

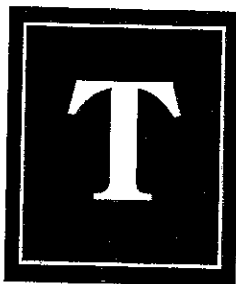
the **LODE STAR**

Charting the course of fisheries development today.

Alaska Fisheries

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he fish resources of the North Pacific are not declining, but they might as well be. The groundfish processors' capacity to swallow up the biomass has become greater than the ocean's capacity to produce—even here, in the most bountiful waters on Earth.

Suddenly, Alaska (and the companies that use its resources) has discovered that plenty is not enough.

This is a first for the Last Frontier, where audacity and the free enterprise system are revered. Who would have believed North Pacific groundfish might become a limited-entry fishery in this century?

In the past year most of the big issues surrounding management of North Pacific fisheries have come to a head. Is roe stripping acceptable? What should we do with the prohibited species that are hauled aboard? What should be done with by-catch? Does the overcapitalized factory trawler fleet deserve deference because its growth brought swift Americanization of the fishery? And the largest question of all: What is the best way to use the fish that we catch to benefit the public, who really owns the resource? To solve the problems ahead, the North Pacific seafood industry will have to first address the issue of stewardship. In current lingo, we call it "full utilization."

Your definition, my definition

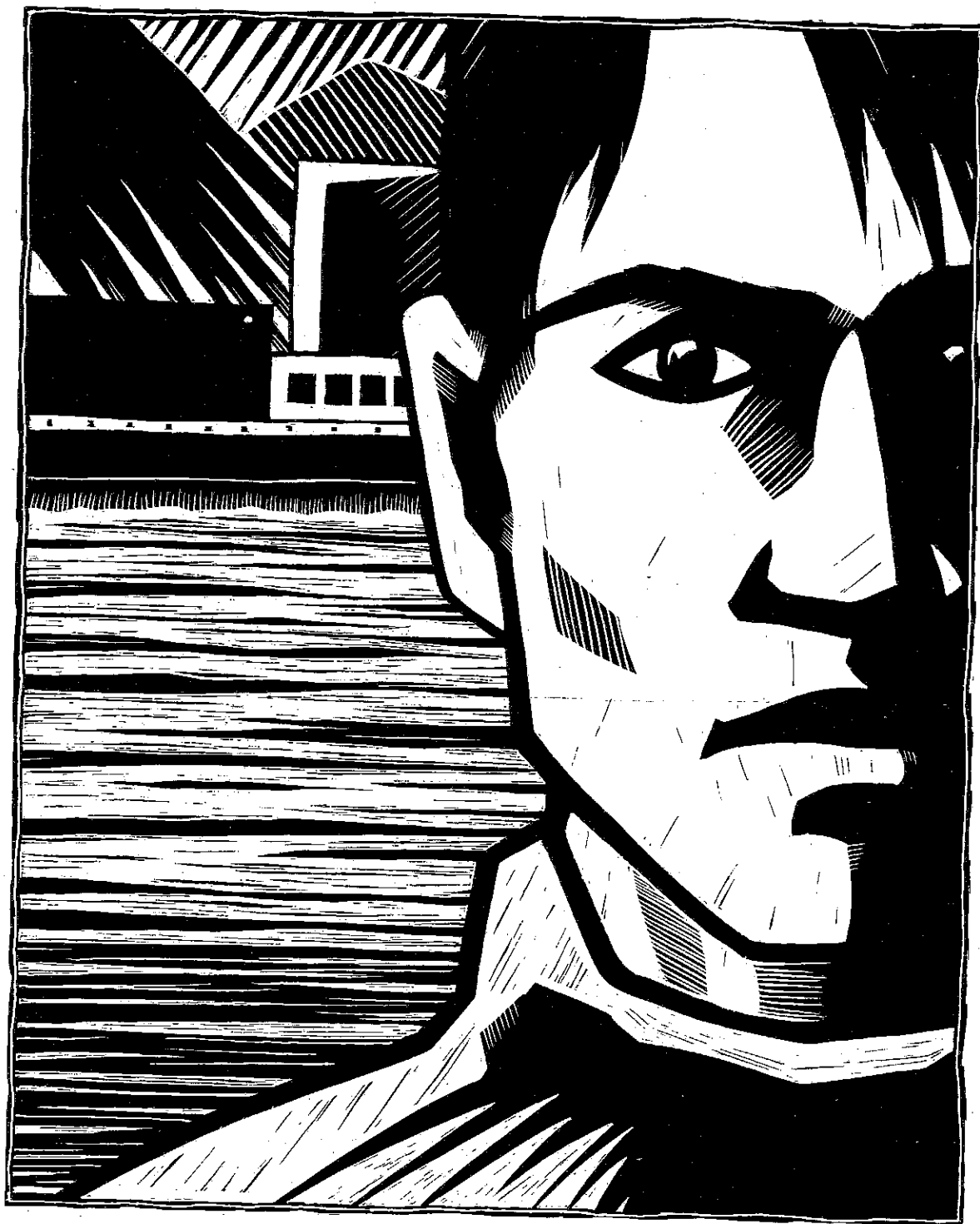
The term "full utilization of the resource" is somewhat of a greased octopus: it has many definitions, and each one is a little slippery. A factory trawler operator's definition of full use of the resource is using fish products for the greatest economic benefit possible depending on season, markets, and equipment constraints. This definition hinges on economics, and within its bounds lies coiled the controversial practice of roe stripping—keeping only the roe from spawning females and discarding the carcasses of the females and all the males. The factory trawler's job is to process as much fish as possible as efficiently as possible, and move on to the next large resource to keep the operation profitable.

A shore plant operator defines full use of the resource as processing every part of the fish for which there is equipment available. For a shore plant that has paid to have fish delivered miles from the fishing grounds, grinding and dumping fish that could be processed and sold should be the last resort. However, a definition that hinges on available equipment also leaves room to discard fish smaller than 12 inches—sometimes thousands of pounds of them—because they are too small to fit through the filleting machine. Shore plants process far slower than factory ships do, and can't move after a fishery is shut down.

A protein technologist defines full use of the resource as recovering the maximum amount of protein from fish material under very controlled circumstances. Depending on the quality characteristics of the fish throughout the season, the fish would be used for different products: fillets, meal, surimi, mince, concentrated protein powder—each product designed to best manifest the characteristics of the species or quality condition of the fish. The protein technologist would also call wasteful the practice of discarding heads, skin, frames and bones of the fish. The protein technologist's job is to seek out new products and discover new ways to use them.

