

SCOMM

87:31

Alaska State Legislature

Representative Carl E. Moses

CHAIRMAN
HOUSE RULES COMMITTEE

CHAIRMAN
HOUSE SPECIAL COMMITTEE FISHERIES

MEMBER FINANCE SUBCOMMITTEES ON:
DEPT. OF FISH AND GAME
DEPT. OF PUBLIC SAFETY



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SPONSOR STATEMENT

House Joint Resolution 59

Reduction of wanton waste in North Pacific Ocean and Bering Sea fisheries.

House Joint Resolution 59 addresses an issue of immediate concern to Alaska and its commercial fishing industry. In a May 1993, report prepared for the Alaska Department of Fish & Game by Pacific Associates, the wanton waste of fishery resources in the North Pacific Ocean and Bering Sea fisheries was documented.

Discards of either dead or live fishery resources occur in these commercial fisheries for three basic reasons: economics, management policies and fishing practices. Discards sometimes occur because of the economic loss associated with processing the entire harvest. When species of little or no value are harvested along with the target species, there is no real economic incentive to discourage discarding.

Management induced discards occur for several reasons. There are federal regulations which prohibit fishermen utilizing certain gear types from retaining certain species. The fact that the fish may be dead or alive does not matter. This is called prohibited species catch. Groundfish fisheries in the North Pacific are managed by an open-access method with species quotas. Fishermen are interested in targeting their particular species as rigorously as possible before the allotted quota is reached. This method also lends itself to waste through discards of non-target species.

Fishing practices discards may be the result of direct action by fishermen or through a combination of management requirements and fishing practices. Some fishermen "prospect" for a closed-fishery species while targeting another species. Because they will harvest prohibited species while doing this, there is mortality associated with the non-targeted species. Technical modifications to gear to make it "legal" (e.g. modifying on-bottom trawl gear to mid-water trawl) can cause increased bycatch mortality.

HJR 59 urges Congress to either amend the Magnuson Fishery Management and Conservation Act or to enact other legislation to address the waste of fishery resources in the North Pacific Ocean and Bering Sea fisheries. Congress can utilize a variety of means to disallow fishery resource waste.

ADAK • AKUTAN • AMCHITKA • ATKA • ATTU • BELKOFSKI • CHERNOFSKI • CHIGNIK • CHIGNIK LAGOON • CHIGNIK LAKE
COLD BAY • DUTCH HARBOR • EGEKIK • EKWOK • FALSE PASS • IVANOF BAY • KING COVE • KING SALMON • KOLIGANEK • LEVELOCK • NAKNEK
NELSON LAGOON • NEW STUYAHOK • NIKOLSKI • PEDRO BAY • PERRYVILLE • PILOT POINT • PORT HEIDEN • PORT MOLLER • SAND POINT
SHEMYA • SQUAW HARBOR • SOUTH NAKNEK • ST. GEORGE ISLAND • ST. PAUL ISLAND • UGASHIK • UNALASKA • UNGA

BE IT FURTHER RESOLVED that the Alaska State Legislature urges Congress to amend the Magnuson Fishery Conservation and Management Act or to enact other legislation encompassing a broad range of measures to reduce wanton waste in North Pacific fisheries including harvest priority incentives for clean fishing practices and other management tools.

COPIES of this resolution shall be sent to the Honorable Ron Brown, Secretary of the U.S. Department of Commerce; Richard B. Lauber, chair of the North Pacific Fishery Management Council; and to the Honorable Ted Stevens and the Honorable Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative, members of the Alaska delegation in Congress.

UNALASKA NATIVE FISHERMAN ASSOCIATION

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UNALASKA NATIVE FISHERMAN ASSOCIATION
P.O. BOX 591
UNALASKA, ALASKA 99685

RESOLUTION 94-03

OK with change { **WHEREAS, more fish were discarded ~~and~~ in federally managed fisheries in the North Pacific than were landed in the U.S. North Atlantic in 1992; and**

OK { **WHEREAS, over 500,000,000 pounds of marine life were dumped overboard in the Bering Sea and Gulf of Alaska, including 20,000,000 pounds of halibut, 1,000,000 pounds of herring and over 20,000,000 crab; and**

WHEREAS, in 1993 over 360,000 salmon were intercepted by the trawl fishery; and

OK { **WHEREAS, these discarded herring, crab and salmon intercepted in offshore federal waters are State of Alaska managed resources; and**

OK { **WHEREAS, these resources are the economic and cultural lifeblood for many Alaskans who depend on the sea for their livelihoods and subsistence; and**

WHEREAS, this continued wanton waste undermines any long term management strategy of sustained commercial, subsistence, and recreational fisheries, and places our rural communities at risk; and

OK make amendment to section
OK not capitalize { **WHEREAS, Alaska marine waters face declining ~~wildlife~~ populations and potential Endangered Species listings of several marine species that depend on fish for food; and**

OK with changes { **WHEREAS, minimizing the catch of undersize species and reducing wanton waste will conserve fisheries resources for present and future generations of subsistence users, commercial and recreational ~~fishery~~ seafood industries, coastal communities, consumers, and the nation;**

OK with changes { **NOW THEREFORE BE IT RESOLVED that the wanton waste now occurring in federal fisheries of the Bering Sea and the Gulf of Alaska is of utmost importance ~~culturally,~~ economically, and ecologically; and**

OK with changes { **BE IT FURTHER RESOLVED that the Unalaska Native Fisherman Association urges Congress to amend the Magnuson Act to enact a broad range of measures to reduce wanton waste in North Pacific fisheries, including Harvest Priority incentives for clean fishing practices and other management tools.**

MY NEW #1
MY NEW #2 { **We, the President and the Secretary/Treasurer of the Unalaska Native Fisherman Association, certify that the above resolution was passed and approved at a meeting of the Board of Directors therefore duly called and held this 13th day of February 1994. By a quorum of 6 out of 7 Board members, with a vote of 6 ayes, 0 nays, and 0 abstaining.**

Emil W. Burikoff
 Emil W. Burikoff, President

John Moller
 John Moller, Secretary/Treasurer

Post-It™ brand fax transmittal memo 7671 # of pages >	
To <u>DAVID</u>	From <u>CHERYL</u>
Co. <u>2014</u>	Co. <u>WANT TO ASK</u>
Dept.	Phone # <u>YU 1A COMALE</u>
Fax #	Fax # <u>QUESTIONS - PLEASE CALL</u>

ALASKA MARINE CONSERVATION COUNCIL

Box 101145 Anchorage, Alaska 99510
(907) 277-5357 (kelp) 274-4145 (Fax)

To: Cheyrl Sutton
The Honorable Carl Moses

From: Nevette Bowen
Coordinator

Date: Feb. 17, 1994

Re: Bycatch and Waste
Request for Fisheries Committee Resolution

PLEASE CALL

Post-It™ brand fax transmittal memo 7671		# of pages ▶	
To	DAVID	From	CHEYRL
Co.		Co.	DAVID - WHAT A
Dept.		Phone	YOU THINK OF
Fax #	2014	Fax	NEVETTE'S SUGGESTED ADDITIONS.

Howdy down there in the lost city in the clouds - hope you are enjoying your new job. I just got back from DC with Chris M, Myra, Dave Benton, Dale and Lloyd Lowery - Citizen's Advisory Committee - hope we made some headway.

We understand that the Unalaska Native Fishermen's Association has forwarded a draft resolution they would like the Fisheries Committee to introduce regarding the impacts on coastal resources and communities from the bycatch and waste occurring in federally managed offshore fisheries and urging Congress to address this problem in the reauthorization of the Magnuson Act.

They have requested we provide enclosed back-up material for such a resolution.

Based on the draft we have seen we also suggest the following additional whereas statements you might wish to include in a resolution:

1 Whereas E.S.A. listings will override coastal fisheries management by ADF&G;

2 Whereas avoiding the harvesting of juveniles and other undesired fish produces the highest future value to the marine ecosystem;

3 Whereas fisheries can technically or operationally reduce the incidental taking of non-target species given economic incentives, waste and hope

Hope you can make this happen - its important to emphasize that federal management is harming State of Alaska resources and peoples not to mention the ecosystem itself. Please give me a call.

1. The first of these is the fact that the United States has a large and growing population of Negroes. This is a fact which is well known to all who are interested in the progress of the Negro race.



FISHERMAN'S FORUM

Bycatch—it's Not a Secret Anymore

by Buck Laukitis

The genie is out of the bottle. Larry Cotter's Discard Study for the Alaska Department of Fish and Game helps illuminate the issue of enormous wanton waste in our federal groundfish fisheries. Apparently, members of the North Pacific Fisheries Management Council believe that their mandate to manage the resource is first and foremost tied to profit. The reduction of waste, bycatch, and discards is a secondary concern. Indeed the Magnuson Act seems to justify economic efficiency over clean fishing and protection of marine habitat. This is the old guard approach to resource management alright—the same kind that brought about a Forest Summit in another part of the country. But you can count the days until public outrage bites us all in the backside. The issue of bycatch and waste is ripe for exposure by the national media, and I have to wonder if the indignant housewife in Peoria is going to be able to differentiate between the small boat coastal fisherman, the factory dragger and the highseas driftnetter when venting her outrage.

Regardless, every coastal Alaskan and every fisherman who fishes in Alaska should sit up and take notice. Twenty million pounds of halibut, twenty million crab, millions of pounds of herring, and 100,000 salmon (half of them kings) all thrown overboard dead or dying in 1992. Half a billion pounds of waste—either the wrong species or size—is the estimate by fishermen's reports, but fishermen have a habit of bending the truth. Federal fisheries observers' estimates of bycatch for the BSAI pollock trawl fishery was 237% higher than fishermen's. Apparently, longliners disregarded their reporting requirements entirely and reported zero bycatch and discards in the sablefish and P. cod fisheries. These are very conservative estimates, folks.

Remember that what federal managers call "prohibited species" is what I make a living on. What they call "bycatch" is what all of the subsistence users in western Alaska depend on to eat. What they call the "cost of doing business" is what will bankrupt coastal communities.

The Council and the high biomass priest-accountants of the National

Marine Fisheries Service act like they believe that they have created the resource—fish—and therefore they can dispose of it anyway they see fit. They set the level of accepted bycatch mortality. I wonder whether what is acceptable to them is acceptable to a hungry world? Turn the moralists loose on that one. What does dumping between a half-billion and a billion pounds of commercially valuable fish mean to coastal fishermen? For one thing, the draggers are hi-grading enough "product" to keep a healthy population of sea lions and seals from Baja to Kamchatka fat and happy. Ultimately, it will be salmon and herring fishermen in Bristol Bay and the Alaska Peninsula who will take the real hit of any ESA listing.

The latest salmon bycatch figures from NMFS are in for 1993: about 350,000 salmon have already been caught in federal fisheries this year—most of them chums in the Bering Sea by the mid-water trawl pollock fishery. AYK chum stocks face serious conservation concerns. Every year, folks around here have had to suffer through the divisive False Pass vs. AYK chum debate at Board of Fish meetings. According to ADF&G's 1987 tagging study, somewhere around 20 percent of the June False Pass fishermen's catch is bound for AYK systems—around 100,000 fish. False Pass fishermen always have the brunt of the accusations pointed at them. Researchers don't know how many of the 350,000 salmon caught in federal waters are chums bound for AYK. But once again it is coastal Alaskan fishermen who suffer the effects of by-catch and waste in federally managed fisheries.

I choose not to follow the intricacies of the Council's allocation debates. But when I read in the state of Alaska's Discard Report that 93% of the groundfish discards in the Bering Sea came from one gear type—trawlers, and that 47% of these discards consisted of the species being targeted(!), I have to wonder why there is much debate. The United States is a signatory to UNCED Agenda 21 which states: "promote the development and use of selective gear and practices that minimize bycatch of non-target species." Unfortunately, international protocols do not carry the

same weight as U.S. law. It is imperative that we incorporate a commitment to "clean fishing" in the Magnuson Act re-authorization this year.

In the meantime, the Council is spellbound by the workings of their Comprehensive Rationalization Plan. They have bought wholesale into the argument that there will be greater incentive to use catch more fully and to fish more cleanly after Comprehensive Rationalization is in place. Comprehensive Rationalization does address the problem of over-capitalization, but it doesn't address the problem of by-catch in most fisheries. Giving quota to unselective gear types just perpetuates "dirty" fishing practices, and ownership by its nature makes it even more difficult to curb these practices. Meaningful waste and bycatch solutions should precede granting quotas.

