

the **LODESTAR**

Charting the course of fisheries development today

Alaska Fisheries

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We've got it on video:

small pollock

can survive . . .

... the **Great Escape**



the Lodestar
written & edited by Krys Holmes
designed by Richard Drake

*D*ive deep beneath the surface of the Gulf of Alaska, where the green-black water trills and hums with life. A school of pollock a half-mile wide pulses with the undersea currents, their huge eyes glimmering like buried jewels. A trawl net approaches, and glides through the congregation of fishes until its cod end bulges with pollock.

As the net encircles the pollock, they rise to avoid it, and the smaller ones slip through a panel installed in the intermediate and swim clear of the net. In the top panel of the cod end, more small pollock wriggle free of the net, shooting out through a panel of large square mesh. When the cod end is drawn aboard, it's full of large fish.

Result: Few small pollock to sort and discard over the side as waste. More usable-sized pollock going into the processing plant. Less waste counted against the total catch, less pressure on the nursery class of pollock, and more live small pollock in the sea going to feed sea lions rather than meal plants.

"I'm extraordinarily pleased with the initial results of this project," said Ellen Pikitch, bycatch expert and principle investigator on this project. "I know others are circumspect, but I think it's time to get excited."

Pikitch is leading a team of researchers demonstrating that, by installing escape panels in the top of the cod end and in the intermediate net, to about 20 meters in front of the cod end, trawlers can reduce their bycatch of undersized pollock up to 75%. In the latest phase of the project, Pikitch and the AFDF team are studying how

well those escaped pollock survive.

"Those small pollock flew out of the net," Pikitch said. "They want to escape. They were quite active in finding their way out."

What's more, she said, most didn't appear too injured by the net, and many survived their escapement, at least during the days we monitored them this year.



The project began a few years ago, its first phase dedicated to testing small pollock escapement through an assortment of square- and diamond-mesh panels installed in the top of the cod end. Sure enough, the small pollock slipped

through the escape panels when they could, but as the cod end filled up their access to the panels closed off and the little guys couldn't get out.

"The escape panels proved less effective for larger tows," Pikitch said. "Then we thought, if we could add a top panel forward of the cod end too, we might be able to keep the escapement high even with the larger catches."

The new configuration, with an escape panel sewn into

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continued on next page

the intermediate and into the cod end, was put to a field test this past June, on a trawl net specially designed and installed on the Kodiak-based *Peggy Jo*. In this second phase, the project also focused on how many of the small pollock survive after escaping. The trawl net was rigged with an outer, smaller mesh cod end cover and collection cage designed by Finnish Game and Fisheries Research Institute, which they are using in similar groundbreaking research in the Baltic Sea. This cod end cover (a cover net was also attached to the intermediate escape panel) functioned to hold the small pollock after they'd exited the trawl net, and to funnel them back into a holding cage attached to the cover.

The small escapees were held in the monitoring cages for three days, alongside a control group of pollock that had been corralled by seine net and were also held in monitoring cages. A team of divers checked on the cages daily to monitor mortalities and remove any dead fish from the cages.

"Last summer's field season was simply to test the method to see if it worked, and to determine whether it would provide the information we were looking for," said Dan Erickson of the University of Washington's Fisheries Research Institute, primary collaborator on the project. "This method of testing mortality is fairly new, and has never been tried in the U.S. before. We were very pleased that everything worked so well."

In June 1998, the *Peggy Jo*, the seiner *Mythos*, the same team of Pacific Diving Services divers tendered by the *Three Bears*, Pikitch, Erickson, Finnish scientist Esa Lehtonen, and the rest of the team will head back to the same bay near Kodiak and repeat the experiment on a larger scale, this time holding escapees and the control group of seine-caught pollock for up to 14 days.

This next field season will reveal more accurate data on the survival rate of escapees from the panels, but Pikitch said she's seen enough already to know the gear works well.

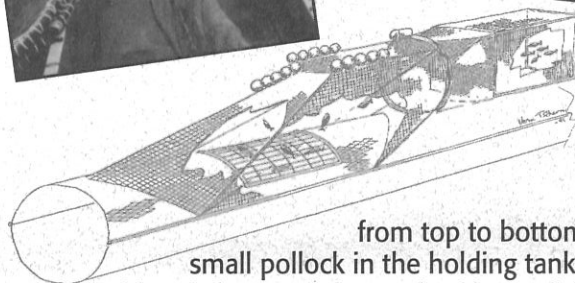
"These results are fantastically exciting," she said. "On the underwater video, you can see that the pollock looked for an opening. They actively wanted to escape. The second thing was that the methodology works very well. It could easily have turned out another way. And the third encouraging sign is that the preliminary results did get very high survival rates of small pollock. That's interesting."

And, she said, the fact that small pollock were observed escaping from the intermediate square mesh panel is great news. "A lot of people were skeptical about that," she said. "The dogma is that fish escape from the cod end. When they see this video, they'll be lining up for new gear."

Brian Beaver, skipper of the *Peggy Jo*, has seen enough to satisfy him. This fall he priced out the square mesh panels — they'd cost about \$3,000 — and he hopes to use them next season.

"You watch how fast those little fish move out of the net, it's amazing," he said. They escape far faster than you would have dreamed. And it's a lot better for the fish, because it doesn't close on them, like diamond mesh pinches them."

Kodiak pollock tend to be larger than those in the Bering Sea these days, though average size of the fishable stock fluctuates. Generally, the larger



from top to bottom:
small pollock in the holding tanks,
a deckhand shows off the catch of larger fish,
deployment out the trawl alley,
diagram of the escape panels

fish lay on the bottom and the smaller ones rise closer to the surface.

"This year I had 270,000 pounds of [small pollock] discard," said Beaver, who has been working trawlers since 1975. "I've seen already that more than half of those would have escaped with this gear. I think it's the wave of the future."



