the LODE STAR

Charting the course of fisheries development today.

Alaska Fisheries Development Foundation, Inc.

Volume VI Number 4, Autumn 1988

Special Issue: AFDF at ten

This special 10th Anniversary Celebration issue of The Lodestar tells the story of Alaska Fisheries Development Foundation.

It recalls the beginnings of AFDF, its first board of directors, its struggle for life, and its first projects. It tells the tale of efforts successful and frustrated, of people coming and people going. Even if The Lodestar were more than eight pages, there would not be enough room to tell all the stories, to introduce all the characters, and to remember all the moments that were turning points in the Foundation's history.

But this is a start. It will help acquaint newcomers to the Foundation and its beginnings. It will stir long-time associates to remember things they might have forgotten. It will possibly encourage more people to join the Foundation and be involved in its projects in the coming ten years.

This issue of The Lodestar not only celebrates the achievements of the Foundation; it also celebrates all the people who have been associated with AFDF through the past decade. There won't be room to mention them all, though their names and efforts are inscribed on the inner halls of the Foundation's collective memory.

And what a collective memory it is. Just for starters, we thank our 1988 board of directors:

President
Al Burch, Alaska Draggers Assoc.

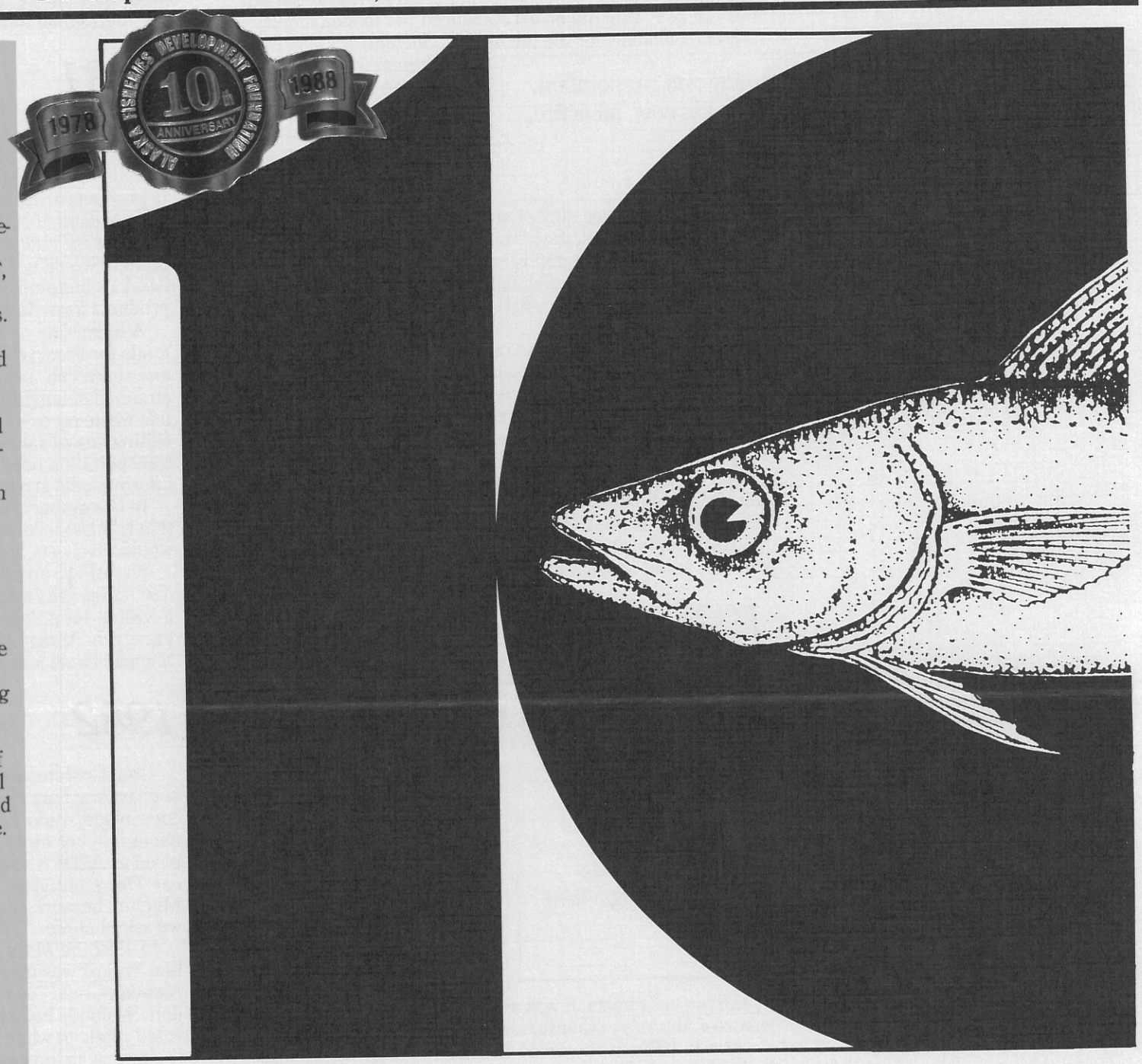
1st Vice President
Steve Smith, Kemp Pacific Fisheries

2nd Vice President
Phil Hanson, UniSea

Secretary/Treasurer
Rod McLachlan, Trident Seafoods

John Sevier, Alaska Pacific Seafoods
Oscar Dyson, All Alaskan Seafoods
Henry Mitchell, Bering Sea Fishermen's Association
Hank Eaton, F/V Skagit Bay
Phillip McCrudden, McCrudden Fishing Ventures
Rae McFarland, McFarland Foods
Gil Gunderson, Northern Fury Seafoods
William Reinke, Van Camp Seafood

In addition to the board of directors, AFDF relies on and gains much from the direction of Carl Rosier, Chief of Industry Services at National Marine Fisheries Service Alaska Region in Juneau.



A Decade of Development

By Krys Holmes

Looking back, the path Alaska Fisheries Development Foundation has taken in the last ten years seems direct, planned, almost inevitable. But from 1978 looking forward, it was a dubious, chaotic, and sometimes staggering path facing the new organization.

Like most things in the fishing business, it all started with a rumor. The way Sara Hemphill tells it, someone heard that National Marine Fisheries Service (NMFS) had got hold of $3 million of federal Saltonstall-Kennedy funds and was going to give part of it to New England Fish Co. (Nefco) for a white fish development project.

"In typical Alaskan style, the fishermen started screaming," Hemphill said. It seemed NMFS wanted to award the contract without bids, and Nefco would get a windfall of public money. NMFS called a meeting in December 1977, but expected only a few people. The room was full.

"What came out of that meeting was a concensus that NMFS couldn't let a $3 million sole source contract, and that we should set up some organization that could funnel the Saltonstall-Kennedy money to the industry," Hemphill said.

Almost twenty months later, the Alaska Fisheries Development Corporation, with $100,000 startup money from the state of Alaska and Sara Hemphill as executive director, embarked on its first white fish development project, a $1.475 million demonstration of the economical and technical feasibility of Alaskan fishing vessels and processing plants going after the foreign-controlled Alaskan white fish industry.