A few people are also tossing around the idea of full utilization or full retention. The "You catch it, you keep it" approach at first sight is certainly palatable to the general public and may be a good disincentive system for fishermen. Maybe it should be explored. Trouble is once you are required to process everything you catch, you create a constituency for those products. Next thing you know the food bank folks are complaining because there isn't enough by-catch in the world. Or, in the case of using the proceeds from the sale of by-catch or fish meal to support NMFS research, who could imagine a more incestuous relationship? Wouldn't it be better to concentrate our efforts on not catching non-target species in the first place?

A reasonable approach might be to promote the development and use of selective gear and practices by rewarding those members of the industry who successfully minimize by-catch with a harvest priority system. Fishermen who can demonstrate their ability to fish cleanly would be given the opportunity to fish earlier or longer. This can work within gear types and



between gear types. Good fishermen within gear types would benefit as would the more selective gear types and practices in cases where there are various harvesting methods. The fishermen and companies who can't stay on target species (or

who trawl rocksole where over half of what they catch is discarded) will fight this approach tooth and nail. No matter how we address the bycatch problems in the Bering Sea—even if we don't address them at all—the dirty dinosaurs who can't adapt are going to die. The economic incentive of a harvest priority could lead to a rapid, voluntary change towards cleaner fishing. This economic incentive approach was used to Americanize our fisheries in the 80's—it could be used to clean them up.

So there you have it:

The Council invites outside regulation and litigation by not dealing head-on with the problem of bycatch and waste.

The direct weight of the problem of waste and by-catch in federal fisheries is strapped to the backs of coastal Alaskans.

There is a solution to the problem, but it is not down the road of status quo.

You can bet that the genie has acquaintances in Peoria, and once word about what is going on in the Bering Sea reaches them, the solution to this problem will be out of our hands. □

Buck Laukitis is a commercial salmon, herring and halibut fisherman who lives on a homestead near False Pass, Alaska. He is also on the board of the Alaska Marine Conservation Council—a state-wide group of Alaskan fishermen, subsistence users and researchers whose way of life, and often livelihoods, depend on healthy marine ecosystems. He hails from Peoria.

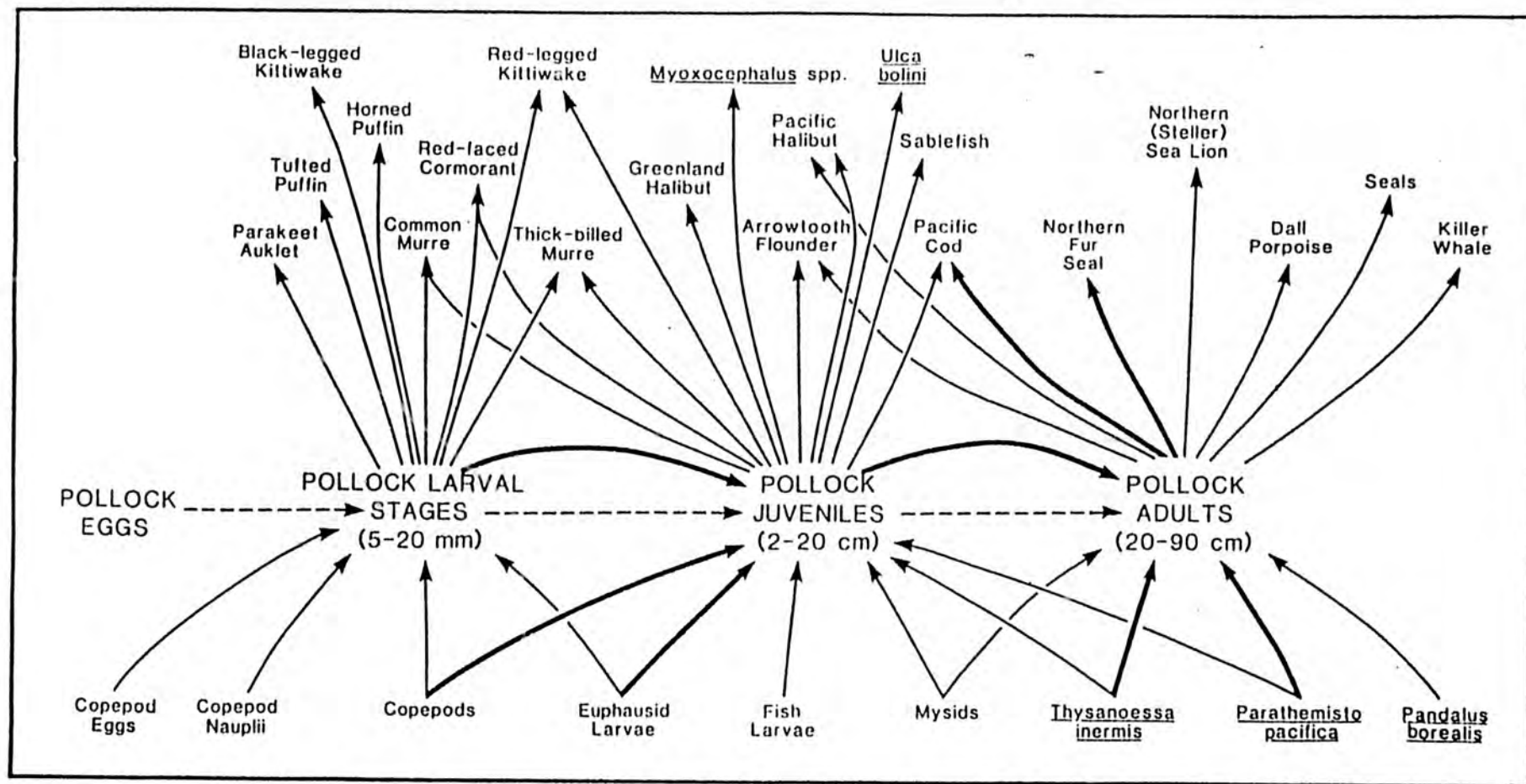


Figure 1.--The apparent food web based upon walleye pollock over the eastern Bering Sea continental shelf (from Smith 1981).

BUSINESS

ANCHORAGE DAILY NEWS



Predetermined shares for tanner crab harvests are a possibility.

Quota battles just starting

By HAL BERNTON
Daily News business reporter

January is harvest time in the North Pacific, and out in the Aleutian Islands boom town of Unalaska, the big ships of the bottom-fish and crab fleets are stocking up on groceries and preparing to head out to sea. But at least during this week, the hottest action will be taking place far from the fishing ground.

In an Anchorage hotel ballroom, the North Pacific Fishery Management Council will again grapple with the question of the decade: How to reform mad-dash harvests that nearly everyone agrees are out of whack? And the council's decisions will have multibillion-dollar consequences over time, determining winners and losers as the industry heads into the next century.

Those who conduct these harvests say there are just too many boats pursuing too few fish. A fleet that once could fish over most of the year now has grown to such a size that it can scoop up almost 3 billion pounds in a few months. The current rules — grab as much as you can as fast as you can — result in "dangerous, inefficient and embarrassingly wasteful harvests," according to a Dec. 22 letter to the council from seven major fishing industry groups.

"The fishermen and women of the North Pacific deserve better; the resources of the North Pacific deserve better and the people

BATTLES: Change in Alaska fisheries has only just begun

Continued from Page E-1

of the United States ... deserve better," the letter stated.

The council, a mix of industry, state and federal officials, is trying to come up with a final reform plan by this fall, and put that plan in place by January 1996.

Now that it's clear the council is taking on the issue, everyone is fighting to try to make sure they come out all right in the final plan. And it's not just the industry that's joining in the battle. Conservationists are increasingly alarmed over the more than 500 million pounds of dead or dying fish the fleet wastes each year.

The Alaska Marine Conservation Council is trying to get the council to consider a plan that would base the reform on waste reduction. Under their proposals, vessels that reduced waste and the accidental catch of prohibited species such as salmon and halibut would be rewarded with more fish. That approach recently gained support from the Alaska Fishermen's Journal, which editorialized that, "Maybe it's just a pipe dream — but it's too beautiful to ignore."

At least for the moment, that plan is not under council review. Instead the council, which drafts policy for the federal government, is considering six options that range from doing nothing, to limiting licenses or creating fishing quotas.

The quotas have gotten the most attention. The council is considering carving up the nearly \$1 billion-a-year harvests of bottom fish and crab into shares, then doling them out to vessel owners, who could either fish them or sell them.

The plan is patterned after a halibut and black cod "shares" system the federal government is planning to introduce next year. Those harvests are largely the domain of small-boat operators who skipper their own vessels.

But the bottom-fish and crab harvests are much more complex. The catch is taken by huge catcher-processor vessels operated by large corporations or by smaller boats that deliver fish to onshore processing plants.

In these fleets, skippers are often hired hands who get paid according to the size of their catches. They acknowledge that corporate investors risk capital. But they say they risked their lives in the tumultuous harvests of the past decade and should now share in the rewards. They want from 3 percent to 15 percent of any bottom-fish or crab shares.

"As far as the risks go, I can't count on both hands the number of close friends I have lost to fishing," wrote Daniel Hanson, master of the Arctic Storm, in a letter to the council. "I look at my time away from home and my contribution to the industry as my investment."

The skippers have gained the support of several council members, who have asked that the proposal be studied. But it is opposed by the American Factory Trawler Association, a trade group that includes many of the skipper's bosses.

The factory trawler association also is at odds with shore-based processors. The share system could bankrupt coastal processing plants, said Vince Curry, president of the Pacific Seafood Processors Association. He said the shares would bestow on the factory trawlers an enormous asset that would allow them to monopolize the catch.

Under a federal policy scheduled to end next year, the onshore plants are guaranteed a fixed percentage of the catch. Under the new system, processors have proposed claiming a share of the catch, or creating a "two-pie" system in which the federal government would award both harvesting and processing rights. But that system — which would force a certain percentage of the fleet to sell to shore plants — was viewed as illegal in an initial review by the National Marine Fisheries Service.

The factory trawlers have long fought any special reservation of some of the catch for onshore plants. They said let the market determine winners and losers. But Joe Blum, head of the trawlers association, said his group is talking with the shore group about a compromise on the share issue.

Other groups lobbying for shares include western Alaska communities, which want some of the fish to be reserved for them to help build fishing economies. These communities right now are getting 7.5 percent of the Bering Sea pollock. But this experiment is scheduled to end next year. So far, the development groups formed by the villages have managed to parlay this temporary share into more than \$30 million in joint-venture agreements with bottom-fish companies.

If the bottom-fish companies are willing to pay the villages for their fish, why not the government?

"The public should get something," said Clem Tilton, a state fishery official who has served on the council.

Please see Page E-2, BAT LES

FORUM / LETTERS

Council, fishermen had better cut the waste

By BUCK LAUKITIS

The genie is out of the bottle. Hal Berntson's recent article about bycatch in the Bering Sea helps illuminate the issue of enormous wanton waste in our federal groundfish fisheries.

Apparently, members of the North Pacific Fisheries Management Council believe that their mandate to manage the resource is first and foremost tied to profit. The reduction of waste, bycatch and discards is a secondary concern. Indeed the Magnuson Act seems to justify economic efficiency over protection of habitat and clean fishing.

This is the good ol' way of doing things, all right. But you can count the days until public perception bites us all in the backside. Every coastal Alaskan should sit up and take notice. Twenty million pounds of halibut, 20 million crab, a million pounds of herring, and 100,000 salmon (half of them kings) all thrown overboard dead or dy-



ing in 1992. Half a billion pounds of waste — either the wrong species or size — is the estimate by fishermen's reports, but fishermen have a habit of bending the truth.

Federal fisheries observers' estimates of bycatch for some fisheries were 237 percent higher than fishermen's. These are conservative estimates, folks. Wait 'til you see the salmon bycatch figures for 1993

Remember that what federal managers call "prohibited species" is what I make a living on. What they call "bycatch" is what all of the subsistence users in western Alaska depend on to eat. What they call the "cost of doing business" is what will bankrupt coastal communities.

The council and the high bio-

mass priest-accountants of the National Marine Fisheries Service act like they believe that they have created the resource — fish — and therefore they can dispose of it anyway they see fit.

They set the level of accepted bycatch mortality. I wonder whether what is acceptable to them is acceptable to a hungry world? Turn the moralists loose on that one. I choose not to follow the intricacies of the Council's allocation debates and political movements. But when I read in the state of Alaska's Discard Report that 93 percent of the groundfish discards in the Bering Sea came from one gear type — trawlers, and that 47 percent of these discards consisted of the species being targeted (!), I have to wonder why there is much debate. If they were truly managing for sustainable yield and for the health and diversity of the Bering Sea and its coastal inhabitants it seems that we could figure this out and clean up our federal

fisheries.

The council is so spellbound by the working of their Comprehensive Rationalization System that they have forgotten that there is a realistic approach to bycatch reduction.

