

the **LODE** **STAR**

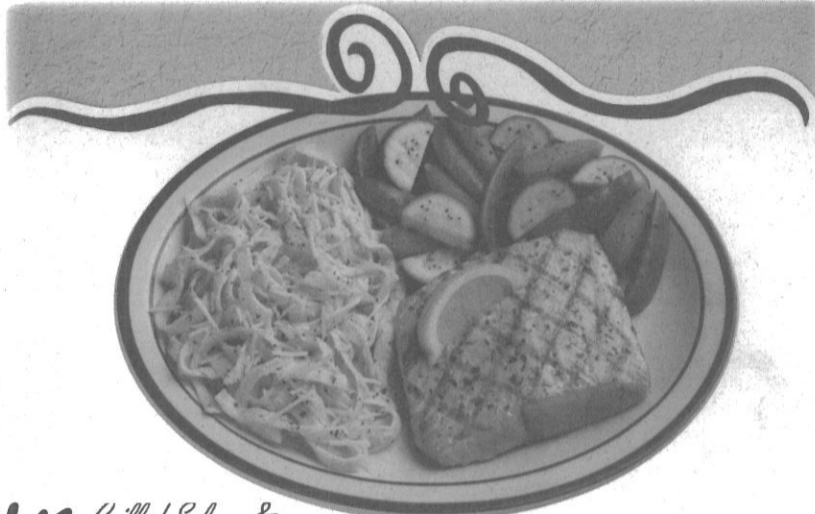
Charting the course of fisheries development today

Alaska Fisheries

Development Foundation, Inc.

Volume XIII Issue II, Autumn 1996

the Wild Thing hits town



Grilled Salmon & Alfredo Pasta

Seafood & then some: A light, delicate salmon fillet, char-broiled to perfection, served with creamy garlic Alfredo fettuccine & steamed vegetables. \$8.49

because they run head-to-head against farmed salmon. We'll go back to the drawing board and either find another potential user or start moving in a different direction."

A healthy shade of pink

The second phase of AFDF's

The luminous Alaska salmon surrenders as a fingerling to the lure of the sea, grows to fullness in spires of saltwater light, and fares the thousands of miles back home to its stream of creation. Increasing numbers of Alaska salmon now are going even farther—landing, finally, on the dining tables in some of the nation's larger restaurant chains.

AFDF's "Taming the Wild Thing" project to expand higher-value markets for Alaskan chum, coho and pink salmon helped introduce portion-cut chum salmon fillets into the 700-strong Applebee's restaurant chain this year. After a 10-week promotional campaign to garner interest, Applebee's "Grilled Salmon and Alfredo Pasta" is now on the regular fall menu.

"For a seafood item to become a permanent menu item is a pretty big thing," said Kerri Hayes of Ocean Beauty, producer of the chum fillets. "It's very hard to do."

For some markets chum fillets are a re-introduction, after value-added chums fell out of favor in the mid-1980s. "They were very popular, particularly on the West Coast," Hayes said. "But then prices went through the roof and everyone took it off their menu. Once that happens, getting an item back on the menu is very difficult. It represents a substantial investment for the restaurant chain, and they want to know the price and supply will be stable enough to make it

worthwhile for them."

Important as the Applebee's promotion, and similar promotions in outlets across the country, have been to chum salmon market development, Hayes said the Denny's restaurant chain, which adopted chum fillets early in the year, has made the biggest difference. "Denny's probably gave other restaurants the confidence to start looking at chums," she said.

Coho conundrum

"We had to abandon the coho program," Hayes said of Ocean Beauty's attempt to introduce coho fillets to a 40-outlet chain.

Freezing problems with the product, a "coho fondue," were difficult to resolve, and coho prices are too close to farmed salmon prices to be competitive.

The problem is that the standard freezing systems, which work great for headed/gutted salmon, don't do the trick for items like the 1-inch cubes that Melting Pot, Ocean Beauty's partner in the project, needed. With significantly more surface area for a very small portion of fish, the items didn't do well in blast freezers.