A biologist, looking at the ecosystem of the ocean, might define full use of the resource as skimming off only the highest-value products from the fishery—roe or fillets, perhaps—and returning the rest to the carbon chain to minimize human interference with the resource.

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NEDLAND 870

WHEN **PLENTY**
IS NOT **ENOUGH**

BY KRYS HOLMES

ILLUSTRATION BY JOE NEDLAND

The North Pacific Fishery Management Council (NPFMC) hasn't tried to define full utilization; the staff is attacking the other end by identifying non-utilization, or waste.

"We're looking at waste in two separate ways," said Clarence Pautzke, executive director of NPFMC. "First, if we are unnecessarily killing fish that are not being counted toward the Total Allowable Catch, then we have a biological problem. If we're killing the fish and counting them, then we have an economic problem. We are more concerned about the biological problem first. There's a lot of fishing going on that we're not counting in our estimates of harvest—that's why it's particularly important to have observers. We don't even know exactly what's coming up, and what's being thrown overboard."

The council hopes they can get a good idea from their new observer program, which, starting in 1989, will require observers aboard all trawlers over 125' and aboard 30% of the under-125' fleet. (There is some skepticism in the industry that a comprehensive observer program will reveal what's really going on out on the water, but most people agree that the domestic observer program is a very good idea.)

The council is investigating a number of ways fish are killed but not used for profit in the fishery (they hesitate to call this waste for the same reason a forestry biologist would hesitate to call a standing dead tree a waste.) "Non-use," the council says, occurs when fish are lost or killed by fishing gear, intentionally discarded after harvest, or are dumped before or during processing.

Roe stripping is by now an infamous method of non-use of fisheries resources. But roe stripping is not the only practice that doesn't make full use of the fish harvested. The University of Alaska estimates that 1 billion lbs. of harvested fish material is wasted each year (others have said that the figure is far higher.) Should the NPFMC require that all groundfish processors in the North Pacific produce at least fillets and meal from their fish?

"It wouldn't make sense from an economic standpoint," said John Sevier of Alaska Pacific Seafoods, a fillet and surimi plant that trucks its waste to Kodiak Reduction, Inc. for processing. "If you had to put a meal plant on board most factory trawlers, you'd have to give over half of your holds to haul low-value meal around. I don't think any government agency should regulate what you do with the fish. But at the same time, I think the majority of the fish should go somewhere besides just stripping the roe."

Legislated processing of the flesh may not be a popular idea. But some say without some controls the problem of fish discards—not just roe stripping but high-grading and discards for other reasons, on shore and at sea—will be the Alaska seafood industry's biological and moral downfall.

"From a public policy point of view, not to require full utilization of the fish is a mistake," said Doug Gordon, executive director of the American High Seas Fishermen's Association, a group of former joint venture



Remember that the public will address the issue of waste in the most common sense manner. If the industry does not address the issue of seafood wastes on its own, there will be plenty of volunteers to do so for you.

—Howard Weaver

trawlers. "It's unconscionable to have a public resource abused in the manner it has been out there. And the reason for the abuse is that there's no incentive, no rules to do it any differently."

Gordon does support mandatory processing of the flesh. He said he believes meal production should be a prerequisite to participation in the groundfish fishery.

"Those people who take the trouble to extract roe and then use the carcass should be recognized over those who dump the carcass," he said. "If you put that question to the man on the street, he'd agree, wouldn't he? He'd say, to hell with the profit, this is not your resource. This is my resource and this is what I want you to do with it. People are behaving as though they have a God-given right to play merry hell with the resource. I think that's very wrong. We are making withdrawals from the public bank. We should all be made accountable for the amount and the disposition of the withdrawal."

The onshore preference debate

The NPFMC now is considering two proposals that would give allocation preferences to shore-based processors. The rationale is that shore plants can operate for three months on the amount of fish a factory trawler can scoop up in two weeks. A shore-based preference would give shore plants enough fish to operate through the year and would give a separate allocation for at-sea processors to share. One proposal would establish a quota of the groundfish allocation based on the shore plants' needs, and would give the remainder of the total allocation to at-sea processors. The second proposal, supported by shore plants on the Aleutian Chain, would restrict at-sea processors to fish harvested more than 100 miles away from shore.

A shore preference allocation may help balance the resource between shore and at-sea processing plants, but would it ease concerns over utilization?

"Not entirely, but it will give shore plants a way to survive until we can gather all the information we need," said Reed Wasson, president of Eagle Fisheries of Kodiak.

Sevier, of APS, agreed. "When the council originally set up the allocation for the Gulf of Alaska, they used all the data based on input from Kodiak, Chignik, Sand Point—all the shore plants

needs," he said. "That's what was used as a target figure on what groundfish the Gulf of Alaska should be taking. Then the factory trawlers came in and wiped out a year's worth of anticipation and guesswork. A whole year's planning was wiped out in two weeks."

Let's get one thing straight: shore plants also dump millions of pounds of fish material every year, and the reforms now being contemplated will include them as well. Kodiak Reduction, Inc. received 247.2 million lbs. of fish waste between June 1, 1987 and March 31, 1989. In those 22 months, KRI processed 115.2 million lbs. into meal and ground up 132 million lbs. (53%) to dump at sea. This does not include totals from those Kodiak plants that grind and dump their own waste.

Waste totals aren't available for Dutch Harbor, Akutan or other Alaskan ports. Seafood waste has historically been a problem for shore-based plants; nearly all of them are trying to address the problem in one way or another. Not all the fish discarded are too small or the wrong species; evidence shows that shore plants, like factory trawlers, will discard usable fish because of market changes or other economic reasons.

In September, the NPFMC will discuss all the options of onshore/off-shore allocations. The meeting (Sept. 26-29 in Anchorage) will also include discussions of roe stripping and the full utilization issues.

Many are trawled but few are chosen

Processors and fishermen alike are concerned about the volume of fish that is dumped at sea, by both the shore-based and the factory trawler fleet. Stories abound of trawlers bringing up bags full of small fish or incidental catch that is dumped back overboard by the thousands of pounds. Overfilled nets are bled off, dumping tons of dead fish back into the ocean.

"We've heard about trawlers, operating in the same waters with our boats, that are tossing over 50,000 or 60,000 lbs. of Dover sole because they don't want sole," said Wasson, whose plant processes mostly sole and flounder. Wasson said the data shows that factory trawlers brought in large amounts of rockfish and sablefish in the Central Gulf this year, harvested in the same areas where Eagle's boats were bringing up mostly Dover sole, a

relatively high-valued Alaskan flatfish. "I don't think the factory trawlers were getting a different mix," Wasson said. "If their mix was the same, they threw away one hell of a lot of sole."

