine backed the kind of regulation FDA and NMFS are trying in their pilot program with eight seafood processors—with representative facilities producing fin fish, crab, surimi (fish processed to taste like lobster or other shellfish), and other specialty products.

In these plants, what are known as "critical control points" have been identified. These are points in the process where problems can arise. The firms will monitor and record data at each of these points for review and inspection.

Mason said participating firms will eventually have a special seal with which to label their products—and it will be up to consumers to demand the new system when they buy.

Pilot projects are also planned soon to bring Hazard Analysis Critical Control Point principles to shellfish, as well as imports and retail operations.

The stepped-up programs also include more oversight of imported fish products (more than half of the fish Americans consume is imported) and of the fast-growing aquaculture industry. (Some 360 million pounds of catfish alone were grown on U.S. "fish farms" in 1990.)

Other Seafood Sicknesses

In addition to molluscan shellfish, the other popular raw fish dish, sushi, may also present dangers to the diner. Larvae of parasites—including roundworms, tapeworms, flukes, and flatworms—can end up in the meat of fish. Symptoms are usually mild and temporary, but in a few cases severe abdominal pain can result. If you want to eat sushi, find out if the fish was previously frozen, as freezing kills the larvae. Consumers should not prepare sushi at home.

More common among the seafood maladies are illnesses traced to the Norwalk

Amy Watkins buys marlin and mahi-mahi from Danye Hahn, manager of a seafood market in Baltimore, Md.

virus and the naturally occurring scombroid and ciguatera poisonings. While *Vibrio vulnificus* is the No. 1 killer among seafood pathogens in immune-compromised individuals, the Norwalk virus causes most *illnesses* that result from eating molluscan shellfish.

Gastroenteritis (inflammation of the stomach and intestines) is the characteristic symptom of the Norwalk virus infection. The virus comes from fecal contamination of waters where the mollusks live. Those polluted waters are the ones that authorities try to detect and close down to harvesters. However, some watermen may work the areas anyway and offer their "bootlegged" products to the public.

Human sewage can also contain bacteria that cause cholera and other illnesses, and mollusks can pick up those microbes. While cholera has been all but wiped out in waters around more developed countries, it is almost a constant in some Third World areas and has been a particular problem for some South American countries this year.

Yet another legacy of untreated sewage that finds its way into shellfish is the virus that causes hepatitis A. The symptoms are relatively mild, but some people can be left with severe liver damage.

Two other diseases that can result from consuming shellfish—even if well cooked—are paralytic shellfish poisoning (PSP) and neurotoxic shellfish poisoning (NSP). Both are caused by naturally occurring toxins. PSP can be fatal but both it and NSP are extremely rare, thanks to excellent monitoring programs. Symptoms can appear within 30 minutes of ingestion; they include tingling, numbness or burning sensations in the lips, gums, tongue, and face. NSP is similar to PSP but milder. Symptoms include tingling in the extremities, vomiting and diarrhea.

Both NSP and PSP occur in humans after they've eaten mollusks that have fed in some "bloomed" waters. These blooms, more commonly known as "red tides," contain plankton (dinoflagellates) in such numbers as to discolor the water. The plankton aren't toxic to the shellfish, but may be dangerous to humans. Not all "blooms" contain toxic dinoflagellates, but when they do the shellfish may be carrying the plankton several days before the water changes color.

A few species of fin fish can also be the source of illness even if thoroughly cooked. Dinoflagellates can also cause ciguatera poisoning, although the plankton doesn't need to be present in such numbers as to add hues to the water. Found mostly in warmer waters, the toxic plankton moves up the food chain to predatory reef fish, notably groupers, snappers, barracuda, and Spanish mackerel. Ciguatera causes an estimated 30 percent of all fin fish-borne food poisonings in the United States, some 3,000 cases annually. Most cases occur in Hawaii, Guam, Puerto Rico, and the Virgin Islands. Many cases occur when sports fishermen sell their catch to restaurants; commercial fishermen avoid such reefs.

Symptoms are called "moderately severe," affecting both the gastrointestinal and neurological systems. The symptoms, which can occur almost immediately, include diarrhea, nausea, vomiting, chills, and sweating.

FDA hopes to test a kit that could detect ciguatera contamination this year.

Scombroid poisoning is usually associated with tuna, bluefish and mahi-mahi (dolphin fish). These fish naturally contain high levels of histamine, which is released as the fish decompose. The disease runs its course, and the usually mild symptoms include nausea, vomiting, diarrhea, rash, and tingling and burning sensations around the mouth.

Sports Fishing

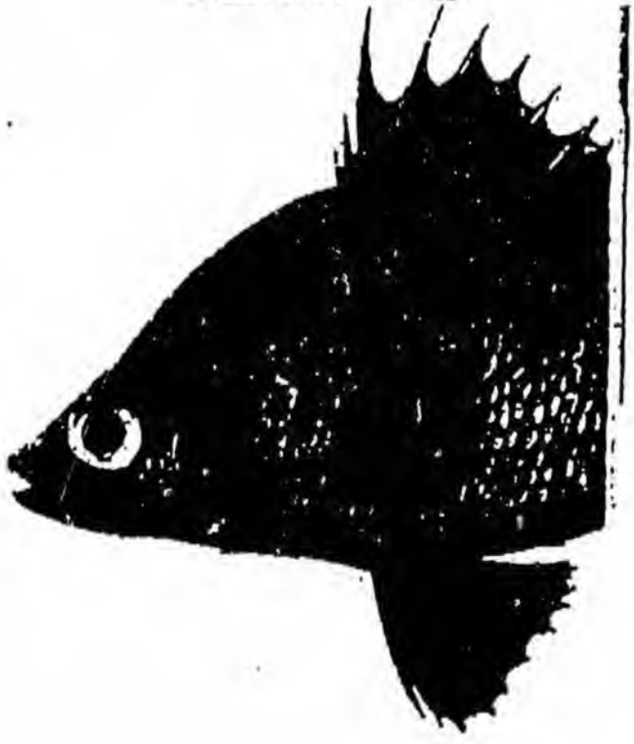
Ciguatera and scombroid poisonings point up another area of concern for health officials—recreational fishing. It's estimated that people casting lines in water and digging clams along the seashore may add 3 to 4 pounds to the nearly 16 pounds of seafood that each American, on average, consumes each year. The reef fish associated with ciguatera are prized by sport fishers, as are the scombroid-susceptible bluefish and, to a lesser extent, tuna.

State health officials often issue advisories to warn anglers of the poisoning possibilities in the fish they catch and to caution them against trying to sell such disease-prone fish to vendors or the public.

Sport fishers also need to be careful about doing their thing in waters contaminated by chemicals and metals. These contaminants may include pesticides (such as DDT and dioxin), mercury, and PCBs (polychlorinated biphenyls). The latter were widely used in the past as insulators in transformers and were generously dumped into any convenient body of water after use.

Mercury (or, more correctly, the form known as methylmercury) and PCBs are the main pollution problems. Both can

The Eyes Have It



You literally have to look a fish in the eye to tell whether it's fresh. The eyes should be clear and bulge a little. Only a few fish, such as walleye pike, have naturally cloudy eyes.

Look for firm and shiny flesh in either whole fish or fillets. Press the fish with a finger, and if it leaves an indentation, it's not the freshest. Dull flesh may also mean that the fish is old.

Make certain there is no darkening around the edges of the fish or brown or yellowish discoloration, especially if these areas appear dry and mushy.

If you're still uncertain about how fresh the fish is, ask to have it rinsed under cold water and then smell it. Fresh fish should have no fishy or ammonia smell.

The shells of hard clams, mussels or oysters should be closed, or should close when their shells are tapped. The necks of steamer clams should twitch when their shells are tapped. Crabs should move when touched. Lobsters' tails should curl under their bodies when (carefully) picked up.

When buying frozen fish, select packages that are not open, torn, or crushed on the edges. Avoid packages that are above the frost line in the store's freezer.

If the package has a transparent cover, look for signs of frost or ice crystals, for the crystals could mean that the fish has either been stored for a long period or thawed and refrozen. Nor should there be evidence of drying out, such as white or dark spots, discoloration, or fading of red or pink flesh.

One other point: Don't buy cooked seafood such as shrimp, crabs or smoked fish if they're displayed in the same case as raw fish. They're good candidates for cross-contamination—and a bellyache.

—*R.M.*

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cause birth defects, and both have been the subject of numerous advisories to anglers. (Swordfish are particularly known for accumulating methylmercury, and consumption of that fish on a regular basis may not be advisable for women who are pregnant or likely to become pregnant.)

In its recent report, the National Academy of Sciences concluded that "only a small portion of seafood is contaminated with appreciable concentrations . . ." of chemicals. But the academy cautioned that the area had not been studied well enough, and it called for better efforts to alert fishermen and the rest of the public about contaminated waters.

What Consumers Can Do

While FDA is working to ensure that the seafood sold to the public is safe, consumers themselves can do a lot to make sure that their seafood doesn't cause illness. Indeed, it is estimated that as much as half of all seafood problems could be eliminated by better handling and preparation in the home and in restaurants and other food service establishments. Two accompanying articles give tips on how to select and store seafood.

As to seafood preparation, the household chef can't go wrong by following good sanitation practices, such as washing hands thoroughly before starting to prepare a meal and after handling foods—such as meat and fish—that contain bacteria, keeping equipment such as knives and cutting boards clean, and keeping hot foods hot and cold foods cold. (For more on safe food preparation, see "The Unwelcome Dinner Guest: Preventing Food-Borne Illness" in the January-February 1991 *FDA Consumer*.)

Sufficient cooking is most important of all when it comes to seafood safety. Fish is done when it is no longer translucent, when it flakes easily with a fork. Oysters and clams should be placed in boiling water, and then cooked for four to six minutes after the water begins to boil again, or steamed for six to eight minutes. Virtually all bacteria and other harmful agents will be killed with proper cooking.

Seafood lovers who can't live without raw shellfish would be wise to limit their consumption to the cold weather months, when the mollusks are less likely to be carrying disease-causing organisms. Always buy from a reputable dealer. Roadside stands that offer low prices may be offering "bootleg" shellfish—that is, shellfish taken from off-limit (polluted) waters. Shellfish shippers have to meet federal standards and are certified by state shellfish control authorities.

So what's the bottom line on eating seafood? For the most part, seafood is wholesome, nutritious, easy to prepare and digest, best eaten when fully cooked—and safe.

Roger W. Miller is a writer in Chevy Chase, Md., and a former editor of FDA Consumer.

The Nose Knows

Ben Franklin said that "fish and house guests begin to smell after three days." He should have said two days, at least for fish, for it's unwise to keep unfrozen fish for more than two days. In fact, fresh fish that is subject to scombroid poisoning, such as tuna, bluefish and mahi-mahi, should be used within 24 hours of purchase.

Some other points that Ben may not have mentioned:

• Refrigerate fish at home as soon as possible and keep the fish at 32 to 37 degrees Fahrenheit.

• Before refrigerating, remove the fish from its package, rinse under cold water, and pat dry with paper towels. To keep cleaned fin fish more than 24 hours, place the fish on a cake rack in a pan, fill the pan with crushed ice, and cover tightly with plastic wrap or foil. Rinse the fish daily, cleaning the rack and changing the ice.

• Throw out fish with a strong fishy or ammonia smell.

• If you intend to keep the fish more than two days, freeze it immediately after it's been caught or purchased. Rinse it under cold water and pat very dry with paper towels. Wrap tightly in plastic and then in aluminum foil before putting it in the freezer. Plan on using the fish as soon as possible for best quality.

• Always thaw frozen fish and seafood in the refrigerator.

• Store live oysters, clams and mussels in the refrigerator. Keep damp by covering with a clean, damp cloth or moist paper towel, but do not place on ice or allow fresh water to come in contact with them. Never place in an airtight container because it will kill them.

• Keep freshly shucked oysters, scallops or clams in their shells and store in the coldest part of the refrigerator, preferably surrounding the package with ice.

• Store live lobsters and crabs in the refrigerator in moist packages (use seaweed or damp paper strips), but not in airtight containers, fresh water, or salt water. Lobsters should remain alive for about 24 hours.

• Take towels and washcloths away from house guests after two days. Maybe they'll get the hint.

—*R.M.*

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January 16, 1992

STATEMENT FOR THE HOUSE RESOURCES COMMITTEE HEARING, JAN.16, 1992
CONSUMER REPORTS ARTICLE & RELATED MEDIA COVERAGE ON FISH SAFETY
BY JOHN A. SANDOR, COMMISSIONER, DEPT. OF ENVIRON. CONSERVATION

Mr. Chairman, Thank you for the opportunity to testify on this very important subject.

The Department of Environmental Conservation (DEC) is working closely with the Department of Commerce & Economic Development (DC&ED), Alaska Seafood Marketing Institute (ASMI), the Alaska Department of Fish and Game (ADF&G), the Department of Health and Social Services (H&SS) National Marine Fisheries Service (NMFS), the Food and Drug Administration (FDA), the Environmental Protection Agency (EPA) and others to minimize the adverse effects from this inaccurate and unfortunate story.

Specialists from the above agencies agree there are no (polychlorinated biphenyls) PCB problems with Alaska salmon.

The Alaska Seafood Inspection program is regarded as the best in the United States. To ensure Alaska seafood is wholesome and safe, Alaska has a year-round seafood inspection program. Alaska inspectors examine seafood for contamination and decomposition and monitors distribution operations within Alaska. State inspectors visit processing plants to make sure they are run according to an approved plan of operation, that equipment is running properly, and seafood is handled appropriately. In addition, our staff works very closely with the FDA, NMFS and other organizations on special situations which arise to be certain our actions are effectively coordinated. For example, in the special processing and shipment of surplus salmon from Prince William Sound to the Soviet Union last year, DEC seafood inspection personnel were on line in Prince William Sound assuring the processing was in accord with standards.

Kit Ballentine, who heads our Environmental Health Division and Manny Soares, Chief of our Seafood Section are in Seattle working with the National Marine Fisheries Service, the Food and Drug Administration and others on this and related issues.

Accompanying this statement is a brief summary of the Alaska Seafood Inspection Program.

We would be pleased to respond to any questions you may have.

SEAFOOD INSPECTION PROGRAM

The Seafood Program consists of a Program Manager and his staff of 5; a Seafood Permit Coordinator, Shellfish Coordinator, Cannery Specialist and a Field Supervisor who supervises 11 field inspectors throughout the State at 7 locations listed below:

Kodiak - 2 inspectors
King Salmon - 1 inspector
Anchorage - 2 inspectors
Cordova - 1 inspector
Ketchikan - 2 inspectors
Dutch Harbor - 2 inspectors
Soldotna - 1 inspector

Additionally, Environmental Health Staff are crossed utilized in an effort to increase statewide coverage where Seafood staff is not immediately available.

Inspections are conducted on minimum schedule which is in direct relation to PUBLIC HEALTH RISK! An example of this would be as follows:

Canned or Smoked Salmon are at a higher risk of contamination due to increased handling and processing. Cold or frozen fish are at a lesser risk.

The following numbers represent the total number of Seafood Inspections conducted annually.

1988 - 948 inspections
1989 - 782 inspections
1990 - 710 inspections
1991 - 1418 inspections

Through the efforts of the Seafood Program, Voluntary Destructions have been reduced in 1991 by more than half. Improved handling of fish products, quality inspections and improved training have helped increase the credibility of Alaska Seafood Products.

Overview Dept. of Natural Resources 1-16-92

STATE OF ALASKA

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SUMMARY OF THE 1991 SETTLEMENT AGREEMENT between ARCTIC SLOPE REGIONAL CORPORATION & STATE OF ALASKA

January 1992

INTRODUCTION

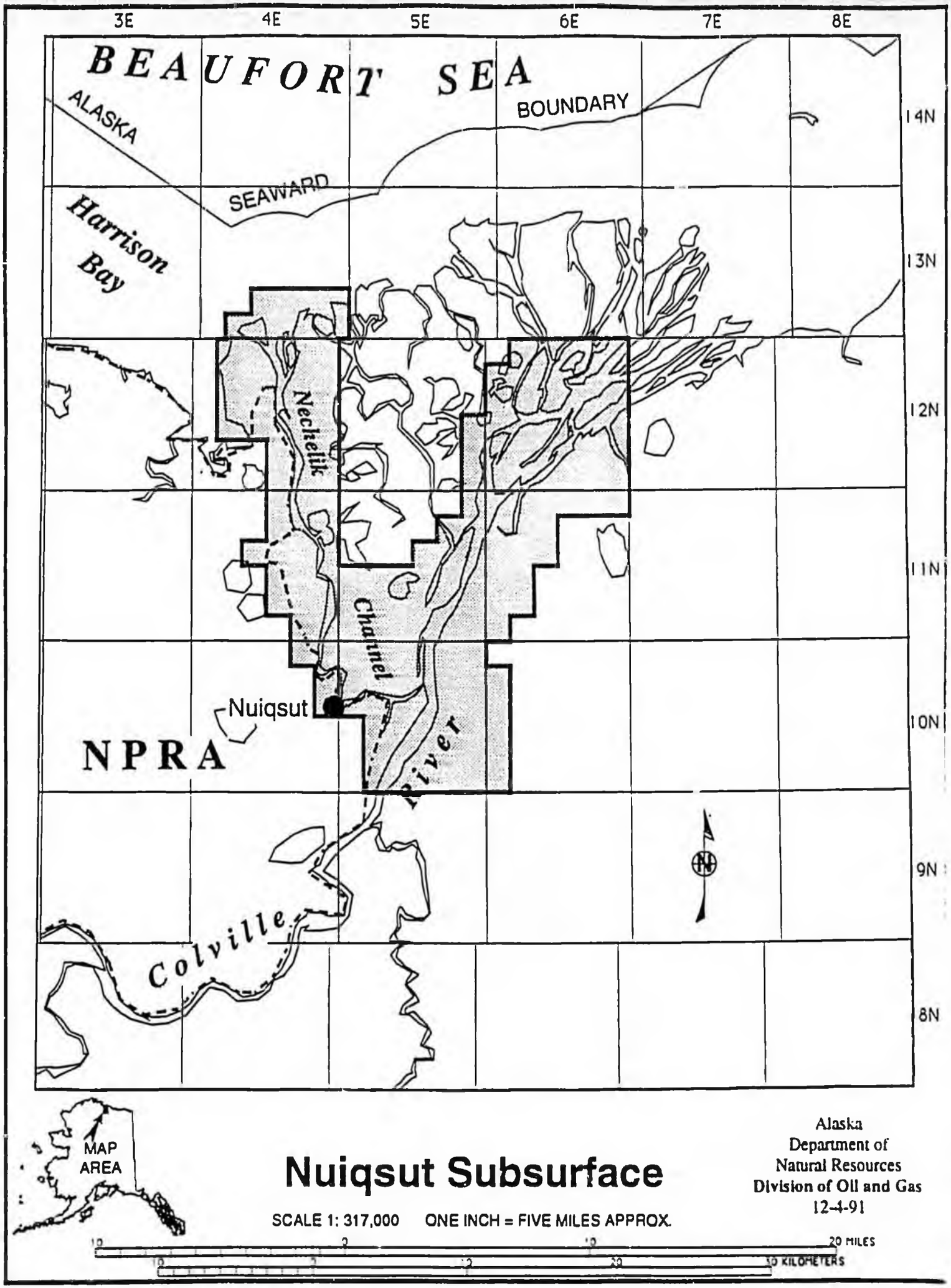
In December 1991, the State of Alaska and the Arctic Slope Regional Corporation (ASRC) settled a long-running legal dispute concerning north slope mineral ownership near Nuiqsut and Point Lay. The settlement resolves litigation resulting from a 1974 agreement in which ASRC and the state agreed to exchange lands near Nuiqsut and Point Lay. The settlement is not effective until approved by the legislature. The Governor will submit the settlement agreement to the legislature at the beginning of the legislative session in January. The area affected by the settlement is displayed in the maps on the next pages.