The Saltonstall-Kennedy fund was created by a 1954 act of Congress to devote one-third of all revenues from import tariffs on marine products, including coral, pearls and seafood products, to the U.S. seafood industry. The money was to be used for fisheries development projects, and its application was to be industry-directed.

"That first project had something for everybody," Hemphill said. The project was segmented to include activities from all parts of the state and to include fishing, processing

and marketing. It included shrimp boats, longliners, crew training programs and processing demonstrations. It touched on pollock, cod, sablefish, and black cod.

1978

Alaska Fisheries Development Corporation was formed, the first organization in Alaska to include both fishermen and processors, and to span all industry interests. Ron Jensen was the president of the board of directors. Other board members were: Patrick Pletnikoff, Pete Harris, Connie Taylor, Al Burch, Larry Painter, Jim Ferguson, John Enge Sr., Robert Morgan, and Jim Marr. Hemphill was Acting Executive Director, and was soliciting applications for the permanent post until the board convinced her to stop fooling around and apply for the job herself. She did; she was Executive Director until 1982.

> "After many months of careful planning and preparation, the public trust in fisheries development is now an active, tangible reality."
> —AFDF Bulletin August 1980

Through the first year of AFDC, members were most concerned with increased foreign allocations of bottomfish under the one-year-old 200-mile limit law. A November 10 AFDC newsletter quoted attorney Ed Furia speaking to a U.S. bottomfish workshop: "We found out this morning ... that the State Department is considering increasing the allocation of Alaska bottomfish to Korea and to Poland so that they can sell those bottomfish in the United States....We think this is incredible."

The goal seemed clear to membership: to capture the profitable fishing and processing activity that was then given to foreign companies. The methods seemed less clear. The Alaskan fishing industry was segmented, with many separate groups representing gear types, regions and activities.

The same AFDC newsletter of Nov. 10, 1978 tells a story of two boys trying to balance on railroad tracks. Neither could make it far, until they discover that by holding hands across the expanse they could keep each other balanced. "AFDC symbolizes the hands held across the track," wrote editor Connie Taylor.

1979

After riding a "rollercoaster on the funding issue" through the winter of 1978-79, Sara Hemphill announced in the spring of 1979 that Congress had finally approved $1.445 million, promised the year before. But it would take until September to see the first dollar of S-K money. In the meantime, the board updated its white fish development project proposal, and prepared for some smaller projects.

> "Government must recognize that its agencies are not experts; the expertise resides in the private sector. Government must assist without interfering, challenge without destroying and encourage without building a false foundation."
> –The Lodestar Autumn 1983

In October, bids were solicited for a bottomfish trawler, a shrimp trawler and a longline vessel, and for shore-based or floating processors who would handle the product harvested by the project's boats. It was a small step toward Americanization of Alaska's bottomfish resource.

Also in 1979, the board of directors decided one change had to be made to ensure the organization of its non-profit status, and to underline the philanthropic purpose that characterizes the organization: they changed its name to Alaska Fisheries Development Foundation.

1980

"Working to meet the diverse self-identified needs of the Alaskan industry is a monumental task," wrote Sara Hemphill in February 1980. As a first step, the AFDF board drafted a mission statement, affirming that the Foundation's purpose was "to encourage the full and viable domestic utilization of all Alaskan fisheries consistent with wise resource management and healthy development of Alaska's fishing communities."

By this time AFDF had developed a reputation as the only arena in which fishermen and processors, on-shore and off-shore, Southeast to the Bering Sea, could communicate needs and cooperate in solutions.

AFDF's 1980 projects included helping create a shore-based white fish processing plant, originally sited at Alaska Food Company at Gibson Cove, in Kodiak; and equipping a 124-foot combination crabber/longliner called the *Aleutian Mistress* with a Mustad auto longlining system. Both projects would see plenty of changes before they were finished. The *Aleutian Mistress* was the first of many projects in which Baader North America contributed technology, time and expertise to an AFDF project.

AFDF also arranged to place U.S. observers aboard the German factory trawler *Friedriche Busse* to collect harvesting, processing and economic data. Participants confirmed that the North Pacific bottomfish learning curve was indeed very long, and that the market had no patience for those who were still on it.

Ron Jensen resigned from the board in 1980 and was replaced by Bob Anderson. AFDF hired Sharon Gwinn as assistant executive director; she was with the Foundation until 1985 and returned in 1986 as acting executive director. Betttymae Jones was hired as office manager.

1981

"U.S. development of an Alaska pollock fishery will probably not beviable until we develop successful methods of using minced pollock either as an export commodity or in products acceptable for domestic consumption," said Dick Nelson of NMFS in 1981. His comment solidified ideas AFDF had been tossing around that fisheries development would not depend solely on fishing and processing Alaska's bottomfish, but on developing new, marketable products from Alaska's most abundant raw material.

A huge slate of 17 projects received $1.9 million in S-K funds for fiscal year 1981-82. They included shore-based and at-sea cod, salt cod and pollock processing, demonstrations of longline gear, baiting systems and fishing, a fish waste recovery project, several small fishery studies, a fishing vessel safety project, a study of cold storage and transportation needs in Alaska, and several marketing and informational projects.

In November 1981, AFDF sponsored a conference entitled, "Alaska Pollock: Is it a Red Herring?" The meeting would finally set fire to Alaska's bottomfish development;

The AFDF board of directors in 1981 included Bob Anderson (as president), Al Burch, Jesse Foster, Greg Favretto, John Enge, Hank Eaton, Dan Flynn, Richard Pace, Ken Allread, and Jake Phillips. Charlene Wilson and Michael Broili joined the staff in this year.

1982

Greg Cushing and Bill Woods joined the AFDF board of directors; Sara Hemphill resigned, citing a need for "new blood"—she may have felt she'd already spilled enough of her own—and Christopher K. Mitchell was hired as AFDF's second executive director. In an *Anchorage Times* interview, Hemphill said she favored hiring Mitchell because "he asked harder questions of us than we asked of him."

In 1982 the Model White Fish Processing Demonstration Project was moved from Kodiak to Akutan, on the Aleutian Chain 700 miles west of Anchorage. There Trident Seafoods had built a 100,000 square foot plant dedicated solely to white fish processing. The Trident plant, the first of its kind ever built in Alaska, could handle more fish than Oregon's entire annual harvest. The project would begin with a target production of split, salted Pacific cod in March, and frozen fillets later.

AFDF circulated 400 questionnaires to Alaskan fishermen and processors to help identify future projects that might have a significant impact on the future of Alaska's fisheries economy. The Foundation received 42 project proposals that year.

"Our most important mission," reads a newsletter from early 1982, "is to accelerate the growth and diversification of Alaska's seafood industry." With that goal in mind, the AFDF staff applied another year of S-K funds toward enhancing shore-based white fish processing at Akutan, completing the *Aleutian Mistress* project, demonstrating the quality and preservation of Alaskan groundfish, and exploring the feasibility of several new fisheries targeting on pollock, Atka mackerel, razor clams, sablefish and octopus.

By 1982 it was clear that developing the pollock fishery would depend on developing products to make from pollock—primarily surimi. A May/June AFDF Bulletin brings surimi to the Foundation forefront for the first time. "Seafood Alchemy: Turning croaker into crab legs" reads the headline; the story told of Nichibei Fisheries in Alabama,

the company where AFDF would later find surimi technician Billy Thrash, who aided AFDF in its first tentative months of surimi production.