Wasson said the most important step toward ensuring the safety and wise use of the resource is to find out just what's being discarded at sea.

Gordon, whose American High Seas boats are primarily joint venture vessels, said his members have outlined litanies of fish dumping. He said it is not uncommon stories for boats pulling up tows of 50% cod and 50% pollock to dump the pollock overboard when the market was stronger for cod, or dump the cod when the markets were stronger for pollock.

"Of course it's all hearsay, because there are no observers out there yet," Gordon said. "But the thing is, there is no incentive to fish cleaner, to use burst panels or burst windows to keep your nets from bursting and losing fish. There are existing technologies to help you fish cleaner. There are technologies to process nearly all the fish you can bring up. What's needed is accountability and full utilization."

In addition to usable but undesired fish, prohibited species are also dumped at sea in accordance with by-catch regulations that prohibit fishermen from landing or selling certain species while targeting on others. Some fishermen and processors think prohibited species, most of which are hauled aboard already dead, should be brought ashore and used, and their proceeds be applied to fund observer programs. In this case, required dumping is causing heartburn.

Righteous indignation vs. the free enterprise system

"The fact that your fisheries harvest takes place primarily outside the public view will bring you increasingly less comfort in the future," said Howard Weaver, managing editor of the Anchorage Daily News to an audience of the Women's Fisheries Network recently. "Remember that the public will address the issue of waste in the most common sense manner. If the industry does not address the issue of seafood wastes on its own, there will be plenty of volunteers to do so for you. Then you will have to answer charges of wanton waste."

Charges of "wanton waste" have been levelled at the industry; some of them from Weaver's newspaper. But those in the hot seat say nothing can change until the seafood industry—the council, that is—formulates a clear picture of what waste is, and what constitutes full use of the resource.

"You can cry waste all you want to, but you have created the environment in which I am just trying to survive," said Wally Pereyra of ProFish International, an at-sea processing firm that participated in the roe-stripping season early this year. "In the council's own briefing paper it says 'One man's waste is another man's profit.' Don't blame me because I am extracting a profit under a system that is now designed for exactly this kind of operation."

Pereyra said the free enterprise system itself would weed out those

who operated inefficiently or who made bad use of the resource.

"I'll tell you what waste is," he told the Women's Fisheries Network audience. "We are leaving fish in the sea that could be contributing to the economy. We have an artificial cap of 2 million metric tons in the Bering Sea—that's waste."

Pereyra advocates privatizing the fisheries resources so that each operator has an interest in the resource.

"Right now, the operator who does waste is at the advantage," he said. "If you make it illegal to carry on in a wasteful manner, and you privatize the resource so the individual operator is responsible for his share of it, then you begin to solve the problem."

But, he said, blame should not be leveled at the companies that now are pursuing profits under the free enterprise system. (Pereyra compares roe strippers with addicts: "You just have to take whatever you can take," he has said.) Regulations, he said, must come from governing bodies, not from the factory trawler fleet.

A moving target

For the next year or so, the North Pacific Fishery Management Council will contemplate a ban on roe stripping, a proposal to allocate shore-bound fish separately from ship-processed fish, and a dozen or so other ideas for achieving balance between rapacity and repression in Alaska's fisheries. Meanwhile, food technologists who look upon the sea, as E.B. White did, as "restless fields of protein," tell us no matter what fishery management methods we design in the next ten years, we have only begun the slow, painful evolution toward full utilization.

"What is it?" asks Rae McFarland, a protein technologist. "Full utilization is when every scrap of everything is used to the best advantage of the mass. We don't do that anywhere! Cattle take five pounds of grain to produce one pound of meat. If we wanted full utilization, we would ship the grain to countries that can't afford to eat meat, and we'd pay higher prices for meat because we can afford it. We don't waste by accident—we waste through ignorance, economics or politics."

McFarland has a long history of poultry processing expertise; now he's infatuated with the sea. He said that even in agriculture, not enough is known about the biological balance of resources to achieve full utilization. In the wild fisheries, it may be impossible to discover what the best biological balance is.

"I was looking at a machine that would make use of spawned out salmon," he said. "This guy up on the Yukon River told me, 'No no, you must leave the protein in the rivers to provide nutrients for the young fingerlings and other life in the water. The carcasses also feed the bugs, and the bugs feed the ducks and the geese.' Only when you know exactly where the balance is can you have full utilization."

McFarland said the current agriculture, aquaculture and avian farming industries now only achieve about 10% utilization of the potential. "Once you get into full utilization of the wild fish-

eries, you'll never stop," he said.

"You'll be making biodegradable animal fats into detergents, you'll be using the hides, hairs, eyeballs and fins."

But to get to that point would require years of study and volumes of data on the biochemical characteristics of the fish and how each variable in the environment affects those characteristics. "And the world runs on money, not emotions," he said. "There isn't enough information yet for me as an entrepreneur to know what to do with arrowtooth flounder, let alone how the biological makeup of the fishery is affected by seafood wastes. You know we get enough energy from the sun every day to power human needs for a hundred years. How we'll ever get enough knowledge to recover all the free energy from the sun—or from the food in the sea—I don't know."

Full of protein; starving for information

Scratch any of the full utilization arguments and underneath are several patterns of agreement. From McFarland's den overlooking the Great Salt Lake to Pereyra's pricy desk peering out over West Seattle to Sevier's cluttered office on the edge of a very quiet Gulf of Alaska, some of the same echoes can be heard: The North Pacific fisheries so bountiful in protein are starving for information. No one knows at what point fish discards become anaerobic litter. No one knows what the true potential for economic and nutritional productivity the groundfish resource might offer. We don't know everything that can be done with these fish, the consensus seems to go, and haven't any idea how much money could be made off them.

Beyond that, the greatest need seems to be for equipment. To fully use Alaska's groundfish, many believe new kinds of equipment to handle new species, a wider variety of fish sizes, and new product forms will be needed. Our definition of utilization seems to hang on current technology. As one expands, so will the other.

And many have said that the North Pacific Council will have to take emergency measures to help shore processors in the Gulf of Alaska survive the startling growth of the factory trawler fleet over the next few years. Some factory trawler operators themselves have agreed, but caution the council to give both sectors equal treatment.

The full-utilization issue may not be the most political ever to come before the NPFMC, but it might be one of the most profound. Whether or not the questions will be answered simply or soon, whether or not the issues can be resolved to anyone's satisfaction, are less significant than the fact that the issue finally—or already—is up for discussion.