Under the settlement, the state and ASRC agree to jointly own undivided interest in the mineral estate of the disputed lands. The settlement also grants the state the right to hold oil and gas lease sales jointly for itself and for ASRC. Once a lease has been signed, the state and ASRC each separately administer its lease with respect to its own undivided interest in the subsurface.

Under the settlement agreement, the state does not give up any of its duties to the public imposed by law. The state would still have to determine whether a sale would be in the best interest of the state, and would follow relevant procedural requirements for leasing and for permitting the subsequent exploration for natural resources. The state retains all rights under state law to ensure that development of the subsurface complies with laws governing natural resource management and protection.

The agreement involves only mineral estate; it does not change the surface ownership. The surface estate of the Point Lay lands is state-owned; the Nuiqsut surface is owned by the village corporation for Nuiqsut, Kuukpik Corporation.

The land dispute began in 1973 when the federal government allowed the village corporations for Nuiqsut and Point Lay to select lands that had previously been transferred to the state. The state then protested the eligibility of those villages under the Alaska Native Claims Settlement Act. One year later, the state withdrew its protest and agreed to give up ownership of Point Lay mineral estate in return for ownership of the Nuiqsut mineral estate. For various reasons, the land exchanges expected by the 1974 agreement were never completed. This smoldering dispute erupted into lawsuits in 1985 after Texaco announced an oil discovery northeast of the Nuiqsut lands.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BOUNDARY
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River
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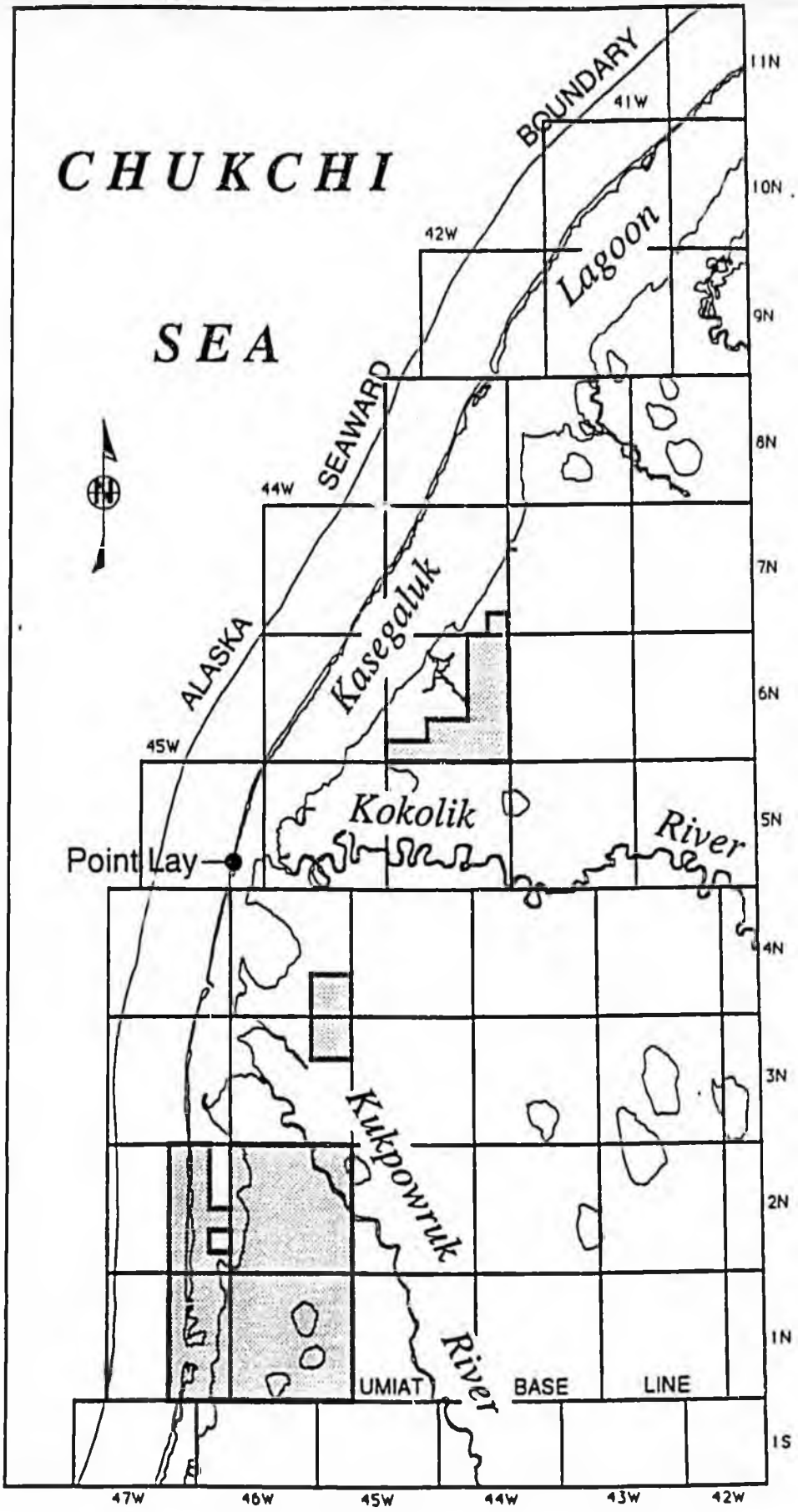
MAP AREA
Nuiqsut Subsurface
SCALE 1: 317,000 ONE INCH = FIVE MILES APPROX.
20 MILES
30 KILOMETERS
Alaska
Department of
Natural Resources
Division of Oil and Gas
12-4-91



Point Lay Subsurface

SCALE 1: 500,000 ONE INCH = EIGHT MILES APPROX.

Alaska
Department of
Natural Resources
Division of Oil and Gas
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The Point Lay area includes the mineral estate beneath approximately 84,000 acres (including all lands -- both the disputed uplands and the state-owned submerged lands). The Nuiqsut area includes the mineral estate beneath approximately 111,000 acres. However, the Nuiqsut-area acreage will eventually be reduced. The agreement concerns the subsurface estate conveyed to ASRC by the federal government. Conveyances in that area are not complete. The Nuiqsut area includes overselections, all of which will not be conveyed to ASRC. Sections not conveyed to ASRC will eventually be eliminated from the area affected by the agreement.

SUMMARY OF THE ISSUES

Land Ownership. The dispute concerns the ownership of the subsurface estate beneath the uplands in the Nuiqsut and Pt. Lay areas. The agreement resolves the location and amount of the subsurface estate attributable to upland ownership. In concept, the state and ASRC agreed that submerged lands and the subsurface below them were state-owned. However, the location and amount of submerged lands were hotly disputed and difficult to resolve.

The agreement fixes the amount of submerged lands -- for purposes of oil and gas leasing -- for all time. This will eliminate administrative complexity for the state and ASRC, and for lessees who might otherwise be unsure who owns their lease tracts. The agreement also provides that the amount of submerged lands is agreed to for purposes of resolving this litigation only and has no further implication for the many other submerged lands disputes in which the state is involved.

According to the agreement, the state and ASRC own undivided interests in the subsurface estate of each section of land in the Nuiqsut and Pt. Lay areas. The interest that each owns reflects a 50/50 split of the uplands plus a state credit for 100% of the agreed-to submerged land acreage. The agreement establishes percentages for all times; the percentages will not change with changes in the extent of submerged lands (i.e., due to accretion, reliction, or erosion). Boundaries are "squared off" along the coast and along the NPRA border (i.e., the boundary includes entire sections). The squaring off allows for more efficient leasing. It also has the effect of giving ASRC a small share of lands in Harrison Bay which are already leased, and the state a small share of NPRA lands.

$$\text{State \%} = \frac{(\text{upland acres} * 50\%) + (\text{submerged land acres} * 100\%)}{\text{number of acres in the section (usually 640)}}$$

Crucial to the agreement is an exhibit that lists for each disputed section the state and the ASRC percentage ownership in that section. Revenue is calculated by section; it accrues according to the percentage ownership listed by section.

Land Management. The state and ASRC agreed to a system where the state manages the land for both parties up to the point of leasing. In return for that management, the state owes ASRC a certain standard of performance. Once the lease has been signed, the state has for the most part

discharged its duty to ASRC. Thereafter, the state and ASRC each separately administers its lease with respect to its own undivided interest in the subsurface. The exception is that in some situations, the commissioner has the power to establish the royalty value of oil for the state. If that occurs the commissioner's decision will also establish the value for purposes of ASRC.

TERMS OF THE AGREEMENT

The State's Right to Lease on Behalf of ASRC: ***The Grant of Executive Rights.*** Under the agreement, ASRC grants the state "executive rights" to lease the jointly held land on behalf of itself and ASRC. Thus, the state holds the lease sale, accepts bids, and signs the lease agreement with the lessee. The lease binds both the state and ASRC. In return for these executive rights, the state agrees to comply with a standard of performance with respect to ASRC's interest in the land. By this standard, the state agrees to act with "the degree of diligence and discretion that would be exercised by an average landowner, acting as a reasonable and prudent person...in seeking to cause his subsurface to be explored and developed..." The state and ASRC also agree that this standard of performance does not apply "to the extent that the state is prevented from complying with such standard because of its duties and obligations as sovereign or because of applicable federal or state statutes, regulations and constitutional provisions including, but not limited to, those that govern protection of natural resources and procedural requirements for disposal of interests in state lands..."

In other words, the state agrees to a standard of care, but does not give up any of its duties to the public imposed by law (i.e., we still have to determine whether a sale would be in the best interests of the state, etc.). If, for example, it is not in the state's best interest to lease because of potential environmental harm or another reason, the state can decline to lease (can decline to exercise its execute rights). In that case, ASRC has the same rights as any member of the public to appeal the state's finding, but cannot compel the state to act by virtue of this agreement. If the state refuses to lease, ASRC has the right to lease its own interest under the laws of mineral cotenancy. Finally, the state agrees to "treat ASRC's interest in the same manner as it treats its own interest and shall not act in a manner intended to benefit itself at the expense of ASRC."

The state's liability under this standard could, in some circumstances, be quite significant. With knowledge gained by exploration, it is always possible to second-guess the terms of a past lease sale. To avoid claims made in hindsight that the state should have acted differently and did not live up to its promised standard, the parties agreed upon a dispute resolution process to resolve differences before the sale (and without going to court).

In this process, the state proposes "substantive terms and conditions" for a lease sale to ASRC. These terms include such variables as royalty rate and minimum bid, but they do not include sovereign powers of the state such as those that are exercised in best interest findings or in stipulations attached to land use permits. If they cannot agree on the "substantive terms and conditions" of the sale, the disagreement is referred to an expert (called a qualified independent

consultant). The expert determines whether the state's proposed "substantive terms and conditions" meet the standard of performance.

Three outcomes are possible: (1) the state and ASRC agree on terms and the lease sale goes forward; (2) they disagree, and the issue is referred to the expert who decides in favor of the state; or (3) they disagree, and the issue is referred to the expert who decides in favor of ASRC. If either of the first two situations occurs (agreement or an expert decision favoring the state), ASRC forever waives the right to argue that the state violated its standard of performance. If the expert decides in favor of ASRC, the state can, of course, decide to adopt ASRC's recommendations. It can also go ahead under its own terms. If this occurs, however, ASRC may claim damages in court, arguing that the state violated the standard of performance that it promised in the agreement.

After the Joint Lease: ***Separate Administration.*** After the state signs the lease on behalf of itself and ASRC, the state and ASRC will each separately administer its own interest in the lease. The two parties have what is essentially identical but separate legal relationship with the lessee with respect to the same mineral estate. Although a new concept for Alaska, this is a frequent occurrence in other parts of the United States, like Texas, where landownership is more complicated.

Most state administration of oil and gas leases focuses on an operator's compliance with laws concerning natural resource management and protection (land use permits, etc.). This administration is based not upon the state's statutes for oil and gas leases, but on the state's sovereign powers. These regulatory decisions are made by the state alone. Decisions concerning whether the lessee has lived up to his lease obligation (e.g., paid rent, drilled for oil) are made under the requirements of the individual lease document. These decisions would be administered separately by the two parties with respect to their own interests.

There is an unlikely possibility that the state or ASRC will terminate its lease but that the other will not. In that case, the party with the unleased interest would be free to lease its interest on its own (though such a lease might be worth considerably less than a joint lease). In addition, the lessee may still explore and produce, but as long as part of the subsurface interest is unleased, production occurs under the laws of mineral cotenancy. These laws have not been tested in Alaska, but we expect that the lessee will owe the remaining lessor (the one with the lease) the royalty due under that lease, and will owe the other lessor (the one without a lease) the value of all oil after its share of production and development costs have been subtracted.

This system, while unusual for Alaska, is unlikely to create frequent conflict. The limited nature of decisions made under the lease and the self-interest of both the state and ASRC will likely result in consistent administration.

SUMMARY OF PROCESS BEFORE A JOINT LEASE SALE.

The previous section explained the concept of the settlement agreement. This section explains the steps that precede a joint lease sale.

The Grant of Executive Rights. Once State and ASRC both have title to a section and the section is unleased, State has Executive Rights to lease both State and ASRC acreage for oil and gas. With those executive rights, the State is held to a "Standard of Performance" but does not give up its "Sovereign Powers."

1. **State proposes** "substantive terms and conditions" of the lease sale. At least 6 months before sale, State gives ASRC notice of proposed "substantive terms and conditions" for the sale.

2a. **If State and ASRC reach "Approval Agreement"** -- that is, if State and ASRC agree on those terms, State goes forward and holds the sale. Go to Step 3.

2b. **If State and ASRC disagree - the Qualified Independent Consultant** (QIC). If State and ASRC disagree, the disagreement is referred an expert, the Qualified Independent Consultant. State and ASRC show each other and the QIC their information; QIC decides whether State would breach its "Standard of Performance" in using those "substantive terms and conditions."

(i) **If QIC decides for State.** State holds lease sale. Go to Step 3.

(ii) **If QIC decides against State.** State has two choices:
(A) **Change terms** to those requested by ASRC and hold sale. Go to Step 3.
(B) **Hold sale using State's proposed terms.** Go to Step 4.

3. **State holds Lease Sale -- Liability Ends.** ASRC loses right to argue State breached Executive Rights "Standard of Performance" because ASRC agreed or lost in front of the QIC.

4. **State holds Lease Sale -- Liability Continues.** ASRC retains right to sue for damages that State breached "standard of performance." If they sue, court reviews decision of QIC based on the record before QIC. If, based on record before QIC, court decides that QIC's decision was "arbitrary and capricious" State is absolved of liability. If court upholds QIC, then court awards damages on State's failure to comply with "standard of performance."

Grant of Executive Rights Ends -- State and ASRC Administer Own Interest Separately. One partial exceptions to separate administration: ASRC agrees to use State's method for royalty evaluation.

STANDARD OF PERFORMANCE. The agreed standard of performance is reproduced from the agreement.

4.2 Standard of Performance.

(a) The State shall exercise the Executive Rights granted herein in compliance with the Limited Prudent Landowner Standard, as defined herein, as to the substantive terms and conditions of all Subsurface Agreements[1] and Subsurface Agreement Solicitations[1] to be executed or issued by the State as executive pursuant to this Settlement Agreement. In exercising such Executive Rights, the State shall treat ASRC's interest in the same manner as it treats its own interest and shall not act in a manner intended to benefit itself at the expense of ASRC.

(b) Neither the Limited Prudent Landowner Standard nor any other provision of this Settlement Agreement creates a fiduciary duty on the part of the State to ASRC.

IMPORTANT DEFINITIONS

"Executive Rights" means the exclusive right, power, and authority to formulate and issue Subsurface Agreement Solicitations[1] and to negotiate, formulate, agree upon, execute, and grant Subsurface Agreements[1] pursuant to the terms of this Settlement Agreement.

"Limited Prudent Landowner Standard" means the **Prudent Landowner Standard** except to the extent that the State is prevented from complying with such standard because of its duties and obligations as sovereign or because of applicable federal or state statutes, regulations, and constitutional provisions, including, but not limited to, those that govern protection of natural resources and procedural requirements for disposal of interests in state lands for leasing, exploration, and development of natural resources, subject, however, to the provisions of subsection 8.2.[2]

"Prudent Landowner Standard" means the degree of diligence and discretion that would be exercised by an average landowner, acting as a reasonable and prudent person who is familiar with prevailing practices and standards in the oil, gas, and mineral industry in the area at the time, in seeking to cause his subsurface to be explored and developed and to maximize subsurface revenues from such subsurface and protect such subsurface from drainage.