"One of the most significant things we can do with our projects is exactly this: to identify the obstacles the industry faces in developing new markets," said AFDF's Chris Mitchell. "New product development for cohos is going to be tough,

"Wild Thing" project helps walk value-added pink and coho salmon into the healthcare market. Royal Seafoods spent the summer developing products to fit the needs of hospitals and long-term health care organizations, primarily focusing in the Western states.

Royal produced 2,000 pounds of prototype product, and now are working to adjust their formulas to the specific needs of their potential customers. They plan a 75,000-portion production run in September.

The R&D team at Royal designed two different products to serve the needs of the two segments of the health-care market. Both are pink salmon portions with a lemon-dill coating, one made of whole-muscle meat from deep-skinned fillet blocks, for the hospitals, and one made from mince blocks to satisfy the nursing homes' needs for a lower-cost meal.

Royal Seafoods' Jennifer Evans so far has landed sales with foodservice provider Sysco and Institutional Purchasing Services, and is presenting the product to Intermountain Health Care, the Providence Hospital system.

"In all the calls I've been out on, the response has been really positive," Evans said. "Buyers are happy to see an alternative seafood item in their price range."

What's next?

"It's AFDF's job to help identify and stimulate these opportunities, whether they be in casual dining, health care, or in the schools," said Mitchell. "All of these projects have demonstrated that Alaska salmon in certain forms and at certain price levels will work in these market segments. It is now time for the industry to take hold of those opportunities and grow them. The dam has not burst, but it's leaking."

Salmon producers cheer

\$14 million USDA buy

Alaska salmon producers are cheering the USDA's \$14 million purchase this fall of Alaska pink salmon products, including \$4 million for breaded nuggets and pouched salmon.

"This buy could be extremely significant," said Doug Van Devanter of Trident Seafoods, one of the few salmon nugget producers. "It could do for Alaska salmon what the USDA buys of the 1980s did for Alaska pollock nuggets."

The breaded salmon nuggets have been the focus of AFDF's three-year

"Any time the U.S. government comes to your door and wants to buy 14 container loads of your product, it's a big deal."

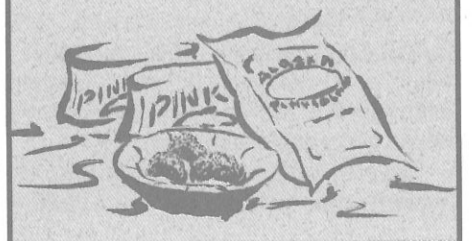
market test in a number of school districts across the country, where they earned high marks from cooks and kids alike. This summer, AFDF has been working

with USDA to create, test and revise product specifications for the nugget, using results from those intensive market tests, to help salmon producers deliver product of the highest possible quality.

"The nuggets are a great way to get Alaska salmon into the school lunch program in a more usable form [than cans]," said USDA's Dennis Pearson. "The response to nuggets in the tests we did, in addition to the ones AFDF did in its project, were very positive."

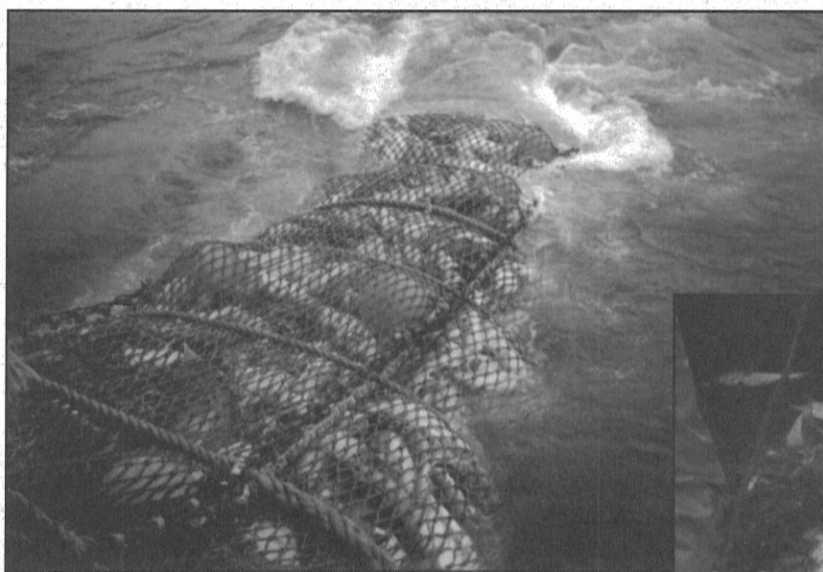
Probably about \$3.2 million will go toward purchasing nuggets; the

continued on back page



Better data on deck

Halibut Mortality Study



A full cod trawl in the Gulf of Alaska (left) inevitably will bring a few halibut on deck (below).