The Alaskan seafood industry is ready to consider the larger issues of stewardship of a public resource. The last hunter-gatherer society in the nation is growing up.



GIRDING UP IN THE GULF:

Kodiak faces a tough winter as Gulf bottom trawl fisheries come to a close

In 1989, the port of Kodiak has gone from the number-one seafood port in the nation to a quiet, fearful town struggling for survival. First, the Gulf of Alaska pollock fishery was shut down on March 22 after the entire year's pollock quota was harvested, half of it by the region's shore plants and half by factory trawlers.

Two days later, the Exxon oil spill began its ghastly march toward the Kodiak archipelago and the Gulf of Alaska. The oil affected Kodiak's fisheries as much as any other port in the region—perhaps even more. By summertime oil was seen in many of the major fishing areas around Kodiak. According to the Alaska Department of Fish & Game (ADFG), 51 of 52 salmon fishing areas around Kodiak were closed to fishing at some time during the summer, not because the fish themselves were damaged (salmon have demonstrated an ability to swim around the oil) but because the oil in the water could damage fishing gear, which itself would contaminate the fish during harvesting.

In early August, the National Marine Fisheries Service announced that, on top of the earlier closures, all Gulf of Alaska bottom trawl fisheries would soon be shut down because the bottom trawlers had reached the maximum 2,000 tons of halibut by-catch. This year for the first time, bottom trawlers are limited to catching 2,000 tons of halibut incidentally; after the limit is reached the bottom trawl fishery will be shut down.

In normal years, Kodiak provides 25% of the Alaska seafood industry jobs. This year most of the boats remain tied up to the dock; many others are busy harvesting oil rather than fish. Many people have left town because canneries can't keep regular crews working.

"Last year Kodiak was the top fishing port in the nation, and we were probably the top producing plant in Kodiak," said John Sevier, manager at Alaska Pacific Seafoods. "This year it's pretty lean. 'We'll survive, but it's going to be a long and winding road.'"

The bottom-trawl shutdown will affect AFDF and several of its projects as well.

The AFDF flatfish project was to expand this fall to include studies of on-board handling and two different projects to investigate profitable uses of arrowtooth flounder. Arrowtooth flounder is the most numerous species in the Gulf flatfish biomass and is yet unmarketable in the U.S. because of certain enzyme characteristics of the flesh. AFDF's two projects were to examine ways to use arrowtooth in new products, and to develop the first value-added processing facility for arrowtooth.

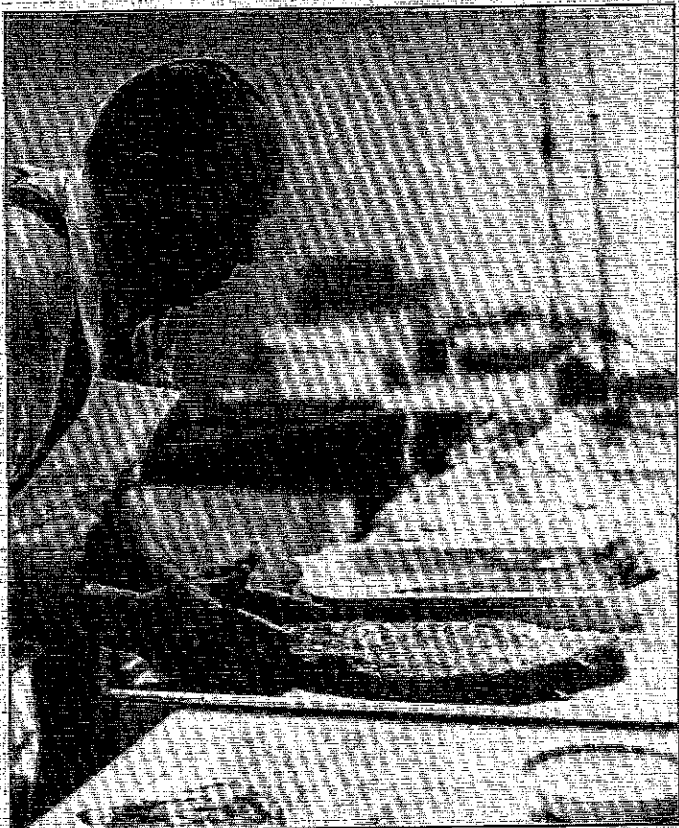
A third project delayed by the bottom-trawl closure will be the year-round groundfish quality study, the first project designed to gather data about the quality characteristics of groundfish species, what environmental and seasonal changes affect those characteristics, and how to plan for optimum processing programs based on that data.

"The AFDF projects in Kodiak will be delayed until January, when the 1990 groundfish season begins," Monsen said. "But in the current environment of the groundfish fisheries in the Gulf, losing three months worth of data is a significant loss. Our members and the companies we work with have told us that the information generated from these projects could really make a difference in their future operations. This information will be valuable in helping processors extract more value from the fisheries, use the Gulf fish more efficiently, and develop long-term markets for underutilized fish."

NMFS expects the bottom-trawl fishery closure to come in mid-August. A small mid-water pollock allocation of 7,000 tons has been opened in September; the North Pacific Fisheries Management Council may request that the emergency quota be raised to 35,000 tons.

In the meantime, data is just in from an AFDF-sponsored observer program aboard Gulf of Alaska flatfish boats. Under the program, ADFG observers monitored halibut and crab by-catch aboard boats fishing flatfish for the AFDF project at Eagle Fisheries. The final report, submitted by ADFG in August, includes data taken over the past twelve months. During that period, halibut by-catch averaged 3%.

Copies of the observer data are available from AFDF at no charge.



Chef Benson even made his own side of smoked salmon out of mince (far left). At left, Chef Benson and Nine Star Productions director Bill Holden discuss a scene for the video. Chef Benson also prepared a gourmet lunch of salmon pirogs for the video crew and a few other stragglers (below).

Chef crafts a future for new Alaskan seafoods

Years ago, in the Swedish port town of Landskrona, a 14-year-old boy joined a ship's mess hall staff and set out to see the world. After a while at sea, the enterprising mess boy took a look at the chefs creating gourmet dishes in the kitchen aboard the luxury ship and said, "I can do that."

"Do that" he did. Today, many years, many miles and many food adventures later, Chef Eric Benson is using his culinary inventiveness to teach food producers how to make simple, profitable gourmet foods out of Alaskan salmon mince and surimi. Benson came to Alaska in early August to star in a video AFDF is producing about six of his new products.

"I've been on both sides of the game—as a chef and as a buyer," Benson said in an interview included in the video. "Here, I am trying to make sense on both sides." Using salmon

mince as a gourmet product ingredient, Benson said, makes sense for chefs and for buyers alike.