By 1982 the Foundation staff had increased to include Anita Murphy, Sharon Tyone, Linda Allen and Florence Scott. Late in the year, Ellen Wilson was hired as secretary. And on March 1, a day that will live in infamy for both AFDF and the pyrotechnics industry nationwide, (he once set fire to a stack of old Wall Street Journals on his desk while negotiating fantasy stock deals with Doug Humes) Chris Riley joined the staff as project manager.

1983

Throughout the history of AFDF run several common themes: creating opportunities for fishermen, filling the gaps in U.S. seafood processing technology, and exploring new uses for Alaska's seafood products. But in 1983, under the direction of Chris Mitchell and the nervously supportive eye of Carl Rosier of NMFS, AFDF took a dramatic turn: the Foundation moved away from its "scattershot" projects, planted most of its resources behind one concentrated, multi-year project, and dedicated itself to discovering and developing new methods of producing surimi from Alaska pollock.

"We're looking for a few greedy people," read a brochure AFDF produced that year. To succeed in a risky project like the surimi program—going against the political tides and certainly against the Japanese interests now very powerful in the Alaskan seafood industry—it would be necessary to make sure everyone had something to gain from the project. In 1983, AFDF submitted its surimi project proposal to NMFS, and began to lay groundwork for the project that would put AFDF on the map.

The staff contacted 500 U.S. companies—suppliers of ingredients, equipment, materials and knowledge—and sent out samples of Japanese surimi for product development purposes. Within months, companies across the country were twisting, poking, flavoring, coloring and tasting surimi.

The staff, hoping that at least some of these companies would find surimi profitable, pumped out as many samples and as much information as they could get hold of. And in the interests of better communications, The Lodestar was born.

In December 1983, AFDF selected from among five bidders one plant to conduct its surimi production project. After hours of proposal review, analyses and deliberation, a specially-selected board of advisors awarded the project to Royal Alaskan Seafoods in Dutch Harbor. The plant would be shut down within a year; and the deliberations would have to be repeated the following year. But, Chris Mitchell was quoted as saying, the level of knowledge demonstrated by the companies proposing for the project indicated "a growing strength of knowledge and commitment" to building an Alaskan surimi industry.

In early 1983, Barbara Culver joined the AFDF staff as accountant.

Also in 1983, the Trident Seafoods plant in Akutan—after only one year of operation—burned to the ground.

1984

If 1983 was AFDF's Year of the Pollock, 1984 was the Year for Surimi. AFDF published "Hooked on Surimi," a directory of companies offering services and equipment to the surimi industry. The staff continued to investigate uses for surimi. The Foundation and National Food Processors Assoc. held a surimi conference in Washington, D.C. that drew 200 people and seemed to set fire under each of them.

But primarily, the energy of AFDF and its associated companies was toward building the first commercial surimi plant in Alaska. With Bob Ryan as chief engineer and Billy Thrash as surimi consultant, Royal Alaskan began small-scale surimi production on May 4. The quality was low, but excitement was high. Despite much talk to the contrary, Alaska had proved that it could make good surimi..

That summer, Royal Alaskan was shut down, the surimi project halted, and AFDF issued a second RFP for shore-based surimi production. This time, rather than a pilot-scale plant, AFDF went for full-scale commercial production of surimi. Alaska Pacific Seafoods of Kodiak was the winner this time, and late in the year all the surimi equipment was moved to Kodiak.

1985

"Surimi: It's American Now," announced The Lodestar in January 1985, under an illustration of the Norman Rockwell Thanksgiving table spread with surimi-based products. The illustration has become one of AFDF's trademarks. The message was twofold: Not only was it proven than Americans could make high-quality surimi on shore in Alaska, but the surimi was made with a combination of traditional Japanese and modern American and European technology.

Two hundred people came to "White Gold," a grand opening of the surimi plant, to get their shoes wet and see American surimi made. Once onshore, surimi began to capture the imagination of food executives and technologists. One company experimented with a surimi-based cheese log; another with surimi in cake mix; another with baby food. The potential value of an Alaska pollock industry profiting from waste, mince, meal, oil and surimi was estimated above $6 billion per year.

Knowledge about the pollock market coincided with the opening of the rebuilt Trident Seafoods plant. Owner Chuck Bundrant had turned disaster into an opportunity, and had included in his rebuilt plant design for pollock and cod processing equipment. With the new plant, Bundrant was set up to process 52,000 lbs. of pollock per day, worth over $1 million per month, which at capacity would pay fishermen about $260,000 per month.

In 1985 the pollock biomass seemed unending. Yet it became clear, from a standpoint of economics, efficiency, and resource management, that a successful pollock plant would have to fully use every ounce of protein an Alaska pollock has to offer.

With nearly a million pounds of surimi on their hands, the AFDF staff turned their attention to market development. How to create entirely new markets and uses for a material few knew very much about? A few analog plants were springing up in the Lower 48. AFDF concentrated on working with food developers, those who would create products beyond the imitation seafood market. It was the beginning of an endeavor still continuing, though today the effort centers not only on surimi but on all seafood forms.

1986

A good year for the product development effort for surimi at AFDF. The year dawned with a new line of health food products including a granola bar and a powdered protein drink, all using surimi.. Next, Lynda Nestelle created a moisturizing cream using surimi as the binder. The trend continued with AFDF's first visit to the Western States Meat Association convention, where the little fisheries booth was nearly bowled over by eager meat packers who were either checking out the opportunity or the competition—even they may not have been sure which.

AFDF had achieved three important goals in its surimi project: it had successfully produced surimi in the U.S.; it had proven that existing technology could be improved upon using existing American equipment and techniques; and it had marketed the surimi in the U.S. and Japan.

And so, AFDF began the process of stepping back from the forefront of surimi industry development. By this time there were two other surimi plants on shore in Alaska and several floating processors being built. Work was being done independently of the AFDF project that indicated the surimi industry was on strong footing. It was time to start looking to the future.

In the spring of 1986, Chris Riley left AFDF and the surimi project he had devoted himself to. In the fall, Chris Mitchell resigned to start his own company in Seattle. In September Sharon Gwinn, who had left in 1985 to start a business with Richard Rhoda, returned to fill in as acting executive director.

1987

Ten years after that first December meeting that sowed the seeds that would become AFDF, foreign fishermen harvested Alaskan white fish in U.S. waters for the last time.

The new year brought high prices for U.S. pollock fillets and blocks, and doubled production of surimi for Alaska Pacific Seafoods. The economy of Alaska was deep in a recession but Kodiak boomed from bottomfish activity. AFDF started a project to enhance fish waste processing technology, and focused on gaining USDA approval for surimi as an ingredient in meats.

In March, AFDF published *Surimi: It's American Now*, the first compendium of surimi knowledge in the U.S.

On April 1, Mel Monsen joined the staff as executive director. Soon after, he hired Loretta Lure and Peter Moore, who had been temporary contractors to AFDF during the transitional period.