Although arguments are made that there will be greater incentive to use catch more fully and to fish more cleanly after Comprehensive Rationalization is in place, I believe that granting ITQs legitimizes certain unselective gear types and practices.

A better approach is to promote the development and use of selective gear and practices by rewarding those members of the industry who successfully minimize bycatch with a harvest priority system. Fishermen who can demonstrate their ability to fish cleanly would be given the opportunity to fish earlier or longer. This can work within gear types and between gear types. The economic incentive of a harvest priority would lead to

a rapid, voluntary change toward cleaner fishing. This economic incentive approach was used to Americanize our fisheries in the '80s — it could be used to clean them up. Remember the Magnuson Fisheries Conservation Act is up for re-authorization this year.

So there you have it:

The big commercial fishing interests are unwilling to reform themselves.

The council invites outside regulation and litigation by ignoring the problem of bycatch and waste.

There is a solution to the problem, but it is not down the road of status quo.

You can bet that that genie has acquaintances in Peoria and when word about what is happening in the Bering Sea reaches them the solution to this problem will be out of our hands.

☐ Buck Laukitis is a fisherman and homesteader in False Pass.

Anchorage Daily News

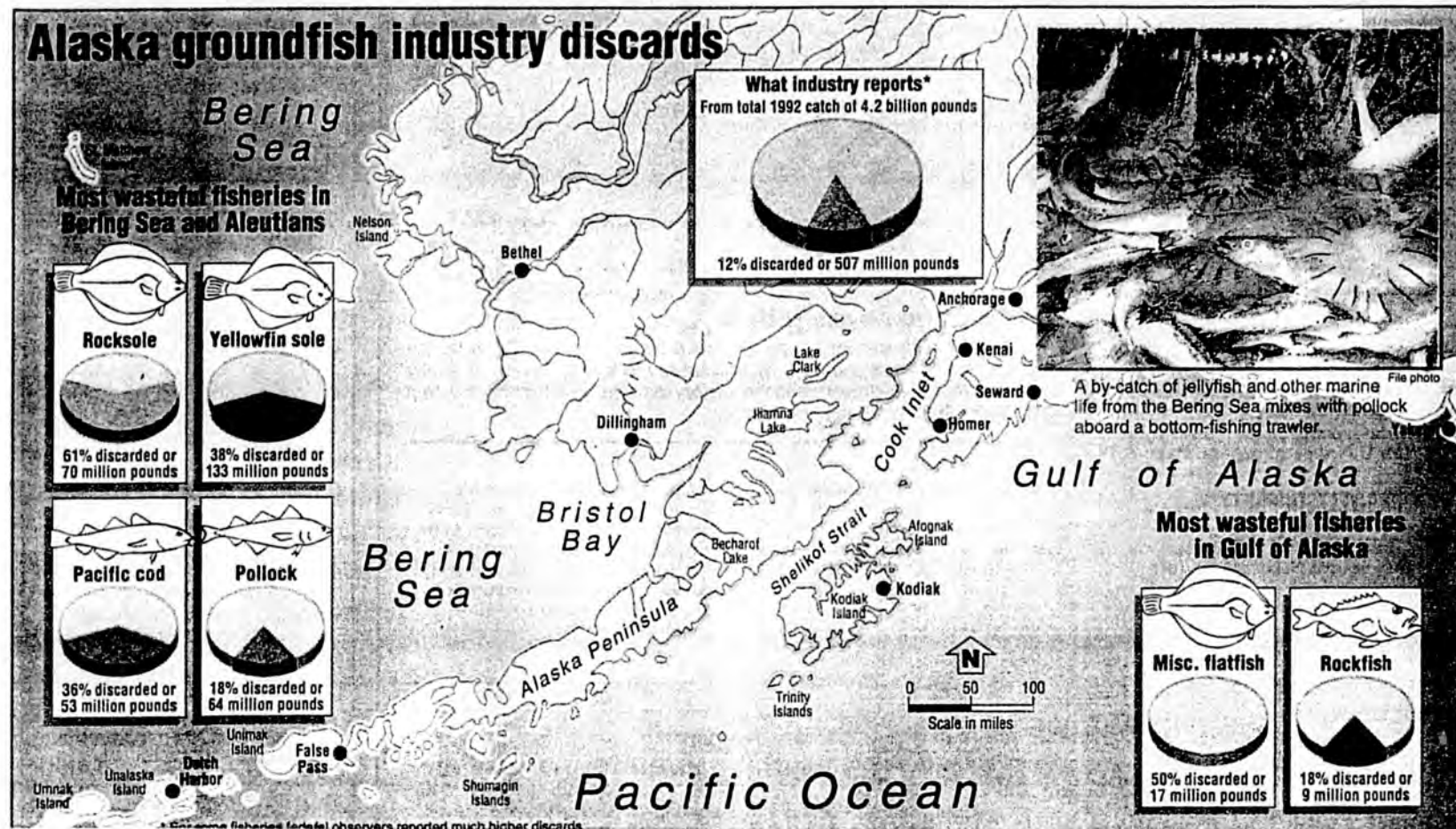
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Bering fishery throws 61% back

Reports by captains, observers document 'disgrace' in bottom fisheries off Alaska



By HAL BERTON

Daily News business reporter

The most wasteful fishery in Alaska takes place in the dead of winter on the bottom of the Bering Sea. A fleet of more than 35 trawlers drags huge nets across that bottom, searching for female rocksole filled with roe prized in Asia.

But most of the fish they bring up are the wrong sex or species. Dead and dying, they are tossed overboard. Male rocksole. Yellowfin sole. Pollock. Cod and other fish.

From a total 1992 harvest of 114 million pounds, 70 million pounds — 61 percent of the haul — was dumped, according to the 1992 log-books kept by skippers.

"It epitomizes what is wrong in the Bering Sea," said Larry Cotter, a Juneau fishery consultant who wrote a report on fish dumping in the Bering Sea. "There's no way you can justify that fishery."

Cotter's report — submitted to the state Department of Fish and Game — offers the most detailed analysis yet of waste in the nation's largest fishery, the bottom-fish harvest off Alaska's coast.

THE BACK PAGE

WASTED: 70 million pounds of fish in the Bering Sea

Continued from Page A-1

Fishermen dumped 507 million pounds of bottom fish overboard, roughly 12 percent of the 1992 catch, according to skippers' logs reviewed by Cotter.

But the skippers appear to be greatly underestimating the waste, Cotter said. A second set of estimates of the pollock harvest was compiled by federal observers aboard most of the ships. Based on those estimates, the industry deep-sixed at least 650 million pounds of fish, or close to 16 percent of the harvest.

That's enough pollock, cod, and other whitefish to stock a fish fry that would feed nearly everyone in the nation an evening meal.

The total would go even higher if observer reports of other species were included in the estimates, Cotter said.

The sheer volume of edible fish dumped overboard is triggering wide-ranging calls for reform.

"It's a national disgrace," said Bob Storrs, an Unalaska fisherman who is a board member of the Alaska Marine Conservation Council, a group formed this year that is trying to reduce the waste.

The waste results from fishermen seeking to maxi-

BYCATCH	
Prohibited Species Taken By Groundfish Industry	
Species	Amount
Halibut	20 million pounds
Salmon	100,000 fish
Crab	20 million animals
Herring	1 million fish

mize profits by weeding out the least valuable fish that may not be worth the time or money to process and try to market.

"Is it a sick system? Yes," said Clem Tillion, a fishery adviser to Gov. Wally Hickel, who has sought to reduce the discards.

The report's total does not include a second category of seafood — known as prohibited species — that federal regulations seek to preserve for separate harvests. Those species must be dumped overboard, and in 1992 those discards include 20 million pounds of dead halibut, 1 million pounds of herring, more than 100,000 salmon and more than 20 million crab.

The waste has been a continual part of the fishery, but only in recent years have skippers and federal observers been submitting

reports to document the scope.

The Cotter report measured the dumping in both the trawl net and hook-and-line fleets. The bulk of the dumping — some 93 percent — occurs in the trawl fleet. That fleet also catches more than 90 percent of the bottom fish.

The report shows that trawl fishermen can be relatively efficient when they tow at midwater and target big schools of pollock.

But the fishing gets dirty when they place their nets close to the bottom and scoop up a potpourri of sealife that dwells on the bottom. They keep only the fish worthy of precious cargo space aboard their vessels.

"Why fill up your hold with copper nuggets, when you're panning for gold," said Steve Pennoyer, Alaska regional director of the National Marine Fisheries Service, the agency that enforces harvest regulations.

In some harvests, such as Pacific cod, the hook-and-line fleet appears to fish much cleaner than trawlers. This year, for instance, trawl boats threw away half their catch, while the hook-and-line fleet threw away less than 5 percent, Cotter said.

But in some instances, the

hook-and-line fleet — fishing with thousands of baited hooks attached to lines set on the bottom — pulled in large quantities of halibut that had to be tossed back, Cotter said.

The report also cited the Gulf of Alaska's hook-and-line fleet for what appears to be a near total disregard of a federal regulation that requires the reporting of discards in cod and black cod harvests. That fleet documented hardly any of its discards, Cotter said.

Nearly everyone involved in the North Pacific fishing industry wants to cut down on discards.

But there are sharp differences about the best way to reduce the waste without crippling an industry that creates employment for thousands of people and produces seafood products worth more than \$1 billion each year.

Cotter calls for changing the harvest rules to require fishing boats to keep just about everything they catch.

Cotter is a former member of the North Pacific Fishery Management Council, a federal advisory group that helps set the harvest rules. He claims the "catch it, keep it" rule would prompt skippers to make all sorts of changes in their fishing tac-

tics to slow down and avoid taking the wrong kinds of fish. The rule might prompt fishermen to abandon some of the most wasteful fisheries such as the rocksole harvest, he said.

Others say Cotter's plan would be a disaster for the industry, forcing it to process fish it couldn't market.

"That's a socialist approach to solving the problem," said Wally Pereyra, a North Pacific Fishery Management Council member who also operates factory trawlers. "Harvest something for nothing and provide it to the masses. The Soviet Union collapsed because of that kind of thinking."

Pereyra also questions the definition of waste. He says sometimes it may be better to dump fish overboard than to waste time and money processing a catch that won't make any money.

Pereyra is pushing for a major overhaul of the current harvest rules that prompt everyone to race to the fishing grounds.

Under the current system, boats try to catch as much as they can before a collective total is reached and the government orders everyone to haul in their gear.

The council is considering

a new system in which each fishing boat or company would have its own quota for pollock, cod, crab and other species, and could take those quotas at their leisure. Pereyra said the harvest would slow down, and fishermen would then have a financial incentive to make much better use of what they catch.

"I like a market-based approach," Pereyra said.

But such a system may take years to develop. And in the interim, some fishing boat operators want to see a new system of fines created to penalize those boats with sloppy fishing practices that result in lots of waste. The system might involve fines or temporarily banning those boats from the harvest, said Joe Blum, executive director of the American Factory Trawler Association.

Others want to see a fundamental change in the Magnuson Act, the federal law that regulates harvests off the 200-mile zone off Alaska. The change would order the federal government to give a fishing preference to those who waste the least.

"We want a system that rewards clean fishing," said Storrs of the Conservation Council.

THE BACK PAGE

WASTED: 70 million pounds of fish in the Bering Sea

Continued from Page A-1

Fishermen dumped 507 million pounds of bottom fish overboard, roughly 12 percent of the 1992 catch, according to skippers' logs reviewed by Cotter.

But the skippers appear to be greatly underestimating the waste, Cotter said. A second set of estimates of the pollock harvest was compiled by federal observers aboard most of the ships. Based on those estimates, the industry deep-sea fish, or close to 16 percent of the harvest.

That's enough pollock, cod, and other whitefish to stock a fish fry that would feed nearly everyone in the nation an evening meal.

The total would go even higher if observer reports of other species were included in the estimates, Cotter said.

The sheer volume of edible fish dumped overboard is triggering wide-ranging calls for reform.

"It's a national disgrace," said Bob Storrs, an Unalaska fisherman who is a board member of the Alaska Marine Conservation Council, a group formed this year that is trying to reduce the waste.

The waste results from fishermen seeking to maxi-

BYCATCH Prohibited Species Taken By Groundfish Industry	
Species	Amount
Halibut	20 million pounds
Salmon	100,000 fish
Crab	20 million animals
Herring	1 million fish

mize profits by weeding out the least valuable fish that may not be worth the time or money to process and try to market.

"Is it a sick system? Yes," said Clem Tillion, a fishery adviser to Gov. Wally Hickel, who has sought to reduce the discards.