For years, trawlers have caught thousands of tons of young, under-sized pollock in their trawl nets. Pollock smaller than 30 cm. are too small for processors' machines to handle, so they

simply grind them up for meal — or trawlers dump the small ones at sea to make room in the hold for larger pollock. All discards are counted against the catch, so even if the fish aren't delivered to the processor they are subtracted from the catch limit.

According to the North Pacific Fishery Management Council, bycatch of small pollock — or of any other species — is relatively low in the directed pollock fishery, small pollock discards averaging 6% in the bottom trawl fishery and only 2% with pelagic (midwater) gear. "The bycatch percentages are among the smallest of any fishery in the world," said the Council's deputy director, Chris Oliver. "But when you're dealing with enormous volumes of fish like Alaska pollock, the actual numbers are amazingly

high. That 8% comes to nearly 100,000 metric tons of small pollock discarded each year, which is a lot of pollock to waste."

Next year discarding fish at sea (other than prohibited species like salmon, halibut and crab) will be illegal. All vessels must deliver all the fish they catch under the new Improved Retention/Improved Utilization program that launches January 1.

Oliver said reducing catches of small pollock benefits not just the trawl fleet, but also the sea lions, who rely on small pollock for food.

"The more fish you can allow to escape that aren't going to be made into primary products anyway, the better off we're going to be," he said.

"Under the new rules, they would have to bring all those small fish in for processing. Why not let them escape, and catch more of the bigger fish that are valuable in primary products?"

Oliver said mesh size has always been rather controversial because, though it's generally understood that small pollock are able to escape larger-mesh nets, no one has proven whether the escapees survive or are extruded to death.

"If we assume they survive and don't count them as catch, then we risk overshooting the quota if we're wrong," he said. "If those fish can be released alive, we're far better off letting them escape than pulling them up on board and grinding them up."

One Purpose

"This project was unique in its complexity, and one thing that is novel about it is that it's a true collaboration between many participants," said Dan Erickson of the Fisheries Research Institute. "Four institutions, one of them in Finland, plus three boats, divers, researchers, skippers, and the Alaska Draggers Assoc. helped out. Also, Mike Stone at Victory Fishing Gear International helped us, Roger Larson of the Norwegian College of fishing Science assisted with the design of the intermediate panel cover. AFDF had to monitor all the logistical problems, and it all had to be done within the allowable time frame. Every person contributed ideas and information from their own experience and expertise that helped this project succeed."

Ellen Pikitch, Wildlife Conservation Society's Osborn Laboratories of Marine Sciences

Dan Erickson, University of Washington Fisheries Research Institute

Chris Bublitz, Fishery Industrial Tech. Center

Peggy Dyson, owner, & **Brian Beaver**, skipper F/V *Peggy Jo*

David & Erik Kubiak, owner/skipper F/V *Mythos*

Chaco Pearlman, skipper F/V *Three Bears*

Divers: Lon White & Jim Swearingin

Petri Suuronen & Esa Lehtonen, Finnish Game & Fisheries Research Institute)

Craig Rose & Scott McIntyre, NMFS RACE Division, Alaska Fisheries Science Center

Alaska Draggers Association

Chris Mitchell, Loretta Lure & Bill Patton, Alaska Fisheries Development Foundation

Digitizing the Deep Questions



ay you're a skipper out on the ram-bunctious waters of the Gulf of Alaska. You know that a few fathoms below your bow, two million metric tons of arrowtooth flounder are feeding on salmon and herring, and

spawning like crazy. You know that there is no target fishery for arrowtooth, because the halibut bycatch is too high, and nobody wants to bump against the bycatch cap just for a lowly flounder.

You can almost see a smirk on their Picasso faces, can't you?

What if you knew that there was a computer program that could help you pinpoint the time, area and depth of arrowtooth flounder that were not intermingled with halibut, pollock, cod and blackcod? What if you could use this program to accurately predict when and where to target arrowtooth without using up the bycatch cap or cutting into quota fishery limits for other species?

A new AFDF project will produce just such a program. Working with us, Chris Bublitz of the Fishery Industrial Technology Center (FITC) and Brenda Norcross at the University of Alaska will feed a huge bank of data into an expert systems database that is designed to analyze complex fields of both numeric and experience-based data. The program will digest catch statistics, observer information, survey data and anecdotal information contributed by harvesters. It will help answer a number of questions about species composition, identify species assemblages and model catch-per-unit-of-effort (CPUE) of arrowtooth as a function of depth, temperature, longitude, topography, oceanographic characteristics and time of day.

The goal: to develop an interactive systems model of arrowtooth flounder that will help commercial fishermen reduce catch and develop a directed arrowtooth flounder fishery.

"It seems like every time you talk to groundfish fishermen these days, all they want to know is how to open up an arrowtooth flounder fishery," said Bill Patton, AFDF project manager, after his first couple of months on staff talking with harvesters in Kodiak and Seattle. "This project will address the most immediate concern, which is bycatch. By developing this program, we're hoping to find ways that trawlers can target arrowtooth when they are not congregated with halibut or other prohibited species."

Developing an arrowtooth fishery has become a priority among certain harvesters, agencies and seafood organizations. At the International Symposium on North Pacific Flatfish, in 1994, participants identified the Gulf of Alaska arrowtooth as a priority area for future research — if the bycatch problem could be addressed.

Bycatch isn't arrowtooth's only obstacle. An interesting protease characteristic requires special treatment in processing, or by the end user. Because of their historically low value, most arrowtooth that are caught are pitched overboard, or are ground up into fish meal.