The effort to move AFDF from its surimi project toward the future began with a flatfish demonstration project, a new seafood product development contest, and a study of pollock liver oil and its potential uses. The Foundation had moved from the uncertainty of its start, through the process of proving itself by aiding different segments of the industry, into a very focused project that was planned to benefit the entire Alaskan seafood industry directly or indirectly—and now began broadening its vision again to encompass the areas that still needed the unique kind of activity only the Foundation can conduct.

1988

In its tenth year, the Alaska Fisheries Development Foundation enjoys the stability that comes with having a history. Not everyone has supported AFDF or its projects, or agrees with the directions it has taken. Many agree the Foundation has been a force of change and growth in the industry; some think it hasn't done enough to benefit small Alaskan operators.

There were a few successes in 1988: Surimi gained approval from the USDA as a processed meats ingredient; The tenth U.S. surimi factory ship has been launched; a salmon chili that resulted from the Foundation's new product contest is entering commercial production; Koriak Reduction, Inc. added a dryer to its meal plant and the flatfish project at Eagle Fisheries is moving piecemeal toward profitability.

AFDF celebrates its tenth anniversary with a taste of uncertainty flavoring the punch. The S-K Program funneled less money to fisheries development projects this year than ever before. Some member companies are beginning to question if the priorities outlined by NMFS speak to the needs of the industry. But a few things are clear: AFDF was set up as a catalyst for public funds directed toward private industry, to benefit the greatest number of people with the smallest amount of bureaucracy. Members agree that, whatever direction the Foundation takes in the future, its role as high-risk catalyst will continue.

Back to the Future:
What's AFDF up to now?

Alaskan flatfish impresses the U.S. market; a new surimi product–possibly for fast food; and the search is on for oil processors

Alaskan flatfish is attractive to the domestic market because of its reasonable price and high quality, but bad weather and scattered stocks make it a questionable wintertime fishery.

Those are some preliminary conclusions from the Eagle Fisheries flatfish demonstration project, where Eagle has produced mechanically-processed fresh and frozen fillets and frozen fillet blocks from the region's flatfish resource since February of this year.

In their November monthly report, the Eagle staff wrote, "A major national restaurant chain has tested Alaska's flatfish and accepted them for a test marketing program to place Danish flounder. The reason? The price is low and the quality is high."

Most high-quality flounder produced in the U.S. is generally siphoned off to pricey fresh markets; the rest are frozen, Eagle said. Asia exports a more reasonably-priced IQF yellowfin sole produced at-sea, but quality of that product ranges from "OK to awful," Eagle reports.

"Like many other Alaskan products, it appears that a niche between the two extremes of low-priced seconds and high-priced fresh is the ultimate direction for IQF Alaskan sole."

In most developing fisheries, the assumption has been that, if there's a market for the fish, the fishermen will be able to deliver. However, Eagle is the first shore-based flatfish plant to remain operating through the winter, and the plant is learning some unique lessons about Gulf of Alaska flatfish.

The many species of Alaskan flatfish, which congregate during the warmer summer months, moved out of their traditional grounds in the fall and now, when they can be found, they're less concentrated than before. As a result, landings in September and October were far lower than the million-plus-pounds monthly landings in July and August. October brought only 390,507 lbs. in flatfish landings at Eagle. Rex sole comprised 36% of the catch, Dover sole 33%, rock sole 20% and flathead 11%. All species were in varying stages of roe development.

To maintain production consistency for the one Baader 175 flatfish filleter at Eagle, the plant established a 70,000 lb. trip limit for its boats. It has been a moot point: average deliveries in October were 24,000 lbs., and the largest single delivery was 50,000 lbs.

"Though the fishery has indications (that it can) support a substantial fleet, weather limitations in wintertime still may not allow a plant to work at capacity," Eagle's report said. "Regardless of a vessel's size, it appears that mixtures of marketable soles with other, perhaps unmarketable species, make this wintertime fishing for sole only a 'scratch' proposition at best. The offshore location of stocks does not make fishing impossible, apparently, but it does make proper sorting and icing at sea of the delicate sole unlikely during periods of bad weather."

Production yields continue to increase over yields attained early in the project. Yields to trim weight in October averaged 29.3%, and overall plant yield after packaging was 27.1%. Yields by species were: Dover, 31%; rex 30.3%; flathead 26.9%; rock sole 26.2%.

One of the goals of the project is to compare yield averages of the Baader 175 to those of experienced hand filleters. In October Eagle hired two hand filleters. A preliminary production test run showed the hand filleters attained yield figures averaging about 1% higher than the Baader 175 for each species. However, in controlled tests the Baader 175 and the hand filleters achieved the same yields.

The goal of AFDF's flatfish demonstration project is to investigate the technical and economic feasibility of a shore plant entering into Alaska flatfish production. The cornerstone of this project is the Baader 175 flatfish filleting machine, which is in use on flounder and sole worldwide. However, it has been discovered during this project that some Alaskan flatfish species are physiologically different from their Atlantic or European brethren, and some adjustments to the filleting machine, and to the Baader 52 skinning machine, have been made for applications in Alaska.

Baader North America donated the use of its 175 filleter and its 52 skinning machine for the flatfish project. The Baader 52 was removed from Eagle last summer to make adjustments for Alaskan fish; it will return to the plan in the upcoming weeks.

Trio Industrier of Norway also contributed use of its Trio Skinner, which now is in operation behind the Baader 175, and reportedly is an excellent machine for Alaskan flatfish. Eagle has also acquired a Scanvaegt automatic sorting machine, which weighs and sorts the frozen fillets into boxes for shipping.

AFDF publishes a monthly newsletter called "Sole Source" that covers the progress of the flatfish demonstration project. It is available free of charge. For more information about the flatfish project, call Peter Moore at AFDF.

Will surimi be used in formed steak? Could be at a fast-food restaurant someday

"Nobody offers a steak sandwich in the fast food business," a meat processor said at the Western States Meat Association Expo in November. "They can't afford to make it. But if they had surimi, maybe they could."

As part of the Expo, Dr. John Carpenter of the University of Georgia in Athens presented findings from a study of surimi as a binder in restructured steak. His study was part of AFDF's New Product Development Contest, which began last summer and was designed to encourage development of new commercial non-analog products from surimi, minced pollock and minced salmon.

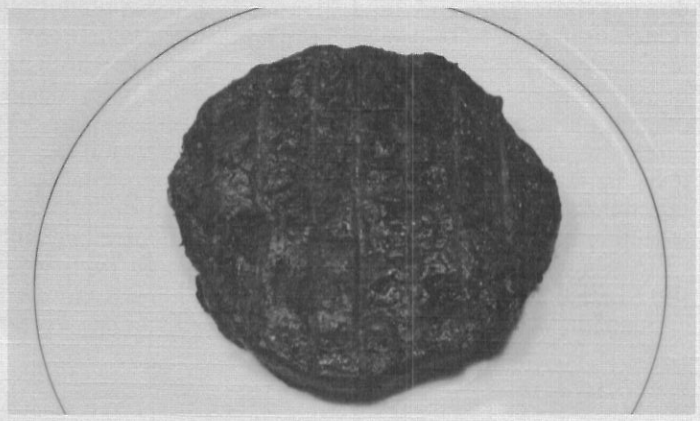
Dr. Carpenter's study centered on developing restructured beef steaks using available plant machinery. He purchased fresh beef knuckles from a local butcher, removed all the fat, connective tissue and muscle sheaths, and cut the muscle meat into cubes measuring either 1x1x1" or 1x1x2" (to test the effect of meat particle size.) The surimi, with 0.5% sodium chloride and 5% sodium tripolyphosphate added, was added to the meat in a mixer by extruding the surimi from a syringe with the tip cut off, a method that allowed very easy blending of the surimi and meat. The mixture was then stuffed with a vacuum stuffer into bologna casings, allowed to set at 4° C and then sliced into 3/4-inch steaks.