"Substantive terms and conditions" means, but is not limited to, timing of lease sales, lease tract identification and composition, bid terms, and lease terms but shall not include (i) the exercise by the State of its duties and obligations as sovereign, (ii) the State's compliance with applicable federal or state statutes, regulations, and constitutional provisions, including but not

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[1] "Subsurface Agreements" are essentially oil and gas, or coal leases. "Subsurface Agreement Solicitations" is the lease sale.

[2] Section 8.2 ensures that ASRC has not waived "its right to challenge the constitutionality of any statute or the validity of any regulation...that singles out the Nuiqsut subsurface or the Point Lay subsurface for treatment different from that accorded to other lands with the State of Alaska, or that causes any injury-in-fact to any rights expressly granted to ASRC under this Settlement Agreement."

limited to, those that govern protection of natural resources and procedural requirements for disposal of interests in State lands for leasing, exploration, and development of natural resources, (iii) the granting of exploration incentive credits against tax obligations or the State's royalty interest (but not ASRC's royalty interest), or (iv) other exercise of the State's taxing power."

ALASKA DEPARTMENT OF NATURAL RESOURCES

BRIEFING BEFORE THE HOUSE RESOURCES COMMITTEE

January 16, 1992

I. Update of DNR Organization ..... Harold C. Heinze

II. Update of DNR Issues, Plans for 1992 ... Harold C. Heinze/Directors

A. Agriculture Issues
Agriculture Task Force

B. Forestry Issues
Forest Practices Regulations
Fire Suppression Funding Bill
Spruce Bark Beetles

C. Mining Issues
Reclamation Regulations
Reclamation Bill

D. Park Issues

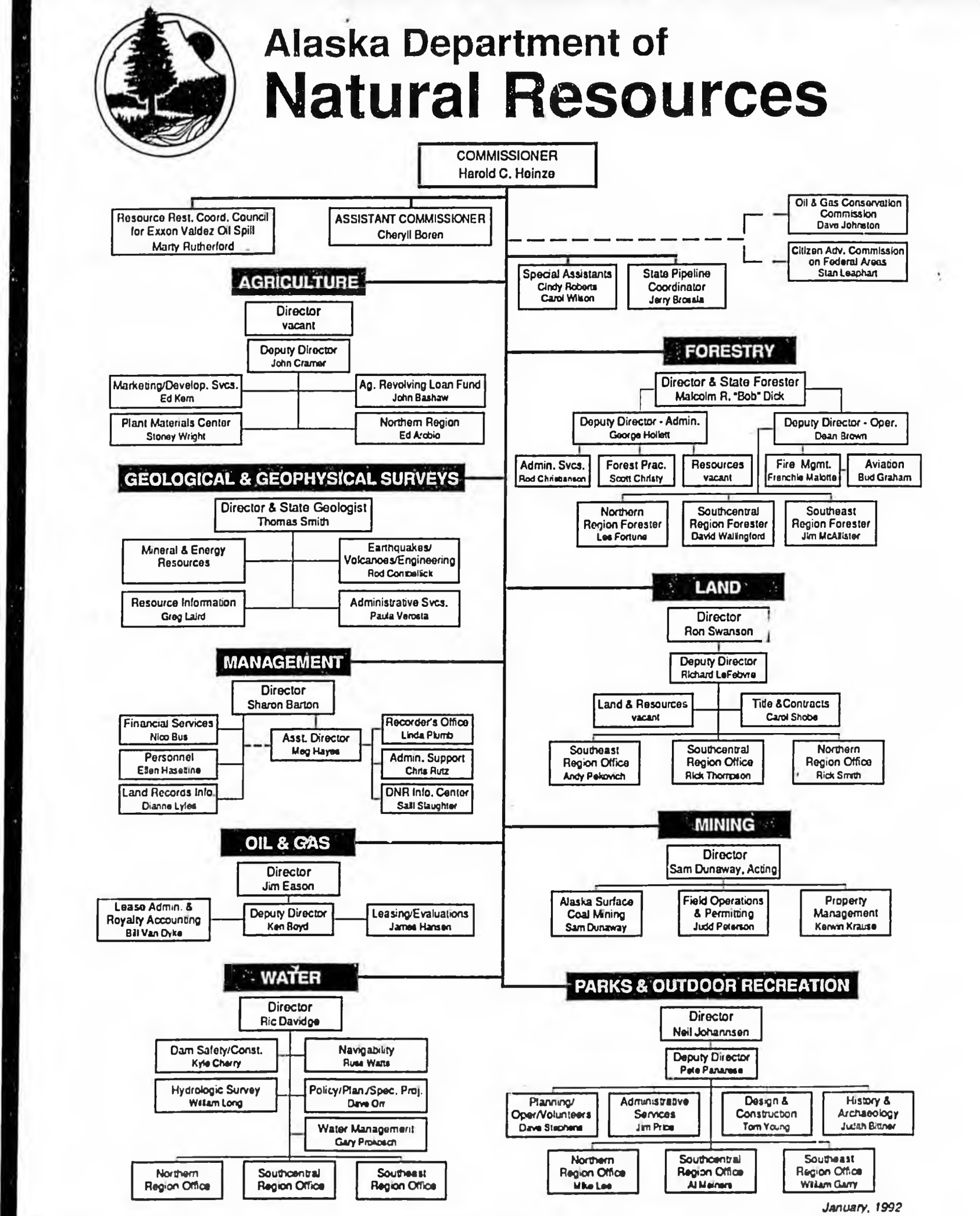
E. Land Issues ..... with Ron Swanson
Mental Health Settlement
Land Selection Project
Title 38 changes

F. Oil and Gas Issues ..... with Jim Eason
ASRC Settlement
Update on Lease Sales
Stratigraphic Well Bill
Royalty Oil Contract
Oil Field Development

G. Water Issues ..... with Ric Davidge
Water Fee/Sale Bill
Water Summit

III. FY 93 Budget ..... with Sharon Barton

Alaska Department of Natural Resources



January, 1992

FUTURE OF AGRICULTURE TASK FORCE

Co-Chairs:

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Juneau, AK 99811
465-3500

Commissioner Harold Heinze
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Ron Sexton
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Soldotna, AK 99669
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262-9242 (wk)

TASK FORCE MEETINGS

January 8 -	1:00 p.m.	Palmer - Division of Agriculture conference room
	6:00 p.m.	Susitna Valley - H&H Cafe, Talkeetna Highway Trapper's Creek, Willow, and surrounding areas (meals are available)
January 11	8:00 a.m.	Kodiak - Buskin River Inn
	3:00 p.m.	Ninilchik, Homer and all surrounding areas Ninilchik Fairground Building
January 21	1:00 p.m.	Delta Junction - Library Conference Room
MARCH 10	(tentative)	Fairbanks
February 12	10:00 a.m.	Full Task Force - Anchorage location undetermined

FORESTRY ISSUES

Forest Practices

The final draft regulation package was reviewed by the Board of Forestry, after which the Division made several changes to the draft. The final document was forwarded to Commissioner Heinze for his review and approval. The Department of Law next will review the package. The draft regulations went through several iterations of public review and Division modification. While not perfect, the package is vastly improved over the initial public draft. Water Quality regulations are being drafted by DEC in a companion process. Their regulations will be included to finalize the package before it goes to the Department of Law.

Fire Suppression

The Division of Forestry spends an average of $8 million to $11 million per year in the wildfire suppression budget component. The annual appropriation averages between $2 million and $4 million per year. The shortfall is made up by engaging the disaster relief fund under AS 26.23.300. But this draws down the balance of that fund. Fire suppression funds can also be made available through disaster financing provisions under AS 26.23.050, but that causes delays and excessive paperwork. The Department proposes statutory changes to allow the Commissioner to use for fire suppression during a fiscal year, appropriations expected to lapse at the end of that fiscal year. Appropriate safeguards will be built into the bill.

The Spruce Bark Beetle

The 1991 legislature authorized the Division to spend $450,000 to begin a "Forest Health Initiative". The Initiative targets the Kenai Peninsula and the spruce bark beetle as the first project. Public process is emphasized. The Division has a full time person assigned to the project and has formed a work group with involvement from multiple interested parties and agencies. By end March, the Division expects to have developed major direction. The Division will use the Kenai Peninsula project as a model for other forest health problems throughout the state.

MINING ISSUES

Mining Reclamation

The reclamation act (AS 27.19) requires reclamation of all mining operations in the State. It went into effect on October 15th, 1991. DNR has sent reclamation regulations to the Department of Law for adoption, but it is not expected that the regulations will become law for several more months. However, the regulations are not necessary for the act to be implemented. A state bond pool has been set up within the Department. The Division is accepting reclamation bonds and receiving and processing reclamation plan applications. Even though the Department is phasing in reclamation plan approval for operations on private lands, most mining operators on private lands have given us notice that they intend to submit reclamation plans and will obtain the reclamation bonds as necessary.

MENTAL HEALTH TRUST RECONSTITUTION

Legislation enacted last year (Chapter 66, SLA 91) provided the basis for the reconstitution of the Mental Health Trust. This legislation will resolve longstanding problems of land ownership of importance to the public and the state. The Department of Natural Resources has been actively involved in carrying out the provisions of this legislation with the involvement of the plaintiffs representing the mental health constituency groups.

Settlement Agreement. Under the provisions of the enacting legislation, both parties must agree to a Settlement Agreement that must be approved by the court to dismiss the Weiss v. State litigation. This agreement will be submitted to the court later this month. Although not yet final, some of the main provisions of the Agreement include:

1. Common Data Base and Information System. A detailed description of the information to be developed by the department and the plaintiffs, and the provision for a share, equal access information system.

2. Identification of Title Encumbrances. A detailed definition of encumbrances to title; this information is critical to the determination of whether original trust land is conveyable or non-conveyable.

3. Exchange of Land and Mineral Estates. The understanding that exchanges of land can include the surface and subsurface estate, and that such exchanges should be based on comparable characteristics as well as value.

4. Expediting of Land Exchange Process. The ability to expedite the land exchange process (500,000 acres of non-conveyable land and an equivalent acreage of replacement land) through the "aggregation" or generalized grouping of similar parcels.

5. Land Exchange Process. A clear, description of how "land exchanges" would occur and the respective roles of the parties in this process.

6. Release of Land from Hypothecated List. The identification of a process to release land on the Hypothecated List as land exchange occur.

7. Interim Land Management Standards. The establishment of interim management procedures for original mental health, hypothecated, and proposed replacement land.

Mental Health Project. The department has established the Mental Health Project and has begun implementing portions of the 1991 legislation we are responsible for. We must identify all encumbered, non-conveyable land (500,000 acres) and all unencumbered land (500,000 acres) of the Original Mental Health Trust and then identify the value and characteristics of the non-conveyable land. The department is also beginning to determine the value and characteristics of the land proposed by the plaintiffs for exchange. All conveyable parcels will be returned by the department to the Mental Health Trust as soon as the court approves the legislation and settlement agreement early this year.

Since July, 1991, the department has:

1. Settlement Agreement. Participated in the writing and adoption of a Settlement Agreement with the plaintiffs.

2. Administrative Support. Established a Mental Health Settlement Unit within the Division of Land consisting of land title, audit, surveys, appraisal and personnel.

3. Hypothecated Lands List. Developed a detailed listing and description of the land on the Hypothecated Lands List.

4. Title Review Process. Established a title review process for all Mental Health Trust properties, and have begun identifying non-conveyable parcels, beginning in Southeast Alaska.

5. Implementation Plan. Developed a detailed Implementation Plan to guide the research, information system, and land exchange processes of trust reconstitution.

6. Maps of Conveyable/Non-conveyable Tracts. We are preparing maps depicting conveyable and non-conveyable tracts of original mental health trust land at the township scale and developed acreage summaries of this information at the community level.

In Brief:

Return of Municipal Entitlement Land to the Mental Health Trust

Alaska Department of NATURAL RESOURCES

Division of Land • October, 1991

Background: The Alaska Legislature has enacted a proposed settlement to the Mental Health Trust Land litigation under SB 65; Ch. 66, SLA, 1991. This law will not become effective until it is approved by the Alaska Superior Court. Under the proposed settlement, original Mental Health Trust Land that has been conveyed or approved for conveyance to municipalities/boroughs may remain with the municipality/borough and need not be returned to the trust.

Part of the settlement is to reconstitute as much of the original one million acres of Mental Health Trust Land as possible. Some municipalities/boroughs have expressed an interest in returning some of the original Mental Health Land they have received. The following information is provided for guidance in returning these lands to the State of Alaska, Department of Natural Resources (DNR).

In what situations should a municipality/borough return original Mental Health Trust Land to DNR?

A municipality/borough must first determine if there is sufficient available State land (as defined in AS 29.65.130) within the boundary of the municipality/borough to compensate for the acreage entitlement if it returns original Mental Health Trust Land to DNR. In that determination it must be remembered original Mental Health Trust Land selected by, but not approved for conveyance to a municipality/borough will be returned to the Trust without any action by the municipality/borough.

What other criteria must be met to return original Mental Health Trust Land to DNR?

- The municipality/borough has not created any third-party rights which would result in a fee title interest on the parcel to be returned. If these rights have been created, the third-party parcels must be excluded by survey before the Mental Health parcel is returned to DNR and the acreage of these third-party rights will remain charged against the municipality's/ borough's entitlement.

- If the municipality/borough has created leases on parcels to be returned, report these leased parcels to DNR and DNR will contact the plaintiffs or the Alaska Mental Health Trust Authority (AMHTA) to determine if they want the land subject to the lease.

- If the municipality/borough has created rights of way or easements through the action of the platting authority on parcels proposed to be returned, these parcels will be subject to negotiation with the AMHTA or the plaintiffs prior to DNR acceptance.

- Parcels that have been *approved for conveyance* by DNR, and not yet patented, must be returned to DNR by Quitclaim Deed (QCD). The QCD must use a surveyed legal description or a metes and bounds legal description approved by DNR, Division of Land. If the final decision approving land for conveyance has been recorded, a citation of the recording office, book and page numbers and recording date must be included in the QCD. If the final decision has not been recorded, the municipality/borough must record the decision first and use the citations described above in the QCD to DNR.

- The municipality/borough will convey a *patented parcel* to the DNR by a QCD using a surveyed description or a metes and bounds description approved by the DNR, Division of Land. The QCD must cite the recording office, book and page numbers and recording date of the patent.

Fact sheet:

MENTAL HEALTH LAND SETTLEMENT

Alaska Department of NATURAL RESOURCES

Division of Land • August, 1991

On June 19, 1991, Governor Hickel signed Senate Bill 65 into law. This law, known as the Alaska Mental Health Trust Settlement Act, proposes a settlement of Weiss v. State of Alaska for the plaintiffs and court to accept. The settlement would reconstitute the mental health land trust created by the Alaska Mental Health Enabling Act of 1956.

Background: Prior to statehood, Alaska was granted title to one million acres of federal land to generate revenue to support Alaska's mental health programs. Over the next ten years, land with high income-producing potential was selected to fulfill this trust entitlement. The original trust lands included coal and mineral deposits, commercial forests and agricultural areas. Additional land was selected in and around existing communities to allow growth and to return income to the trust.

As Alaska's population increased, some Alaskans wanted certain of these lands for non-income-producing activities such as parks, municipal expansion and public facilities. In 1978, the legislature waived the trust status of mental health trust land, and redesignated it as general statehood grant land. In return, the legislature was to appropriate 1.5 percent of all income from state lands to the Mental Health Trust Fund.

No appropriation was made, and in 1982, mental health advocates sued the state (Weiss v. State of Alaska, 4FA-82-2208 Civ.). The suit went to the Alaska Superior and Supreme Courts over the next few years. The Supreme Court ruled in favor of the plaintiffs and ordered the state to "reconstitute, as nearly as possible the holdings which comprised the trust when the 1978 law became effective." The 1990 legislature passed a bill providing a revenue stream to the trust. The plaintiffs considered this only a partial solution and, at their request, in July 1990, the court placed an injunction on all activities and conveyances of title to the original mental health trust land.

It was against this background that SB 65 was crafted by the Hickel administration, the plaintiffs' attorneys, and the 1991 legislature.

The Mental Health Trust Lands Settlement Act establishes an independent Mental Health Trust Authority made up of financial managers appointed by the Governor (after considering nominations by groups representing beneficiaries of the trust) to manage the assets of the trust. It reconstitutes the land trust with all unencumbered land from the original mental health trust and provides replacement land through an exchange process for land conveyed out of the trust. While the Mental Health Trust Lands Settlement Act has become law (Ch. 66, SLA 1991), it is not yet in effect. It will only become effective upon dismissal of Weiss v. State by the Superior Court and the expiration of the time for appeal. Although many questions remain about how the Act will be implemented, this fact sheet gives a general description of how the state will fulfill its obligation to reconstitute the mental health trust.

What lands are available for transfer to the trust?

The Act establishes three categories of lands that can be returned to the trust: (1) certain **original mental health lands**; (2) other state lands to be conveyed to the trust in **exchange** for original mental health lands not returned to the trust; and (3) **"hypothecated lands"**--lands held as security--that can be transferred to the trust if the state does not make the trust whole within the time specified under the Act.

How much of the original mental health land is available to return to the trust?

More than half of the original one-million acres is available for return to the trust. Land without permits or leases, land leased for oil and gas or coal development, land with current timber contracts, rights-of-way, and

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

In Brief:

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Division of Land • October, 1991

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- If the municipality/borough has created leases on parcels to be returned, report these leased parcels to DNR and DNR will contact the plaintiffs or the Alaska Mental Health Trust Authority (AMHTA) to determine if they want the land subject to the lease.

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- In lieu of title insurance, which is costly, DNR will accept a Certificate of Title stating the municipality/borough has created no third-party right not identified in the conveyance document. The Certificate of Title will be signed by an authorized officer of the municipality/borough. If the municipality/borough prefers to purchase title insurance, DNR will consider this an adequate alternative.

- Each QCD must be accompanied by a copy of a resolution of the municipal/borough assembly agreeing to the conveyance of the original Mental Health Trust Land.

How will the municipality/borough receive credit for the conveyed land?
Upon acceptance of the conveyance document by DNR, the appropriate Regional Office will notify the municipality/borough that under the application (ADL file) originally filed for the parcel conveyed, the municipality/borough now has a credit of x acres on the acreage entitlement. Or the original application (ADL file) has been reopened and the municipality/borough now has a credit of x acres on the acreage entitlement.