Photos: Univ. of Alaska



There are two ways trawlers can reduce halibut mortalities: make short tows (less than three hours) and throw all halibut back within 15 minutes.

Old news? Maybe so, but what's not old news is that there's now proof that these two methods reduce halibut deaths aboard trawlers. Ellen Pikitch and Dan Erickson of the University of Washington's Fisheries Research Institute (FRI) are now disseminating results from a study they conducted aboard seven Gulf of Alaska trawlers during the spring cod fishery.

For their AFDF-funded study, they sent seven biologists out on boats to work alongside seven NMFS observers. The biologists counted every halibut that came aboard and recorded its condition, time on deck and other data including tow duration, temperature and size of delivery. Their data was correlated with observers' sampling

where in excellent condition. After muddy tows, nearly 75% of the halibut were in "poor" or "dead" condition after only 15 minutes on deck.

Even in clean tows, the percentage of halibut in excellent shape decreased to less than 40% after half an hour, 20% after 45 minutes, and 5-10% after one hour. No halibut under any conditions lived on deck longer than that.

Beating the biases

"Observer collection procedures did result in bias during this experiment," reports Erickson of FRI. "On the one hand, basket sampling tended to underestimate

halibut catch; on the other hand, observers tended to keep halibut on deck longer than the crew did. Since halibut viability is correlated with the amount of time out of the water, this procedure would result in

an overestimate of halibut mortality."

The net effect of these two biases is uncertain, he said. "This sample size is small relative to the entire fleet, so these results really cannot be applied across all observers, vessels and fisheries."

The AFDF biologists counted every halibut, while observers used basket sampling to estimate the halibut catch and mortality rate. During the experiment, basket sampling underestimated the halibut catch 66% of the time (by an average of 39 kg.) and overestimated 33% of the time (by 42 kg.)

There were also differences among observers' assessments of the halibut. For

example, one observer declared all halibut in excellent shape up to 45 minutes on deck; at one hour, half were "poor" and half were "dead." Another observer showed about half the halibut in excellent shape after 15 minutes, with the number of poor and dead increasing gradually over the hour. (Both observers worked aboard the same vessel but at different times.)

Duties on deck

Collecting the data that FRI's halibut mortality assessment model requires is not difficult, but it clearly would be a strain on observers who also had to perform their other duties, unless sampling procedures are altered, Erickson said.

"The principal piece of additional information our model requires is the time that each halibut is returned to the sea," he said. "Though this information is simple to collect, it's likely that observers would miss some halibut being discarded, especially when halibut catches are somewhat large."

Proof to ponder

"People have been talking about this stuff for years, but we've never before had proof, either that certain towing methods reduced halibut bycatch, or of exactly what kind of inaccuracies there are in the observer system," said AFDF's Chris

Mitchell. "We're now taking this information to the Halibut Commission and the North Pacific Council to make some needed changes."

FRI has held workshops for Alaska Driggers' Assoc. and American Factory Trawl Association members. The AFTA folks, Mitchell reports, are interested in launching a similar study in the Bering Sea.

"People have been talking about this kind of information for years, but we've never before had proof."

data to check for

biases in the information that the observer system provides to resource managers and the fleet.

The project set out to answer four questions: 1) How can trawlers reduce

halibut deaths? 2) Do the observers' standard procedures result in bias? 3) Does sampling differ among observers? and 4) How easily could the data for the model be collected during the commercial season?