Dr. Carpenter wanted to find out two things: first of all, would a restructured steak using surimi have an acceptable texture, flavor and moisture? And second, how much surimi should be added, and how would the level of surimi used affect the overall characteristics of the product?

Taste panelists in Athens and in Anchorage agreed that the product was acceptable. The restructured steaks rated high in taste, mouthfeel, texture and juiciness. Even one sample that was deliberately overcooked came out no worse than any normal beef steak cooked too long.

But how much surimi should be used? Dr. Carpenter experimented with levels from 0.5% to 3%, including one sample with 1% surimi and 1.5% sodium caseinate. He evaluated the products at 0, 7, 14, and 20 days, and found that there was a marked deterioration of aroma and texture by the seventh day, though flavor and mouthfeel were not affected. But by 14 days the scores were back up again. Panelists did find some overall differences in aroma and flavor after the product had been stored 20 days. And one experiment revealed a preference of 1% surimi over 1.5% surimi levels used in the product. The product with sodium caseinate was not preferred by any of the panelistsl.

Dr. Carpenter also conducted studies on the relative bind of surimi at different levels, and of the microbiological differences of product using different levels of surimi and at different time intervals. His results are



Dr. Carpenter's reformed steak with surimi as a binder: Good bind, good bite, good idea.

charted in progress reports; AFDF will publish his final report early next year.

"Surimi structured steaks have the unique potential to be marketed in the fresh state," Dr. Carpenter reported. "There existed a protein/protein interaction between the beef and surimi that further accommodated the binding effect. From these results, it was determined that much less surimi could be used and that larger meat pieces could be successfully bound in the raw state. It appears that 1% is the best level of surimi to add."

For more information call Loretta Lure at AFDF, or Dr. Carpenter, University of Georgia College of Agriculture, Athens, GA 30602; (404) 542-2286.

At last: Some real economic data on the Alaskan seafood industry

A cooperative venture by several public and private organizations will result in three related documents that will provide for the first time information about the economic importance of Alaska's seafood industry.

The three reports are all due out within the next six months, and together will give public and private interests alike the kind of industry-wide information on which decisions can be made about investment, community development, infrastructure needs and business development plans.

The first report out will be "A Comprehensive Fisheries Economic Development Plan," published by the Southwest Alaska Municipal Conference from data collected by Graystar Pacific Seafood, Ltd. and Coopers & Lybrand. This study will involve analysis of trends in fishery resources, industry activity, and markets in the Southwest Alaska region. It will also outline the area's requirements for development and an economic development plan for the region.

The plan is scheduled to be published in December 1988. For more information call John Levy, Southwest Alaska Municipal Conference, at (907) 274-7555.

A cooperative study sponsored by the Alaska Seafood Industry Study Commission, in which AFDF is a participant, will evaluate the value and economic importance of the seafood industry to the economy of the state of Alaska.

This study is being conducted by The McDowell Group of Juneau, through surveys of processors, fisheries organizations and fisheries-related agencies, and through intensive data collection from the Commercial Fisheries Entry Commission (CFEC), the Alaska Department of Labor (ADOL), and National Marine Fisheries Service (NMFS). From ADOL, the McDowell Group is collecting employment and payroll data; from CFEC, regional and statewide summaries of seafood processor production and wholesale value statistics by species and product. NMFS will help compile data on joint venture and foreign catch statistics from 1977 to 1987, and domestic catcher/processor and mothership production statistics for 1986-87.

The Alaska Seafood Industry Study also includes regional and statewide seafood catch statistics from the Department of Fish & Game; fish tax and license revenue data from Department of Revenue, and other related information such as processor permits, seafood exports, investment history, employment levels, budgets of public agencies, and net earnings by species, gear type and area. The Alaska Seafood Marketing Institute, Alaska Factory Trawlers Association, the International Trade Administration, and several other companies and agencies are participating.

The final report, scheduled to be completed in January 1989, will be the first compilation of such information yet to be made available. Copies will be distributed through AFDF, and through some of the other participating firms. For more information call project coordinator Loretta Lure at AFDF, or Eric McDowell at The McDowell Group, (907) 586-6126.

...And a new white fish oil study begins

One of the primary goals of the fisheries development community in Alaska is to learn how to make better use of the material now wasted in seafood processing.

AFDF issued bid solicitations on November 21 for processors interested in trying out hydrolyzing equipment on white fish processing waste for use in pet foods, animal and aquaculture feeds, protein supplements and protein blends for institutional use.

Interested processors must handle at least three groundfish species (cod, pollock, sablefish, flatfish, etc.) and be willing to produce samples from other species as well. The demonstration will run from January to March 1989, and AFDF will provide a hydrolyzer from Advanced Hydrolyzing Systems along with appropriate technical training.

This pilot-scale project will help train processors in handling and production, and marketing to some degree, of white fish oils and hydrolysate. AFDF plans to set up a full-scale commercial demonstration of hydrolyzing technology next year.

The deadline for submitting proposals is December 15, 1988; a processor will be selected on January 2, 1989. For a copy of the request for proposals or for more information, call Loretta Lure at AFDF.

READ OUR FINE PRINT

"Hazard Analysis Critical Control Points: An Outline for the Surimi Industry," 53 pp. The first comprehensive safety assurance program for surimi producers. This document outlines critical points in the production process where microbiological problems are most likely to arise, and presents a program to prevent all potential safety hazards. Compiled through much industry input by Manning, Batson & Assoc., it includes a plant sanitation program, quality assurance, physical/chemical hazard prevention, microbiological safety, and how to document and audit programs once they're in place. Available from AFDF at no charge.

"Partial Quality Control: Surimi/Meat Products," 7 pp. Any shore- or ship-based surimi producer interested in supplying surimi to meat processors will want to know what quality control procedures to follow to satisfy the needs of this new market. Compiled by Manning, Batson & Assoc., free of charge from AFDF.

"Product Development: Surimi and Meat," 16 pp. Creative minds in both the surimi and the meat business will want to read this practical how-to for developing new products combining meat and surimi. It covers the characteristics of surimi, technical data, general guidelines for its use, a liquid cookout chart and some generic surimi/meat nugget formulations. Compiled by Manning, Batson & Assoc., free of charge from AFDF.

"Salmon Oil Recovery at North Pacific Processors," 7 pp. An interim report of the progress being made at North Pacific Processors, where AFDF is sponsoring a project to recover salmon head oil using hydrolyzing equiment designed to digest 500 lbs. of salmon heads per hour. Project is to test the feasibility of producing salmon head oil and hydrolisate paste from the waste stream of salmon processing. Project is ongoing. Copies are free from AFDF.