Can a computer program accurately predict fishing conditions with so many variables? The complexity of the problem — the Gulf species

can a computer unlock the arrowtooth puzzle?

mix, the multitude of forces that affect distribution, migration, feeding patterns, growth and intermingling with other species — seems tailor-made for the developing expert systems technology. These expert systems (also called knowledge-based systems) are intelligent computer programs that have been written to solve unstructured or ill-defined problems, such as creating species identification keys, detecting insider trading on Wall Street, and predicting the weather. They use a rule-based modeling approach that synthesizes knowledge, facts and reasoning techniques that normally require the high-torque human brainpower of an expert.

"With this program, we'll be able to create an interactive tool that will not only take hard data into consideration, but that will respond to what fishermen learn as they input results of their own experience," said Patton.

Once the available data is entered so the program can use it, Chris Bublitz of FITC will attend a training seminar to put it to use in this specific application. Ultimately, AFDF will conduct workshops in Seattle and Kodiak to demonstrate the program to potential users: fishermen, fisheries organizations and fishery managers. Workshop participants will learn how to use the model both on shore and at sea, and will be able to offer feedback on how to make the system more user-friendly.

"This program isn't going to create an arrowtooth fishery," Patton said. "It's going to make it

easier for those who already are fishing arrowtooth, or who may in the future, do so in a more responsible way. If the fishery does develop in the future, this will be a useful tool in making management of the fishery more feasible, both for harvesters and fishery managers."

That is, if the computer program actually translates into a useful bycatch avoidance model. And that won't be known until the program is developed and tested at sea.

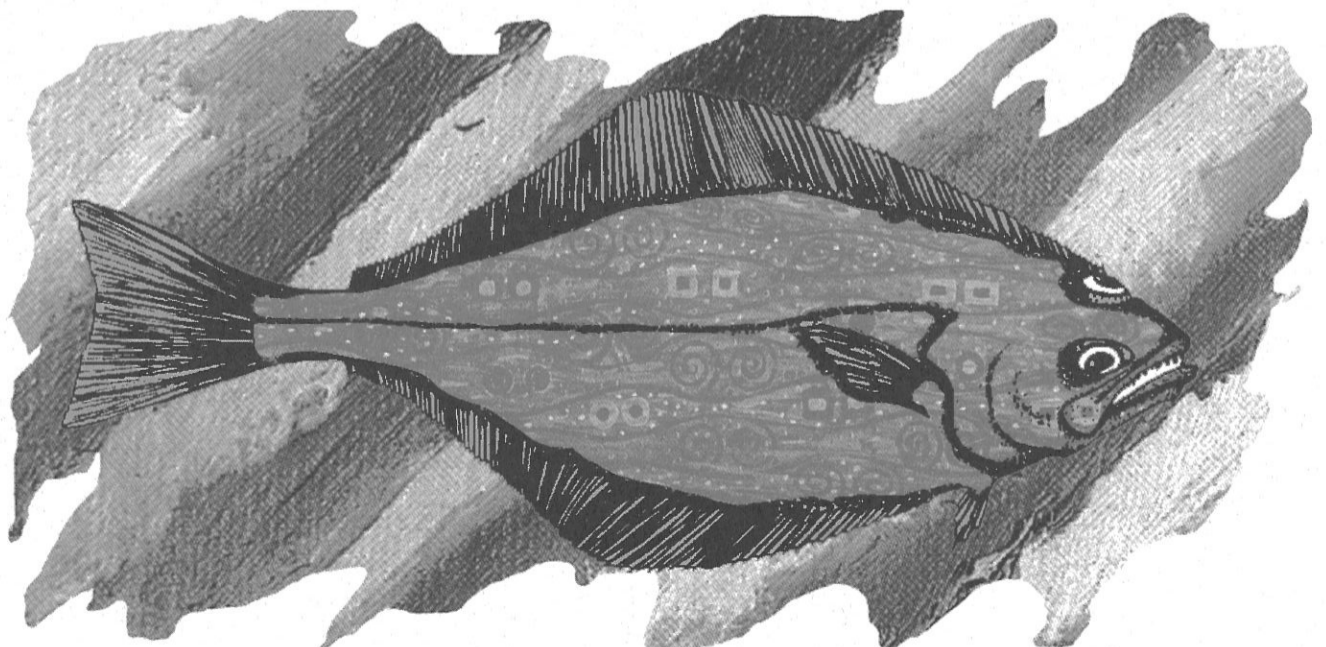
"Without its field component, this is just an academic exercise," Patton said. "The demonstration part of the project hasn't been funded yet. We do want to continue this study if we can."

Arrowtooth makes an adequate surimi that, when blended with pollock surimi, functions extremely well in seafood analogs and other surimi-based products. The National Marine Fisheries Service lab in Kodiak a few years ago developed several recipes of food-grade protease inhibitors using potato starch and other natural ingredients. These inhibitors, when injected in fillets or added to the washing process, help arrowtooth retain its structural integrity for use in fillets, blocks or surimi products.

Some producers have successfully marketed arrowtooth fillets in France, and there is a small market for arrowtooth mince as a raw material. In addition, a few companies are manufacturing arrowtooth-based protein powder.

AFDF executive director Chris Mitchell said the industry's current attitude about arrowtooth flounder reminds him of the status of Alaska pollock in the early 1980s. "Everyone said, 'Sure, there are a couple of million tons of pollock in the water, but there are no markets for it, so we're not interested,'" Mitchell said. "I believe it will be far simpler to develop markets for arrowtooth, and to address to the related bycatch problems, than it was to Americanize the groundfish fisheries and learn how to make surimi."

**More information:
call Bill Patton at AFDF, (907) 276-7315
This project funded by
National Marine Fisheries Service**



Tune up for the Symphony



Yesterday's fish just isn't going to make it on today's menu. But if you want to see what is going to make it — a lineup of the newest, best ideas in Alaska salmon — you'll want to hook up with the 5th Annual Symphony of Salmon.