Tips for trawlers

Tows that dragged up mud and sand with the catch killed more of the halibut than tows that were clean of bottom debris. (All the muddy tows were longer than 3 hours.) When tows were clean of mud and sand, about 50% of the halibut caught

Arrowtooth surimi

makes great crab flake

A few of the millions of pounds of unemployed arrowtooth flounder in the Gulf of Alaska finally got a job this summer. Alaska Pacific Seafoods, in Kodiak, produced about 3,500 pounds of arrowtooth surimi (less than they'd planned to, but deliveries were unexpectedly slight) and, withholding some at the NMFS lab in Kodiak for evaluation, shipped the bulk of the surimi to AquaMar, a seafood analog producer outside of Los Angeles. AquaMar president Ming Wu, who, it's been said, "can make surimi out of dirt," ran a few test batches of flaked imitation crab product, and then conducted a small commercial production run in August.

"Arrowtooth surimi works just like pollock in the manufacturing process, and the finished product is good," said Wu. "There is not much difference in working with arrowtooth surimi in the manufacturing environment. Of course we did use protease inhibitors."

Wu earlier reported that, while the arrowtooth surimi was very white (at least as white as Pacific whiting surimi),

the protease inhibitors darkened the color somewhat. The inhibitors did not cause any flavoring problems, however.

From the NMFS lab in Kodiak, Dr. Jerry Babbitt reports that the arrowtooth surimi compares, in functional and sensory properties, to Pacific whiting surimi. After three months in cold storage—the arrowtooth surimi was made in April—the sensory properties (taste, smell, and the euphonious term "mouthfeel") remained sound. Functional properties had changed somewhat; the gels, though firm to the bite, lacked the elasticity of high-quality pollock surimi, rating "perhaps 7 or 8" on a scale of 1-10, where 10 is "extremely strong" and 6 is "normal," Babbitt said.

Because of its unique protease activity that breaks down muscle tissue at high temperatures, arrowtooth surimi needs some kind of protease inhibitor to help it maintain a firm texture. Two kinds were used, beef plasma on one surimi batch and potato starch on the other, and Babbitt reported that the gels containing beef plasma were slightly more elastic than the potato starch batch, though the difference was minimal. He also worked with a portion of surimi to which the protease inhibitor had been added after the cold storage time rather than at time of production, and found similar results.

"Thus, it appears that the protease inhibitors work just

as well when added during testing (or use) as when they are added during preparation of the surimi," he said.

Meanwhile at North Carolina State Univ., Dr. Tyre Lanier ran comparison tests between arrowtooth, pollock and whiting surimi. As the tests were going on, he said, "This batch of arrowtooth is slightly better than most whiting surimi I have tested. Also, the beef plasma is much better than either the commercial whey protein or potato inhibitor in inactivating the protease in arrowtooth surimi. This was not really apparent from [the] first tests, which did not control water content."

AquaMar will continue to produce analogs from arrowtooth surimi this autumn. Whether the company would consider purchasing arrowtooth surimi in the future, Wu cannot say. There is no directed fishery for arrowtooth at the moment, and many factors affecting supply—in particular the igneous bycatch issue in the Gulf of Alaska flatfish fisheries—stand in the way of any future plans.

"I can tell you I feel good about the arrowtooth surimi we produced at Alaska Pacific Seafoods," Wu said.

For more information or copies of these reports, contact AFDF or: Dr. Jerry Babbitt, NMFS lab, (907) 486-1518; Ming Wu, AquaMar, (909) 481-4700.

Encore! '97

Round up the recipes, snare your secret seasonings, the fourth annual Symphony of Salmon new-products contest is right around the corner. AFDF will soon be issuing a call for entries to companies that produce non-traditional products made of Alaska salmon.

This year's contest will take place at the Glacier Brewhouse in Anchorage, which highlights the newest in menu items made from Alaska salmon, on January 23, 1997. Judges include National Fisheries Institute president Lee Weddig, culinary superstar, author and L.A. Times food columnist Anne Willan, Marriott Corp. procurer Bob Arnold, Alaska Governor Tony Knowles (invited), Schnuck's Markets seafood buyer Pam Malone, and a handful of other seafood experts and personalities. This year's three winners will be awarded free booth space at the International Boston Seafood Show, and will also be featured on the Glacier Brewhouse menu after the contest.