The report's total does not include a second category of seafood — known as prohibited species — that federal regulations seek to preserve for separate harvests. Those species must be dumped overboard, and in 1992 those discards include 20 million pounds of dead halibut, 1 million pounds of herring, more than 100,000 salmon and more than 20 million crab.

The waste has been a continual part of the fishery, but only in recent years have skippers and federal observers been submitting

reports to document the scope.

The Cotter report measured the dumping in both the trawl net and hook-and-line fleets. The bulk of the dumping — some 93 percent — occurs in the trawl fleet. That fleet also catches more than 90 percent of the bottom fish.

The report shows that trawl fishermen can be relatively efficient when they tow at midwater and target big schools of pollock.

But the fishing gets dirty when they place their nets close to the bottom and scoop up a potpourri of sealife that dwells on the bottom. They keep only the fish worthy of precious cargo space aboard their vessels.

"Why fill up your hold with copper nuggets, when you're panning for gold," said Steve Pennoyer, Alaska regional director of the National Marine Fisheries Service, the agency that enforces harvest regulations.

In some harvests, such as Pacific cod, the hook-and-line fleet appears to fish much cleaner than trawlers. This year, for instance, trawl boats threw away half their catch, while the hook-and-line fleet threw away less than 5 percent, Cotter said.

But in some instances, the

hook-and-line fleet — fishing with thousands of baited hooks attached to lines set on the bottom — pulled in large quantities of halibut that had to be tossed back, Cotter said.

The report also cited the Gulf of Alaska's hook-and-line fleet for what appears to be a near total disregard of a federal regulation that requires the reporting of discards in cod and black cod harvests. That fleet documented hardly any of its discards, Cotter said.

Nearly everyone involved in the North Pacific fishing industry wants to cut down on discards.

But there are sharp differences about the best way to reduce the waste without crippling an industry that creates employment for thousands of people and produces seafood products worth more than \$1 billion each year.

Cotter calls for changing the harvest rules to require fishing boats to keep just about everything they catch.

Cotter is a former member of the North Pacific Fishery Management Council, a federal advisory group that helps set the harvest rules. He claims the "catch it, keep it" rule would prompt skippers to make all sorts of changes in their fishing tac-

tics to slow down and avoid taking the wrong kinds of fish. The rule might prompt fishermen to abandon some of the most wasteful fisheries such as the rocksole harvest, he said.

Others say Cotter's plan would be a disaster for the industry, forcing it to process fish it couldn't market.

"That's a socialist approach to solving the problem," said Wally Pereyra, a North Pacific Fishery Management Council member who also operates factory trawlers. "Harvest something for nothing and provide it to the masses. The Soviet Union collapsed because of that kind of thinking."

Pereyra also questions the definition of waste. He says sometimes it may be better to dump fish overboard than to waste time and money processing a catch that won't make any money.

Pereyra is pushing for a major overhaul of the current harvest rules that prompt everyone to race to the fishing grounds.

Under the current system, boats try to catch as much as they can before a collective total is reached and the government orders everyone to haul in their gear.

The council is considering

a new system in which each fishing boat or company would have its own quota for pollock, cod, crab and other species, and could take those quotas at their leisure. Pereyra said the harvest would slow down, and fishermen would then have a financial incentive to make much better use of what they catch.

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But such a system may take years to develop. And in the interim, some fishing boat operators want to see a new system of fines created to penalize those boats with sloppy fishing practices that result in lots of waste. The system might involve fines or temporarily banning those boats from the harvest, said Joe Blum, executive director of the American Factory Trawler Association.

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What a waste

The shame on Alaska's Bering Sea

Congress is finally starting to wake up to rapacious fishing practices that wantonly waste millions of pounds of Alaska's high-seas fish.

Alaska's two U.S. senators are helping draw attention to the problem. Sen. Frank Murkowski last week trumpeted a bill he introduced to reduce the thousands of tons of fish accidentally caught by offshore fishermen targeting other species. Meanwhile, Sen. Ted Stevens is working more quietly on the same subject. He's likely to carry more clout, since unlike his Alaska colleague, he's on the relevant Senate committee.

We're glad to see Congress tackle one of Alaska's biggest environmental outrages. We hope it won't wimp out and pass a bill that promises more than it delivers.

Sen. Murkowski's bill, for example, would entrust the job of cutting accidental fish kills to the nation's regional fishing councils. These panels are dominated by the industry they're supposed to regulate. They are not likely to seriously crack down on wasteful fishing unless Congress sets a mandate the councils can't undercut.

Some have suggested requiring fishermen to keep and process everything they catch. Fish caught illegally or by accident would have to be processed and given away for free. Others have suggested forcing operators to stop wasteful practices by imposing heavy, escalating fines or taxes on fish taken by mistake.

We don't know which approach might work best, but we do know Congress needs to do something drastic. If lawmakers don't put sufficient pressure on the industry's bottom line, the wholesale waste of protein in Alaska's seas will continue.

The Almanac

Fish kills on Alaska's high seas

Pounds of fish thrown overboard during 1992 in Alaska's Bering Sea (conservative estimate, based on reports by skippers): **507 million.**

Odds that a pound of fish caught in the Bering Sea was taken improperly in 1992 and thrown back to rot: **1 in 8.**

Approximate number of meals that could be served with fish from last year's wasted catch in the Bering Sea: **260 million.**

Retail value of the halibut that Alaska's offshore fishermen improperly caught in 1992 and threw back to die (assuming a price of \$5 per pound): **\$100 million.** Percentage of the 1992 rocksole catch in the Bering Sea and Aleutians that was thrown away: **61.**

Percentage of yellowfin sole: **38.**

Percentage of pacific cod: **36.**

Pounds of fish wasted in those three fisheries during 1992: **256 million.**

Number of crabs improperly caught in 1992 and thrown back by Bering Sea fishermen: **20 million.**

□ Source: Anchorage Daily News, citing research by fisheries consultant Larry Cotter, Oct. 17, 1993.

'Economic discards' or just abject waste?

By Terry Johnson
For The BayTimes

There is a huge waste of fisheries resources occurring just off our shores, and many in the industry believe it is time to stop it.

If you shoot a moose and just take its antlers, or if you catch a load of salmon and then dump them because you don't have a market, you can be fined for wanton waste. Not so the offshore fishing industry.

According to figures supplied by State and Federal fishery management agencies, more than 500 million pounds of fish were discarded by the offshore fleets in the waters around Alaska last year, and it looks like the figure for 1993 will be higher.

That is equivalent to more than twice the entire Bristol Bay salmon catch this year.

Why so much waste?

Most of it was non-target species, caught by indiscriminate gear. Vessels towing trawl nets fishing for one species catch quantities of another species for which they don't have a market.

All the non-target species fish is dumped overboard.

This is called "by-catch" and is a problem to one degree or another in nearly all the fisheries in the country. The salmon gillnet fishery is one of the cleanest, with only minimal levels of by-catch. But in some fisheries, by-catch is 65-85 per cent of the entire catch.

By-catch is only part of the problem. Even when a vessel succeeds in catching fish of the target species, the individual fish may be too small, too soft, of the wrong sex, or for some other reason not desirable to the operator. When these fish are dumped they are called "economic discards" meaning they are thrown away for economic reasons.

What does this all mean to us here in Bristol Bay? If the wasted fish are economically undesirable bottom fish, what do we care?

First of all, all the creatures in the sea are part of the marine food web, and are used by someone—person, animal, bird or other fish—for food. It is possible that bycatch and discards are partially responsible for the disappearance of the

Stellar sea lion and other depleted species. If the sea lion is classified endangered under federal law, there will be serious consequences for all fisheries, including salmon.

Secondly, today's scrap fish may be tomorrow's target species. Fishermen all over the state are fishing for fish they once shunned, as markets open up and the value of alternative species increases.

More importantly, however, consider this: Trawl bycatch in the Bering Sea this year (through Sept. 4) included more than 120,000 salmon. And in the Gulf of Alaska (through August 14) it included almost 198,000 salmon. Most of these salmon were believed to have been chums.

Last year a million pounds (500 tons) of herring were discarded. And 20 million pounds of halibut.

Since trawl-caught halibut average less than one pound apiece, the loss represented a potential halibut catch of close to a billion pounds of those wasted fish had lived to grow to commercial size.

In 1991 about 85,500 metric tons of pollock was discarded by fishing operations in the Bering Sea.

Tidelines

Terry Johnson is the Marine Advisory Program agent with the University of Alaska Fairbanks Bristol Bay Campus.

Since 7.5 per cent of the Bering Sea pollock quota is allocated to the CDQ groups, and 20 per cent of that specifically to the Bristol Bay CDQ group, the fleets discarded 1,285 metric tons of pollock that would have belonged to us. In addition, some 8,000 metric tons of cod (which is also shared by the CDQ communities) was discarded in the Bering Sea.

Remember that under comprehensive rationalization plans being developed by the North Pacific Fishery Management Council, all species may eventually come under quota plans, and possibly under the CDQ system. If so, the coastal villages will share ownership of the entire Bering Sea fishery, and therefore for a share of the economic loss caused by the waste of all species.

OK, so the problem is big, and expensive to all of us, but what can we do about it? Well, there are several possibilities.

At least one national public interest group has proposed simply prohibiting all bycatch and discard by shutting down all fisheries which have the problem. Obviously that would put a lot of people out of work and deprive many communities of valuable income.

Another suggestion has been to require full retention of all fish caught, causing vessel operators the inconvenience and expense of handling and processing unwanted fish and requiring that the fish be donated to food banks or in some other means disposed of at no profit.

A more constructive approach would be to institute a set of harvest priority incentives into the fishery management plans, at least at the federal level, to reward "clean" fishing.

The way it would work would be this: with each fishery for which there is a known total allowable catch, a sizable portion of that catch would be set aside for the exclusive use of vessels which had demonstrated through observer reports that they have low levels of bycatch and discard.

The incentive could be in the form of specific vessel quotas, earlier starting dates for open periods, or other rewards.

The action need not be punitive to the vessels which fish "dirty", it only needs to provide an incentive to clean fishing and the others will see that it is to their advantage to improve their performance.

The system would work in CDQ fisheries just as well as in those which don't have the property rights assigned.

It could be used to favor cleaner fishing gear types (pot gear has very little bycatch while bottom trawling is generally higher), or to favor vessel operators within a gear type who are more careful in where and how they fish.

You will be hearing a lot about bycatch and the "Fish Clean" campaign in the coming months, both at the state and national levels.

If you want more information on bycatch, clean fishing, or how to help promote the harvest priority incentive concept, contact me at the Marine Advisory Program, 842-1265.

ALASKA DEPARTMENT OF ENVIRONMENTAL CONSERVATION

Public Workshops are being held around the state to discuss the process that will be used to re-write the state's air pollution regulations during the next year. These regulation changes will primarily address what is called the air quality permit program. Under a new state law, permits are required for many additional sources of air pollution. Also the process used to issue permits will change.

These changes are being undertaken to comply with new federal mandates contained within a new state law (HB-167) signed this past summer by Governor Wickersham.

Town Meetings were held at several locations during August to initiate this regulation re-write. After considering many suggestions, ADEC now proposes a specific process to bring interested Alaskans into the process of changing these regulations.

The Proposed Development Plan for Air Quality Regulation Changes is ready for distribution. If you would like to obtain a copy of the proposal or otherwise have questions, please call us at:

1-800-770-8818.

Pub. Oct. 14, 1993

AO-1841615

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SO NICE TO COME HOME TO

INVITATION FOR PUBLIC COMMENTS

Alaska Department of Transportation and Public Facilities

The draft capital project priority needs list is available for public review and comment. This list includes proposed transportation projects for the State of Alaska. The formal comment period ends November 5, 1993. For a copy of the list contact us.

Southeast Region	Central Region	Northern Region
Andy Hughes, Acting Planning Chief	John Tolley, Planning Chief	Steve Sisk, Regional Director

ALASKA MARINE CONSERVATION COUNCIL

Box 101145 Anchorage, Alaska 99510
(907) 277-5357 (kelp) 274-4145 (Fax)

To: The Honorable Frank Murkowski
Attn: Bill Wolfe

From: Paul Seaton
President

Date: November 5, 1993

Subj: Magnuson Act - Waste and Discard problems
Harvest Priority

After meeting with you and with others, both in Alaska and in Washington D.C., our board has decided to amend our proposed harvest priority language for your consideration. We recommend the following language be incorporated in both the National Standards and in Section 303., Contents of Fishery Management Plans:

"Conservation and management measures shall assign harvest priority to fishermen who minimize waste of catch of target species, minimize bycatch of non-target species and minimize disruption to habitat."