December 15 is the deadline for submitting entry applications to Julie Janacaro at AFDF, who's organizing the Symphony.

"Salmon producers are beginning to look to the Symphony of Salmon to be a high point of their year, and we will not disappoint them," Janacaro said. "We have a terrific lineup of judges, and some wonderful sponsors who are very supportive of the Symphony because of the impact it has had in the past five years on developing new markets for Alaska's salmon."

On January 22, 1998, a great fire will kindle in the stone hearth at the Glacier BrewHouse in downtown Anchorage that may take years to die out. As BrewHouse owner Chris Anderson lights the blaze, chef Farrokh Larijani will sprinkle the last dill and squirt the last lemon over the lineup of products entered in the Symphony of Salmon. Within a few hours, the six judges will name three contestant winners, who will go on to exhibit their products at the International Boston Seafood Show.

"The Symphony of Salmon gives a tremendous boost to companies introducing a new Alaska salmon product," said Andi Wahry, last year's Grand Prize winner. "It won't catapult you through the difficult and expensive process of introducing a new product, but it does expose you to a wide variety of potential buyers that you never would have access to on your own."

The Symphony of Salmon is the world's largest showcase of new products made from Alaska wild salmon. Each year, the Symphony gives producers of new salmon products an opportunity to showcase their great idea before a panel of expert judges (chefs, food editors and major buyers). Winners receive valuable media exposure and a terrific marketing boost — win-

Everyone who is fiddling with a new Alaska salmon idea is urged to tune up the product, polish up the packaging, and get ready to audition for the Symphony.

ners in each of the three categories get free booth space at the Boston show — and every entrant receives copies of the judges' comments and suggestions about each product.

For buyers, the Symphony is an opportunity to see and sample new product ideas before the competition does. This year, representatives from six major food buyers have been invited to meet with producers of the new products and warm their imaginations by the fire.

"The Symphony exposes you to a wide variety of potential buyers that you never would have access to on your own."

Like "Car of the Year"

"What we're building up to in this contest is what Road & Track magazine does with their Car of the Year award," said Chris Mitchell of AFDF. "When that contest first got started, few paid attention to it. But now, when they announce the winners, everyone scrambles — the media, the manufacturers, the consumers, and the sales forces. In its first five years, the Symphony has started to create that same kind of interest."

Last year, 28 companies from four countries and seven U.S. states submitted 37 products to the contest, ranging from salmon fajita strips to microwavable salmon pocket sandwiches. Smoked salmon products dominated the show last year, and if early reports are anything to go by, they may hear this again as well.

Janacaro said she hopes to see more non-traditional ideas show up in this year's contest.

"The purpose of the Symphony is to give people with new and innovative ideas a way to say, 'Look what we're doing,'" she said. "We don't want to discourage the producer of a great smoked salmon strip to enter the contest, but we are looking for products that will take the existing market one step further. We'd like to urge smoked salmon producers to go beyond what everyone else is doing, and to use salmon in new, innovative ways."

Brewing up a good time

Down at the Glacier BrewHouse, owner Chris Anderson already is scratching his head about tee-shirts, restaurant banners and a special

Symphony of Salmon beer they'll roll out the day of the contest. Anderson was a contest judge for the Symphony's first few years, and has devoted money, staff time and all kinds of peripheral support to the event each year.

"Without a healthy salmon industry, we won't have a healthy economy in Alaska," Anderson said. "I sell about 9,000 pounds of salmon a year. I want the guys who are harvesting and working out there to stay in business. There's no excuse for us getting kicked in the market by the Chileans, Scots, and Norwegians because we don't have the gumption to market our product properly. I'm doing what I can to help."

Anderson encourages other companies to join him and 20 other companies in co-sponsoring the Symphony of Salmon, not only for the good publicity that goes along with sponsorship, but because the Symphony is helping expand markets for Alaska wild salmon.

"The Symphony is attracting more attention from buyers and from industry people," he said. "As an event itself, it's a celebration of the diversity and potential of Alaska's salmon."

Kings

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The sizzle
behind the
Symphony

Our thanks go to these co-sponsors of the 1998 Symphony of Salmon.

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Trident Seafoods Corp.
Ward's Cove Packing

And One Year Later ...



Where are last year's champs, a year after winning top prize in each category at the 1997 Symphony of Salmon?

"We've had some real success stories," said Andi Wahry, owner of Trapper's Creek Smoking Company, which won top prize in the retail category last year, and was awarded grand prize in the 1997 Symphony contest. "During tourist season, we had great reception. Most people who taste the product like it, and the fact that the packaging says it's a winner of the Symphony does help."

Trapper's Creek won the prizes for its Smoked Salmon Chowder, a sockeye-based chowder concentrate sold in two-pack tubs and marketed through Costco and other large retail outlets, as well as in the Trapper's Creek storefront in south Anchorage.

"I consider the new product introduction process to be missionary work," Wahry said. "It's very well received, but the pay is lousy. Everybody loves you, and everybody loves the product, but the truth comes out when they have to pay for it."

Like any new product, the salmon chowder is having trouble hitting that ever-elusive breakeven point, primarily, Wahry says, because the company specializes in smoked salmon products, and the chowder belongs in the soup category. For that reason, Trapper's Creek hasn't pushed the chowder as hard as most of their products.

But it has been a good year for Trapper's Creek, the largest smoking company in Anchorage. The company has expanded, is about to open a new Seattle outlet, and now buys nearly \$2 million worth of Alaska salmon per year.

"We are glad we entered the Symphony and won," Wahry said. "We've made contacts with a wide variety of potential buyers, and we find they like that stigma of the Symphony winner. That's why so many companies, even the big ones, like to have those winner designations."