What will happen to the original Mental Health Trust Land conveyed to DNR?
When the QCD is accepted by DNR the land will be considered as unencumbered Mental Health Trust Land and will be reconstituted to the Trust.

What is the timeframe to convey original Mental Health Trust Land back to DNR?
DNR would like to know which lands the municipalities/boroughs are interested in conveying as soon as possible. No QCD will be accepted until after the Alaska Superior Court has ruled on the acceptance of Ch. 66, SLA 1991 as the settlement of *Weiss v. State of Alaska*.

If you need further information, please contact Bruce Phelps, Mental Health Trust Land Project Manager at 762-2316, or Dennis Daigger, Municipal Entitlement Project Manager at 762-2660.

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Alaska Department of NATURAL RESOURCES

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No appropriation was made, and in 1982, mental health advocates sued the state (Weiss v. State of Alaska, 4FA-82-2208 Civ.). The suit went to the Alaska Superior and Supreme Courts over the next few years. The Supreme Court ruled in favor of the plaintiffs and ordered the state to "reconstitute, as nearly as possible the holdings which comprised the trust when the 1978 law became effective." The 1990 legislature passed a bill providing a revenue stream to the trust. The plaintiffs considered this only a partial solution and, at their request, in July 1990, the court placed an injunction on all activities and conveyances of title to the original mental health trust land.

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How much of the original mental health land is available to return to the trust?

More than half of the original one-million acres is available for return to the trust. Land without permits or leases, land leased for oil and gas or coal development, land with current timber contracts, rights-of-way, and

land with other encumbrances acceptable to the plaintiffs will be returned to the trust. Land selected under the Municipal Entitlement Act but not yet conveyed will or formally approved for conveyance also return to the trust.

What original mental health land will not be returned to the trust?
Under the Act, land sold to individuals, transferred to a municipality under the Municipal Entitlement Act, and land within legislative designations such as parks and refuges will not be returned to the trust. However, the legislation requires that the original mental health land now within the Haines and Tanana State Forests be returned to the trust. In addition, some lands with long-term use authorizations not specifically listed in the bill are being reviewed by the plaintiffs to see if they are acceptable to be returned to the trust.

What state land is being considered for exchange?
The potential exchange land parcels will be chosen on the basis of similarity to the original trust lands. These parcels should be as similar as possible in character (including terrain, use, location, income and development potential, and accessibility) to the land not being returned to the trust. The land will be exchanged on an equal value basis. The exchanges will be negotiated solely between the commissioner and the plaintiffs in the lawsuit. State tide and submerged land, land within legislative designations and School Trust Lands are not available for exchange.

When will the trust be reconstituted?
The Act specifies that the reconstitution process be completed by December 1, 1994.

What is the Hypothecated Lands List and what is its purpose?
"Lands Hypothecated to the Mental Health Trust, May 1991" in the Act, is a pool of land pledged to the trust without transferring possession or title, and works as security for the land compensation to the trust. If the state does not complete the exchange process by the time specified in the Act, the plaintiffs can have the court "foreclose" appropriate land from the hypothecated lands list and transfer it to the trust.

Department of Natural Resources staff worked with the plaintiffs in the Mental Health Land Trust litigation to assemble this land pool. The land on the hypothecated list will either be used as replacement or exchange lands, or released from the list as exchanges are accomplished.

What lands are on the Hypothecated Lands List?
As with the exchange lands, the hypothecated land pool is primarily made up of land similar to the original trust land. It includes subdivision lots; large tracts of land such as the Willow Capitol site; land with timber or mineral resources; land designated for settlement in area plans; land with existing commercial leases; and land with mental health facilities such as the Alaska Psychiatric Institute in Anchorage and the Fahrenkamp Center in Fairbanks. The complete Hypothecated Lands List is available for inspection at the Department of Natural Resources offices noted below.

If a property is on the hypothecated list, what impact will that have on Department of Natural Resources management decisions?
Although inclusion in the hypothecated list precludes the sale of the parcels, it does not place an injunction on these lands. The department must manage these lands so that their value is not diminished, but this does not preclude development. The department will continue to manage all land in the pool under these guidelines until specific parcels are either conveyed to the trust or released from the list.

Will unsold lots, access lands and/or public or common lands in state subdivision disposals be put in the pool as exchange lands?
Unsold subdivision lots which would otherwise be available for sale "over-the-counter" will be available as exchange land. Not available will be rights-of-way and public or common land which are considered part of the subdivision.

Does the state have sufficient land to reconstitute the trust on a comparable character and equal-value basis, and still meet the other land needs of the state?
Yes. The state's vast holdings (85 million acres not including tide and submerged land), which will soon be augmented by the state's final statehood land selections (an additional 20 million acres), should be sufficient to answer all of the state's needs. The state has more than 76 million acres of land currently available for exchange.

What public notice requirements apply to the transfer of lands into the trust?
The Commissioner of the Department of Natural Resources must give 30 days public notice in local and statewide newspapers and other methods specified by law. These additional requirements can be found in Alaska Statute 38.05.945 (b) and (c). The purpose of the notice is to announce the pending transfers of original mental health land or to announce the decision of the commissioner and the plaintiffs with respect to exchange land. Public hearings are not contemplated in the Act.

What factors will be considered in selecting land for exchange?
The Act specifies that the lands to be exchanged must be of comparable character and equal value. Additional factors to be considered in selecting land for exchange are the resulting diversity of both the trust and state land portfolios, revenue generating potential for the trust, public benefits to both the trust and to the state, and resulting efficiencies of land management. The actual process for these considerations has not yet been determined, but there will be a reviewable administrative record.

Does the commissioner have to reclassify lands or amend land-use plans in order to convey land to the trust?
No. Land-use plans will eventually be amended to reflect the change in land status. When lands currently covered by land-use plans are conveyed to the trust, the lands are exempt from the area plan provisions.

After land is transferred to the Trust, what public notice requirements will apply to decisions made by the Alaska Mental Health Trust Authority?
The Trust Authority must give 30 days notice in statewide and local newspapers and by other methods specified in the law before taking an action. These additional requirements can be found in Alaska Statute 38.05.945 (b) and (c).

Do multiple use requirements on state lands apply to management of the trust?
No. The purpose of the trust is to generate revenue to meet the expenses of its beneficiaries.

For more information, or to review the complete Hypothecated Lands List, contact one of the DNR offices listed below:

Department of Natural Resources
Division of Land

Southcentral Regional Office
3601 C Street, Suite 1080
P.O. Box 107005
Anchorage, AK 99510-7005
(907) 762-2492

Southeast Regional Office
400 Willoughby Avenue, 4th Floor
Juneau, AK 99801
(907) 465-3400

Northern Regional Office
3700 Airport Way
Fairbanks, AK 99709
(907) 451-2700

In Brief:

MENTAL HEALTH LAND

Alaska Department of NATURAL RESOURCES
Division of Land and Water • January, 1991

The Mental Health Enabling Act

In 1956, the U.S. Congress granted the Territory of Alaska one million acres of land to be used first to fund mental health programs. Any funds left over could be used for other public purposes at the discretion of the legislature.

Land was selected under the Mental Health Enabling Act between 1956 and 1966[1], and included areas along transportation routes and near the state's population centers. Mental health lands were managed by the state as trust land, and, in 1976, the Mental Health Trust Board was established to provide oversight.

Under the enabling act, mental health land could be sold. By 1978, 19,800 acres had been sold to individuals. Income received from mental health land and resources was placed in a separate account within the general fund. As the state's population grew, so did pressure to use these lands for purposes that might produce little or no revenue. Among those uses were municipal expansion, public facilities, utilities, recreation and charitable activities.

Redesignation and Litigation

In 1978, the legislature redesignated the mental health land as general statehood grant land to be managed similar to other state land. In return, the legislature was to annually appropriate 1.5 percent of the state's annual income from land and resources to the mental health trust. However, the legislature did not appropriate the money,[2] and on November 26, 1982, a class action law suit was filed in Superior Court on behalf of several mental health beneficiaries (Weiss v. State of Alaska).

In 1984, the Superior Court directed the state to pay the trust for the mental health land redesignated as general statehood grant land in 1978. In order to value that land, the state produced an accounting of mental health land and assembled a panel of three appraisers to assign a 1978 value to the redesignated lands.[3]

The Superior Court decision was appealed to the Alaska Supreme Court and, on October 4, 1985 that court invalidated the 1978 redesignation. The court required the state to restore the mental health land holdings as much as possible to their pre-1978 status and to compensate the trust for the value of the land already conveyed, minus prior state expenditures made for mental health programs[4]. The Supreme Court decision also returned the case to the Superior Court so that the remaining issues could be decided. As a result, income from mental health land transactions again began to flow into a specially designated mental health trust account within the state's general fund. In addition, the Department of Natural Resources adopted safeguards to prevent further diminution of the trust (Department Order 121); appointed an Interim Mental Health Trust Officer; and audited mental health land status as of the 1985 court decision.[5]

Legislative Action

In 1986, the legislature passed two bills affecting mental health land. The bills established two bodies: a five-member Interim Mental Health Trust Commission to oversee management of mental health trust land and to develop recommendations for legislation relating to those lands and mental health programs of the state; and a Joint Special Committee on Mental Health Trust Land to hold public hearings and develop a proposal to resolve the mental health trust litigation, particularly from the aspect of annual funding levels for mental health programs.

Based upon the recommendations of the Commission and the Committee, the 1987 legislature passed a bill initiating a mechanism for settlement. A three-member Interim Mental Health Trust Commission was established and charged with approving procedures for the Department of Natural Resources' commissioner to use to determine the fair-market-value of mental health land as of September 7, 1987 (the effective date of the bill); selecting land within legislative designations to equal the value of the original mental health land granted to the state; and continuing oversight of mental health land management. The framers of the bill envisioned a designation "switch," that would release existing mental land from trust status, and replace it with land within legislative designations, such as parks and refuges. The designated land would then be

leased from the trust at eight percent of its value. The proposal would secure the trust with land already removed from the Public Domain, and provide income to the trust through rental of the land. The 1987 bill also established a separate board to consider state mental health needs and funding levels.

Valuation

In 1988, the commission contracted with nine independent fee appraisers to determine the fair-market-value of the surface estate of mental health land. The appraisers set that value at $511.9 million. However, attorneys for the plaintiffs and intervenors disagreed and hired their own review appraisers. These review appraisers, operating under the direction to determine "the highest value supported by market data" concluded that the surface estate was worth $833.3 million.

The commission initially decided that there were insufficient data to establish a sub-surface value. Instead, lands with mineral potential were to be replaced with land of similar potential. However, the attorneys for the plaintiffs and intervenors hired a consultant who established a sub-surface value of $1.5 billion. This value was challenged by several independent experts who concluded that it was not fair-market-value and could not be supported.

In December, 1989, the commission adopted a value of $2.23 billion for all mental health land. A minority report was prepared by the department establishing the fair-market-value of mental health land at $564 million. The Commissioner of Natural Resources disagreed with both values, stating that they did not reflect the fair-market-value required by the legislation, and declared an impasse.

1990 Actions

In the 1990 legislative session, several alternatives were proposed to resolve this issue. A bill was introduced removing the fair-market-value requirement from the 1987 legislation, adopting the commission's $2.23 billion figure and providing for a periodic land revaluation index based on municipal land assessments. This value would then be the basis for future mental health program expenditures. However, many legislators opposed this approach because it would cause the mental health revenue account to exceed the entire state general fund within a relatively short time-frame.

The 1990 legislature eventually passed SB 493 allocating up to six percent of the state's annual unrestricted general fund revenue to the mental health income account, and redesignating over nine million acres of legislatively designated land as mental health land to secure the trust. In return, the original mental health trust land was redesignated to general state land status. The legislature remains responsible for determining mental health program expenditure levels. However, mental health advocates did not support the bill.

On July 9, 1990, the Superior Court granted a temporary injunction preventing the state from taking any further action on mental health land. On September 7, 10, and 11, attorneys for the mental health litigants filed a Notice of Lis Pendens on the million acres of mental health land. The notice warns people that the title to the property is in litigation, and that they are in danger of being affected by an adverse judgement. This notice is affecting many private transactions as Alaskans attempt to sell their properties, or use them as collateral.

The state petitioned the court to mitigate the effects on third party owners of mental health land and allow the state to issue patent for land that has been paid for. The court refused, however, stating that the plaintiffs "would be within their rights to litigate the issue of third-party rights." Still pending is a motion by the state for declaratory judgement to determine whether the plaintiffs are entitled only to monetary compensation for the prior transfer of mental health land to third parties.

Another outstanding issue yet to be addressed by the court is whether the 1990 legislation complies with the 1985 Supreme Court Weiss decision.

Endnotes

1. State records show that 1,005,843.38 acres of mental health land have been received by the state under the mental health grant. The state is involved in a survey recalculation project to rectify this apparent over-conveyance.

2. The 1.5% appropriation would have amounted to approximately $71 million by the end of FY 82; it would have grown to $147 million by the 1985 Supreme Court decision.

3. The 1978 value of mental health land in state ownership as of the redesignation in 1978 was established under this process as $281,997,805. Brought forward to July, 1985 at 10.5% settlement interest, the total was estimated at $567,259,354.

4. Total income for mental health land from 1959-1977 was $25,110,430. State mental health expenditures during this same period were $115,364,054 with an additional $16,430,771 being spent on alcohol and drug abuse programs.

5. 1985 mental health land status:

   Mental Health Land no longer in state ownership

   The following conveyances were not disputed by mental health plaintiffs in 1985:
   46,000 acres were sold to individuals
   5,000 acres were condemned for the Chena River Lakes flood control project.
   (Total remaining mental health land: 949,000 acres)

   The following conveyances were disputed by the mental health plaintiffs:
   43,000 acres conveyed to municipalities
   *36,000 acres were conveyed to Native corporations
   *3,000 acres were conveyed to the University of Alaska
   (Total remaining mental health land: 867,000 acres)
   *These conveyances were made under litigation settlement agreements and land exchanges.

   Encumbrances

   368,000 acres were legislatively designated for parks, etc.
   6,685 acres were under land lease
   54,600 acres were under coal lease
   131,900 were under oil & gas lease
   4,500 acres were covered by inter-agency land management assignments or transfers (e.g. for state facilities)
   1,900 acres were covered by material sales
   28,000 acres supported timber sales
   62,000 acres were covered by state mining claims

Department of Natural Resources

State Land Selection Briefing
House Resources Committee - January 1992

The following is an outline of the state land selection issues described in greater detail in the attached pages.

I. Issue: Outstanding Statehood Land Entitlement to Select. Before 1994, the State of Alaska must select at least 8 million acres from federal public domain land. We are also re-evaluating 10 million acres of existing selections. DNR is well into the first year of a two-and-a-half year process that will finalize our land selections. The deadline for filing land selections is January 2, 1994.

II. Issue: Problems with Federal Transfer of Land the state has already selected. The state has selected millions of acres of high value land that cannot be conveyed due to conflicting land claims and federal administrative withdrawals. We are working to reduce conflicting selections and to get the federal government to revoke withdrawals.

III. Background - Where We Are Today. The state has received title to over 85 million acres.

IV. History of State Land Selections. The Statehood Act, as amended by ANILCA, gave us 35 years to select our land. We are now in the 34th year of this process.

V. Portfolio of Existing State Land

I. Issue: Outstanding Statehood Land Entitlement To Select. *Before 1994, the State of Alaska must select at least 8 million acres from BLM's public domain land. The state will also re-evaluate 10 million acres of existing selections.*

The Alaska Statehood Act guaranteed the state a land entitlement of 104.5 million acres. Congress intended that these land grants provide the basis for future economic and resource development, eventually making the state independent of federal support and assistance. To date, the state has received title (patent or tentative approval) to 85.9 million acres.

The state will receive an additional 19 million acres from the federal government. Under the Alaska National Interest Lands Conservation Act (ANILCA), the state is allowed to select 25% more land than its outstanding entitlement. The deadline for filing selections is January 3, 1994. Prior to 1994, the state must have filed almost 25 million acres of selections. The state will re-evaluate about 10 million acres of existing selections to determine which to keep and which to relinquish. The state must also prioritize existing selections. Some existing selections may be relinquished so the state can select higher value land elsewhere. Several million acres of state selections will not be transferred to the state because they will be conveyed to Alaska Native Claims Settlement Act (ANCSA) corporations or are within federal military reservations.

What We Are Doing

General Grant Land Selection Project

DNR, with help from other agencies, is in the midst of a statewide land selection project to complete the state's land entitlement. This project will also result in prioritization of state's remaining land entitlements, which include the General Grant, Community Grant, and School Grant. The project will be completed by 1993. Major components of the project are:

- Gather the public's knowledge and opinion of land to select
- Evaluation and exploration of subsurface resource values on available land
- Identification and field evaluation of potential transportation corridors
- Evaluation of surface resources on BLM land available for selection
- Automate land status maps
- Audit and automate more of the state's land title records

Some Highlights of our work in the Past Year:

Gather the public's knowledge and opinion of land to select

- Identified the 51 million acres of BLM land that is available for selection, divided these into 36 evaluation units
- Prepared draft report that summarizes known resource values of evaluation units. This report and a map will be available for public review later this winter
- Established an inter-agency selections team and a selection steering committee that is chaired by the Commissioner, coordinates the overall selections project
- Met with numerous groups to explain the state selection project

Evaluation and exploration of subsurface resource values on available land

- Compiled existing data on sub-surface resources
- Contacted over 80 representatives of the mineral industry to get resource data
- Met with oil industry and USGS to review unpublished oil and gas data
- Conducted massive field effort to gather new data in 16 of the evaluation units. The primary resource values on federal land that is still available for selection are sub-surface, wildlife, and transportation
- Entered preliminary mineral data into GIS

Identification and Field Evaluation of potential transportation corridors

- Identified 10-14 potential trunk transportation corridors for selection, as well as a numerous linkages to these corridors
- Established a private sector transportation steering committee with representatives of transportation, oil and gas, minerals, and other groups
- Entered existing transportation data into the GIS, including map of RS 2477 trails and waterbodies
- From both existing sources and field work, identified construction material sources in potential corridors

Evaluation of surface resources on land available for selection

- Compiled report on existing data on surface resources
- Field investigation of certain recreation, forestry, public use, and wildlife areas

Automate land status maps

- Gathered information from state and federal land records to create the first statewide computerized land records system (Geographic Information System - GIS) and records have required extensive editing, but the end product will be the most accurate and easy to update land status records for the state.
- Prepared GIS maps of state selection history, state and federal conservation system lands, ANCSA corporation land, water resources, and other resources.