"The Symphony of Salmon has become the venue for showcasing value-added salmon products," said AFDF's Loretta Lure.



"Every year we've done this, the contest has grown in size and stature. There are a lot of potential buyers who now look to this annual event to see what new innovations are coming out of the Alaska salmon industry."

Any producer with a new product that uses Alaska salmon in a non-traditional form or in a new, imaginative way, and whose product is currently being marketed,

may enter the contest. Products can be submitted in one of three categories: foodservice, retail or specialty/gift items. If you have questions about the categories or contest criteria, give us a call.

The 1997 Symphony of Salmon is sponsored by AFDF, ASMI, Signature Seafoods, and the Glacier Brewhouse. We are soliciting corporate sponsorship from other companies who want to be a part of this growing event. Please call Loretta Lure at AFDF for information.



Dates to remember:
Call for products:
Nov. 1, 1996
Entry forms due:
Dec. 15, 1996
Contest date:
Jan. 23, 1997

Update

Pollock trawl study is on deck

We expect word any moment that National Marine Fisheries Service has released funding for AFDF's project to study how different trawl gear configurations might reduce mortalities of small pollock. The long-awaited Phase II of the project was delayed because NMFS and NOAA were not equipped to deal with the significant earnings from Phase I, which originally were intended to fund the second half of the project. With the support of Steve Pennoyer, Nikki Bane and Bill Hines, all from NMFS, we are ready to go. At-sea gear experiments will begin next spring; we'll study survival rates of pollock that escape the trawl the following year.



For information: Chris Mitchell at AFDF, or Dan Erickson, Fisheries Research Institute (541) 747-9266.

Kotzebue-Yukon-Kuskokwim salmon marketing boost



Northwestern Alaska salmon producers, now eking out meager livings from the lowest salmon prices in 20 years, need a boost into higher-value markets—a boost they'll get this fall. AFDF, the state of Alaska, and local harvesters have teamed up to form an AYK Salmon Marketing Advisory Council, and are now hiring a marketing director. The plan is to work with regional salmon producers to develop brand identification for AYK salmon, complete with uniform

quality standards and a market development plan and promotional strategy.

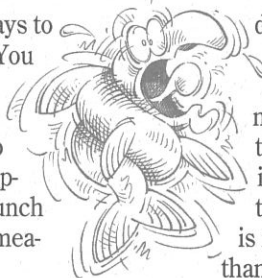
"The Arctic-Yukon-Kuskokwim region, because of its distance from markets and the higher cost of transportation, has been hurt the most by the salmon crisis," said Karl Ohls, director of the resources section of Alaska's Department of Commerce. "Almost everyone who fishes and processes in the region is hurting economically. They are all looking for solutions. The techniques developed for AYK chum salmon may be applicable to other regions and fisheries as well."

The hope of everyone involved, particularly the region's harvesters and the few processors who still operate up there, is that its abundance and unique properties will help AYK salmon find a niche in the seafood world comparable to the spot Copper River reds enjoy. (More sockeye are sold in the Lower 48 as Copper River Reds than are actually produced and shipped from Alaska, according to the advisory council.) Organizing the region's producers, developing brand specs and making a marketing plan come to life are not simple tasks. With only \$400,000 in initial funding, the project will demand a lot of shoe leather and phone-cord unraveling, says Karl Ohls.

For information, call Ohls at (907) 465-5467, or call AFDF, where the new marketing director will be camped.

Surimi with a twist

There are a hundred different ways to measure gel-strength of surimi. You can even cut it with salt and throw a gob against the wall, and measure how long it takes to drop off. (Imagine ordering a shipment of 6-second surimi.) The punch test is the traditional method; it measures the textural strength and deformability of surimi by applying pressure to the gel and calibrating its breaking point. It's an empirical kind of test, in that it records what happens to the gel more than it measures the functional properties of the gel itself.



developed his torsion program, competition for control of the surimi industry boiled too much blood in Japan and the U.S. to allow for cooperative comparisons of the two methods. The traditional punch test, though it is more artisanal and less accurate than torsion testing, has remained the industry standard.