Salmon pouch goes international

"We're still following up on all the new contacts we made this year," said Bruce Eckfeldt of North Pacific Seafoods, makers of the 49th Star Alaska Salmon Pouch, which won the food service category in January 1997. The unique soft retort pack brings flaked salmon to the market in a new, user-friendly form closer to chunk tuna than canned salmon. The salmon pouch product is used in salads, sandwich mixes, casseroles, dips, and a host of other deli and food service dishes.

"The Boston show is a great launching pad," Eckfeldt said. "We made a tremendous number of new contacts we otherwise wouldn't have made. There was great interest there in all the Symphony products."

This year USDA purchased 10,920 cases of the pouched salmon for use in the school lunch program, the second year they have purchased the pouches. North Pacific also is working with secondary manufacturers and delis to develop new domestic markets. Eckfeldt also reported that the export market is starting to build: they're selling to Europe, Australia and New Zealand, and have gotten some interest from a

few Canadian companies.

"We're offering a menu upgrade for places that want to add salmon to their menu, especially if they have an existing tuna item that makes the shift easier," Eckfeldt said. "We're trying to bring salmon to the marketplace in a form that's easy to work with and is exciting for people to experiment with and merchandise."

One supermarket chain also developed special recipes for the pouched salmon and featured it as the Salad of the Month in July. It sold so well the company adopted the pouch as a permanent item, and now is developing dips and spread recipes for the holiday season.

"We're hoping success builds success," Eckfeldt said.

Going exclusive

For Northern Discovery Seafoods, a two-time winner of the Symphony of Salmon, success has launched opportunities in a different direction.

"We're gearing up for a market that wants our product exclusively," said Northern Discovery's Natalie Schonberg. "The biggest part of our business is shelf-stable gift boxes, and we're growing about 30% a year."

Last January, Northern Discovery's Honey Glazed Smoked Salmon won the gift/specialty category of the Symphony. The Honey Glazed product is just one variety in the product line at this creative little retail and mail order company, and it's not even the product they push the hardest. "We have other products that have shown unexpected growth, and that are keeping us busy like crazy," Schonberg said. "But when this company came along that wanted the honey glazed product exclusively, I began working on that opportunity as I had the chance."

Was the Symphony prize a wedge in the door for the honey-glazed salmon product? "Absolutely," Schonberg said. "We had been dealing with this company before the honey-glazed recipe entered into the picture. But when we won the contest, they took notice, and they've been working at it ever since."

Northern Discovery also won first place in the gift/specialty category in the 1996 Symphony of Salmon. A small jar of sockeye-vegetable relish packaged in a cello wrap with a tiny relish spoon, Sea Garden won kudos from judges both for its flavor and imaginative concept.

"Since then, we've won a number of prizes with that product," Schonberg said. "It's a great little seller for us."

Other winners report in

The Fishin' Place, last year's third prize winner in the retail category, reports that their winning Salmon Teriyaki is the highest selling fillet in their line this year.

"It's definitely a winner," said Blanca Hernandez. "We've been selling it in major Seattle grocery stores, including Queen Anne Thriftway and Larry's at Oaktree. We're now selling it at The Fishin' Place retail store, which is a new venue."

Aquafoods Corp., producer of last year's second prize retail winner, faced some major setbacks this year but remains optimistic about the product. Their "Salmon Pockets" use salmon in a microwavable pocket sandwich form that owner Russ Lowell says has been extremely popular. Operating on a low budget, facing a name change and a few supply problems this year, Lowell said the idea was still so popular he's decided to expand it to feature other species as well, starting next year with tuna.

SOS '98

Symphony of Salmon

January 22, 1998



Meet the '98 Judges

Jim Burhop

Senior Category Manager for seafood
at Alliant Foodservice

Rich Cantazaro

Director of Seafood Marketing and Procurement
of HEB Grocery Company of Texas

Paula Disbrowe

Food Editor at Restaurant Business magazine

John Fiorillo

Senior Editor at Seafood Business magazine

Ron Pollack

Executive Chef and Managing Partner
of the Levy Restaurants in Orlando, Florida

Ron Tanner

National Association for Specialty Food Trade
in New York City

Iwant the same salmon that she's cooking. Be sure it's the same fish!" The woman's instructions were clear as she ordered her cut of salmon at the counter: she had tasted her first Arctic Keta salmon, and would settle for no substitutes.

"She was holding a jar of lemon pepper in her hand, and she definitely wanted that fish," said Cheryl Cummings, manager of the Arctic-Yukon-Kuskokwim (AYK) salmon marketing project. Cummings was on hand at a Schnucks Market in St. Louis to help introduce Arctic Keta salmon to mainstream grocery shoppers during a week of in-store demonstrations.

Schnucks is one of the first marketing partners in the AYK salmon project, and so far their customers — pork and beef-loving Midwestern folk of all ethnic and economic varieties — welcome Arctic Keta salmon to their table as a generous family would welcome a stranger: they're cautious, but they're open.

"We have an unbelievably difficult job of education ahead of us," Cummings said. "Everywhere we went, there was a beautiful case of fresh farmed salmon right next to our display, selling for a dollar less than our frozen AYK chums. We can compete, because we do have something different to offer — natural, wild salmon with all the health benefits and none of the chemicals of farmed salmon — but we have to teach consumers the difference. We have to sell them on the story of Arctic Keta salmon from Western Alaska."

The in-store demos were the latest stage in the AYK salmon marketing project, a broadly cooperative effort between fishermen, processors, state agencies, AFDF, a marketing specialist, and a host of market partners, like Schnucks, in the Lower 48. Funded by an amalgam of grants and appropriations from the state, from AIDEA, DCRA, and DCED, and with strong support from Gov. Tony Knowles and Sen. Ted Stevens, the project is slowly but surely building market recognition for western Alaska salmon.