Audit and automate the state's land title records

- Hired and trained new staff who audited over 500 of the 5300 General Grant land selection files. The audit revealed that we can select a net increase of 300,000 acres.
- Worked on automation of state title records
- Worked with BLM to establish a system for automatic transfer of state land selections

What Is Next in The Process?

During the next year, we will be gathering additional resource data and getting both public knowledge and preferences for selections. Public comment will take place in late Winter and Spring 1992. The selections team and steering committee will review all this information and make selection decisions in 1993. Selection documents will be prepared and filed by late 1993.

The following are highlights of our activity in the next year.

Gather the public's knowledge and opinion of land to select

- Meet with communities, Native corporations, interest groups and others around the state to gather additional knowledge and public preferences for selection
- Coordinate with inter-agency selections team and a selection steering committee that is chaired by the Commissioner to identify proposed selections

Evaluation and exploration of subsurface resource values on available land

- Continue field effort to gather new data for remainder of the evaluation units.
- Map subsurface resources on available land
- Evaluate mineral potential of available land

Identification and Field Evaluation of potential transportation corridors

- Refine potential trunk transportation corridors for selection, as well as a numerous linkages to these corridors
- Enter potential transportation corridors into the GIS, refine map of RS 2477 trails
- Identify methods to establish and protect potential corridors through non-state land

Evaluation of surface resources on land available for selection

- Identify land suitable for selection under the Community grant (land for community development or community recreation)
- Map surface resources on available land

Automate land status maps

- Continue to edit the statewide computerized land status maps (Geographic Information System - GIS)

Audit and automate the state's land title records

- Continue to audit the 5300 General Grant land selection files.
- Complete automation of state title records
- Establish a system for automatic transfer of state land selections

What Standards Are Used To Make State Selections?

Overall, the land should give the maximum public benefit. The state looks for the following qualities in its selections:

- Areas where people and economic activity are or could be located
- Public benefits
- Oil and gas, mineral, material, or coal potential
- Commercial forest potential
- Transportation routes

- Accessibility: land that ensures access to and between state land and major transportation and service centers
- Agriculture or grazing potential
- Strategic parcels with habitat, recreation, or tourism potential
- Land management efficiency
- Land quality: select land with multiple rather than single resource values

Most land with commercial forest, intensive public recreation, agriculture, and settlement potential is already either state owned, privately owned or in a federal Conservation system unit. Therefore, the focus of this selection effort will be oil and gas, mineral, and transportation resources.

What Land Is Being Evaluated?

Approximately 51.5 million acres of BLM public domain land is being reviewed, including:

- Southcentral and Southeast: land near the Denali Highway, the Tiekel block between Valdez and Copper Center, Haines, and Yakataga glaciers;

- Northcentral: Trans-Alaska Pipeline Utility Corridor, land between Chicken and Yukon-Charley Rivers National Park, old Nike Range near Fairbanks, land east and south of Nowitna Wildlife Refuge, Ray Mountains/Tozitna River, land north, east, and south of Koyukuk National Wildlife Refuge (Hogatza and Dulbi rivers);

- Southwest: land between Lime Village and McGrath, land west of the Innoko and Koyukuk National Wildlife Refuges;

- Northwest: Squirrel River drainage, Bendeleben Mountains, land west of Koyukuk National Wildlife Refuge.

II. Issue: Problems With Federal Transfer Of Land The State Has Already Selected.

The state has selected millions of acres of high value acreage that cannot be conveyed due to conflicting land claims and federal withdrawals.

Conflicting Selections

Over 9 million acres of the state's existing land selections are also selected by Alaska Native Claims Settlement Act (ANCSA) Corporations. Some of these ANCSA selections have priority over the state's selections and will eventually be conveyed to the corporations. Many other ANCSA selections are invalid or exceed the corporations' entitlement. We estimate that between 3 million and 8 million acres of these conflicting selections will be conveyed to the state. The state selections in conflict with ANCSA selections are near communities and are some of the best land currently under state selection. Final resolution of these conflicts may take decades, as the ANCSA entitlements will not be settled until all lands are surveyed. We will meet with affected corporations to get their agreement to reduce the overselection problem. Because there is no limit on the amount of overselections allowed by ANCSA corporations, a cooperative approach is required.

Federal Withdrawals

The state has filed land selections on millions of acres of federal withdrawals. These federal lands were withdrawn for use by federal agencies, existing and possible future power projects, for military reservations and other purposes.

Lands withdrawn for federal purposes are not available for conveyance to the State of Alaska. In many cases, lands that were withdrawn for use by federal agencies for administrative sites, communication facilities, and military stations are no longer used by the federal agencies. In order to make the land available for selection, the BLM is required by law to follow a complicated and time-consuming process.

Most of the hydroelectric power withdrawals are obsolete or cover land where the state is building or plans to build a power project. These withdrawals could be revoked and the land conveyed to the state.

Federal withdrawals for military reservations are likely to remain in effect for many years. However, these withdrawals cover some of the finest real estate in Alaska (such as Fort Richardson). Keeping state selections on these areas on speculation that they may be available could be a worthwhile use of the state's entitlement.

In accordance with Section 906(e) of ANILCA, the state also may file a future application on lands that are not available for selection, such as lands in federal withdrawals. These state filings are counted against the 125 percent limitation until the BLM either denies or rejects the application. If the lands should ever become available for selection, the state's filing automatically falls into place. In time, however, most of these withdrawn lands should be conveyed to the state.

III. Background - Where We Are Today

Total Statehood Entitlement:	**105.3 Million Acres**
Statehood Grants	
General grant:	102,550,000 acres
Community grant:	400,000 acres
National Forest grant:	400,000 acres*
Territorial Grants	
Mental Health:	1,000,000 acres*
University:	100,000 acres*
** School (rounded):	104,000 acres*
** University-Tanana (rounded):	11,000 acres*
Other Grants	
ANILCA School Lands:	75,000 acres
Cook Inlet Land Exchange (net, rounded):	691,000 acres*
Other (rounded):	1,000 acres*

* these grants are largely filled
** in place grants

Conveyed:	**84.9 Million Acres**
* patented:	35.1 million acres
* tentatively approved (ta'd):	49.8 million acres
* also received by right at statehood:	all tidelands, submerged lands and shorelands

Remaining Entitlement: **20.7 Million Acres**

Allowed to Select: **25.8 Million Acres**

- Allowed to select 125% of remaining entitlement.

Pending Selections: **24.7 Million Acres**

- Approximately 9 million of this is selected by both the state and the ANCSA corporations; we estimate that 4 to 5 million acres of these lands will be conveyed to the state; these 9 million acres are often near communities or have high mineral or recreation values.

- Includes several million acres of federal withdrawals, including military bases and other withdrawals; we estimate that about 2 to 3 million acres of withdrawn land may never by conveyed to the state.

Need to Select: **Approximately 8.1 Million Acres**

- 5 million acres to replace the 5 million dual selected acres that will probably be conveyed to ANCSA corporations.

- 2 million to replace the federal withdrawals that are not likely to be conveyed to us.

- 1.1 million to reach our allowed selection total.

Available Federal Land: **Approximately 51.5 Million Acres**

- This is unreserved federal land managed by BLM (yellow areas on map).

IV. How We Got Here: History of State Selections

1959 - 1966 Early Selections

- Selected 17.4 million acres, an average of a little over 2 million acres/year.

- Small and carefully calculated; directed toward land that had immediate resource value or was surveyed.

- Included land around Fairbanks, Chena Hot Springs, Delta Junction, the Susitna and Matanuska Valleys, McCarthy, the Kenai Peninsula, Haines, and the North Slope (including Prudhoe Bay).

1966 - 1971 Land Freeze

- Dec. 1966 Udall initiated a "freeze" on transfer of federal lands to allow time to sort out Native claims and protests of state selections.

- Selected about 8.5 million acres.

- Concentrated on areas believed to have oil and gas potential and areas lying outside areas of Native claims: more on the North Slope, in Copper River Basin, and the Alaska Peninsula.

1972 - 1980 After ANCSA

- The Native claim issue was resolved with the passage of ANCSA on Dec. 18, 1971.

- Section 17(d)(2) of ANCSA directed the Secretary of Interior to withdraw up to 80 million acres suitable for additions to federal conservation system units.

- The state immediately selected 77.1 million acres in an attempt to preempt federal land withdrawals (early 1972); state and Dept. of Interior later negotiated an agreement that validated 41 million acres of these selections and dropped the other 36 million (September, 1972).

- Native corporations' selection period expired in September 1976. Within the next six months, the state selected 3.6 million acres of land from the pool that had been set aside for Native selections.

- State selected another 41 million acres in 1978; these lands became known as the "May 15" list and were conveyed to the state via ANILCA (subject to existing withdrawals) in December, 1980.

1981 - Present After ANILCA

- 1982: State selected 10.3 million acres from previously withdrawn federal land that became available throughout interior Alaska and on the North Slope.

- 1986: State selected 2.8 million acres in the Pipeline Utility Corridor north of the Yukon River and along the Denali Highway.

- 1989: State selected about 600,000 acres in the Utility Corridor within the North Slope Borough. Also completed the National Forest Community Grant Selections.

- 1984 to present: State asked BLM to focus on quality rather than quantity of conveyances; up to that point, BLM had been conveying large acreages without conflict which were the more remote areas and glaciers; focusing on quality conveyances ensures that the state gets higher quality land but slows down the rate of conveyance because it takes time to resolve the conflicts.

THE STATE'S PORTFOLIO

The state has received patent or tentative approval to 84.7 million acres of its entitlement, excluding university and mental health land. Shown below are the resource values for this portfolio. There is considerable overlap in the figures because most land has multiple resource values. Percentages and acres are not intended to be totaled. Their function is to show relationships between or among the different resources within the state's portfolio.

Percentage	Acres (million)	Values (1)*
4	3.39	Settlement (2)
≤1	.74	Agriculture (3)
25	20.80	Grazing (4)
7	5.92	Forestry
16	13.23	Public Recreation
26	21.96	Wildlife Habitat
16	13.31	Minerals (5)
28	24.13	Oil & Gas (6)
10	8.50	Coal (7)
27	22.46	General Uses (8)
16	13.50	Low Values (9)

*Numbers refer to the following notes.

1. The acreage totals for each resource value are based on information taken from Promised Land, state land classification reports 1984-90, completed area plans, Hawley's maps of mineral terranes and coal resources, oil and gas basins mapped by the Division of Oil and Gas (DOG), and the FY 83 Statewide Natural Resources Plan. Certain qualifications apply to many of the categories. Please refer to the notes for details.

2. The state has sold approximately 530,000 acres of settlement land.

3. This does not include approximately 200,000 acres of agricultural land in private ownership, most of which was state land.

4. Grazing land includes 16.65 million acres suitable for reindeer grazing.

5. This estimate is based on known mineral terranes, not on land classifications or designations.

6. This estimate is based on oil and gas basins described by DOG.

7. The state's coal reserves are described in Promised Land.

8. The general uses category includes 31.5 million acres of resource management land classified by AS 38.04.020(c), which required all state land in the unorganized borough to be classified. Subsequently, some of this acreage was reclassified to other categories by area plans. According to the FY 83 Statewide Natural Resources Plan, much of the land outside the boundaries of completed area plans has wildlife habitat value. Some of this land also has forestry and subsurface resources.

9. This estimate is based primarily on designations in completed area plans.

Revised 1/15/92 by R.H.

Title 38 Amendments

In general, the proposed Title 38 changes are designed to remove some obsolete land sale and lease requirements (Director of Lands, draining of agricultural land, etc.), allow flexibility in dealing with "preference rights" while getting fair market value for state land, and allow flexibility in developing more appropriate and less costly to administer programs and procedures for surface land sales and leases.

Summary of the big changes:

38.04.020 -- deletes land disposal bank report to Legislature and land bank hearings; adds a requirement for a five-year land sale program for subdivision sales; makes requesting funds for survey and land disposal optional instead of mandatory.

38.04.030 -- adds flexibility for developing land sale programs by regulation that meet state and public needs.

38.04.065(e) -- allows the state's final 20 million acre land selection to be automatically classified according to the purposes for which it was selected (as described in the final selection report).

38.05.005,.010,.015,.020,.025 -- eliminates the old and nonexistent Division of Lands.

38.05.027 -- allows DNR to develop agreements with municipalities for operating recorder's offices. AS 44, the recorder's office statute, is amended to match this section.

38.05.035 -- adds in necessary old Division of Lands' powers under Commissioner's powers; simplifies solution of "preference right" type problems while requiring fair market value for "preference right" land. Allows extensions for land sale and lease payments because of situations beyond the control of the applicant.

38.05.065 -- allows flexibility in establishing land payment methods, including payment in full at time of purchase; allows incentives for early payoff of existing contracts.

38.05.066 -- Allows development of a land credit certificate program for work (trails, etc.) DNR wants done on public lands to benefit the public (copied from existing road statute in Title 19).

38.05.070(b) -- allows leases to be negotiated at no less than fair market value plus other terms and conditions that will benefit the state.

38.05.075 -- allows sealed bid as well as public auction lease

offerings.

38.05.082 -- allows the Commissioner to give a local shore fishery development district (like the old mining districts) the power to determine the most qualified applicant for a shore fishery lease site in the district.

38.05.085 -- deletes language about lease terms and reappraisals, allowing them to be developed as a part of each lease.

38.05.090 -- brings state leases in line with private sector leases by establishing that structures etc. left on state land at the end of a lease term belong to the state, and allowing the state to charge the former lessee for removal and clean-up of structures the state doesn't want.

38.05.105 and .840 -- allows periodic adjustment of lease rentals and allows lease rents to be established via a percentage of appraisal or by a fee schedule.

38.05.855(d) -- allows flexibility to hold or not hold a public hearing for the preliminary finding on a proposed mariculture site.

38.07.010 - .060 -- repeals obsolete language relating to clearing and draining of agricultural land.

38.35.140(b) -- allows the state to be reimbursed for operation, maintenance and termination of the TAPS.

Sec. 31 -- Clears up a glitch in the 1991 veteran's land discount bill.

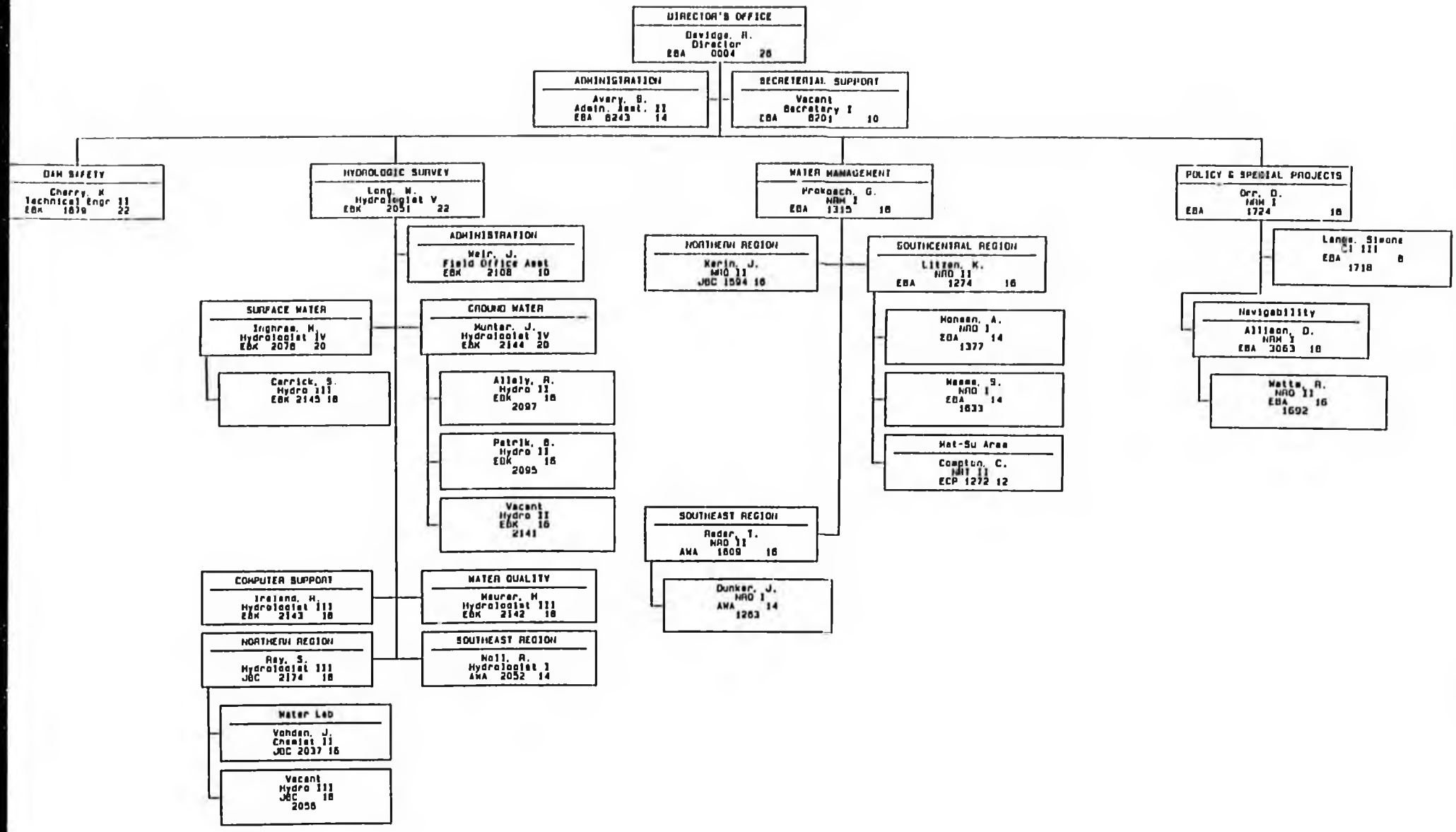
THE DIVISION OF WATER

The Alaska Division of Water manages an estimated 40% of our Nation's water resources including over 3 million lakes and an estimated 20,000 streams. These responsibilities include the State Water Policy and Management Strategy; issuing water rights; administering the dam safety program; rendering and reviewing administrative navigability determinations, asserting ownership and management of submerged lands; surveying, collecting and distributing water resource data related to the quantity and quality of su. face, ground and coastal waters of Alaska; coordinating water related data collection and management activities with other agencies; providing support to the State Water Board; advocating responsible water development including water exports. The Director of the Division represents the Governor at the Western States Water Council consisting of 17 western states.