We are convinced a system that rewards fishermen for their efforts to reduce discard and waste will have a direct effect in reducing the tremendous amount of waste in our fisheries and in conserving our marine resources over the long term.

Thank you very much for your active interest in helping solve this problem.

GROUNDFISH FISHERIES AND DYNAMICS OF THE NORTHEASTERN PACIFIC ECOSYSTEMS

**A Report to Greenpeace
March 31, 1993**

**Prepared by:
Raquel Goni, MS. MMA.¹
Hans Hartmann, PhD.²
Kathleen Mathews, PhD³**

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² Current Address: Group de Zoologie et Protistologie, Universit  Blaise Pascal, 63177 OBR CEDEX, France

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marine ecosystems; induce changes in marine biodiversity; and pose grave threats to populations of marine mammals, seabirds, and other important predators in the marine food web. The dilemma at this juncture is that these impacts are not quantifiable given the limited research and knowledge currently available. However, important changes have

already occurred in the species composition of the groundfish communities of the EBS, AI and GOA during the 1980s. In the EBS, pollock and Greenland turbot have declined significantly since 1979 (40 percent and 35 percent respectively), whereas flatfish and skates which have not been targeted commercially have increased dramatically (450 per



Throughout its Alaskan range, the once ubiquitous Steller sea lion is steadily declining. Since 1960, the sea lions have decreased from more than 160,000 to little more than 20,000 today.

cent and 600 percent). In the AI, pollock is relatively much less abundant, while the abundance of Pacific Ocean perch and Pacific cod has almost doubled. The GOA groundfish community has also undergone major changes in recent years. From 1984 to 1990, pollock has halved, thornyheads have almost disappeared, and the abundance of flatfish species has increased by 20 percent. In addition, overfishing appears to have ramifications throughout the ecosystem. For example, the expansion of the pollock fishery in past decades has coincided with significant population declines in marine mammals such as Steller sea lions, Northern fur seals, and harbor seals. For all of these species, pollock makes up an important portion of the diet. Steller sea lions have suffered the most severe downturn. In Alaska,

the sea lion population has declined by over 80 percent since the mid-1950s, and was recently (1990) listed as "threatened" under the Endangered Species Act (ESA).

Seabirds, such as blacklegged and redlegged kittiwakes and common and thick-billed murres, have also shown significant declines in abundance during the past 20 years. Since 1976, these species of birds have decreased by 50 to 90 percent in the Bering Sea. These declines are also apparently caused by the unavailability of food, in this case, young pollock.

An over-arching problem with fisheries is the single-species approach to management, which views each fishery individually and discounts the relationships between both commercial and non-commercial species and the ecosystem. This approach fails to consider food web interactions between fish populations, thereby ignoring the impacts of removing fish that are either predators of or food sources for other species. Instead, each stock of fish is managed in a vacuum, ignoring the potential longterm effects on the



Common murres are one of a number of seabirds that are experiencing severe population declines in the Northeast Pacific. Like the Steller sea lion, these birds rely heavily on pollock for food.

entire marine system. The "boom and bust" style of fisheries exploitation, where one species is targeted, depleted and then replaced by another target species, only exacerbates the problem.

In the North Pacific, there is continued denial of the importance of pollock and other forage fish in the diets of various seabirds, marine mammals and other marine species. Quotas for commercial fish species continue to increase, irrespective of the potential impacts on the food web.

BYCATCH AND DISCARDS: UNIMAGINABLE WASTE

Marine creatures including mammals, seabirds and fish (regardless of commercial value) that are not part of the "directed catch" (i.e., species that a vessel is targeting in a particular fishery) are often killed and discarded in the course of commercial fishing operations. Portions of the directed catch are also discarded in the form of individual fish deemed too small, or of the wrong age or sex to be of value to the fisher. The problems of bycatch and discards are pervasive in many fisheries, and are aggravated significantly by indiscriminate fishing practices.

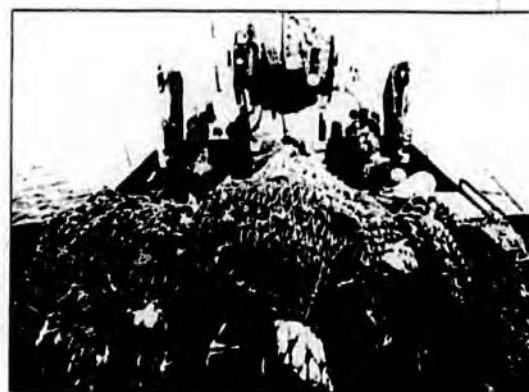
In Alaska alone, over 500 million pounds of fish are discarded annually, most of which is thrown overboard dead. Fish brought to the surface from great depths can suffer fatal internal injuries due to pressure change, and others often suffocate on deck long before the day's catch is sorted and the incidental catch returned to the sea. Many fish are also fatally damaged by various fishing gear.

Data collected by government biologists on board fishing vessels in 1990 shows that discards in the EBS/AI amounted to 13.4 percent of the total catch, and were 26 percent of the total catch in the GOA. These discards amount to a substantial fraction of the total biomass of fish removed from the U.S. EEZ in the North Pacific. Pollock, flatfish, skates, sculpins, and sharks suffered the largest discards. Smaller quantities of other species or groups of fish were also discarded. The impact on these populations may be significant if the stocks are depleted and/or the species have slow growth rates.

Overall, discard mortalities have not been properly accounted for, and tend to increase annual catch quotas beyond acceptable biological limits. In addition, severe mortalities of non-target species as bycatch have serious implications for the marine environment. Since little is known about marine species that are not commercially valuable, the impact of removing these may never be known. Yet, these species may include indicator species (rays, sculpins), food fish (sandlance, capelin), and other forage fish for top predators and invertebrates, all of which are critical to the healthy functioning of the ecosystem.

Recycling of discards into the marine food web may affect ecosystem relationships in more indirect ways. Artificial additions of dead fish may cause changes in community structure and diversity by increasing the number of scavenger and decomposer species. There is also some concern that discarding could have adverse effects on the seabed, including the possibility of oxygen depletion.

In addition to the problems of bycatch and discards, indiscriminate fishing (e.g., bottom trawling) has other detrimental side effects. Trawling directly and indirectly damages the rich benthic (bottom-dwelling) communities. Direct effects include physical destruction of organisms and the sea floor as gear is dragged along the bottom. Indirect effects include the resuspension of sediments, toxic chemicals and nutrients with a direct impact on overall ecosystem productivity.



In Alaska alone, over 500 million pounds of fish are wasted each year, dumped back into the ocean, dead or dying.

Worldwide, bycatch amounts to an estimated 12 to 20 billion pounds of sea life every year.

In sum, predation pressure through fishing is an important factor affecting the dynamics of ecosystem structure and function. This review of the limited available data has indicated that links between fishing pressure and ecosystem changes exist in the NE Pacific. The evidence is qualitative, yet the problem of cascading effects points to the need that these connections be considered in the study and management of marine ecosystems.

5. TECHNOLOGICAL INTERACTIONS: INDISCRIMINATE FISHING PRACTICES: BYCATCH AND DISCARDS

a. Mortality Due to Bycatch and Discards.

Discarding of fish and other organisms caught while fishing is a widespread feature of commercial fisheries operations around the world. Major reasons for discarding include regulations (e.g., prohibited species, season closures, etc.), market economics, and size of the fish. But underlying all that, discarding occurs because of the indiscriminate nature of fishing activities, which result in high rates of catch of undersized or unwanted species (bycatch) that are subsequently discarded. In most fisheries and for most species, discarded organisms are dead when returned to sea (e.g., Saila, 1983; Van Beek et al., 1990).

The discarding of captured fish and other organisms in the Alaska groundfisheries amount to a substantial fraction of the total biomass of fish removed from the waters of the Gulf of Alaska and the Bering Sea. The study by Hartmann et al. (1992) of groundfish discards in NE Pacific fisheries based on observer data collected in 1990 yielded values of overall discard mortality of 13.4% of total catch in the EBS/AI and of 26% in the GOA. Together, all the groundfish fisheries off Alaska during the 1990 season discarded between 375,000 MT and 555,500 MT (in-season or post-season data) of groundfish, with a composite discard rate of at least 15% (Table IV). The discarding of a minimum of 290,000 MT in the EBS/AI and 88,000 MT in the GOA represent 15% and 35% of the landings, respectively. Pollock, flatfish, and the "other species" group suffered the largest discards (141,177 MT, 133,506 MT, and 80,806 MT respectively). Although smaller amounts of other species or groups of species, such as "slope rockfish" were discarded (7,844 MT), the impact on these populations may be large if the stocks are depleted and/or the species have low growth rates.

To put the discarded quantities into perspective, it should be noted that the amount of fish discarded in the EBS/AI during 1990 exceeded the entire retained commercial

groundfish catch of the GOA by 14%. Likewise, the combined discards in the GOA exceeded the reported landings of pollock (77,800 MT) by a minimum of 13% (Hartmann et al., 1992).

When including discards, the total groundfish catch for the US EEZ off Alaska in 1990 was at least 2.5 million MT (2,492,717 MT), of which 2.15 million MT were caught in the BS/AI, and 0.34 million MT in the GOA (Table IV). Official total catches, which included 1990 discards reported by vessel captains (NMFS-ABB), were substantially lower. The comparison indicates an official underreporting of 46.3% of discards and of 14.4% of the total catch in the EBS/AI. In the GOA, the underreporting was yet more pronounced. Groundfish discards were underreported by 66.4% and total official catches were underestimated by 17.2% (Table IV) (Hartmann et al., 1992).

As a result of this underreported discard mortality, the optimum yield (OY) of groundfish allowed in the EBS/AI, currently set at 2 million MT (NPFMC, 1990), was exceeded by 7.2-16% (Hartmann et al., 1992). In the GOA, the combined ABC for all major species groups, excluding flatfish, was exceeded by about 22%. In sum, total catches for pollock, Pacific cod, rockfishes, and sablefish were 251,793 MT in 1990 (Ibid.), while their combined ABC was only 189,800 MT (NPFMC, 1989).

The results of the study by Hartmann et al. (1992) show that discard mortalities have not been properly accounted for, resulting in periodic exceeding of annual catch quotas and allowable biological catches. Since the nature of the fishery has varied little in recent years (i.e., trawl-dominated, mixed species targets) and boat capacity has increased (e.g., Alverson, 1992), it can be assumed that similar excesses of catch quotas occurred throughout most of the 1980s, ever since US domestic operations began to dominate Alaska fisheries. These excesses are not exclusive to Alaska groundfisheries: similar overruns due to discards were observed in the US Pacific coast trawl fishery off Oregon. There, during three successive years (1985-1987), total annual catches of rockfish and sablefish were underestimated by 11-20% (Pikitch et al., 1988).

The importance of bycatch mortality resulting in discards is two-fold. The first concerns target and prohibited species (Table I), for which information on bycatch mortality is collected and accounted for in separate assessments of the status of the stocks. If discards are not reported, or are under-reported, then true fishing mortality is underestimated and actual exploitation rates are higher than calculated. This systematic error in total mortality calculations can lead to overexploitation of har-

vested populations. If such species are exploited near their biological limits, they may be unexpectedly driven to low population levels from which they may not recover. Species most likely to be affected are those with a high current exploitation rate, such as Pacific cod and pollock in the Bering Sea. Territorial species with low reproductive rates, e.g., many rockfish species, would be especially sensitive to mortality levels above those biologically acceptable. Finally, abundant species with very high discard rates, e.g., several flatfish species, may prove vulnerable to long-term excessive discarding (leading to over-harvesting).

Second, species included in the "other species" group or "non-allocated species" (Table I) are subject to substantial bycatch mortalities. In the EBS/AI, 94.4% of the "other species" were discarded in 1990, and altogether accounted for 20% of all biomass discarded in that area. In the GOA, 97% of the "other species" caught were discarded in 1990, making up almost 30% of all discards in the area (Hartmann et al., 1992). Non-allocated species, rarely retained, are considered "non-exploited" because they are not targeted upon by any fishery. The population dynamics of these species cannot be ignored because they may include indicator species (e.g., rays, sculpins), food fish (e.g. sandlance, capelin), and other forage fish for top predators, as well as invertebrates, all of which are important to the healthy functioning of the ecosystem. Indiscriminate fishing practices in the North Pacific are impacting these populations with consequences that we cannot foresee, and thus, cannot prevent.

In addition, the present system of managing fisheries does not take into consideration of potential responses of the ecosystem to discarding. Assessment of the effects of discards at the community and ecosystem levels would require knowledge about the fate of discards and about predation and competition patterns within the pelagic and benthic communities of the affected areas. As shown by studies in other regions, it is indeed possible to obtain that information. In some studies, discarding of bycatch has been identified as a major contributing factor in changing community structure or affecting biomass levels of both exploited and unexploited species (e.g., Powers et al., 1987; Tiews, 1983; Harris & Poiner, 1991).