Things have changed. This fall, Dr. Lanier, Dr. Jerry Babbitt of NMFS, and a team of Japanese surimi technologists are working through AFDF to study the torsion test and its correlation to the punch test, looking at the possibility of establishing the torsion test as the benchmark for surimi buyers and sellers. This AFDF-sponsored project, funded in part by Alaska Science & Technology Foundation, is strongly supported by U.S. surimi makers who long for a reliable, standardized way to indicate the functional properties of their product. It looks like buyers and sellers alike are open to a standardized, objective surimi testing method.

AFDF will be disseminating results of this work. For information, call Loretta Lure, or Dr. Lanier at (919) 515-2964.

By the way, Lanier says, "the mouth is not stupid. We have shown that human sensory measurement of texture correlates better with torsion measurements than with either punch or compression testing of mince and surimi gels."

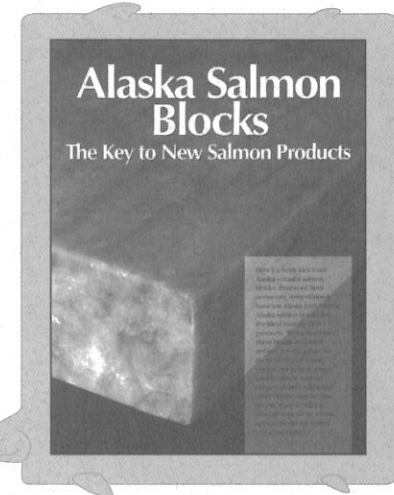
About ten years ago, Dr. Tyre Lanier developed the torsion test for measuring gel strength. The torsion test is a sort of two-dimensional measurement that calibrates stress (textural strength) vs. strain (textural deformability) and gives a more accurate accounting of the texture of the gel. Its results give more information to the surimi user; for example, torsion testing can take into account the amount of moisture in a batch of surimi, where punch testing does not. In other words, the punch test gives producers a way to grade their surimi; the torsion test gives them a way to indicate how it will actually perform in production.

If torsion testing were the industry standard, buyers would have a much better idea of what they were getting than they now do. But ten years ago, when Dr. Lanier

Baby your blocks with anti-oxidants

Peel the breading off a nugget, spoon the sauce off a fillet portion and you might find your tasty salmon dish was made from fillet or mince blocks—or the "laminated" combination. AFDF just concluded a three-year study of antioxidant treatments and how they can help extend the shelf life of pink and chum salmon blocks.

"Anti-oxidants work!" reports the Fishery Industrial Technology Center in Kodiak, where the study was done. Their shelf-life studies compare two types of treatments on three types of blocks (mince, fillet, laminated) for both pink and chum salmon. They prove conclusively that anti-oxidants preserve functional and epicurean quality and extend shelf-life for all block forms. Some reproducers already are specifying anti-oxidants in the blocks they purchase. If you produce or use salmon block products, you'll want a copy of the final report, available now from AFDF.



'97 S-K grants spark ire

The Saltonstall-Kennedy program took a disappointing turn this year, funding a multitude of academic and management studies focusing primarily on the East Coast (the New England region alone submitted 173 proposals; Alaska region 29). None of AFDF's five project proposals was funded.

"We're seeing a disturbing shift in the S-K program, away from applied industry projects toward scientific and management studies," said AFDF's Chris Mitchell. "The S-K industry grants program was written to support projects that are industry-designed and that usually bring academics, science and industry together to create new opportunities for the seafood industry. Now, project proposals are first judged on whether or not they're based on good science—and then they're judged on whether they actually solve a major problem in the industry."

Long-time AFDF board member Al Burch, director of the Alaska Druggers Assoc., said though he hopes AFDF can yet find other funding sources for its more time-sensitive projects, he wants NMFS to know the industry is upset at losing S-K support.

"The seafood industry wants its grants program back," he said. "The S-K program is supposed to fund industry-related projects. Some of these scientific studies that were funded are very important, but the intent of the program has been diverted to give them priority over industry development projects that are badly needed."