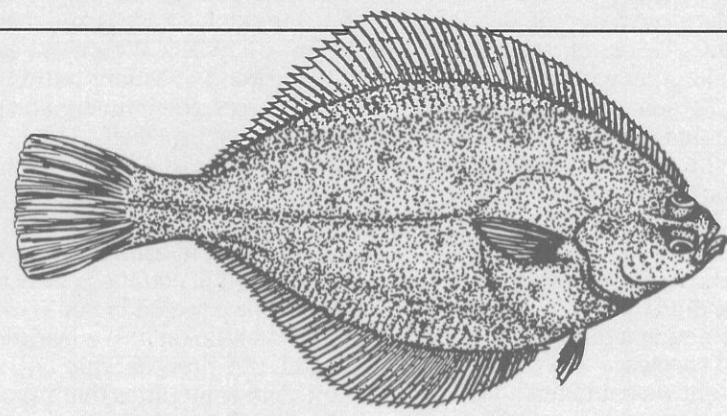
"New Zealand's ITQ Program," 46 pp. The Alaska Commercial Fisheries Entry Commission has produced a detailed review of the decision in New Zealand to begin individual quotas, the means of distributing them, and the nature of the market in which quotas are traded. This issue is of interest to Alaskan companies looking toward the future, when the North Pacific will see some dramatic changes in its fishery management programs. Copies available from the Commission; call Ben Muse, (907) 465-4081.

Free product samples from our store....

Samples of high quality pink salmon head oil from North Pacific Processors are now available from AFDF free of charge to companies conducting product development with such materials. Those interested may arrange with AFDF for shipment of 4- to 5-gallon samples of the oil.

AFDF also is offering samples of flatfish fillets to companies who would like to become familiar with the high-quality flatfish species produced at Eagle Fisheries in Kodiak. Sample packs include frozen fillets of varying sizes for each species.

For sample shipments, contact Barbara Culver at AFDF.



"The person who thinks he can survive in constant change is a threat to all those who think they can only survive in safety."
—A. Rae McFarland 1988

GUEST Editorials

If we had known more, we'd have attempted less

By Sara Hemphill
AFDF Executive Director
1978-1982

Ten years ago this month I was packing my children into what little space was left in my 1972 Toyota to head north to Alaska to an adventure that was to prove to be the most rewarding and challenging I've ever had.

We left Seattle in a downpour and rocked leisurely to Juneau on the *Matanuska*. Ben woke me the third day with, "Mom, Mom, come and look. It's just like a Christmas card!" And it was. Juneau was dusted with snow, the sky was overcast and looked like evening rather than sunrise, with a few lights twinkling among the dark green trees. It promised good things.

This adventure had begun a year earlier in Anchorage during a special meeting called by National Marine Fisheries Service following the December North Pacific Council meeting. Few of us present suspected that the seeds for AFDC (later to become AFDF) had been sown. It was three months and many drafting sessions later that a proposal was forwarded to Washington, D.C. requesting $2.8 million in S-K funding to launch the U.S. groundfish effort. Few knew, or cared, what we were about. Indeed, the most frequently asked question was, "What's groundfish?"

It was another year and then some before final approval for the funding was a reality. The Christmas card promise seemed to have become a blistery wind from Scrooge's Christmas Past. The in-fighting and struggle for control that ensued were energy-sapping and expensive. Nonetheless, they forced a consolidation of participants and a honing and refining of the individual projects and budgets that served us well in the long run.

Finally, in October 1979, we had operating funds for specific programs, the "queen pin" of which was the longline large boat project—later awarded to Sea West and the *Aleutian Mistress*. Darryl Petersen, then President of Sea West, deserves special recognition for the outstanding contribution he made to the industry.

There was relatively little public enthusiasm for the AFDF undertaking. Without the dedication and support from key individuals, the program would have floundered. In addition to the staff, Board members and especially Ron Jensen who served as president, Pete Harris, Sig Jaeger, Walt Jones, Lee Alverson, Steve Hughes, Linda Chaves, Keith Specking, Jim Branson and the NPFMC, Wesley Johnson, Jim Hemming, Bert Larkins, Dick Reynolds, John Schmiedtke, Barry Fisher, NMFS staff, Dana Besecker, Bob Balkovic, Peter Barlindhaug, Bill Phillips, Steve Perles, Rod Moore and, of course, the NMFS contracts officer John Hinman were unsung heroes who deserve applause for their invaluable help shepherding AFDF through its childhood.

The task of balancing what the public sector wanted to fund with what the private sector was prepared to (or interested in) undertake was a challenging one. Certainly the perception of which projects were effective and which were not ran the gamut from disaster to raging success, depending upon who was doing the perceiving.

Our goal initially was simply to get the ball rolling, or as Sig Jaeger said, "Prime the pump." Yet it was critical to have not only successful projects but ones that the industry felt were worthy. Choosing those first projects was tough; there were so many opportunities and needs. For the most part the processing sector was not interested in investing in a fishery before the harvesting capacity was proven. Likewise, the fishermen were not enamored with the idea of spending hundreds of thousands on trawl gear when there was no market for the product they would be trawling.

Fortuitously, Wally Peyreyra and Marine Resources Company were just breathing life into joint ventures, the shrimp resource was declining, Al and Oral burch had both the vision and the fortitude to commit to a risk, and then the demise of the crab resource got everyone's attention; AFDF was out of the starting box.

In those days there always seemed to be more skeptics than enthusiasts for the program. Most people with whom I spoke during the start-up phase said fishermen and processors would never work together; we proved them wrong and set an example that was later followed by the creators of Alaska Seafood Marketing Institute. offshore, big boat projects were suspect in the eyes of many; yet the information that developed through these projects proved invaluable to small and grand alike.

Finally in 1981, Pete Harris saw the processing plant project he had shepherded for many years implemented, and the second phase of AFDF was born. Chris Mitchell, my able successor, stepped in to write the second chapter.

Reflecting back, I think of AFDF as a work horse rather than the sleek race horse some thought we had acquired. The endless hours of research and preparation, deliberation and argument spent by thousands of committed folks over the years will never fully be credited. Certainly, we never enjoyed any glory. I trust, however, that they, like I, gained from the experience and are as proud to have been a part of this most significant chapter in the evolution of our industry as I am. I thank you, one and all.

The Old Map-Makers used to say, 'Beyond this place there be Dragons'

By Chris Mitchell
AFDF Executive Director
1982-1986

Dragons, dragoons, dollops, doubloons, dollars and a decade of development....While ten years may seem like a long time in passing, it's but a brief moment on the horizon of time. But in that ten years Alaska has taken over the entire harvesting, and large portions of the processing, of more than 2 million metric tons of American fishery resources from foreign fleets. At the dawning of the last decade, the U.S./Alaskan fishery was only targeting a few very specific, high-valued species.

We thought we could not afford to bother, care nor compete on the rest of that other "trash fish." Isn't it interesting how a lot of trash fish became a lot of cash fish in that time? Why did it happen? How did it happen? And how can we continue to make similar things happen in the next ten years?

Development of Alaska's fisheries to this point didn't occur calmly or at an evenly measured pace. In fact, for the first few years, little progress was visible. The industry was still fat and sassy on King Crab, shrimp and salmon...so what else did they need? There was no way Americans could afford to catch, process and market all the low-value fish. Where to begin?