In addition to the Office of the Director, the Division of Water is comprised of five sections; Hydrologic Survey which includes the State Water Lab, Water Management, Policy and Special Projects, Navigability, and Dam Safety and Construction. The Division has offices in Anchorage, Fairbanks, Juneau and Wasilla.

DEPARTMENT OF NATURAL RESOURCES

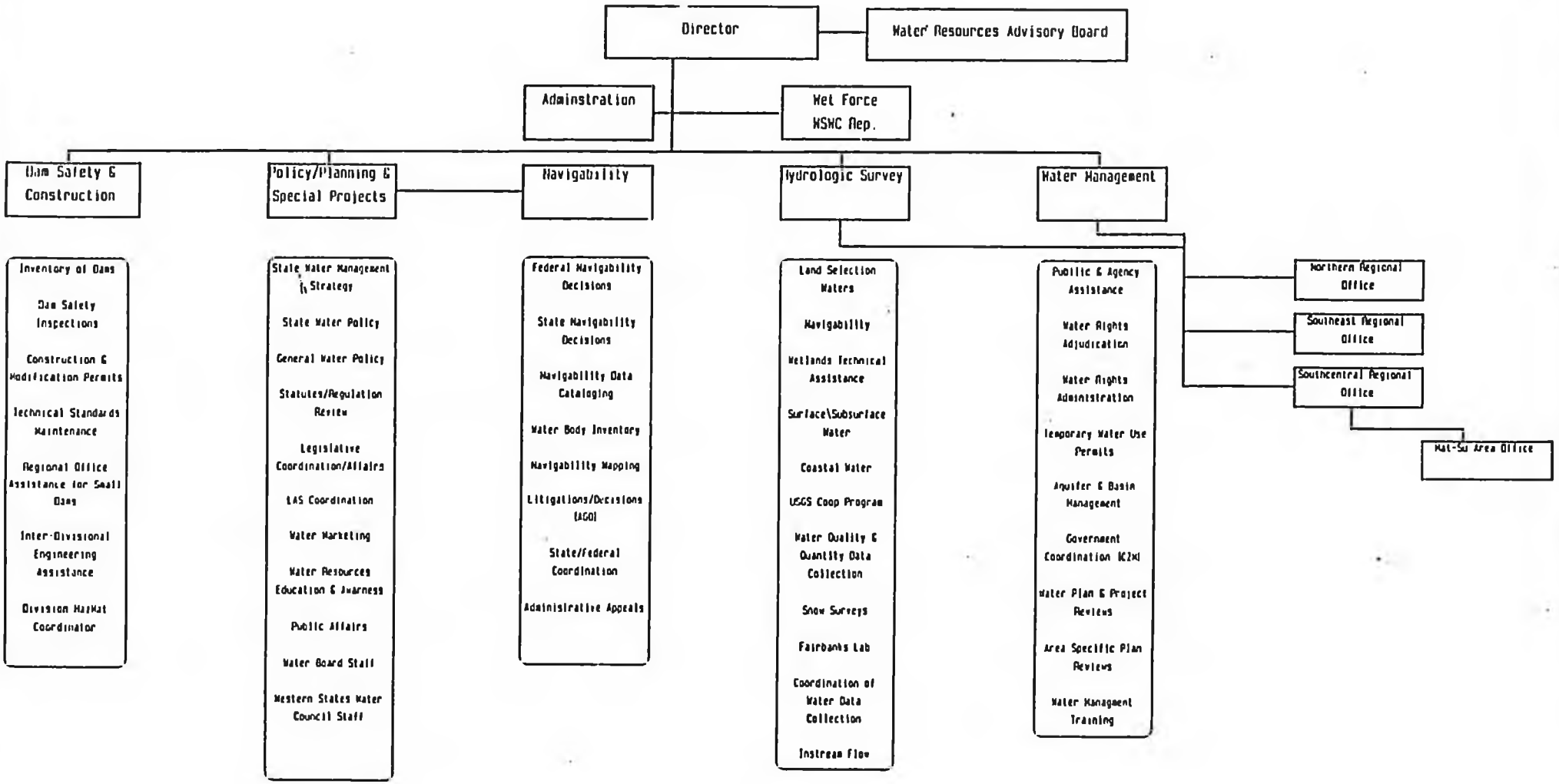
DIVISION OF WATER

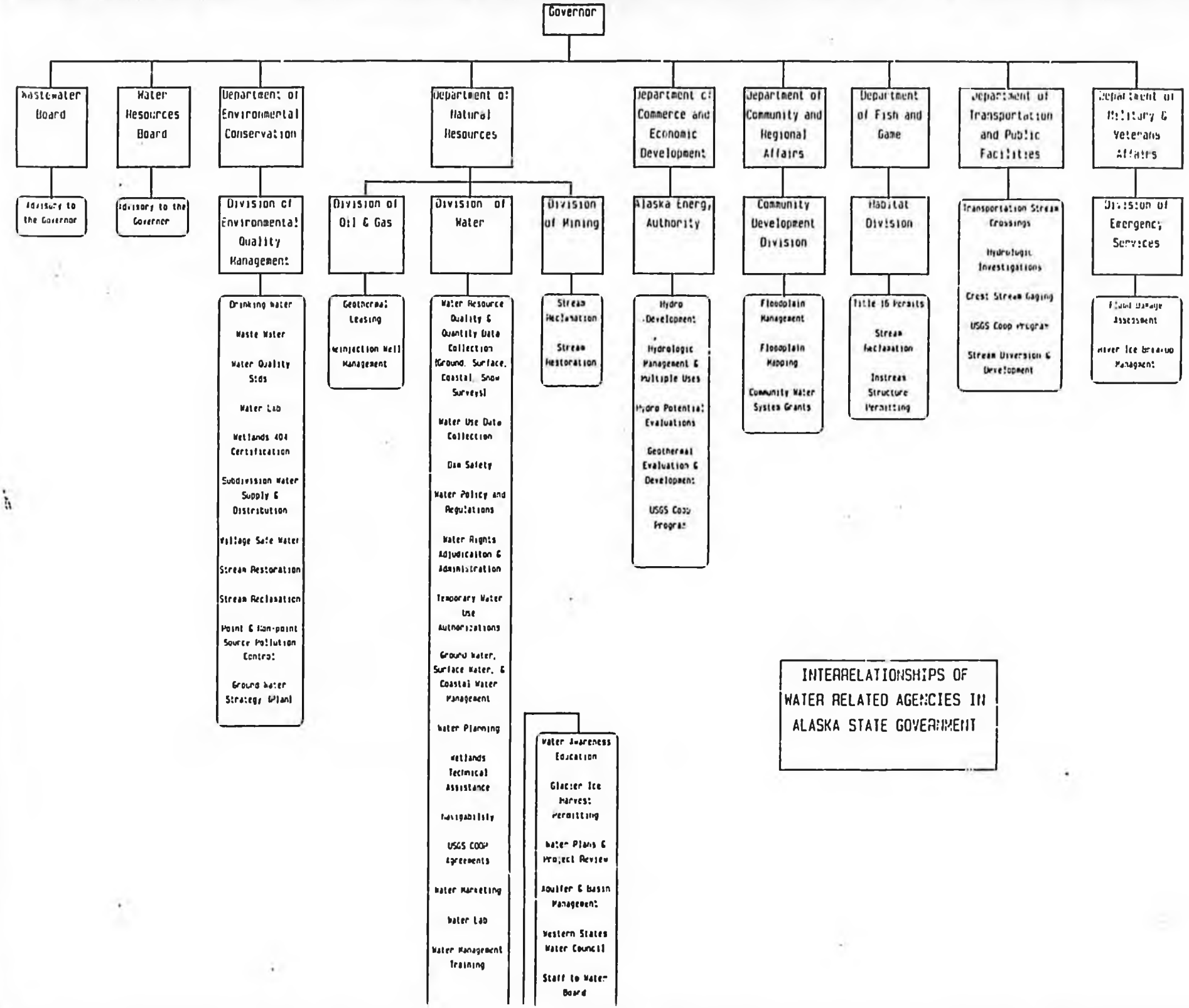


Department of Natural Resources

Division of Water

Program Functions





INTERRELATIONSHIPS OF WATER RELATED AGENCIES IN ALASKA STATE GOVERNMENT

MEMORANDUM
DEPARTMENT OF NATURAL RESOURCES

STATE OF ALASKA
DIVISION OF MANAGEMENT

TO: Max Hedel
Chief of Staff
Office of the Governor

DATE: June 25, 1991

FILE NO.: Diwater

PHONE NO.: 465-2409

THRU: Shelby Stanley
Director
Office of Management and
Budget

SUBJECT: Establishment of Division of Water Resources

FROM: Harold C. Heinze
Commissioner

One of the first organizational suggestions I received as Commissioner was to establish a separate Division of Water Resources. Now that I have had time to study this suggestion and consult with affected interests (i.e., Water Resources Board, House Resources Committee, etc.). I am convinced that creation of this division would be in the best interest of the State.

In recent years, water management has become increasingly important to Alaskans. Water availability is critical to our cities and villages, our fisheries, oil and gas production, seafood processing, hydroelectric development, mining, recreation, navigation and a host of other purposes. Maintenance of our water resources and water allocation decisions among user groups is expected to become even more important in the 1990's. A Division of Water will provide the necessary focus and demonstrate our recognition of the importance of this resource and our commitment to responsible management.

Water resources programs within the Department of Natural Resources currently reside in two divisions -- the Division of Land and Water (DLW) and the Division of Geological and Geophysical Surveys (DGGS). The DLW water programs include the water rights and dam safety projects. Other DLW water responsibilities include serving as staff to the Water Resources Board, representing the State on the Western States Water Council, and water resources planning. The DGGS is responsible for water resources data collection, storage, analysis, and dissemination, and for providing hydrologic assistance to DLW and other government agencies.

The Division of Water Resources would initially consist of 20-25 permanent positions. A new Director position at the Range 26 level will be established. The proposed organizational chart is attached for your approval.

AS 46.15.020(3) specifically authorizes the Commissioner to establish a Division of Water and no new statutes or changes to existing law will be necessary.

IN ACCORDANCE WITH AS 46.15.020(3), A DIVISION OF WATER IS ESTABLISHED IN THE DEPARTMENT OF NATURAL RESOURCES AS DESCRIBED ABOVE, EFFECTIVE ON THE DATE APPROVED.

SHELBY STRATHY
DIRECTOR
OFFICE OF MANAGEMENT AND BUDGET

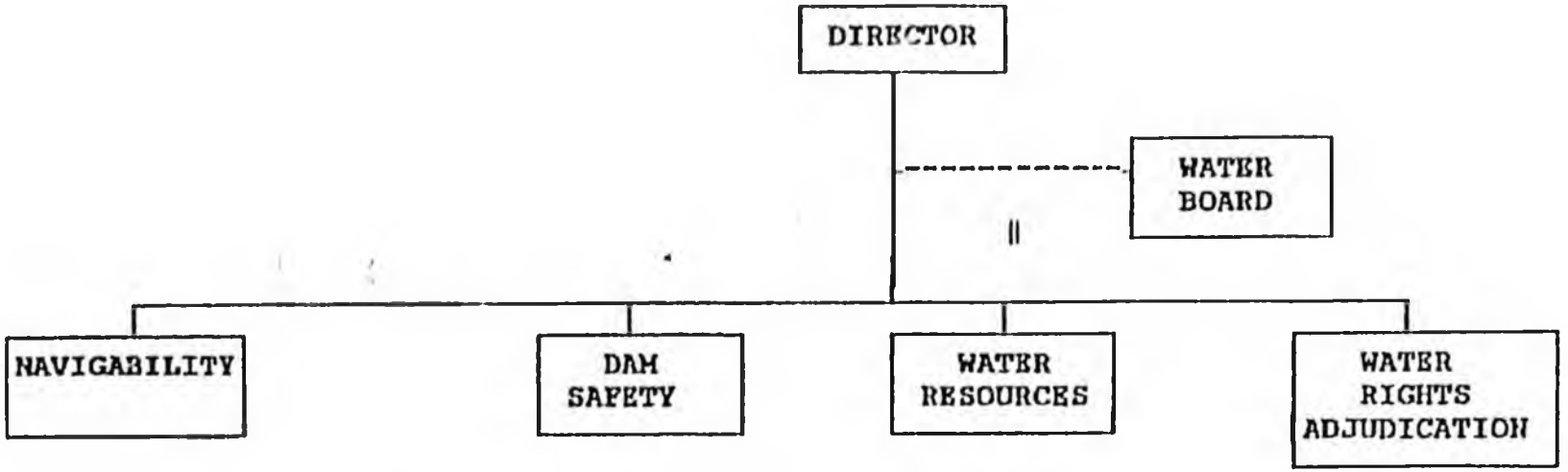
WALTER J. HICKEL
GOVERNOR

6-27-91
DATE

Attachment

cc: Gary Gustafson, Director, DLW
Tom Smith, Acting Director, DGGS
Sharon Barton, Director, Management

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER



Harold C Heinz
COMMISSIONER, DEPARTMENT OF NATURAL RESOURCES

J Stuby Stuart
DIRECTOR, OFFICE OF MANAGEMENT AND BUDGET

Walter J Hickel
GOVERNOR, STATE OF ALASKA

6-27-91
EFFECTIVE DATE

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF WATER
PCN LIST

Division of Geological & Geophysical Surveys

PCN	Title	Name	Location
10-2051	Hydrologist V	Long	Eagle River
10-2144	" IV	Munter	" "
10-2097	" II	Allely	" "
10-2141	" II	LaSage	" "
10-2095	" II	Petrik	" "
10-2078	" IV	Inghram	" "
10-2145	" III	Carrick	" "
10-2142	" III	Maurer	" "
10-2143	" III	Ireland	" "
10-2174	" II	Ray	Fairbanks
10-2037	Chemist II	Vohden	" "
10-2056	HydrologistIII	Moorman	" "
10-2055	Geologist IV	Motyka	Juneau
10-2052	Hydrologist I	Noll	" "
10-2108	Field Office Assistant	Weir	Eagle River

Division of Land & Water

10-1679	Tech Engineer	K. Cherry	Anchorage
10-1724	Nat Res Mgr I	M. Harle	" "
10-1692	Nat Res Off II	R. Watts	" "
10-1718	Clerk Typ III	P. Reamer	" "

Water Rights Adjudicators

10-1263	Nat Res Off I	Dunker	Juneau	
10-1609	Nat Res Off II	Rader	" "	
10-1274	Nat Res Tech	Litzen	Anchorage	
10-1377	Nat Res Off I	Monson	" "	
10-1272	Nat Res Tech	Compton	Wasilla	(1/2 time)
10-1315	Nat Res Mgr I	Prokosch	Anchorage	
10-1633	Nat Res Off I	Weeks	" "	
10-1594	Nat Res Off II	Kerin	Fairbanks	

ALASKA
Water Supply and Use

Alaska's water supplies might appear to be unlimited because of the large quantities of precipitation received in the State (fig. 1A). Statewide average annual precipitation is about 1,050,000 Mgal/d (million gallons per day), and average annual runoff is about 989,000 Mgal/d. Alaska contains more than 40 percent of the Nation's surface-water resources. Three rivers (the Yukon, the Kuskokwim, and the Copper) are among the 10 largest in the United States. More than 3 million lakes range in area from pond size to about 1,000 mi² (square miles). Also, large amounts of water are stored within two principal aquifers. Environmental conditions, legal restrictions, and technological problems, however, limit the usability of these abundant supplies.

Alaska encompasses a land area of about 586,000 mi², or about one-fifth of the area of the conterminous United States. Climates range from frozen desert in the Arctic Slope basin to maritime rain forest in the Southeast Alaska basin. Average annual precipitation and temperatures range from about 5 inches and 10° F (degrees Fahrenheit) in the Arctic Slope basin to about 300 inches and 45° F in the Southeast Alaska basin. Much precipitation occurs as snow. Glaciers and icefields cover 28,500 mi², or nearly 5 percent of the land (Post and Mayo, 1971) and affect the timing and the quantity of runoff. Many of the rivers are silt laden, are affected by mid-winter overflow icing or ice-jam flooding at spring breakup, or are ice covered much of the year. The occurrence and the availability of ground water are limited by permafrost. The extent and thickness of the permafrost decrease southward from a continuous layer as much as several hundred feet thick in the Arctic Slope basin to areas that are generally free of permafrost in the South Central Alaska and the Southeast Alaska basins. Because of these conditions, there is no certainty that either surface or ground water will be available at a given time and location.