At a minimum, consideration of technological interspecific interactions in fisheries management requires that information be collected on indirect fishing mortality of non-target species. Currently, the observer program collects data on a number of non-target marine species, but for most species the information is not processed or utilized at this time. Situations such as this show how little importance is given to species of no

apparent commercial interest within the traditional single-species management system.

b. Waste Inputs and Potential Effects.

Besides the direct effects of discard mortality on bycatch species, recycling of discards into the marine food web may affect ecosystem relationships in more indirect ways. Artificial additions of detritus (e.g., dead fish and body parts; dissolved organic matter) may cause changes in community structure and diversity by increasing the number of scavenger and decomposer species (Hartmann et al., 1992). Assessment of these effects requires knowledge about the fate of discards, which until recently has been largely ignored in studies of fishery-ecosystem interactions. There is also a wide-spread perception that the problem can be ignored because nutrients and oceanic energy fluxes will not be altered by the dead organic matter introduced from discarding (e.g., Browder, 1981). However, this perception overlooks the concentrated area- and time-specific distribution of fisheries operations and its associated discarding. This is important because most groundfish operations in the EBS/AI and the GOA occur outside the inshore areas where discarding is formally regulated by anti-pollution laws.

Little published information is available on the effects of discarding on the seabed (Jones, 1992). Wasseberg & Hill (1990) estimated that Australian prawn trawlers discarded 3,000 MT of material while catching about 500 MT of prawns. This dumping apparently provides some food for birds and predatory fish, but most likely reaches the seabed causing potential problems of oxygen depletion. Another study in the Wadden Sea found that most discards were cleared by predators (Berghahn, 1990 in Jones, 1992).

As further example, oxygen depletion near the seabed of at least 2 g m⁻³ (which would reduce oxygen concentrations to 45-55% saturation) has been described for Hoki wastes dumped over a 60-day period off the West coast of New Zealand (Rutherford, 1987). In the NE Pacific, the outer continental shelf and upper continental slope, as well as coastal waters of the EBS are most likely to be affected by concentrated discarding: maximum possible fluxes of organic matter due to discarding may locally reach 25% and 14% of the organic matter input expected from primary production and lower food-web activities in the water column respectively (Hartmann et al., 1992).

It must be kept in mind that the discards represented here do not include fish-processing waste (offal). Input of detritus from offal by catcher-processor ships is likely to exceed input from bycatch-related discards, considering that most fishery products (surimi, fillets) extract < 50%

of the wet weight biomass of retained fish, and factory trawlers processed about 1.4 million MT (about 73% of the retained catch of Alaska waters) in 1990 (Hartmann et al., 1992).

FISHERIES INFORMATION SERVICES
20007 Cohen Drive, Juneau AK 99801
Phone/FAX 907-789-5580

Bill Coffey
Deep Pacific Fishing Company

November 8, 1993

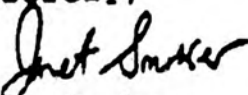
Dear Bill,

Here are the total salmon bycatch numbers, as listed on the official NMFS bulletin board, for 1992 and 1993. The total Alaska-wide trawl catch of all salmon is 3.5 times higher this year than last.

TOTAL 1992: 102,381 fish

1993 thru 10/30: 360,403 fish.

Sincerely,


Janet Smoker

Post-it™ brand fax transmittal memo 7871 8 of pages = 2

To	B. J. Coffey	From	Janet Smoker
Co.	DPFC	Co.	FIS
Dept.		Phone #	
Fax #		Fax #	

Food banks will get discarded salmon

*Fish now wasted
will be used to feed
the poor in Seattle*

BY MARY ANN GWINN
Seattle Times business reporter

Thousands of Alaskan salmon will soon wind up on the tables of needy Seattle families, thanks to an innovative program mounted by fishing companies in Alaska and Seattle.

The experimental program, which began with the Bering Sea pollock season that commenced Aug. 15, could mean the beginning of the end of a practice widely considered wasteful by the fishing industry, said Bruce Buls, project spokesman.

At issue are "bycatch" salmon, those accidentally caught by trawlers fishing for pollock. In the past, federal regulations required that the fish be discarded so that fishing companies could not sell or otherwise benefit from the catch.

"They're absolutely nice, bright, ocean-run fish," said Buls. "But you're not going to save them. They're dead."

Fishermen are not even allowed to eat them on board, Buls said.

If the experimental program wid-

*The program could mean
millions of pounds of fish
for food banks.*

ens its scope, it could mean millions of pounds of fish for food banks. Because the commercial-seafood industry is concerned about competition from fish that would otherwise not be on the market, a strict coding and accounting system will attempt to ensure that all fish are used exclusively for nonprofit hunger-relief programs. Seattle's Food Lifeline will distribute the fish.

Terra Marine, a nonprofit organization on Bainbridge Island, received a contract from the National Marine Fisheries Service to oversee the project. Several different fishing companies are involved: UniSea and Golden Age, two Seattle-based fish-processing companies, and one Alaskan firm.

SeaLand, a shipping firm, will donate a refrigerated container to ship the fish to Seattle.

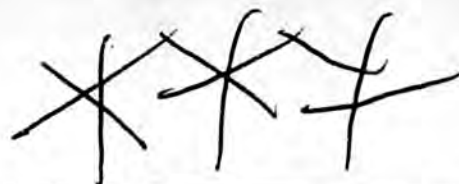
Buls said the project represents a cooperative effort among sectors of the fishing industry normally at odds with one another. Both offshore and onshore fish processors, which have been at odds over Alaskan fishing rights, are involved.

The program covers only salmon, after the International Pacific Halibut Commission rejected a proposal to include the incidental halibut catch.

If halibut were included, millions more fish could be sent to food banks, said Tuck Donnelly of Terra Marine. Donnelly said 16 million pounds of halibut were discarded at sea last year by trawlers and hook-and-line fishermen.

While the experimental program expires in April, advocates hope to make it permanent.

*What about not
catching them in
the first place? →*



Biologists concerned over chum interception

Associated Press

ANCHORAGE — Government biologists overseeing the North Pacific bottom-fish industry say the incidental harvest of 176,000 chum salmon is troubling when subsistence chum seasons on the Yukon River and elsewhere in Alaska are closed.

The commercial fleet's catch was incidental to the taking of pollock and other fish in the Bering Sea and the Gulf of Alaska. State and federal agencies reported the chum catch through Sept. 4.

Chuck Meacham, state deputy Fish and Game commissioner, said the trawl catch could not be blamed for the absence of more than 2.5 million chum salmon from the Yukon River and other western and Interior rivers.

"It's receiving increased atten-

tion on our part," Meacham said. "It's not the right thing to do."

Yukon River subsistence fishing — the traditional harvest of fish by rural Alaskans, many of them Alaska Native — was closed Sept. 3 for the first time in state history.

The state cited a weak return of fish, prompting a court challenge and complaints from villagers who say their salmon was intercepted in the huge commercial harvest off the tip of the Alaska Peninsula.

Will Mayo, president of Fairbanks-based Tanana Chiefs Conference, which represents Interior Natives, called for "real research" to discover any link between the incidental catch and the chum crash.

"This is distressing," Mayo said.

Statistics on the chum catch

are compiled by federal fishery observers assigned to the trawl ships to sample the harvest for salmon and other species, the National Marine Fisheries Service said.

Figure show:

• In the Bering Sea, much of the chum harvest apparently came in a burst of late-summer fishing. Estimates show 129,000 salmon, which observers said were not kings, were landed through Sept. 4.

The accidental catch of salmon other than kings is more than triple last year's total of roughly 37,000 fish.

• In the Gulf of Alaska, a smaller trawl fleet took an estimated 56,000 salmon identified as fish other than kings. Federal catch data shows those fish were taken in early summer.

The gulf's 1993 accidental

catch was more than four times higher than in 1992, federal statistics show.

Mike Guttormsen, a fisheries service biologist, said chums make up 95 percent of the incidental catch of salmon that are not kings in the gulf and the Bering Sea.

It was unclear why the trawler's chum catch soared while western Alaska runs have crashed. Officials say around 350,000 chum entered the Yukon in time for the crucial fall harvest, and 400,000 fish were needed to ensure healthy returns in future years.

Few studies are available to indicate where the trawl-caught salmon would have spawned, said Kate Myers, a University of Washington researcher. The North Pacific is a mixing zone for Japanese, Russian and North

American chum.

Myers said the trawl fleet's increased chum catch may be a sign that future runs will be abundant. Trawl catches of king salmon in the late 1970s and early 1980s were followed years later by strong runs of kings in western Alaska.

Federal law states that salmon incidentally caught must be thrown overboard, although a new program allows some of it to go to food banks for the poor.

Joe Blum, spokesman for the American Factory Trawler Association, said the group favors a plan requiring that all bycatch salmon be sent to charities, and calling for a contribution of \$20 towards research for every king salmon brought aboard.

Studies would shed light on where the salmon are headed, to avoid the incidental catch.

In Juneau, have that I.D. ready

Associated Press

JUNEAU — Buyers of beer kegs in Juneau will have to fill out registration forms and indicate where the beverage will be consumed starting next month.

The goal of the new ordinance requiring the forms is to curb underage drinking.

Kegs frequently are bought and used at teen parties in Juneau, police say.

minors in possession of the beer.

The Juneau Assembly approved the ordinance Monday. Buyers will have to fill out forms when they buy the beer, provide identification and promise to serve it only at addresses listed on the form.

Buyers also will be required to display a copy of the form within 5 feet of the keg after it is tapped.

A violation will be a misdemeanor punishable by up to a year

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MONDAY, August 16, 1993

ANCHORAGE DAILY NEWS

SECTION B

Yukon fisheries restricted

Fall chum salmon runs fail

The Associated Press

FAIRBANKS — Commercial, sport and personal-use fishing for chum salmon in the Yukon River drainage has been closed, and starting today the chum subsistence fishery will be limited too.

Commercial fisheries biologist Keith Schultz in Fairbanks said chums had a poor

Biologists hoped to see at least 620,000 chums entering the Yukon drainage. But they are projecting a total run of between 350,000 and 500,000.

declared the chum run in the Yukon-Kuskokwim Delta a disaster.

Schultz said cold weather in 1988-89 may have had something to do with it, but also said there may be something happening in the ocean, where the fish spend three years before returning to spawning grounds.

midsummer showing, and that the fall showing is even worse.

Runs of chums, the bread-and-butter fish for interior Alaska commercial fishermen and an important subsistence item, have failed this year throughout western Alaska.

So far, biologists do not know why. The department will be working with a special task force formed by Gov. Wally Hickel to evaluate possible causes, Schultz said. Hickel earlier this summer

Biologists hoped to see at least 620,000 chums entering the Yukon drainage, Schultz said. But they are projecting a total run of between 350,000 and 500,000.

The average commercial harvest of fall-run chums alone during the past five years has been 161,000 fish, Schultz said. But the total commercial harvest for summer and fall will be only 142,000, he said.

The times and dates of subsistence restrictions will vary along the river, but each area's fishing will be limited to 48 hours per week.

The first of the Yukon River area restrictions begin today. Tanana River restrictions will begin on Aug. 22.

The sport-fishing season for chums in the Yukon-Tanana drainage closed Sunday. Few chums are taken by sport anglers, although many were harvested last fall in the Tanana River near Salcha.

Silver salmon may arrive to give fishermen a break, Schultz said. The Kuskokwim River experienced a poor chum run, but silvers arrived in numbers enough to allow a commercial opener, he said.

Biologists expect to see an average run of silvers into the Yukon, and may ease the subsistence restrictions later, when the silvers represent most of the runs coming through the drainage, Schultz said.

ALASKA MARINE CONSERVATION COUNCIL

Box 101145 Anchorage, Alaska 99510
(907) 277-5357 (kelp) 274-4145 (Fax)

January 4, 1994

Mr. Tom Elias, Chair
The Alaska Board of Fisheries
1255 W. 8th Street
Juneau, Alaska 99802-5526

Dear Mr. Elias,

The Alaska Marine Conservation Council is a community based organization of people in coastal Alaska and throughout the state who are concerned about the health of our marine resources.

The interception of over 360,000 salmon by the trawl fleet this year is of growing concern to many people in Alaska facing subsistence closures, commercial fishery shutdowns and the decline of several runs of wild salmon stocks.

As a group whose primary focus is promoting the reduction of bycatch in all fisheries off our coast, we commend the efforts by western Alaskan fishermen to bring attention to the salmon bycatch problem and work with the trawl industry to negotiate a proposal to aid research and reduce the intercepted catch of salmon.