"Salmon is a very good product to work with," he said. "You add a little Crisco to it, and it becomes the same as ground beef or ground pork. There are many things you can do with it. And pink salmon mince is very economical."

For the video, Chef Benson made six products, all using minced salmon as the primary ingredient. He first made salmon pirogs, a puff pastry shell filled with mince and different sauces (Italian, Indian curry, Mexican, and one called "Cordova" filled with yogurt and mince—surprisingly tasty.) Pirogs had made their public debut earlier in the summer at the Sheraton Hotel in Anchorage where they were served to the Women's Fisheries Network.

Benson thinks the pirogs would do well in foodservice or catering outlets, because pirogs can be kept warm

without drying out, they are self-contained and easy to serve, and they can be flavored many different ways "so you don't get tired of them," he said.

The other products Benson created for the video are salmon papillettes, a rolled-up salmon item that's easily portion-controlled; a salmon burger that Benson said has been eagerly accepted already at a ski lodge restaurant; a side of smoked salmon made entirely with mince, which offers all the benefits of hot-smoked salmon at a lower cost ("but it's not an imitation," Benson reminds); and salmon chili, an item introduced last year that Benson says could be easily produced by Alaskan canneries using steam cookers and the traditional canning equipment found in many Alaskan plants.

"I wouldn't be afraid to serve any of these products in any restaurant," Benson said. "You just have to let people know in advance what they're getting. These foods taste good, and

should be eaten."

But is the average American consumer ready for salmon chili, or a fish-based papiette? "That depends on how it is packaged and promoted," Benson said. "Salmon is very marketable right now. People have become very health-conscious. They want a way to eat fish that is enjoyable and not repetitive. These are just a few ideas I know will work."

Benson said he has created 15 or 20 different recipes using minced salmon. "And I bet I could make as many more," he said. "There will never be too many different foods. We will always need more variety."

The video, written and filmed by Nine Star Productions of Anchorage, is set a thousand years in the future. An archeologist discovers an artifact—a video of Chef Benson teaching food technologists and chefs how to make products from Alaskan minced salmon. It is looked upon by the archeologist as

Many uses, opportunities ahead for Alaskan fish oils, too

A new report is in for those interested in marketing Alaskan fish oils. "Alaskan Salmon and White Fish Oil Marketing" outlines opportunities and obstacles producers will face marketing Alaskan fish oils for food, pharmaceutical or feed uses.

Alaskan fish oil faces some marketing problems: A limited supply, the lack of general knowledge about Alaskan fish oils, and a low market price. Since interest in omega-3 fatty acids in foods is waning, and since Alaskan fish oils used for feeds would need refrigeration to combat oxidation, it may be difficult to sell Alaskan oils profitably.

There are some good signs, how-

ever: Alaskan fish oil has been well-received by the food industry for its quality, purity and appearance. In the future, the emerging segment of medically-designed foods may be where Alaskan fish oil will find a meaningful niche. In the meantime, Alaskan oils could be used to supply the growing need for aquaculture feed. The report recommends getting in on this market early and establish Alaskan oil as a standard for quality and reliability.

"It is widely believed," the report concludes, "that omega-3 fatty acids (especially EPA and DHA) will come to be recognized as essential nutrients for humans, and this recognition will lead to a dramatic increase in pressure on the FDA to approve their inclusion in a

wide range of foods. The Alaska seafood industry must be prepared to capitalize on this opportunity when it materializes. AFDF is in a perfect position to spearhead this preparation."

The 23-page report was written by Sharon Gwinn of Nutrifish Corp. Following are other reports about fish oil available from AFDF:

- Alaska Salmon & White Fish Oil Marketing
- Lab Analysis of Alaska Salmon Oil
- Meeting Summary: FDA and AFDF on Alaska Salmon Oil
- Salmon Oil Recovery at North Pacific Processors
- Rendering Profits (proceedings from the AFDF 1987 fish oil conference) \$7.00.



old news.

"The concept of blended proteins will evolve in the future, just the same as the aviation industry," Benson said. "In just two months, I've been able to come up with a lot of ideas, and it's just going to keep going."

Benson draws a parallel between his efforts to pioneer new mince-based products and those of the Wright brothers to develop the first airplanes.

"The Wright brothers and those other guys jumping off rooftops, they didn't invent the space shuttle," he said. "But they started something. They may have seemed a little silly at the time—and these products may seem silly. But eventually this silliness will amount to something."

Benson said when he first started playing with salmon mince, he made pate and chili (both products were part of AFDF's New Product Development Contest, held in 1988). "The products were sort of slushy," he said. "I didn't know too many things you could do with it. Then I added 10% Crisco, and suddenly it took on all the characteristics of ground beef or pork. I think the future for minced salmon products is tremendous. I'm surprised it hasn't been used before."

Benson does use surimi in some of his minced salmon products. Surimi is a good binder, he said, and holds the mince together so it can be easily shaped.

"At the same time, surimi is good for you and it adds no flavor of its own to the product," he said. For these products, the surimi added does not have to be perfectly white, nor of the highest gel strength.

But how practical are these products? Doesn't fish mince have to be handled differently than red meats? Doesn't it cost more? And aren't customers at a white-tablecloth restaurant going to turn up their noses at fish pastries?

Benson took a long draught of coffee (warm, not hot). "If you started a business using these concepts, and you are the first one to do it, some other big companies are going to think, 'Why didn't I think of that?'" he said. And when the cameras rolled again, he said, "A thousand years from now these ideas are going to be old

When you start thinking about something, you ask—"Is it possible?" You start playing around, and you hit something. That's fun."

hash. Products like this will be very common. I'm sure of that, I really am."

Benson said that, as a chef or as a buyer for a food company, he would not hesitate to work with minced salmon. "Pink salmon mince is very economical, it's easy to work with, it requires no additional equipment and the products I have made here can easily be made by hand in a small-scale operation," he said. "These products look good, they serve easily, they can be portion-controlled, kept frozen—there are many benefits."

During his years as a chef in the San Francisco area, Benson built a reputation for creating inventive new foods that his customers loved. "People used to say, 'Eric, he always knows what people will like,'" Benson said. "I never disagreed with that, but I know that it is mostly luck. You put some ideas together, and they turn out to be popular or not. The housewife has to do the same."

By producing the video, AFDF hopes that chefs and food producers will also consider fish mince a tool for creativity. For those who don't have the time to fiddle around learning how salmon mince works, the video offers a primer on how to work with it.