This project is a river with three main channels: the first establishes a special identity for chum salmon from the AYK region based on its inherent characteristics: oil content, texture, flavor and color. That identity: The Arctic

\$1,000,000

Good news for Western Alaska: Congress allocated \$1 million towards the salmon market development effort in the AYK region in last summer's Agriculture Appropriations Bill. Sen. Ted Stevens, chairman of the Senate Appropriations Committee, announced the appropriation last summer, just as Congress headed into its late summer recess. Both houses have passed the bill, and it now sits before the President.

St. Louis gets chummy

ARCTIC KETA SALMON HITS THE BIG TOWN



Keta brand label. To sell their fish under that label, processors in the region must adhere to a stringent quality control and inspection program. The benefit: When Arctic Keta brand salmon becomes a recognizable label in the marketplace, producers will have a more ready market for AYK chum salmon.

The second channel in the river carries the flow of information between the producers and their market partners. What do major seafood buyers want in a frozen chum salmon product? Schnucks asked for bone-out skinless

IQF fillet portions, and worked closely with Cummings and with Inlet Salmon to get just what they wanted.

The third braid in the river is promoting Arctic Keta salmon to the public. "For market partners, we want people who are interested in telling a story," Cummings said. "We looked for a company that likes to do big promotions, and where cooperation is not a problem. Schnucks has been ideal from that point of view. They like to educate their customers."

Plenty of educating was needed. Cummings said she found some stores in the Midwest marketing farmed Atlantic salmon using ASMI's "Alaska Salmon" promotional materials.

"People just don't know," she said. "In a way, it's encouraging because it means there is a tremendous opportunity out there for those who will take the time to educate the marketplace."

When Cummings and marketing specialist Pat Shanahan, who's assisting with the AYK project, went to St.

Louis to oversee the in-store Arctic Keta demos, they got an eyeful of the strength of the competition. Fresh farmed Atlantics were selling for \$6.99/lb, and the product looked great in the case. The Arctic Keta product sold frozen for \$7.99/lb., though one

"We can compete, because we do have something different to offer — natural, wild salmon with all the health benefits and none of the chemicals of farmed salmon — but we have to teach consumers the difference."

store agreed to take the price hit and drop to \$6.99 during the in-store demo. Some of the stores hadn't received their promotional material — stickers, posters, point-of-sale cards telling the Arctic Keta story — by the day of the demo, so were using generic

ASMI materials instead.

"Schnucks is a 100-store chain," Cummings said. "They're bound to have problems and mix-ups like this. The point is, a marketer of Alaska wild salmon must be on the spot to make sure things are going well, because you can't count on a huge chain to take care of all your needs for you. It's going to take years of this kind of work, and a tremendous amount of education and follow-through, to create a special spot in consumers' minds for Arctic Keta salmon."

And yet, Cummings said, once the fish gets to the customers, the response can be quite positive, as most of the in-store demonstrators reported. "One lady said she did not like fish, and five minutes later asked to try again. Then she purchased some," wrote one in-store demonstrator at a Schnucks store. "Everyone who tried it liked it. They wanted to

know how to fix it."

Another demonstrator wrote, "Everyone who sampled thought the salmon was delicious! Many asked for the recipe." And another: "Many who didn't like salmon really liked this. They loved the recipe and the product. We should do more fish demos. Many were introduced to something other than canned salmon."

"Too expensive! Tastes good," wrote another.

A competitive price, a beautiful product, and a powerhouse of educational effort. That's what's needed to create a new market for Arctic Keta salmon — or for any Alaska wild salmon these days.

"It takes a long time to make a difference," Cummings said. "Of course, the fishermen of the region are hurting this year, and they're eager to see when this project is going to put additional money into their pockets." Higher ex-vessel prices may come, she said, but only as a result of higher demand for Arctic Keta salmon in the marketplace.

Meanwhile, the project instituted one of the first salmon quality label programs to come to fruition in Alaska. The Arctic Keta identity program began with inspections by SureFish, who checked the product twice — once as it came into the plant as raw material, and once as it was packaged up as customer-ready. Any product that didn't adhere to Schnucks' specifications was turned back toward the processor's traditional product line. Product that passed became the first to bear the Arctic Keta brand name and sticker.

"Inlet Salmon has worked incredibly hard to make this program work, and it's been a struggle," Cummings said. "People wonder why the salmon industry hasn't been doing this kind of market development all along. Well, it's incredibly difficult, that's why. It takes cooperation from all directions."



The Arctic-Yukon-Kuskokwim Salmon Market Development Project is managed at AFDF by project manager Cheryl Cummings. The 13-member AYK Advisory Board, comprised of industry and community representatives primarily from Western Alaska and led by Karl Ohls of the Alaska Department of Commerce and Economic Development (DCED), oversees the project. So far, the group has received funding from DCED, from Alaska Industrial Development & Export Authority (AIDEA), and from the Department of Community & Regional Affairs (DCRA).

For more information, please call Cheryl Cummings at the AFDF office: 907-276-7315

Wild thing

You should see what they're doing down at Ocean Beauty Seafoods. In fact, if Ocean Beauty folks have their way, you may see what they're making — in the form of a flaked chum salmon salad pack — in your nearest deli case or restaurant sometime soon.

Ocean Beauty and Peter Pan Seafoods are co-participants in AFDF's ongoing effort to create new products and markets for undervalued Alaska salmon. The two processors are concentrating on pink and chum salmon for this project, particularly on late-harvest, watermarked (pale-fleshed) salmon that usually struggles in the bottom of the market.

"Oh, don't say struggles in the bottom of the market," Chris Mitchell urges from his desk where the three-ring binder labeled *Taming the Wild Thing* stands about four inches thick with notes. "Say it presents an opportunity for processors."