Several water issues in Alaska result from this variability in the availability and occurrence of the water resource. Additionally, the legal precedents for obtaining water rights cause conflicts. Com-

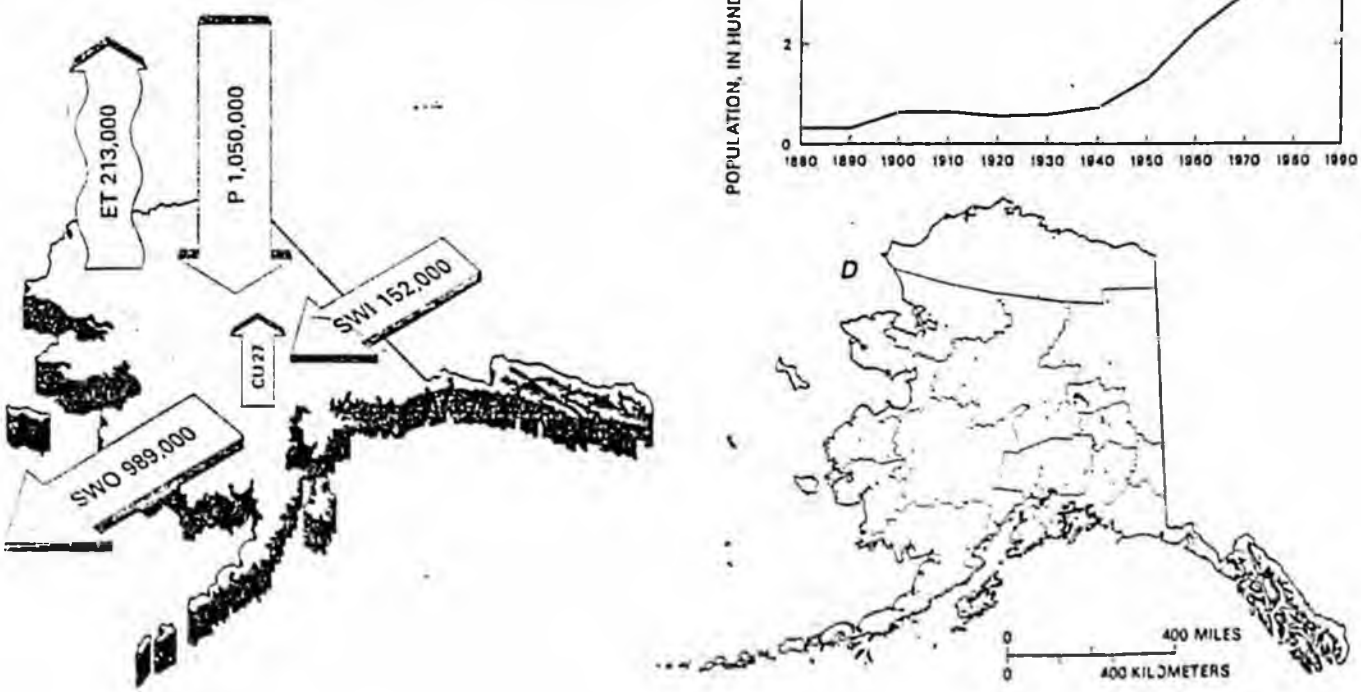


Figure 1. Water supply and population in Alaska. *A*, Water budget, in million gallons per day. *B*, Cumulative normal storage of reservoirs with at least 5,000 acre-feet capacity, 1880 to 1985. *C*, Population trend, 1880 to 1985. *D*, Population distribution, 1985; each dot on the map represents 1,000 people within a census tract. Abbreviations: **CU**, consumptive use; **ET**, evapotranspiration; **P**, precipitation; **SWI**, surface-water inflow; **SWO**, surface-water outflow. (Sources: *A*, R.D. Lamke, U.S. Geological Survey, written commun., 1985. *B*, U.S. Army Corps of Engineers, 1981. *C*, *D*, Compiled by U.S. Geological Survey from U.S. Bureau of the Census data.)

petition for limited surface-water resources exists among industry, fish hatcheries, recreation, and fish and wildlife habitat demands. Ground-water-rights issues primarily involve public supply in basins where surface water is scarce. Currently (1987), the Arctic Slope, the South Central Alaska, and the Southeast Alaska basins are the focus of these issues.

HISTORY OF WATER DEVELOPMENT

In 1914, the first large reservoir was constructed to provide power for the mining and the timber industries in the Southeast Alaska basin. Since then, 19 additional reservoirs that have storage capacities greater than 5,000 acre-ft (acre-feet) have been built for electric power generation and public supplies. Of these 20 reservoirs, 13 are in the Southeast Alaska basin, 6 are in the South Central Alaska basin, and 1 is in the Yukon basin. These reservoirs contain a cumulative capacity of about 1.78 million acre-ft (fig. 1*B*).

The first significant increase of Alaska's population occurred during the gold rushes of the late 1800's (fig. 1*C*). Postwar migration and homesteading increased the population during the late 1940's and 1950's. Population growth during the 1960's and 1970's can be attributed to the development of oil fields in Cook Inlet and at Prudhoe Bay and the related pipeline-construction activities. The continued rapid population growth of the early 1980's can be attributed to the general economic well-being that oil production brought to the State. The population reached 558,000 in 1985; 77 percent of the inhabitants live within 5 of the 28 census districts, or county equivalents (fig. 1*D*). Anchorage contained 44 percent of the State's population; the next largest concentrations of population were in Fairbanks (13 percent), Kenai (8 percent), Matanuska-Susitna (7 percent), and Juneau (5 percent).

Interest in Alaska's water supplies began during the gold rushes of the late 1800's; miners washed the placer deposits to extract the gold. The population growth and the corresponding urban development, especially after 1940, placed increasing emphasis on water supply. Increasing needs for water supplies for power in the Southeast Alaska and the South Central Alaska basins, for the pulp and paper industry in the Southeast Alaska basin, and for the canneries in the Southeast Alaska and Southwest Alaska basins created demands for water-resource information. Intensive development of other natural resources began during the 1960's and continued through the 1970's. Water was critical to support the oil fields in the Arctic Slope basin and the petrochemical, the seafood, and the timber production industries in the South Central Alaska and the Southeast Alaska basins. Continued population growth, especially in the South Central Alaska basin, increased the demand for public supplies; ground water became a major source of supply. Maintaining instream flows became an issue during the late 1970's, and that concern has increased during the 1980's. Instream flow for hydroelectric power generation and fish hatcheries is an additional water issue today.

WATER USE

The State's water budget is shown diagrammatically in figure 1*A*. Several natural conditions limit the quantity of freshwater that can be recovered efficiently from Alaska's hydrologic environment; for example, the availability of surface water may be affected by the timing of winter freezeup and spring breakup and by the quantity and the timing of runoff derived from melting snow and glacier ice. The availability of ground water is limited by thick lenses and layers of relatively impermeable sediments and by the limited extent of coarse-grained permeable sediments. In permafrost zones, even coarse-grained sediments may be frozen. Thus, although a substantial quantity of water may be present within the State, the water may not be available when and where it is needed.

Hydroelectric powerplants used 1,480 Mgal/d to generate 18 percent, or 746 GWh (gigawatthours), of the electricity used statewide. About 90 percent of this power was generated in the Southeast Alaska basin. The water was used instream, and no water was considered for consumptive use.

Surface-water withdrawals supplied 82.2 percent of the water needed for offstream uses; ground water provided the remaining 17.8 percent. These values were determined by using the results of a cooperative survey conducted by the Alaska Department of Natural Resources and the U.S. Geological Survey in 1985, in which communities and industries estimated their water use. Where quantities of water use were not available, such data were estimated on the basis of similarities between communities and uses. The statewide distribution of total, surface-water and ground-water withdrawals is aggregated by county in figures 2*A*, 2*B*, and 2*C*, respectively. Surface-water withdrawals by principal drainage basin and ground-water withdrawals by principal aquifer are shown in figures 3*A* and 3*B*, respectively. Aquifers have been grouped informally into unconsolidated alluvium and glacial outwash aquifers and bedrock aquifers (U.S. Geological Survey, 1985, p. 129-131). Major ground-water withdrawals were from the unconsolidated aquifers.

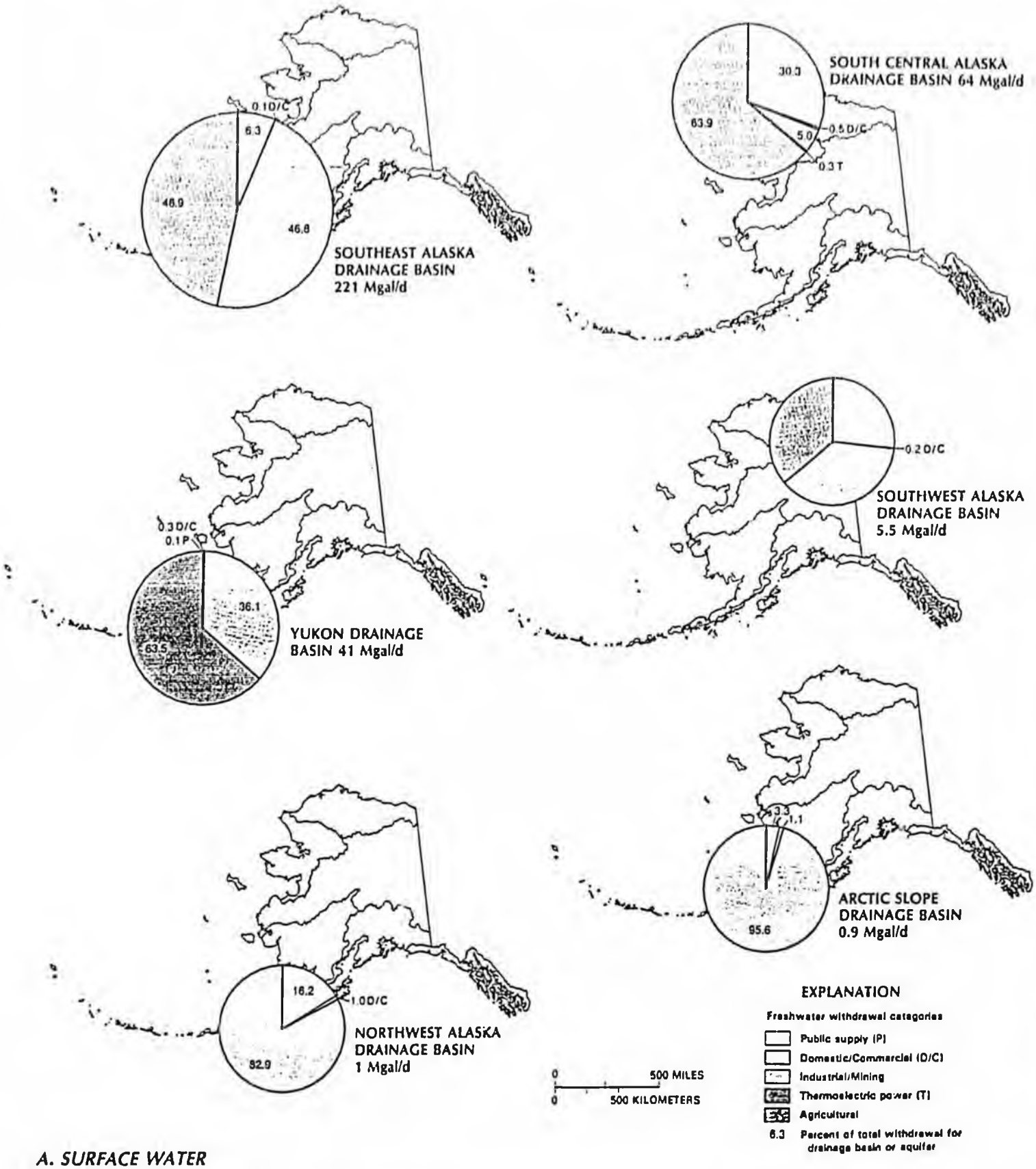
Most withdrawals occur in three of the principal river basins—Southeast Alaska, South Central Alaska, and Yukon (fig. 3*A*). Withdrawals in the Southeast Alaska basin were 55 percent (221 Mgal/d) of total water use in Alaska. About 99 percent of these withdrawals was surface water. Industry and fish hatcheries were the primary users of this water. In contrast, the South Central Alaska basin accounted for about 27 percent (110 Mgal/d) of the total withdrawals during 1985. This basin withdrew about 64 percent (64 Mgal/d) of the total ground water during 1985. The large withdrawals for public supply and self-supplied domestic uses provide water to the comparatively large population of the area. Public supply, self-supplied domestic, and industry were the major water users. The Yukon basin accounted for 15 percent (41 Mgal/d) of the total withdrawals. Water used for mining and fossil-fueled powerplants was 74 percent of the 61 Mgal/d withdrawn in the Yukon basin. Surface water was used for nearly two-thirds of this quantity.

The remaining basins, the Arctic Slope, the Southwest Alaska, and the Northwest Alaska, included 8 percent of the population and used 3 percent of the total water. Public supply and self-supplied domestic and commercial uses accounted for 61.9 percent of the ground-water withdrawals within the Yukon basin.

The source, use, and disposition of Alaska's water resources are shown diagrammatically in figure 4. The quantities of water given in this figure and elsewhere in this report may not add to the totals indicated because of independent rounding. The source data indicate that total freshwater withdrawals were 406 Mgal/d, of which 334 Mgal/d was surface water and 72 Mgal/d was ground water. The use data indicate that, of total freshwater use, industry and mining accounted for 34.7 percent and agriculture accounted for 38.6 percent. The disposition data indicate that most water (93.3 percent) was returned to natural sources and was available for reuse. Estimated consumptive use was 6.7 percent (27 Mgal/d).

Alaska's water is generally of sufficient quantity and acceptable quality for most uses. However, population increases during the last decade, especially in urban areas, have strained water-distribution systems and generated concern about water availability. In Anchorage, a measurable decline in ground-water levels has been attributed to increased withdrawals. Saltwater intrusion has halted further ground-water development in Auke Bay, near Juneau. In Kenai and in the Arctic Slope basin, water supply is a concern to communities near petrochemical industry activities.

Surface- and ground-water quality problems have been caused either by natural processes or by human activities. Natural processes include suspended sediment caused by glaciers, salinity, and undesirable concentrations of iron or arsenic produced by geo-



A. SURFACE WATER

Figure 3. Freshwater withdrawals by category of use and hydrologic unit in Alaska, 1985. *A*, Surface-water withdrawals by principal drainage basin. *B*, Ground-water withdrawals by principal aquifer. Abbreviation: Mgal/d is million gallons per day. (Sources. *A*, Drainage basins from Seaber and others, 1987; data from U.S. Geological Survey National Water Data Storage and Retrieval System. *B*, Data from U.S. Geological Survey files.)

chemical processes. Human activities include petrochemical contamination, the addition of nitrates through septic-tank systems, and the encroachment of saltwater in response to intensive ground-water withdrawal. Nevertheless, even in areas of water-supply difficulties, Alaska's water is generally satisfactory for most uses, although locally it may not be readily obtainable from the nearest or most economical source.

Public Supply

Public-supply systems withdraw, treat, and distribute water to users. The total withdrawals for public-supply in Alaska were an estimated 76 Mgal/d (fig. 4), which was 18.7 percent of total withdrawals in 1985. Surface water provided 46.2 percent (35 Mgal/d) of public-supply withdrawals, and ground water provided 53.8 percent (41 Mgal/d). Of total withdrawals for public supply, 40.3 percent was delivered for commercial use, and 39.0 percent was delivered for domestic use. About 60 percent (45 Mgal/d) of public-supplied water was delivered in the South Central Alaska basin.

About 62 percent of Alaska's population was served by public water suppliers in 1985. The Municipality of Anchorage supplied water to one-half of the population served by public-supply systems. The per capita use by all public-supply customers ranged from 10 to 380 gal/d (gallons per day) in 1985. Public-supplied domestic use ranged from 6 to 170 gal/d per capita. These values reflect the different types of water-distribution systems; for example, a public-supply system in the Arctic Slope basin may consist of a water-

Figure 2. Freshwater withdrawals by county in Alaska, 1985. *A*, Total withdrawals. *B*, Surface-water withdrawals. *C*, Ground-water withdrawals. (Source: Data from U.S. Geological Survey National Water Data Storage and Retrieval System.)

delivery truck or a common well, and the primary use is domestic. In contrast, water in the Southeast Alaska basin is abundant, and distribution systems commonly are leaky; residents commonly leave their faucets running to prevent the pipes from freezing. In addition, water-intensive industries in the Southeast Alaska basin are served by public supply.

Domestic and Commercial

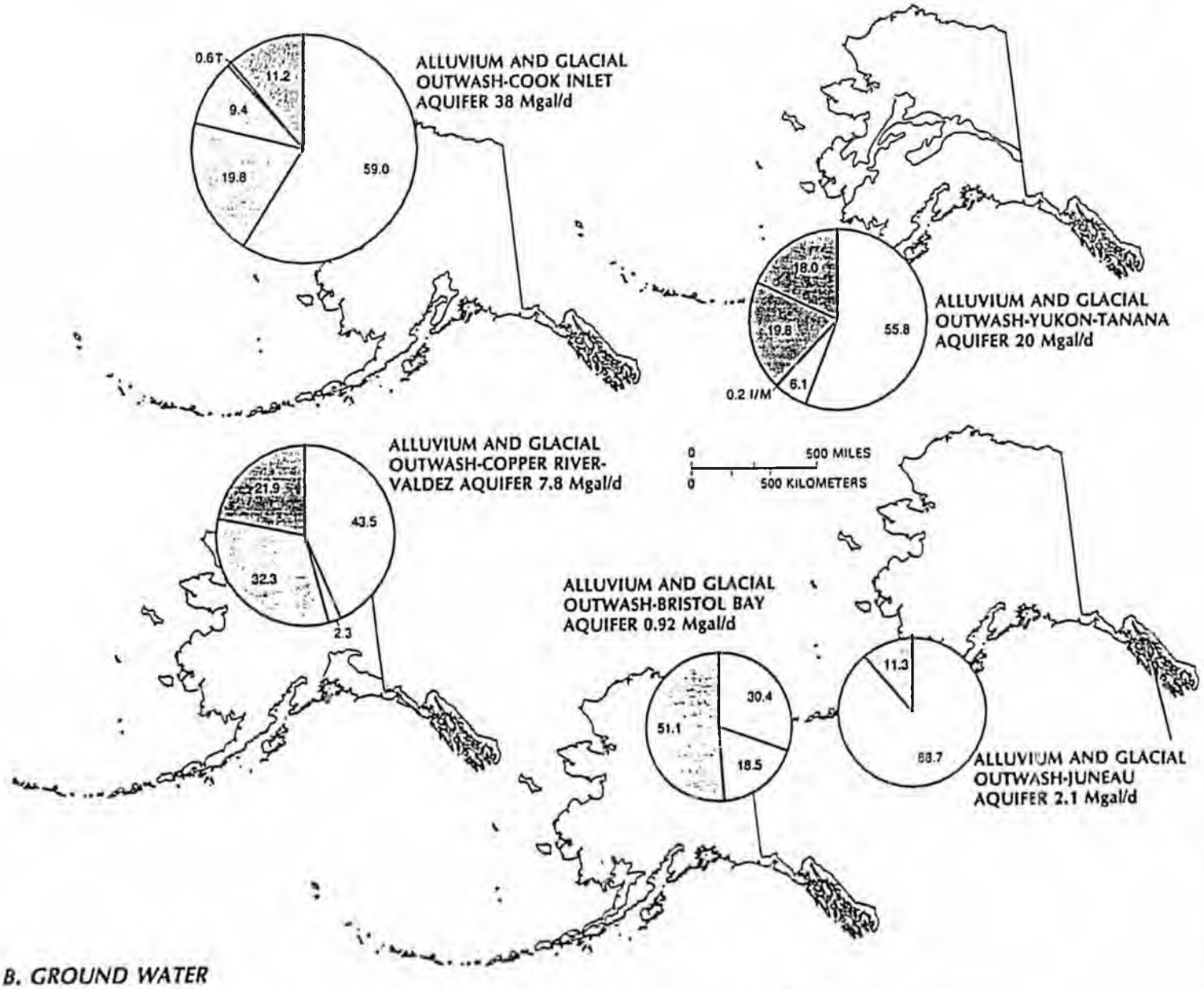
Total domestic and commercial water use, including conveyance losses and consumptive use, from public-supplied and self-supplied sources was 78 Mgal/d (fig. 4). Domestic use was about 39 Mgal/d, of which 29 Mgal/d was delivered by public-supply systems and 10 Mgal/d was self-supplied. Commercial withdrawals were about 31 Mgal/d, virtually all from public-supply sources. Conveyance losses were 7.6 Mgal/d.