We are concerned, however, that the measures as currently proposed in the salmon initiative need to be strengthened to actually minimize the bycatch of salmon. Without stronger disincentives and improvement, the initiative could simply be incorporated into the cost of doing business as usual with little benefit to conserving our salmon runs.

Avoidance not retention should be the goal in this or any other bycatch reduction program. Without adequate assurances that the program will significantly reduce bycatch it may be premature to change our state landing regulations. However, should the Board act to do so, meaningful benchmarks should be included to evaluate the effectiveness of this voluntary program in actually decreasing the numbers of salmon caught. In fact, a sunset provision might be included to coincide with the North Pacific Council's review of the program in 1996.

Some of our concerns include, but are not limited to, the following:

Without adequate assurances that salmon bycatch will be reduced, the public give-away program could be manipulated to legitimize dirty fishing practices.

AMCC - Page Two
Salmon Bycatch

Stronger disincentives and penalties are needed. Twenty dollar fees coupled with tax right-offs for charitable donations are not enough to discourage bycatch.

The research portion of the program needs to be expanded to include chums, steelhead, sockeye, kings, and pinks in both the Gulf and Bering Sea.

One hundred percent observer coverage by all participating trawlers including those under 60' in this volunteer program is not guaranteed. (Double coverage is needed for Pollock "A" participants that now have 100% coverage).

In addition to putting more teeth into this approach, **we favor the use of economic incentives (earlier fishing times, reserved portion of the catch or some other harvest priority) to reward those fishermen who demonstrate avoiding bycatch in the first place through the use of selective gear and practices.**

Salmon are not the only state fisheries resource being "wasted" at sea each year in the federally managed bottom fisheries off our coast. Last year over 20 million crab and 1 million herring were dumped back over the side dead or dying. In all over 500,000,000 pounds of marine life are thrown back including 20 million pounds of halibut. However, if it is implemented, the salmon initiative could be a precedent setting approach for reducing bycatch of other species.

In conclusion, if you enable this program to go forward we urge you to implement benchmark measures and possibly a sunset provision to evaluate and revisit its effectiveness in minimizing the catch of salmon by the trawl fleet. Further, the Department should be encouraged to provide leadership and to commit its full resources to reducing all bycatch and discard.

Thank you for your careful consideration of this issue.

Sincerely,



Nevette Bowen
Coordinator

Overfishing, and new competition for meals are possible reasons for food shortages for sea lions, such as these on Chirikof Island.

Forage loss endangers sea lions, birds

By CRAIG MEDRED
Daily News reporter

Food shortages in the Gulf of Alaska are decimating sea lion and sea bird populations, a group of scientists has concluded.

But the complexity of the North Pacific ecosystem makes it impossible for them to say what is causing the problem.

Some suspect overfishing by a billion-dollar commercial fishery that harvests 2 million tons of pollock a year. Others, noting declines in fish species that are lightly or seldom harvested, think envi-

ronmental changes may be to blame.

"It is a complicated issue," said David Lavigne, a zoologist from the University of Guelph in Ontario.

Sea lions, seals and sea birds make up a complex food chain. They sometimes eat big fish, sometimes compete with big fish to eat little fish, sometimes get eaten by killer whales, and sometimes get killed by man.

Lavigne and other scientists said the problem may be that pinnipeds and birds are losing out in the competition for little fish — herring, capelin, sand lance, eula-

chon and immature pollock. Those populations all appear to have declined.

The reason could be overharvest by bottom-fish trawlers. Another possible reason is that overly large populations of adult pollock or salmon — millions of which have been added to the North Pacific by hatcheries in recent years — devour too many of the forage fish.

Lavigne was one of 35 scientists from Canada, the United States, Norway, England, the Soviet Union and Scotland who

Please see Back Page, FOOD

A10 Anchorage Daily News Wednesday, March 27, 1991

THE BACK PAGE

FOOD: Supply running short

Continued from Page A-1

met at the University of Alaska Fairbanks to discuss how this all relates to the declines in Steller sea lions, northern fur seals, harbor seals and sea birds in the North Pacific.

Many of those species have registered alarming declines in the past decade, but the drop in sea lions has been the most dramatic. The federal government now lists the species as threatened, one step away from classification as an endangered species.

Sea lion populations around the Gulf of Alaska from Prince William Sound to the Aleutian Islands have fallen 82 percent since 1958, crashing from 140,000 animals to about 25,000.

For several years, Alaska scientists have theorized that sea lions suffered from shortages, but that position has been challenged by commercial fishery interests worried about cutbacks in a bottom-fish industry employing 5,000 people. The in-

dustry is a powerful lobby in the halls of government.

The scientists meeting in Fairbanks looked at the shrinking populations of sea lions and sea birds, the slow growth rates of seals and sea lions, the low pup survival among sea lions and the decreases in average weight of sea lions, said Lloyd Lowry, a marine mammals specialist for the Alaska Department of Fish and Game.

"You didn't have to be a rocket scientist," Lowry said. "It all corresponds to what we would expect from a food-stressed population."

The conference, however, never got beyond that conclusion. Lavigne said he was disappointed in that.

"There seemed to be some reluctance to look at some of the data (on fisheries)," he said. "It's unfortunate."

There is, for instance, a direct correlation between increases in the harvests of pollock along Alaska's coast over the past decade and the decline in sea lions, he said. And while there is no data to indicate a cause and effect

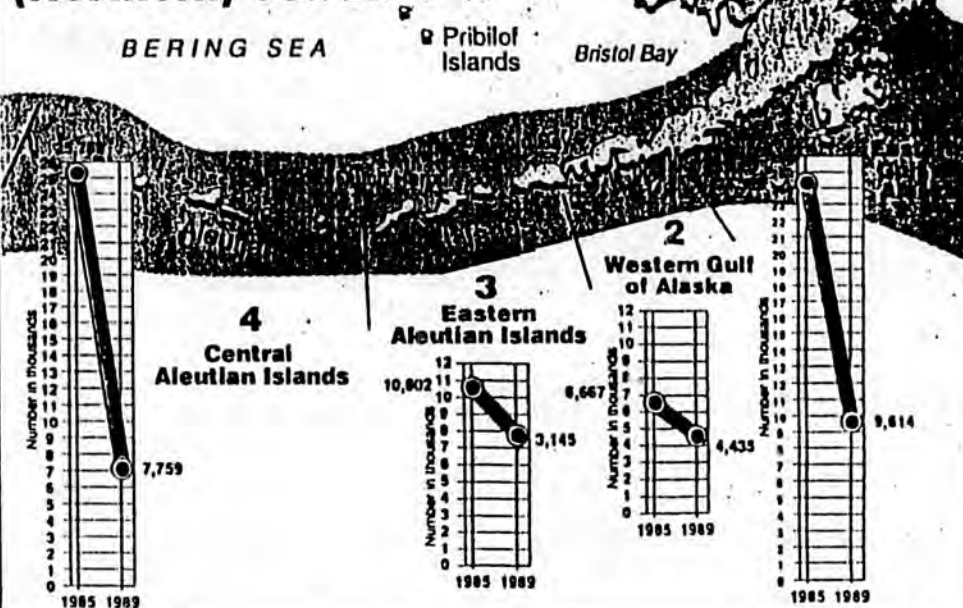
relationship, Lavigne added, the correlation deserves more discussion.

"It becomes a question of what is affecting the food supply," Lowry said. "The environment is probably the biggest cause, but there's no question that in certain areas the fishing industry is playing a role. You look at all those boats taking fish. The fish aren't there for the marine mammals."

Fisheries biologists at the conference, however, defended fisheries management in the Gulf of Alaska and the Bering Sea. Pollock stocks remain high, they said, and commercial fishermen avoid the young pollock considered most important to sea lions and other species.

"In one sense, the finding exonerates the industry," according to Jeremy Collie, a fisheries researcher at the University of Alaska Fairbanks, Juneau Center for Fisheries and Ocean Sciences. "We discussed pollock, but could only con-

Range and Population of the Steller (Northern) Sea Lion



Source: Federal Register

RON ENGSTROM / Anchorage Daily News

clude that pollock stocks are up and sea lions are down." Collie's comments came in a press release issued by the

Alaska Sea Grant College Program, the sponsor for the conference. Collie later refused to answer a reporter's

questions about sea lions and pollock because of the sensitive political nature of the issue.

BERING: Sea ecology to be probed

Continued from Page C-1

tion's study said every species of bird, fish and marine mammal that feeds on pollock is in decline because they are hungry.

"We believe the decline will have a ripple effect throughout the entire Bering Sea and North Pacific ecosystem, possibly causing ecosystem collapse or, at a minimum, bringing certain species to the brink of extinction," the coalition's study concluded.

David Policansky of the National Research Council said Monday that he is not sure what is causing the disruption in the Bering Sea's marine life.

While he said its study will track the development of commercial fishing as a possible cause, it also will look into weather changes over the past two decades.

Policansky said there was a "major oceanic shift" involving winds and barometric pressure since 1976-77 that may be affecting the ecosystem. He said lower than normal pressures have been recorded during storms and that seasonal changes in wind flows have been delayed by a month or so.

The National Research Council will hold meetings in Anchorage in September and in Seattle in November to receive comments from fishermen, Natives and others on what changes they have seen in the Bering Sea.

Among the purposes of the project is to determine what additional research is necessary and to explore the need for tougher fishery management.

The study is to be completed by September 1994.

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Study probes Bering

Health of sea is in question

By DAVID WHITNEY
Daily News reporter

WASHINGTON — The State Department is financing a \$450,000 study by the National Research Council on the health of the Bering Sea, which others have said is on the verge of ecologic collapse because of overfishing.

The study was outlined Monday at a meeting of the council's Polar Research Board. The council is a division of the prestigious National Academy of Sciences.

Curtis Bohlen, special State Department adviser, said the Clinton administration's concerns about the Bering Sea were the result of population declines of sea birds and fish stocks such as pollock, the largest single commercial fishery in the country.

Bohlen said the declines "raise serious concerns about the health of this ecosystem."

The study follows release of an April report by the Bering Sea Coalition, an organization of Alaska coastal communities, which said cutbacks in the pollock fishery may be the only alternative for staving off an ecological disaster.

A Greenpeace U.S.A. report is expected to buttress the coalition's findings.

"A lot of scientists are working on this issue," said Greenpeace fisheries activist Penny Pagels of Seattle. "There has been a cascading effect on the Bering Sea ecosystem that may be related to commercial fishing."

The Bering Sea Coali-

ecosystem itself are likely to be significant, although not quantifiable given the current state of knowledge (NMFS, 1991a).

a. Impacts on Marine Mammals and Birds.

The North Pacific Ocean supports some of the world's largest bird and mammal populations (Bakkala et al., 1979). During the summer, the Bering Sea contains more mammals per unit area and more birds than the rest of the Northern Hemisphere (Laevastu & Favorite, 1981). Both mammals and birds are apex predators, i.e., their effect in the ecosystem being similar to the effect of fishing by humans. An estimate in the late 1970s of the total consumption of fish by mammals and birds in the Bering Sea was about 3 million MT (Ibid.).

During the expansion of the pollock fishery in the past decades (1960s in the EBS and 1970s in the GOA), there have been concurrent population declines in Steller sea lions, Northern fur seals, and harbor seals (Springer, 1992). In all these species, pollock make up an important portion of the diet (Lowry et al., 1989).

Steller sea lion (*Eumatopias jubatus*) declines have been documented since the 1960s but reliable counts are only available since the mid 1970s. In the core range (central GOA to central AI), counts of adults have dropped by 76% since 1975-79 (Merrick et al., 1992). Statistically significant declines in juvenile and adult numbers since the 1970s have occurred throughout the range, except in the Eastern GOA and Southeast Alaska (Ibid.). These declines resulted in the listing of Steller sea lions as threatened under the Endangered Species Act (ESA) in November 1990 (55 FR 49204). It is believed that much of the cause of the decline is due to decreased juvenile survival (Merrick et al., 1992; Loughlin & Merrick, 1989). Additionally, signs of food stress have been observed in female sea lions off the western GOA (Lowry et al., 1989). It has been estimated that pollock comprises 33% and 58% of sea lions diets in the EBS and GOA, respectively (Lowry et al., 1989; Pitcher, 1981). Young sea lions eat smaller pollock (mean length 22.4 cm) than older individuals (mean length 26.9 cm) (Frost & Lowry, 1986).