Burch said the S-K program was intended to fund projects that no individual com-



pany could afford to conduct alone. Most were designed to Americanize the U.S. groundfish industry—most notable among them, the surimi project of the mid-80s, which brought harvesters, processors, scientists, fishery managers and academicians together to create a new industry that has now shifted the U.S. balance of trade by \$2 billion per year.

"This program has been one of the most effective grants programs there is," Burch said. "Now it's going in a direction it was not intended to go."

Ten projects from the Alaska region—eight of them university proposals—survived the first cut. Even if all were funded, Mitchell said, they would total less than \$1 million of the \$7.2 million in S-K grants this year.

"That's less than 15% of the entire program, for a region that produces 60-70% of the nation's seafood," Mitchell said. "It may be assumed that a region that produces so much seafood must have few problems. But the problems we do have—I should say, the opportunities for development that we do face—are enormous in scope, and will not be solved a dime at a time."

The Saltonstall-Kennedy program was created in 1954 to channel moneys from seafood import tariffs toward industry development projects that would help increase U.S. seafood production and exports. The S-K program at one time funded seven regional fishery development foundations; only AFDF and one other are left.

Producers Cheer cont'd from pg 1

remainder toward pouched salmon, which has its own tale to tell. The USDA, responding to the salmon crisis in Alaska, formed a Salmon Task Force to purchase Alaska salmon products. They came to Alaska, looked at 30 different items, and talked to producers.

"The four-pound pouch of skinless, boneless flaked salmon was one of the products submitted, and they got very excited about that product and wanted to test it," Pearson said. "The Food and Consumer Service liked its institutional size, and the variety of things they could do with it."

USDA's delight in the pouched salmon is good news to North Pacific Seafoods, who developed the product and its unique retort pouch.

"Any time the U.S. government comes to your door and wants to buy 14 container loads of your product, it's a big deal," said North Pacific's Bruce Eckfeldt. North Pacific is now developing recipes to make preparation easy, and to show how versatile Alaska salmon can be. If the users—school districts and other institutions that use Food & Consumer Service food—like the pink salmon products enough to request them, they may become a permanent part of the USDA's annual purchases.



WE'VE MOVED!

Please note our new address

the **LODESTAR**

is published for

Alaska Fisheries Development Foundation, Inc.

900 W. 5th Ave., Suite 400
Anchorage, Alaska 99501
(907) 276-7315
Fax (907) 271-3450

Chris Mitchell, Executive Director
Loretta Lure, Program Director
Shirley Marinelli, Secretary
Barbara Culver, Accountant

Published by Winterholm Press
Krys Holmes, Editor

the **LODESTAR**

Charting the course of fisheries development today

Volume XIII Issue II, Autumn 1996

Development Foundation, Inc.

Alaska Fisheries

*"Your deepest need and desire
is satisfied by the moment's energy here in your hand."*

— Rumi

Got a great salmon idea? ASTF wants to hear it

Alaska Science & Technology Foundation has issued a call for proposals to help develop value-added salmon products, improvements in technology, and salmon marketing innovations. ASTF has funded various salmon industry development projects through the years, assisting development of pouched salmon, block quality studies, and other familiar efforts.

"We've received salmon proposals since the foundation began," said Jamie Kenworthy. "The reason we're sending out an RFP now is to signal that we are as interested in supporting marketing innovation to sell final products as we have been in the technical innovations. We're finding that marketing issues—gaining access to shelf space, distribution challenges, etc.—are at least as tough as making a good product. We are interested in how different firms might work with each other, and with organizations like AFDF, to crack that nut."

ASTF, he said, seeks to co-finance technology and marketing innovations that will bring more value-added salmon products to the market. They want to hear from people who have strong business plans, an element of innovation, and a good idea of how they will accomplish their goals. For a copy of the RFP and a grants booklet, call ASTF at (907) 272-4333. Their staff will meet with proposers to help answer questions and prepare project proposals.

the **LODESTAR**

Alaska Fisheries Development Foundation, Inc.
900 W. 5th Ave., Suite 400
Anchorage, Alaska 99501

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