"The executive chef doesn't really have time to spend on product development," Benson said. "But I would like for him to know what I know. I hope they take the time to do what I did, and try out several things—and be surprised, as I was."

Benson also hopes that some interested companies will purchase some of his formulations for commercial production. He has given some of his recipes to his son, executive chef at the exclusive Timberline Lodge in Oregon. "But I'd like to make a living, too," he said, with a smile as mischievous as a nervous Swede being videotaped can give.

Eric Benson considers himself a retired chef. He laid down his ladle nine years ago after a heart ailment rendered him unable to work full-time. "Normal people play golf when they retire. I play with fish," he said. "I think what I'm doing is very important. Food is one of the few necessities of life. When you try to combine good-tasting foods and foods that are good for you, I think it's an important role to play."

Not only important, Benson said, but fun too.

"When you start thinking about something, you ask—"Is it possible?" You start playing around, and you hit something. That's fun."

The video will be available from AFDF in September.

MEMBERS ONLY

News of AFDF's member companies

Sell fish, not water Precisions Drying Systems, Inc.

Precision Drying Systems offers a patented drying system called the PDS ball dryer that can dry everything from salmon mince to blood plasma to enzymes at a lower cost than vacuum or spray dryers. The ball dryer is simple, versatile, operates at low temperatures, and takes up little floor space. Tested on salmon mince, the ball dryer removed moisture from the mince without burning and without damaging the protein integrity of the material. Information: Contact Eric Rockstrom, (609) 921-3553.

A guaranteed Japanese market Arctic Alaska Fisheries

Arctic Alaska Fisheries Corp. has signed a sales agreement with Nippon Suisan whereby Arctic Alaska will sell surimi from the Island Enterprise and the Kodiak Enterprise, as well as other seafood products, to Nippon Suisan Kaisha Ltd., and Nippon Suisan USA will purchase 2 million shares of Arctic Alaska common stock for \$27 million. The investment—at \$13.50 per share—will give Arctic Alaska working capital to purchase equipment and reduce some debts.

The Island Enterprise and the Kodiak Enterprise, both Arctic Alaska surimi vessels, are scheduled to begin operating later this year. Information: Terry Baker, (206) 282-3445.

New seafood division Flohr Metal Fabricators, Inc.

So much seafood equipment business has come their way, Flohr Metal Fabricators has had to build a new building to house their newly established seafood division. Flohr has been designing and building seafood equipment since 1941, according to a recent missive, and now is making plans to expand into new seafood areas as the industry grows and changes. Information: Keith Johnson, (206) 633-2222.

Exporter of the year: Two AFDF member companies

All Alaskan Seafoods Inc. of Kodiak was nominated for the Governor's Exporter of the Year award this year. The producer of pollock, cod, flatfish, salmon, halibut and crab was cited for its aggressive marketing programs that the awards program recognized for contributing to the Alaskan economy.

The award was given to Sealaska Corporation, which exported \$58 million of seafood in 1988. Sealaska is the parent company of Ocean Beauty Alaska, a long-time AFDF member.

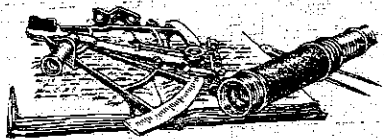
For information about All Alaskan and its export products, call their Seattle marketing office at (206) 285-8200. For information about Ocean Beauty, call Gordon Lowell, (206) 285-9191.

A trawler bigger than life ProFish International, Inc.

ProFish International, Inc. is building a 680-foot processing mothership, the Ocean Phoenix. The vessel, which is scheduled to begin operations in early 1990, will produce surimi, headed/gutted pollock, fillets and fish meal. For information: Mick Stevens, (206) 547-6800.



The Wright brothers and those other guys jumping off rooftops, they didn't invent the space shuttle. But they started something. They may have seemed a little silly at the time—and these products may seem silly. But eventually this silliness will amount to something."



Director's Log:

*Right now,
AFDF is fighting
to keep
information
flowing.*

By Mel Monsen
AFDF Executive Director

Dilemma. The Foundation is facing at least two right now. Both have such long-term consequences that they are worthy of careful discussion.

First, the Gulf of Alaska bottom trawl fishery is facing a closure through January 1989 because the halibut by-catch limit has been reached. The second dilemma is that the Foundation's 1985 Saltonstall-Kennedy project, the "Pacific Pollock Protein Project" that brought to Alaska the first commercial surimi production demonstration, is being audited by the Inspector General. These two events may seem unrelated, but I believe they are both symptoms of the same problem. Both the pollock fishery shut-down and the surimi project audit are threats to the future of our seafood industry. Both reflect a preference for short-term results over long-term goals. Both must be resolved expeditiously.

The Gulf of Alaska bottom trawl closure, which is expected momentarily, is the first in what will become a long list of fishery closures and limitations. It is certain that similar closures or season restrictions will occur in the Bering Sea if management systems fail to keep pace with the changing seafood industry. The opportunity that first drew capital investment from

around the world is about to disappear because the existing system has not developed the information and regulation needed to maintain a stable environment for the domestic industry.

If acceptable means to provide for long seasons and large harvests are not found, harvesters, processors and the support industry will move to more fertile areas—or, more dramatically, go bankrupt. This is a sad turn for a fishery that was in the heyday of its growth just one short year ago.

How are the closure and AFDF related? In two ways. First of all, it is through projects like those sponsored by AFDF that Alaskan seafood producers will gain the information needed to prevent fishery shut-downs in the future. AFDF helped sponsor an observer program aboard the Gulf's flatfish fleet to determine actual by-catch and collect other resource data. This and other resource studies help build the backbone of data that this industry will need in the future to make its management decisions.

The second benefit of AFDF projects is to help seafood producers adapt to the changing fishery regulations. AFDF projects historically have helped develop new fisheries, and helped producers fully use the fishery products now brought ashore. If the Gulf of Alaska harvesting capacity is limited in the future, how can producers find

more profits in the oil, frames, and flesh of the fish? How can we make marketable products from incidental catch? How can we make our processing plants efficient enough to glean maximum profits from every ounce of fish material?

These are questions AFDF has helped answer. Some of those answers will be written in black ink on the bottom line of companies' annual reports in the years to come. Foresight in management and foresight in technology must go hand in hand.

Unfortunately, this year AFDF may not be able to complete some of its projects because of the Gulf bottom trawl shut-down. More significantly, it is increasingly difficult to project the research and development needs of a seafood industry that has a questionable future (let alone a pretty shaky present).

Hardest hit among our projects will be the year-long study of groundfish quality. This research would help processors manage their production for maximum product quality. It will have to wait until January 1990 to begin, and even then it may be affected by a closure next year.