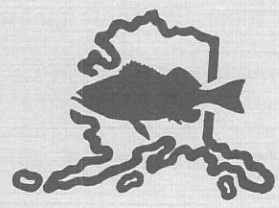
Since good questions outnumber easy answers, the industry and all its players, most especially AFDF, began searching high and low for that magic potion or solution. For most of the first half of the decade, we asked a lot of people a lot of questions. We poked and prodded in countless directions. But when we reeled in our line, alas, there was little on it. We learned through this process what DIDN'T work. And sometimes that's more important than success.

A lot of people got discouraged, but the sheer magnitude of the "pot of gold" that would come with development of these fisheries was so great that others, including the Foundation, persevered. These positive thinkers believed the answers were there. There was a destiny to be reached if we could but pull together in the same direction just once.

That pulling together of one's failures and successes toward a common goal began to occur in the early 1980s with the creation of the Foundation's multi-faceted surimi project. Surimi brought together for common benefit fishermen, processors, equipment manufacturers, food scientists, reprocessors, government bureaucrats and politicians, among others. The result is that just four years later the Alaskan pollock industry is a blossoming reality producing in excess of 40,000 metric tons of surimi and pot-loads of fillets and blocks. Not only has the import hemmorhagin# stopped but pollock has become an export star.

While the Foundation has some minor mopping up to do on the surimi question, it has moved on to other needs, concerns and opportunities. It has approached its next major undertaking, Alaskan flatfish, with a methodology not too dissimilar to that used on pollock. From what I've seen and heard so far, flatfish from Alaska will, one day in the not too distant future, be another feather in AFDF's cap.

So where does the Foundation and its partners in development go from here? Certainly I have no answers. One can but "point one's sails into the wind and aim for landfalls over the horizon."



The Lodestar and the Lodestar Update are published by Alaska Fisheries Development Foundation, 508 West Second Avenue, Suite 212, Anchorage, Alaska 99501, (907) 276-7315.

Subscriptions are $20 per year U.S., $30 per year outside the U.S.

Krys Holmes, Editor

For additional information about AFDF or any of its projects, call any staff member:
Deborah Bloom, Secretary
Barbara Culver, Controller
Loretta Lure, Asst. Project Manager
Peter Moore, Project Manager
Mel Monsen, Executive Director

Director's Log

Never our potential so high; never our funding so low

By Mel Monsen
Executive Director

My first memory of the Foundation is nearly nine years old. Though I had no idea then how it was organized and what it did, I stopped in as I made the rounds looking for a job. Little did I know that my visit would lead to a relationship that has culminated in my current position as executive director.

The Foundation has accomplished a lot in these first ten years, taking a new program from infancy into maturity. Initial power struggles and direction-finding have been overcome, and the Foundation has been able to participate in and positively affect many projects that have benefited the seafood industry. The results, though directed at the Alaska industry, have had national, even international ramifications.

By now readers must be aware of the Foundation's biggest success, the multi-year surimi project. The results of that effort are mind-boggling. The surimi production off of Alaska for 1989 has been estimated at an incredible 100,000 m.t., requiring a pollock harvest of 500,000 m.t. There are four shore-based surimi production plants, and (so far) ten surimi factory ships operating in Alaska. Of course, the Foundation can't take all the credit for these accomplishments. The number of contributors is immense, but the system that allowed the Foundation to identify and take action on an unrealized opportunity deserves credit.

Projects of the kind the Foundation conducts depend on private industry for their direction and most of their activity. Most of the projects, including those at Trident Seafoods, Alaska Pacific Seafoods, and the *Aleutian Mistress,* have left in their wake some real successes: There are four shore-based surimi plants and 10 surimi factory trawlers operating in Alaska today; most of Alaska's plants process white fish of some species. The Foundation has helped set the stage for significant profits in the private industry.

This success would lead one to believe that the Foundation has a bright future. But it may not be so. As you may know, the funding source for the Foundation is very unstable and is constantly under attack.

The 1989 Saltonstall-Kennedy appropriation (funded from U.S. tariffs on imported seafood products) is only $5 million for the entire country. This is the lowest appropriation level in the ten years AFDF has been operating. In addition, there are rumblings about using less of the allocation for industry-directed projects

This is all happening at a time when the industry is expanding into new fisheries at an incredible rate, creating research and development needs that S-K projects should be fulfilling. Perhaps the best example of the level of need is the proposals which are submitted to National Marine Fisheries Service in response to the S-K solicitation. In 1988 the U.S. seafood industry submitted 209 proposals totalling $22 million. Of these only 91 proposals totalling $7.5 million were selected.

We are at a critical point both in the need for industry-directed research and development projects, and in the commitment to make funds available for their realization.

The Alaska Fisheries Development Foundation stands as an example of what industry can do.

Off the Cuff

By Krys Holmes

"Tomorrow hangs on the knife edge of today, needing but the barest breath of free will or circumstance to direct it one way or another."
— Robert Kanigel

Compiling this special 10th Anniversary Issue of The Lodestar was a lesson in perspective. AFDF has seen some hopes dashed, some projects skunked, and some good efforts go to waste. The Foundation has also created some powerful momentum for many companies to use to their own benefit. And it has successfully tamed some dragons so private companies wouldn't have to.

You can't achieve the second without enduring the first, and it's to the credit of the staff and board of directors that through this first decade AFDF has taken on the troubles and tried to steer the successes toward the private companies involved in its projects. I continue to be active and renew my membership yearly because I respect its courage, its audacity, and in some cases, its recklessness. AFDF is a peculiar creature, step-child of a rocky marriage between industry and the feds. It has grown up with ambiguities; it thrives on risk. For that reason alone it has my respect.

It is inevitable that in ten years an organization that was created to further the interests of such a broad constituency will fail someone at some time. AFDF has collected its share of disappointed critics; of fishermen who say they've seen no benefit from AFDF; of processors who say they could just as well have run the race alone; of companies who feel they didn't get enough publicity from their work with AFDF.

These are only some of the risks AFDF faces in its annual direction-finding quest. How to perform the tasks that will be most meaningful to private industry? How to prioritize overlapping goals? How to pursue the broader, more wide-reaching objective without disenfranchising the small-time operator? As the impact of AFDF's work is more widely felt throughout the U.S. food and protein industries, this last question is particularly pertinent.

These questions—some of them are AFDF's biggest problems—come as a direct result of its biggest successes. As the Foundation's effectiveness increased, demands on its energies increased. As more people heard about AFDF, more people had contributed opinions on where they wanted the Foundation to spend its resources next. Which is exactly what AFDF is about.

In the next ten years, I hope to see more participation in the Foundation's program development process, in its membership rosters, in its communications efforts, and in its search for alternative funding sources, from among the Alaskan fishermen and processors who have let their membership lapse, or who have never joined. More active members, and more activity from among members, will be the most important resource for AFDF in the future.

Where would you like to see AFDF go in the next ten years?

Rae McFarland:

In the next ten years, we need to see a two-fold development: First, replace
dropping consumption of ground beef with minced re-processed fish that will give higher nutritional value and lower fat; and second, learn how to use by-products for higher-quality animal feeds, to bring more agricultural activity to Alaska. For this, we will need a $25 million budget for AFDF in the next ten years.