The average per capita domestic use for the population served by public supply was about twice that for the population that was self-supplied. This difference can be explained, in part, by conditions under which water is delivered to homes that use these two types of supply. Public-supply systems typically serve a household that has standard plumbing. In contrast, many self-supplied households haul water from a lake, spring, river, or well and may have no plumbing.

Industrial and Mining

The estimated industrial and mining use was 141 Mgal/d in 1985. This represents 34.7 percent of total offstream water use (fig. 4). Industry used about 122 Mgal/d, of which 87 percent was self-supplied from surface-water sources. About 89 percent of the industrial water use was in the Southeast Alaska basin. Wood-pulp mills and seafood-processing industries in this basin used more than 100 Mgal/d in 1985. The petroleum industry was a major water user in the South Central basin.

Mining accounted for about 19 Mgal/d of water use. The Yukon basin had the largest area of mining activity and accounted for 76 percent of this water use. Adequate water supplies to support the exploration, development, and production in the Arctic Slope



B. GROUND WATER

Figure 3. Freshwater withdrawals by category of use and hydrologic unit in Alaska, 1985—Continued.

basin are commonly difficult to locate. Surface water is used primarily by placer-mining operations for washing sediments.

THERMOELECTRIC POWER

The fossil-fueled powerplants included in the survey used an estimated 31 Mgal/d (fig. 4) to produce 3,430 GWh of electricity during 1985. About 97 percent of the water was used by two plants in the Yukon basin, whereas 80 percent of the power produced by fossil fuel was produced by six plants in the South Central Alaska basin. These differences reflect the availability of water, the age of the powerplants, and perhaps different reporting methods. The water was used mainly for cooling purposes, and most was returned to surface-water sources.

AGRICULTURAL

Agricultural use during 1985 was an estimated 157 Mgal/d (fig. 4). Fish hatcheries dominated this category by using about 156 Mgal/d, of which 66 percent was used in the Southeast Alaska basin. Although the hatcheries in the Southeast Alaska basin exclusively use surface water, facilities elsewhere use ground water, which has a more consistent temperature and quality.

Agricultural water use for purposes other than fish hatcheries or irrigation totaled 0.21 Mgal/d, 48 percent of which was on Kodiak Island. Only 0.03 Mgal/d was used for irrigation; all of the reported irrigated farm acreage is in the Matanuska Valley, which is 40 miles north of Anchorage.

WATER MANAGEMENT

The Alaska Water Use Act (AS 46.15.010–270), which was enacted in 1966, established procedures to appropriate State water. The Act defines the doctrine of prior appropriation ("first in time, first in right") authorized by the State Constitution and delegates administration of the Act to the Alaska Department of Natural Resources (ADNR). The Act established procedures for maintaining existing water rights and for obtaining new water rights to all surface and ground water in Alaska. Water appropriations are limited to the specific use for which an individual applies. Additionally, the ADNR issues permits authorizing development and beneficial use of water. Issuance of a certificate of appropriation by the ADNR to the applicant is the final step in the water-rights process.

The original regulations implementing the Water Use Act were amended extensively on December 29, 1979, and incorporated as 11 AAC 93, Water Management. Recent amendments to the Water Use Act relate to geothermal development, reservation of water for instream uses, and administrative and judicial basinwide water-rights adjudication.

To manage the State's water resources effectively, the ADNR's Division of Land and Water Management (DLWM) requires technical descriptions and analyses and interpretations of various hydrologic conditions. The Department's Division of Geological and Geophysical Surveys (DGGS), Water Resources Section, provides the necessary data, analyses, and interpretations. Many long-term data are collected and interpreted by the U.S. Geological Survey, in cooperation with other Federal, State, and municipal agencies. Water managers of the DLWM use this information for water appropriation and water management decisions. Additionally, the DGGS, in cooperation with the U.S. Geological Survey and other State and Federal agencies, has developed and implemented the Alaska Water Resources Evaluation Plan to coordinate water-data collection and water-resource investigations in the State (Alaska Department of Natural Resources, Division of Geological and Geophysical Surveys, and U.S. Geological Survey, 1985).

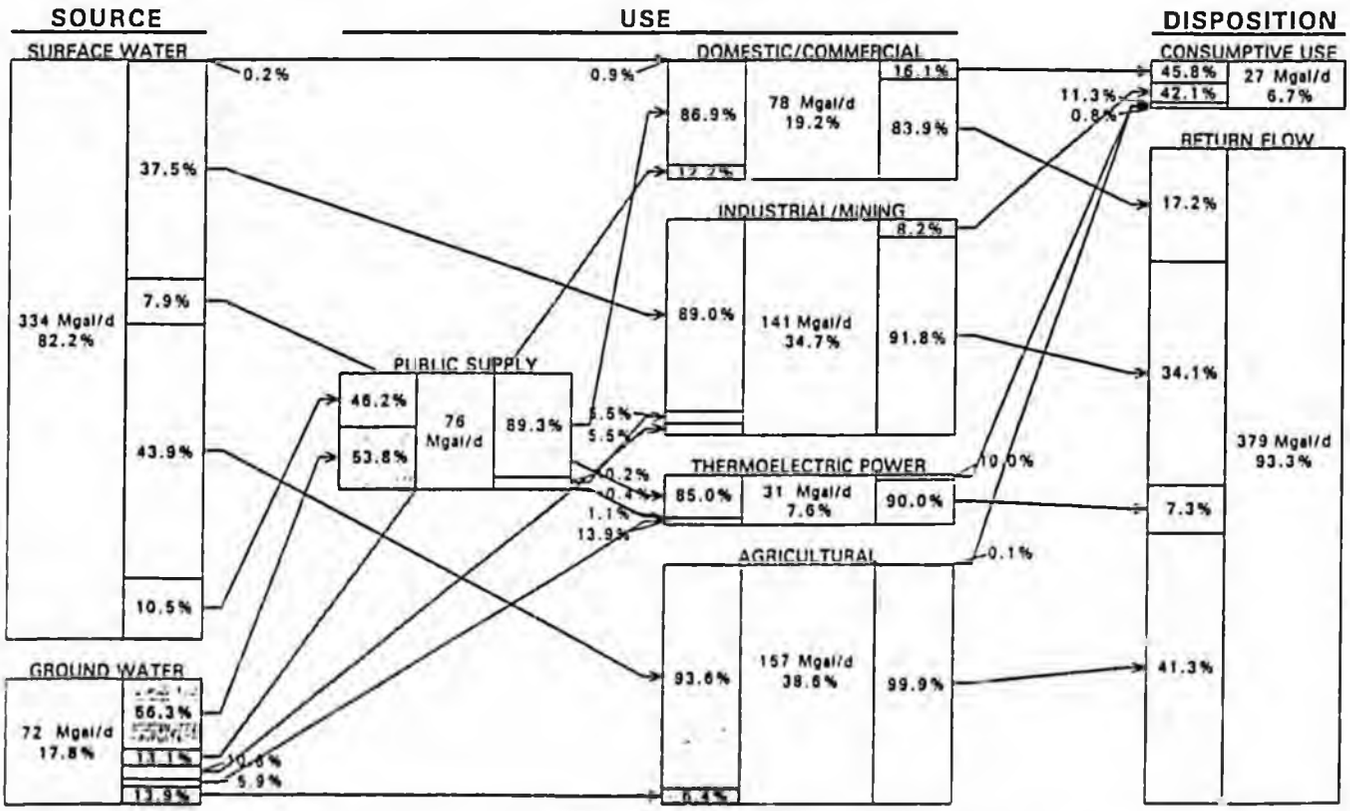


Figure 4. Source, use, and disposition of an estimated 406 Mgal/d (million gallons per day) of freshwater in Alaska, 1985. Conveyance losses in public-supply distribution systems and some public water uses, such as fire fighting, are included in the total shown for domestic and commercial use; losses in irrigation distribution systems are included in the total shown for agricultural return flow. All numbers have been rounded and values may not add to totals. Percentages are rounded to the nearest one-tenth of 1 percent (0.1%) between 0.1 and 99.9 percent. (Source: Data from U.S. Geological Survey National Water Data Storage and Retrieval System.)

Although few streams in Alaska are overappropriated, potential water-use problems exist. In the event of water shortages or drought, Ship Creek at Anchorage and Indian River at Sitka could possibly be examples in which the amount of legally obtainable water may exceed the water available for use. Water issues in Alaska also include hydroelectric projects, placer mining, oil development, salmon aquaculture, and proposed mining developments in the Southeast Alaska basin.

Most ground-water shortages in Alaska currently involve water for public supply and domestic use. Some areas within the Municipality of Anchorage are experiencing great ground-water demand for public and single-family domestic water supplies. As water levels declined, domestic wells become dry. The ADNR and Municipality of Anchorage are working cooperatively to solve several water-supply and distribution problems. Another area experiencing declining ground-water levels and saltwater intrusion is the Auke Bay area near Juneau (Dearborn, 1985), where the ADNR established Alaska's first "Critical Groundwater Management Area" to restrict further water-well drilling and development of ground water.

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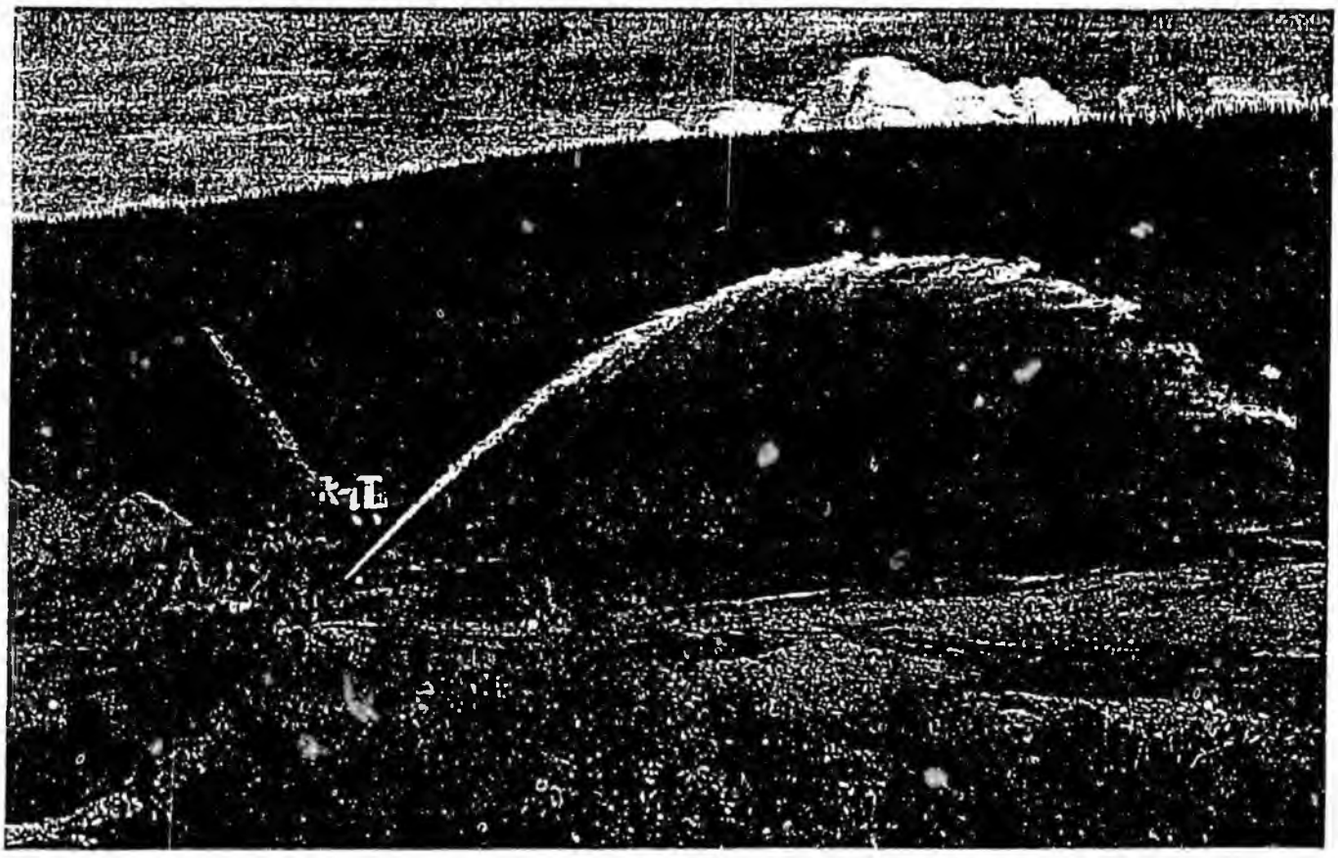

Hydraulic "giant" used to remove overburden and expose gold-bearing gravel north of Fairbanks, Alaska. (Photograph by Gary Prokosch, Alaska Department of Natural Resources.)

Prepared by Leslie D. Patrick and Elisabeth F. Snyder, U.S. Geological Survey, and Mary Lu Harle, Alaska Department of Natural Resources

FOR ADDITIONAL INFORMATION: District Chief, U.S. Geological Survey, 4230 University Drive, Anchorage, AK 99508–4664

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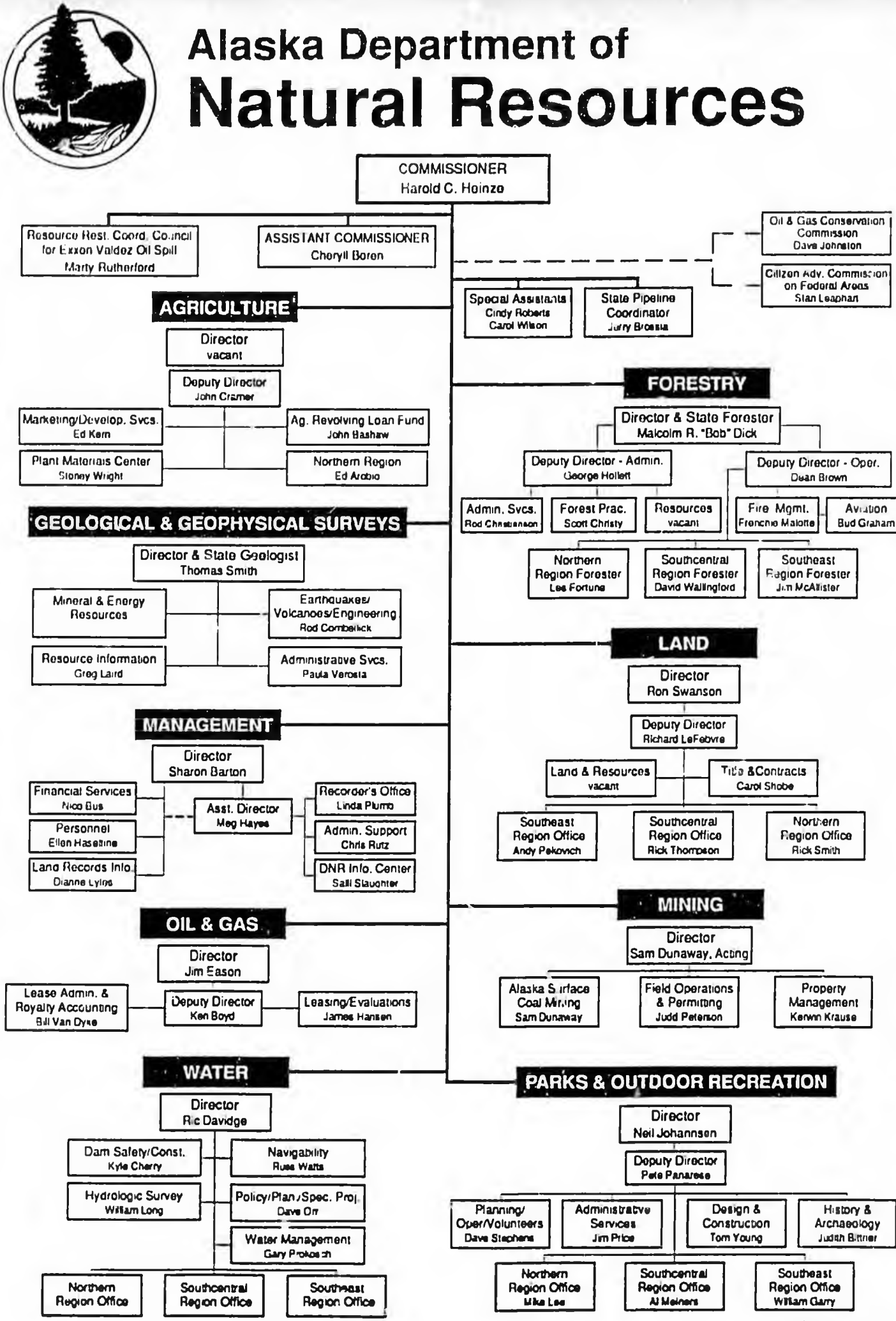

January, 1992

Alaska Department of Natural Resources
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STATE OF ALASKA
Walter J. Hickel, Governor

DEPARTMENT OF NATURAL RESOURCES
Harold C. Heinze, Commissioner

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Abbreviations:

FTE	Full Time Equivalent	BRU	Budget Request Unit
GF	General Fund	GF/PR	General Fund/Program Receipts
GFM	General Fund Match	Fed	Federal
I-A	Inter-Agency Receipts	CIP	Capital Improvement Projects
PCN	Position Control Number		