An opportunity for processors does lie between the pages of a market survey, conducted by Pat Shanahan of Shanahan Strategic Planning & Communications. Pat called up 17 executives of companies that buy or use salmon in non-traditional forms, and asked them all kinds of questions about how they might like to see pink and chum salmon come across their threshold. She asked about adding value to low-end chums and pinks by enhancing the color, flavor and texture of the meat to give the product more usability. She asked for ideas about product appearance, ease of preparation, and packaging. Together Pat and

the 17 executives came up with a possible recipe for success for low-value pinks and chums.

"Don't call it a recipe for success," Pat says from her in-home office which, on sunny days, spills out onto her deck. "Call it a guideline for pursuing opportunities. I believe that we can't simply push a colored salmon product into the traditional fillet, steak and H&G market. We've already seen how low-end chums and pinks only serve to lower prices in the salmon market. Clearly, these particular salmon products don't compete effectively with high-quality wild and farmed salmon. We have to seek new uses for these low-end products. We'll have to come up with new value-added formats using pinks and chums as raw material. That way, we hope to bolster salmon prices by reducing the volume of traditional forms of cheap, low-end pinks and chums in the marketplace."

The 17 interviewees tended to talk around four basic product concepts:

Ground or minced salmon: How about fresh ground salmon sold like ground beef, unformed on a tray and over-wrapped, or in a "chub" pack? Another suggestion: Precooked frozen salmon loaf to be paired with vegetables in a microwaveable dinner, for the Home Meal Replacement (HMR) category.

Flavored salmon portions: Another HMR idea is a precooked, flavored or sauced salmon portion for microwaveable dinners, produced from whole-

muscle fillets. Sandwich manufacturers might be interested in a 2.5-oz. frozen cooked portion shaped to bread format, with a good "bite" similar to traditional meat sandwich fillings.

Salmon as an ingredient interested manufacturers of prepared meals, salads, sauces and soups, sandwiches, and heat-and-serve extruded or pouched meals. IQF cooked salmon shreds or chunks for salad toppings or salad-style sandwiches were mentioned often. Large chunks are better than the small flakes that canned salmon produces. IQF cooked salmon strips or thin fingers, with or without grill markings, could be used as salad toppings or wrap sandwiches. Minced or flaked salmon is interesting as a pasta topping. And salmon filling can be used in pocket sandwiches.

Deep fried fish isn't a new idea, but it's coming back into style. Frozen, coated, friable products can hide many sins and are popular with family and fast-food restaurants because they're quick and easy to prepare.

"It's clear that a great many formats could be created for a variety of applications for these products," Pat said. She passed the survey results on to Peter Pan and Ocean Beauty, participants in the Wild Thing project, to let them mull and experiment with some ideas on their own.

The large flake or chunk product looked like the best bet, and AFDF contracted with both processors to produce sample amounts (each slightly different) of a chunk-type product that can be taken back to potential users for their feedback. In addition, Peter Pan decided to make a frozen, skin-on, pin-bone in vacuum-packed fillet, which they recently took to an initial in-store demonstration in Philadelphia.

At this point, the goal is not so much a new product introduction as a new form of salmon that can be used as an ingredient in finished products — soups, salads, sauces — that can be taken to potential customers for their comments and ideas. It's just another salmon project in which AFDF assists producers in creating new opportunities where no opportunity exists today. This project has its particular challenges, because it's trying to develop a value-added product to fit into the cheaper end of the market.

"I wouldn't call it cheap," Pat said. "I'd say we're trying to hit a very narrow price range that is higher than what low-end pinks and chums are getting now, but not above a certain threshold."

Every new market development project has its own challenges, whether you're working with mahimahi caviar or carp tongues. Identifying the best niche for a product, gaining the technological expertise to add value and quality, listening carefully to the potential buyers, and putting a lot of money into product

It's just another salmon project in which AFDF assists producers in creating new opportunities where no opportunity exists today.

introduction — these are the general steps that trace the path to an expanded market. The hard work is the leg-work, the daily figuring, phoning and fiddling that Peter Pan and

Ocean Beauty are doing in their own plants and offices trying to build a new future for their products.

If your company is interested in learning from their experience, there is some non-proprietary information from these projects that could be helpful to you. Call Chris Mitchell at AFDF. He loves to talk on the phone.

"Whatever you do, don't say *that*," he groans.

The Alaska Fisheries Development Foundation has been in the business of problem solving and innovation for the fishing industry since 1978. Many are familiar with the hugely successful surimi project that first brought surimi production to U.S. shores in the mid 1980s. But the Foundation has completed dozens of other projects of every stripe, benefiting nearly every fishery in the North Pacific. They have truly run the gamut from razor clams and octopus to pink salmon and arrowtooth flounder. Whatever fishery you participate in, chances are that AFDF has done work in it to provide answers to some problem or help open up new opportunities.

"Great, but what have you done for me lately," you say? "Recently completed projects include product testing of salmon nuggets leading to large-scale introduction in the national school lunch program, trawl gear modifications to reduce halibut bycatch in the cod fishery, and the development of surimi from arrowtooth.

Current ongoing work includes market development for pink and chum portions, a survival study on pollock escaping through cod end meshes, and a computer model for bycatch avoidance in a directed arrowtooth fishery. Other projects underway are development of a niche market for Arctic-Yukon-Kuskokwim chums and the development of an artificial bait for the cod fishery. The Foundation also hosts the annual Symphony of Salmon,

An open letter to Alaskan fishermen

By Mark Chandler
Owner, F/V Topaz

highlighting new commercial salmon products.