I think we're going to replace 10% of the ground beef now being produced in the U.S. with ground fish. There are 125 million head of cattle in the U.S. They average about 250 lbs. each of dressed, boneless meat; 100 lbs. goes into hamburger. I think minced fish and surimi can capture 10% of that market. That would mean 500 million lbs. of minced fish. That's what I see for the future.

Al Burch:

In our first ten years, we've done a credible job in picking projects—most of them, anyway—that have been significant to development of the fisheries in Alaska. I hope we can continue to get the same participation that will allow us to make good decisions for the next ten years.

Our primary goal right now is flatfish. We have seen a tremendous increase in flatfish out here, and a decrease in pollock. I hope the Foundation can find some way to develop the flatfish species out here.

It's becoming increasingly important to develop more coordination and cooperation between the Foundation and the state of Alaska. By developing more industry participation and coordination with the state, the Foundation will continue to make a significant impact on Alaska's seafood industry.

Oral Burch:

The Foundation is 100% necessary. It provides to the industry a forum for cooperation within the industry, and the exchange of information that otherwise would not be possible. And neither aspect would be worthwhile without the other.

Chris Riley:

The major contribution of the Foundation is exploring ways to process groundfish out of the FCZ. In the next 10 years, the full OY of traditional groundfish species in the Bering Sea and Gulf will be harvested and processed domestically. Then there are two directions to go: one is to look at other species that have value but haven't been exploited. The other direction is to increase the value that can be exploited from every ton of fish. The Foundation has already begun this.

Part of increasing value of the fish is increasing efficiency, and reducing the cost of producing groundfish products. So we have many alternatives, and I think the decision of a focus should be made on an opportunistic basis—where there seems to be opportunity, go after it.

Just because actually managing to kill & process fish doesn't mean you're at the end of the learning process. It just means you've started.

Chris Mitchell:

The whole philosophy behind the science of develoment is that if you are successful, you quickly find yourself out of a job. Knowing when to move on is the key. It's not easy to walk away from "Da Glory Road," but AFDF has made the successful transition.

As individuals and companies, we all need to leave the comfort zone and move into the unknown from time to time. AFDF has been able to do this in the past; I hope it will continue to do so.

INDUSTRY News

On the trail of those high-seas salmon poachers

The U.S. State Department, the Governor of Alaska, industry groups and private companies are making some progress in the fight against illegal harvests of U.S. salmon on the high seas.

Pacific Seafood Processors Association (PSPA), a group of U.S. seafood processors, has led the fight to identify companies peddling illegal salmon at prices that undercut legitimate suppliers. PSPA estimates that at least 10,000 metric tons of salmon worth $15 million have been pirated from U.S. migrating stocks by the Taiwanese squid fleet. New evidence suggests that Japanese and Korean companies are also involved.

The illegal harvest concerns U.S. processors for two reasons: first, the product is being sold at prices far below U.S. product, and therefore is closing out markets for legally-caught salmon. Second, the fish appearing on the market are small, indicating they're immature, and that these harvests will have a long-term detrimental affect on the resource. Decreased run sizes of pinks and cohos in Southeast Alaska in 1988, and a substantial number of salmon marked with gillnet marks, add to these fears.

Frozen coho, sockeye and chum salmon is sent to Singapore and Japan for sale, PSPA charges. Often the product is unloaded under cover of darkness, its paperwork altered. PSPA has documented that between 4,000 and 8,000 metric tons of pink salmon have been shipped to Thailand for canning and re-export.

An October 31 story in the *Bangkok Post* reported that the Thai government has been asked by the U.S. State Department to help investigate the source of salmon shipped to Thai canneries. Thailand is a re-processing center for many fisheries companies worldwide, including U.S. tuna companies. Some Thai canneries are seeking supplies salmon from U.S. producers for canning and re-export.

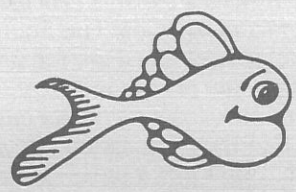
Information about the activities of individual processors is hard to come by. Salmon canning statistics—including production levels and source of raw material—are held secret by the canning companies. However, one source in Thailand confirmed that at least some of the salmon canned there this year came from Taiwanese fishing boats operating in the North Pacific.

The governments of Thailand, Japan, Singapore and Taiwan have pledged to aid the U.S. effort to stop illegal salmon harvests in the Pacific. At the 1987 meeting of the International North Pacific Fisheries Commission, Japan called for cooperation among the traditional salmon fishing nations to "make every possible effort to prevent such activity."

Efforts are thwarted, however, by the fact that those countries whose help is most needed in the investigation are the countries whose people profit most from the activity.

In the meantime, Gov. Steve Cowper and a contingent from the Alaskan seafood industry have begun drafting a cooperative agreement with the Soviet Union for monitoring high seas activity. In a landmark meeting in October, U.S. and Soviet representatives agreed to work together to put a stop to high seas salmon interception, and to join forces to study unregulated groundfish harvests in the international waters of the Bering Sea.

For more information about the high seas salmon interception issue, call Barry Collier at PSPA, (206) 281-1667. For more information about the joint U.S.-Soviet agreements, call Henry Mitchell at Bering Sea Fishermen's Association, (907) 279-6519.



RALSTON PURINA SELLS VAN CAMP

ST. LOUIS, MO - Ralston Purina Company on November 15 completed the sale of its Van Camp Seafood division to a group of investors led by PT Mantrust. The sale price was approximately $260 million. PT Mantrust is a privately-held company in Indonesia. Van Camp is expected to continue marketing its "Chicken of the Sea" canned tuna and salmon products.

Van Camp Seafood has been a member of AFDF for several years, and R&D Director Bill Reinke is a member of the AFDF Board of Directors.

the LODESTAR
Charting the course of fisheries development today
Alaska Fisheries Development Foundation, Inc.
Volume VI Number 4, Autumn 1988

"Let us run with perseverance the race that is set before us."
— Hebrews 12:1

Be a part of the future of AFDF

Alaska Fisheries Development Foundation has come a long way in the past 10 years, and by all counts it has a long way to go in the next ten. You can participate—and benefit—in several ways.

Become a Foundation member
Design future projects;
Help set priorities;
Get priority access to information;
Include your products and services in projects

Your company can join for $100 (associate membership), $300 (voting membership) or $500 (supporting membership). Call or write to any staff member, or any of the board of directors listed in this issue.

Subscribe to The Lodestar
The Lodestar and Lodestar Update are available free of charge to members, and for a $20 subscription fee to non-members ($30 to foreign addresses). Send your fee to:
The Lodestar
Alaska Fisheries Development Foundation
508 West Second Ave., Suite 212
Anchorage, Alaska 99501
(Checks payable in U.S. dollars on U.S. banks to Alaska Fisheries Development Foundation.)

the LODESTAR
Alaska Fisheries Development Foundation, Inc.
508 West Second Avenue, Suite 212
Anchorage, Alaska 99501

Non-profit organization
U.S. Postage Paid
Alaska Fisheries Development Fdtn.