Another AFDF project that will suffer is an experiment with different secondary processing techniques to produce an arrowtooth flounder product with good texture. Instead, the in-

*Guest
editorial*

Water-Walkers and waste-mongers:

In the controversy over roe stripping, full utilization, and other pressing fishery management issues, one particularly compelling voice has emerged, expressing both the frustration of the industry and the gravity with which such issues are viewed by the public. We asked Doug Gordon to express these views in The Lodestar. Gordon is executive director of American High Seas Fisheries Assoc., has worked for National Food Processors Assoc., and is a native of New Zealand, where recent fishery management changes have attracted worldwide attention. Here are his thoughtful comments; we encourage responses.

By Doug Gordon

"Eat everything on your plate...It's a sin to waste food...There are starving children in the world...Don't waste what you've been given." Sound familiar? We all heard it while growing up. Basic as these words are, there is wisdom in them that makes roe-stripping and fish dumping wrong to the core of what we all know to be right.

Twenty percent of the world's renewable, edible fish resource is found in the 200 mile exclusive economic zone of the U.S. We have more than 2.6 million metric tons (Optimum Yield) of the groundfish in the U.S. waters off Alaska. What place do these fish hold in our minds, and in the national psyche?

Simplistically, fishery management is balancing the human fishing capacity with the available fish resource. This dynamic man-fish relationship is a fishery. It has recreational, commercial and cultural components.

The marine-based regimes of the Persian empire were called "Water Walkers." That image retained impor-

tance with the coming of the Christian era. In the Eastern tradition, Lao-Tsu told us, "Give a man a fish and he will eat once. Teach a man to fish and he will eat for the rest of his life." Then there is a lesson from the Hebrew Torah: "The souls of righteous men come from fish." The ocean is a symbol of the 'great mother,' and the fish are a symbol of the male libido within it. To destroy the recreative integrity of the ocean, or to abuse the fish resource within is sacrilegious and simply stupid and short-sighted.

Our present management regime has historically focused efforts only on the fish, not the human component of the fishery. A look at the annual reports of the three interstate fishery commissions will show example after example of depletion of U.S. coastal resources from the activities of Man including pollution of rivers and inshore waters, dams, and overfishing. It's been called the "tragedy of the commons." This is the people's property, yet ownership is on a catch-as-catch-can basis.

Recent Magnuson Act oversight

testimony tells us at-sea factory catcher/processors catch 85-86% of the 2 million metric-ton OY and dump 25-50% of that. There are now 58 catcher/processors operating; only two have meal plants. Meal plants are not a condition of entry into the groundfish fishery, unlike any other civilized fishery in the world.

In the roe pollock fishery, roe recovery is 4-14%; the rest, 90%, is dumped overboard. In the roe rock sole fishery, the dumping is greater. Why? Because at \$5 to \$7 per lb. for roe (vs. \$1 per lb. for surimi or fillets, which take a lot longer to process) the revenue equation is compelling. Particularly so if you're a multimillion-dollar unit operating at or below your economic margin.

The Optimum Yield of groundfish in the Bering Sea is set at 2 million metric tons. Factory processors catch 86%, or 1,720,000 m.t. They dump, say, 36%, or 619,200 m.t. A 30% recovery rate leaves 185,760 m.t. of edible protein dumped. Expressed another way, 3.7 billion human daily protein equivalents will be dumped this year. If you

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as we have foresight

dustry will have to wait longer for a demonstration of a promising method that could open the door to hundreds of thousands of metric tons of unused flounder.

Predicting the research and development needs of the Alaska seafood industry is a difficult task at best. Seafood producers are becoming less and less sure about their future needs. They only know that they have to find a way to get fish through the plant or they will not have a plant. The groundfish fishery is changing so fast, and crises are arising so quickly, long-term needs are forgotten in the rush to maintain an existence.

The industry cannot mature unless its participants have an opportunity to plan for the future and reliable information on which to base those plans. Where AFDF comes in is in providing valuable, reliable information about the options open to plants whose very survival depends upon their flexibility and adaptability.

Right now, AFDF is fighting to keep that information flowing. The Foundation has undergone an audit of the 1985 surimi project by the Inspector General since February 1988. AFDF is not the target; this is only one of at least six audits on the Saltonstall-Kennedy grant recipients nationwide. Our final audit, which was issued in January 1989, questions nearly all the

funds spent during the AFDF surimi project. There are no claims of fraud or waste of public funds in the audit; it only challenges project costs because of procedural or documentation requirements. The Inspector General does not dispute the success of the Saltonstall-Kennedy program, only the paperwork supporting some of its administrative processes. Nevertheless, the audit has effectively hog-tied the S-K program and put a dark cloud over all the S-K grant recipients.

The audit process is long and involved, begun 18 months ago and not yet near a conclusion. We continue to cooperate with the Inspector General and with the National Marine Fisheries Service to provide documentation of the challenged items. A positive resolution to this issue will be critically important to the continued credibility and funding of the Foundation.

As AFDF and the Gulf of Alaska fisheries each face their individual tests, the same questions demand to be asked: Are we building a long-term future, or seeking only a short-term benefit? And are we facing the hard issues with our hoped-for answers already clenched tightly in our fists? Or are we openly seeking the path that best benefits all the people involved and the environment in which they live?

How many faces can a salmon have? How many roles can Alaska's fish protein play as it takes center stage on America's dinner plate? The Alaskan seafood industry created AFDF to help discover new answers to these questions.

For more information about AFDF or any of our projects, please call us:

Deborah Bloom, Secretary
Barbara Culver, Controller
Loretta Lure, Project Manager
Peter Moore, Project Manager
Mel Monsen, Executive Director



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Krys Holmes, Editor, Winterholm Press

The "Off the Cuff" column will return with the next issue.



One man's view of the management dilemma

wish, you could work out how many human lives were denied existence for lack of this protein.

Let's look at pollock roe stripping this year in the Gulf of Alaska. The total catch was 60,000 m.t., about 65% of which was taken by catcher processors and 35% delivered shoreside. The 39,000 m.t. that were roe-stripped, at an average of 10% recovery, resulted in 35,000 m.t. of pollock ditched. At 20% recovery, 7,020 m.t. of edible food would have been wasted. This translates into 140,400,000 human daily protein equivalents. What does this mean? That one sector of the industry wasted enough edible fish to feed the entire world population of 4 billion their protein requirements for one day.

The waste is dramatic: Dumping of carcasses and whole male fish in roe stripping; high-grading of fish based on species, size, price and quality; burst bags, bleeder panels, and dumping of by-catch and prohibited species are all examples. Another major problem is failure to coordinate catching and processing operations so fish awaiting processing are dumped in favor of fresher, just-caught fish.