A stool needs three legs to stand on. The three legs of support for AFDF are harvesters, processors and support services. While harvesters have as much if not more to gain from the efforts of the Foundation, our membership roles are heavily weighted with the latter two.

Membership gives you the chance to stay abreast of the cutting-edge developments in the industry, and to help the Foundation steer a clear course to the future.

So, fishermen, come on aboard! Support the organization that has been on wheel watch for nearly 20 years. With your help, we'll catch a fair tide into the 21st Century.

Mark Chandler is a member of the AFDF board of directors, and has been an active AFDF member since 1991.

Isn't it about time cod developed some less expensive tastes?

Longliners working the waters off Alaska spend roughly \$18 million to \$20 million per year for bait, sometimes importing food fish from back east, or as far away as Argentina or the Falkland Islands. Herring and squid are the most popular bait species because they work well in automatic baiting machines, and they're fairly inexpensive. But bait prices have shot up in recent years — squid is now about 60¢/lb., herring 40¢/lb. — and now comprise a hefty percentage of a boat's operating costs. A couple of longliners told us recently that 10% of their gross earnings goes to buying bait.

Meanwhile, seafood processing wastes, which smell and (presumably) taste a lot like bait but aren't quite in the right form, are turned into fish meal.

When AFDF started investigating artificial bait a few years ago, we found out that folks in Denmark, Norway and Iceland, and at Mustad and MARCO Marine in the U.S., had been exploring artificial bait for several years.

MARCO in particular had made great headway, and they thought they had developed an artificial bait matrix that stayed on the hook and performed

many of the other functions critical to a good bait.

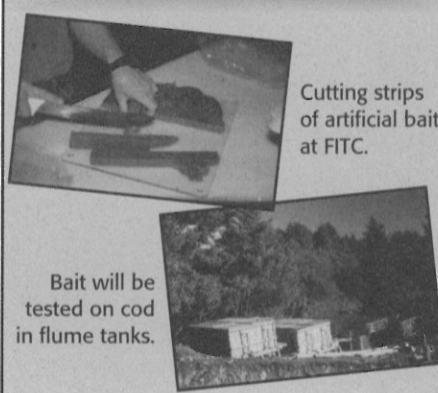
AFDF got excited about the link that artificial bait might forge between cheaper operating costs for longliners and better use of Alaska's seafood processing wastes. With a grant from the Alaska Science & Technology Foundation, we called in Susan Goldhor of the Center for Applied Regional Studies in Boston, who's an expert in hydrolysates. Chris Bublitz at the Fishery Industrial Technology Center in Kodiak also signed on.

In September, AFDF invited Goldhor and Mimi Fielding from MARCO Marine to come to Bublitz's lab in Kodiak and hydrolyze fish wastes from the offal streams of local pollock, herring and salmon production

lines. They brewed up several different recipes of attractants, which MARCO will incorporate into their bait matrix.

Soon, Bublitz at FITC will begin

VIRTUAL BAIT



Cutting strips of artificial bait at FITC.

Bait will be tested on cod in flume tanks.

testing the attractants with hand-caught cod in a Y-shaped flume tank. He'll run a series of experiments to see which hydrolysates work best as attractants. (Of course, this part of the experiment requires that Bublitz get to know how cod express preferences,

which is a science in itself.)

Eventually, AFDF hopes to demonstrate the use of the artificial bait at sea aboard a Kodiak-based longliner. MARCO's matrix was designed with automatic baiting machines in mind. It stays on the hook better than traditional bait, and could save fishermen a chunk of money — perhaps up to 20% of bait costs, if it attracts and catches fish. An artificial bait industry also could add tremendous value to Alaska's seafood processing wastes.

"Longlining is one of the world's oldest fishing methods," said AFDF's Chris Mitchell. "One thing that's never been changed is what they put on the hook. It seems that the time is right — there were people all over the world looking at artificial bait — so

we wanted to bring together a group of people who have the expertise and experience to try to make it happen."

Eventually, AFDF hopes to investigate species-specific bait that can target particular species and reduce bycatch.

"The information we've gotten from Norwegian and Danish researchers does indicate a feeding preference in fish," Mitchell said.

Other than lower costs per hook, and its potential in the future to help avoid bycatch, the artificial bait may bring other benefits to longliners and crabbers. Better bait quality may improve catches and decrease bait loss. Improved catches may bring higher profitability to the fishermen. They'll have to import a lot less bait from the Lower 48 and abroad. Perhaps most importantly, the industry can stop using human-food fish for bait, and use seafood processing wastes instead, so better use is made of the marine resources of the world.

"Artificial bait doesn't just have potential for Alaska," Mitchell said. "Longlining is a worldwide fishing method. Solutions that make a difference here could be important all over the world."

"The most important thing is that we may be able to stop using human-food species for bait, and use seafood processing wastes instead."

This project is funded by a grant from

Alaska Science & Technology Foundation, with a significant financial match from MARCO Marine, the Center for Applied Regional Studies, FITC and AFDF.

Who are all these fresh new faces?

You may have noticed Loretta Lure is not returning your calls from AFDF any more. She's gone off to seek her MBA at Wharton University in Philadelphia, though she's promised to drop by during her winter break.

Bill Patton joined the AFDF staff this fall as project manager. He's a former NMFS observer, a graduate of the Univ. of Wash. school of fisheries, and worked on AFDF's pollock escapement project a few years ago.

Julie Janacaro stepped behind the main desk at the AFDF office last spring, and immediately took the reins of the Symphony of Salmon and a few other projects. She's a recent transplant from Helena, Montana.

Krys Holmes, Lodestar editor and propagandist for the Foundation, recently interrupted her idyllic existence in Montana and returned to the fold for a few months this winter to lend her services to the AFDF cause.

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*"The more things a mind knows, the better does it understand its own strength and the order of nature."
— Spinoza*



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