There is now no valid accounting of catch withdrawals. Catcher processors must operate above their margin to make a profit. They are presently able to do that unconstrained. They don't

have to fish clean or minimize by-catch or waste. They don't pay for access to the resource, or contribute one dime towards its management or upkeep. Yet they treat the fishery as if they had God-given ownership rights over it. They will naturally do whatever they must to make their unit pay. If they are marginal, they are more likely to behave towards the resource in a manner that will result in its demise.

Something new happened to America's first industry in 1976 when we unilaterally extended our fisheries jurisdiction out to 200 miles. Then we cited the rape of our resource by foreign catcher processors, and the inevitable extinction of traditional U.S. fishermen and their communities if we didn't take this action.

Now, due to many mid-stream changes, we have a so-called "Americanized" fishery with many problems. We have all the problems and fears we had before extending our jurisdiction, but now the waste is worse, the factory catcher boats are U.S., not foreign, and they are operated by less experienced operators. There is fear and loathing between the onshore and at-sea processors under open access, which can only lead to chaos for both parties, unless they wake up to the fact that a managed fishery is the only way to have a lasting fishery.

The industry has had 13 years to build an orderly regime of fishery management. Now is the time for the new domestic industry to self-impose a positive operating environment with a view toward the future.

What should be done?

- * Recognize the fish resource is finite and is the property of all the people of the U.S., not the exclusive domain of the fishermen.

- * Recognize that fishery management means balancing the harvestable component of the fishery with the human capacity to harvest in a manner that allows the fishery to be economically sound.

- * Acknowledge that good management means foreseeing problems and acting on them before they happen, and that it means creating an environment conducive to the creation of capital, the fair allocation of resource, and productive distribution of the resulting wealth.

- * Implement a linked policy of full accountability of all fisheries, with a policy toward full utilization in the disposition of that catch.

The first step is the observer program aimed at data gathering for stock assessment, and at behavior modification with respect to disposition of the catch.

We must recognize the myth of open access and the perverted behavior it has promoted under the axiomatic freedom conferred on the individual. There simply isn't enough room for unlimited entry into the fishery. We must recognize the "dis-economy" of trying to manage under open access. Semi-privatize the resource. Charge a reasonable resource rental or user fee to defray some of the costs of fishery management.

I don't know the total value of the whole Northwest groundfish resource, but the 2 million metric tons represents the harvestable interest on the public's principal in the fishery resource bank. The people are entitled to a 10% return on their investment. I predict that in the next couple of years, as Americans' taxes are raised to account for the enormous deficit, the value of the fishery resource will escalate to nearer its true level. The debasement of the value of the fishery by current behavior will not be tolerated. It shouldn't be now.

We must make every attempt to fully use catches for human consumption first, and for industrial purposes second. To continue as we are is bad public policy and makes a mockery of both our human rights and our natural resources.

Fisheries management and ITQs are conference topic

The New Zealand Fishing Industry Board is sponsoring a conference on New Zealand's Individual Transferable Quota System and how it has worked since its start in 1985. Fisheries managers, economists, processors, harvesters and others will debate the pros and cons of the ITQ system. In light of Alaska's efforts to determine its fisheries management future, the conference could be of particular interest to the North Pacific as well. October 29-31, 1989, Nelson, New Zealand. Information: New Zealand Fishing Industry Board, Private Bag, Manners Street P.O., Wellington, N.Z. Fax no.: (04) 852-727.

Task force formed on illegal salmon

NOAA Fisheries has established an International Enforcement Information Task Team to investigate and document world trade in illegal high-seas salmon. The team encourages information and help from the industry in its efforts to gather information about salmon imports and exports by foreign firms. They hope to get export and import country names, species traded, name of exporter and importer company, date of sale and price per unit. For information contact Milton M. Rose, (301) 427-2300; Fax no.: (301) 427-2001.

INDUSTRY

News

So that's what's been in my freezer all this time!

Swanson's TV dinners turned 35 years old this year. The home-heatable frozen dinner with the TV knobs on the package was the first product to prove the viability of high-volume frozen prepared foods when it was introduced in 1954. Sales now average around \$1.2 billion per year. The TV dinner now is so much a part of American culture that the foil tray (recently replaced by microwavable plastic) is now honored in the Smithsonian.

New Microwaveable Fish Sandwich

Iceland Seafood Corporation recently introduced microwaveable Fish 'n English Muffins, a retort-packaged 4.25-oz. convenience item under the Samband of Iceland brand. The sandwiches are made with whole cod fillet and English muffins. Fish 'n Cheese English Muffin, also contains one ounce of processed American cheese.

I'll take the fillet. With a side of information

Consumers are buying less seafood over the counter but more in the restaurant, according to a recent SAMI report. A related survey suggests that consumers are concerned about the quality of seafood they might pick up at a retail counter; they feel more comfortable ordering seafood from their local restaurant chef than from the corner retail outlet. Of the chefs surveyed, 86% said their restaurant seafood sales had improved over 1988; 14% said they had stayed at the same level. How can seafood retailers increase customer confidence? By providing timely, accurate information about their seafood products, said the survey. (Frozen Food Age)

First Yukon River Salmon outlet

Sidney Huntington, a long-time member of the Alaska Board of Fish, this summer opened the first commercial salmon filleting and smoking plant on

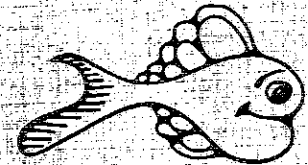
the Yukon River. Huntington's Dainty Island Fisheries is a small plant built to process local fish into value-added products that can be sold on site (Dainty Island is near Galena) or exported to the Lower 48 and abroad. Previously, Yukon River plants were prohibited from selling processed fish and could only sell whole salmon. Huntington said he hopes to provide local employment, reduce waste, and help keep more seafood profits in Alaska. (AK Fisherman's Journal)

AFDF gets newsletters

And one of them reported the startup of a small California company that sells clothing made out of fish skins. It's called "Spawning Fad." We thought you ought to know.

Pacific Marine Fisheries Commission

The PMFC will hold its annual meeting October 16-18 at the Edgewater Hotel in Seattle. The meeting is open to the public; for more information contact executive director Guy Thornburgh at (503) 326-7025.



the LODESTAR

Charting the course of fisheries development today

Volume VII Number 2, Summer 1989

Alaska Fisheries Development Foundation, Inc.

"My domain is arable many miles offshore, in the restless fields of protein."

— E.B. White

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