Northern fur seal (*Callorhinus ursinus*) pup production in the Pribilof Islands has decreased by about 60% since 1950 (Springer, 1992; Braham, 1991). Although losses before 1968 were related to intentional female kills for alleged management purposes, after a short stabilization, pup production continued to fall since the mid-1970s. The declines since 1975 appear to be caused by a high mortality of juveniles and adult females (Trites & Larkin, 1989). Pollock contributes an estimated 90% to the summer diet of fur seals (Springer, 1992) and 33% in the

EBS and 5% in the GOA on an annual average (Lowry et al., 1989).

The harbor seal (*Phoca vitulina*) population in the western GOA appears to be reduced to 15% of its 1970s size (Pitcher, 1990; Braham, 1991). It has been estimated that pollock constitutes 21% to 35% of harbor seals diet in the GOA (Lowry et al., 1989; Pitcher, 1981).

Piscivorous sea birds are also heavily reliant on pollock in the EBS/AI and the GOA, and several species also have undergone declines around various nesting sites of the EBS/AI and the GOA (Springer & Byrd, 1989; Frost & Lowry, 1981). There are strong data from the Pribilof Islands that show declines of about 50% in the number of murre (common and thick-billed, *Uria aalge* and *U. lomvia*) and kittiwakes (red- and black-legged, *Rissa brevirostris* and *R. tridactyla*) breeding there since 1976 (Springer, 1992). This decline was apparently caused by inadequate food availability and paralleled the decline of young pollock since the late 1970s (Springer & Byrd, 1989). It is estimated that age 0-1 pollock comprises 30-90% of the diets of these birds depending on species and location (Springer and Byrd, 1989; Hunt et al., 1981).

On March 9-14, 1991, a workshop (Is it Food?) was convened to examine the possible causes of recent declines in marine mammal and sea bird populations in the Bering Sea and Gulf of Alaska (Alaska Sea Grant, 1991a,b). The marine mammal working group concluded that the population trajectories of sea lions and fur seals could be best explained by reduced juvenile survival. No data exist to address this issue for harbor seals. The modeling exercise done for the GOA indicated that there may not be enough young pollock to support the pinniped (seals and sea lions) populations. The group concluded that "food limitations and a possible shortage of the appropriate prey type are limiting the pinniped populations" (Alaska Sea Grant, 1991a). The evidence available to the sea bird working group also strongly supports that food limitation is the cause of the decline of the bird populations on the Pribilof Islands (Alaska Sea Grant, 1991b). However, while a strong positive correlation between the mean abundance of murre and kittiwakes on the Pribilofs and the abundance of age 1 pollock appears to exist in the EBS, a negative correlation was found between productivity of piscivorous birds on the Pribilofs and sea surface temperature as well as overall pollock biomass (Ibid.). As a result, there was no consensus on the importance of the role played by pollock in the declines of sea bird populations.

The abundance of young pollock in both the EBS and the GOA has declined steadily since the early 1970s, with an overall decline of about 80% (Wespestad & Dawson,

1992 and Hollowed et al., 1992) coincidental with a setback in bird and marine mammal populations (Springer, 1992). Juvenile sea lions and fur seals need smaller fish (e.g. 0 or 1 age pollock) than adults as food (Lowry et al., 1989; Frost & Lowry, 1986). Because it appears that the decline of sea lions and fur seals is primarily related to increased juvenile mortality, rather than to adult mortality (Merrick et al., 1992), reduced availability of young fish appears to be a determinant factor.

As Springer (1992) points out, pollock stocks may not be able to sustain past and current levels of exploitation and still provide food for higher predators in the ecosystem. Estimated exploitation rates of pollock in the US EEZ have increased from 10% to 23% since 1986 (Wespestad & Dawson, 1992). Bering Sea-wide exploitation rates are still much higher. In 1988 and 1989, the total catch of pollock was nearly 4 million MT annually (BSFAB, 1991), or 42%-47% of the US and Soviet estimates of total exploitable biomass (about 8.5-9.5 million MT in 1988; NPFMC, 1988). Under this pattern of exploitation, it is not surprising that pollock abundance is following a declining trend and that it may be acting as a limiting factor on marine mammal and bird populations.

An alternative hypothesis suggests that declines of rockfishes and fatty pelagic fishes (e.g., herring, capelin, sandlance) in the 1960s and 1970s may have affected the abundance of sea lions (e.g., Alverson, 1992). Evidence for this comes from samples of sea lions' stomachs taken in the 1950s which contained little pollock and greater amounts of rockfish and other species (see Pitcher, 1981). It is possible that pollock have replaced the depleted rockfish stocks in the GOA ecosystem (e.g., Alton et al., 1987) and that, due to the much reduced availability of former prey species, sea lions have switched to pollock as the most abundant prey item. If sea lions are declining due to lack of herring and rockfishes, the implication would be that driving these populations down by heavy fishing has caused potentially irreversible damage to the sea lion populations. Similarly, then, continued driving down of the pollock stocks may accelerate the rate of decline for the predator populations currently heavily reliant on pollock. This again highlights the need to take into account interspecies interactions when managing fisheries.

Nevertheless, the speculated decline in fatty fish, with the exception of herring, is poorly documented due to lack of adequate survey data for these species. Data on unexploited species (such as sandlance, capelin, smelt, etc.) are non-existent, sparse, or unreliable. When available (exploited species), abundance estimates are only made for large areas and little is known about the local prey abundance and availability in feeding areas,

which may not be correlated with large scale abundance estimated from population models (Wooster, 1992). Research surveys are designed to assess near-bottom fish biomass, not biomass of small pelagic schooling fish. Commercial fishing nets are too coarse-meshed to catch small schooling fish. In summary, fishery data are collected to assess exploitation potential and often disregard the importance of gaining knowledge of ecosystem structure and functioning.

Other possible causes of the marine mammal and bird declines have been discussed and ruled out as being not significant or able to withstand close scrutiny. Causes acknowledged to have contributed to historical (pre-1980s) declines of Steller sea lions were legal direct harvest, subsistence harvests, shooting, and incidental takes.

Finally, the role of oceanographic changes in the declines is also being discussed (Wooster, 1992). Accordingly, long term changes in oceanic conditions and resulting recruitment fluctuations of the populations of species that make up the BS, AI, and GOA ecosystems could cause the carrying capacity of the systems to vary on time and space scales comparable to those of changes in pinniped and sea bird populations. Therefore, changes in climate and ocean conditions in the North Pacific since the mid-1970s may have affected fish stocks and the main species that consume them (Ibid.).

Oceanographic conditions undoubtedly influence variability in fish development and food-web structure, as observed not only in the NE Pacific (see Wooster, 1983), but also in other oceans of the world (e.g., Harris et al., 1991). These changes probably contribute to low-frequency cyclic fluctuations observed in fish populations (e.g., Bulatov, 1989; Ware, 1991; Ware & Thompson, 1992) and in predators (e.g., Testa et al., 1991). Nonetheless, the above summary shows that availability of adequate food is a common link in recent declines of predator species in the North Pacific. Climatic or fisheries driven fluctuations in predator abundance apparently are mediated through changes in prey availability. Unfortunately, most, if not all, links between oceanographic conditions or fisheries exploitation and food abundance cannot be readily quantified.

As Springer (1992) points out, it is important to keep in mind that the impacts of ocean variability on predators and competitors of harvested species are likely to be now greatly amplified due to the fact that, unlike during pre-exploitation times, the most recent biomass blooms in the North Pacific have been heavily harvested. Finally, although there is no evidence of a direct link between fisheries and the declines in predator species, the strongest evidence points to food deprivation. Therefore,

it is reasonable to give serious consideration to the possibility that fisheries are implicated, and to take a precautionary approach.

b. Ecosystem Impacts and Other Species.

Marine scientists are becoming aware that the impacts of fishing pressure (and overfishing) on other marine species through competition and predation can be expected to cascade through the entire food chain (Sherman, 1991). This phenomenon has been documented for some time by benthic ecologists and limnologists (e.g., Paine, 1980; Post & McQueen, 1987). According to the trophic cascade model, the effects of environmental conditions climb upward through the system to meet the effects of fishing cascading down from the top (Daan, 1989; McQueen et al., 1986). Hence, it is very difficult to separate natural and man-induced causes of the changes observed at different levels of the ecosystem. The traditional single-species focus of fisheries management and research is partly responsible for our current lack of understanding of these interactions in marine systems. As a result, declines of major commercial fish stocks are well documented, but it is usually unknown whether or not populations of no economic interest have changed in abundance concomitantly (Daan, 1980).

Macroscopic ecosystem changes associated with intense exploitation of fish resources have been well documented in several areas of the world, e.g., the North Sea (Daan, 1989), the Yellow Sea (Tang, 1989), Georges Bank (Sherman, 1991), the Gulf of Thailand (Piyakarnchana, 1989), the Barents Sea (Borisov, 1991), and the southeastern Australian shelf (Harris & Poiner, 1991). In Georges Bank (US Northeast Continental Shelf), the marine ecosystem has shifted from a species assemblage once dominated by Gadoids (fish in the cod family) to one dominated by sharks and skates. Biomass flips on the order of thousands of metric tons among the dominant pelagic components of the fish community off the Northeastern US have also occurred as a result of overfishing (Sissenwine, 1986). In lake systems, collapses of fish populations resulting from intense sustained exploitation have also been described (Holling, 1973).

Although complex species shifts in the NE Pacific of the kind described in other marine regions cannot be documented in detail, major community changes have occurred there since the great expansion of fishing operations in the 1960s. Changes in biomass composition of the major commercial species over time, although difficult to quantify, currently are the best available indicators that fish communities of the Alaska shelf waters have significantly changed over the past

three decades (see Section 3; Figures 7, 8, 9). Additional well-documented indicators of ecosystem changes are the declines of several marine mammal and bird species over the past 20-30 years (Section II.4.a.).

It is evident that large scale changes in abundance of main fish species of the demersal and pelagic communities have taken place during the decades of commercial fish exploitation in the North Pacific (Section II.3.). The early decline of rockfishes in both the EBS/AI and GOA, and Greenland turbot and herring in the EBS can be traced to intensive fishing exploitation. Populations of groundfish that increased during the late 1970s (perhaps in response to the depletion of previously overfished stocks), such as pollock and Pacific cod, are now declining. Meanwhile, most flatfish are thriving at high population levels (see Table III). Unexploited species for which information from resource surveys exists are skates, sculpins, sharks, and octopus. Skates in the Eastern Bering Sea have increased six-fold since the late 1970s (Dawson, 1992b), while octopuses appear to have nearly disappeared from the sampling nets (Ibid.). Changes of these species in the GOA do not seem to be dramatic (Wilderbuer, 1989). Changes in other fish and invertebrate species have been poorly documented and are difficult to quantify due to the lack of adapted routine survey sampling methods.

Although not enough is known about non-commercially valuable members of the ecosystem potentially affected by fishing, some of the changes described here seem so precipitous as to be signaling a significant shift in community structure. These changes have been propagated either from the bottom-up (e.g., environmental variations affecting recruitment success) or from the top-down (i.e., competition, predation, fishing pressure) (Springer, 1992). While biomass flips in species abundance in pelagic marine ecosystems appear to be attributed to density independent environmental changes (affecting nutrient entrainment, primary production, and recruitment success), dominance flips in several continental shelf marine ecosystems are attributed to density-dependent predation that includes fishing (Sherman, 1989). The rapid increase in the abundance of skates and flatfishes in the EBS may be signaling a change similar to that which occurred in Georges Bank. Increases of flatfish stocks, apparently indicating an increased energy flow to the shelf bottom, have been associated with replacements of collapsed fish stocks in the Gulf of Thailand (Ursin, 1982). Clear cases of replacement of depleted stocks are difficult to find due to lack of information. Also it is possible that replacements are not detected if depleted fish populations are replaced by invertebrates depending on the same food source (e.g., squid, jellyfish) (Ibid.).

Harbor seals

Time for the big-picture approach

If the North Pacific were a coal mine, it would be littered with dead canaries. Steller sea lion, northern fur seal, seabird and now harbor seal populations are plunging, sounding a warning that sea life, along with communities and economies that depend on the sea, are at risk.

We can no longer afford to look at these problems one at a time. Scientists always have rushed in when populations crashed. But the ocean ecosystem was considered too



complex, the countries involved too many and too varied, to consider the big picture and look for related problems.

For example, with harbor seals, the problem doesn't appear to be overhunting. Since 1972, only Alaska Natives have been allowed to hunt seals under the federal Marine Mammal Protection Act, and that harvest is relatively small.

Instead, scientists are investigating disease or pollution, along with declining food sources. Harbor seals, along with other sea mammals and sea birds, feed on small fish like herring and immature pollock, whose populations also may be declining. So the real problem may be what is causing the drop in these fish populations.

One of the suspects is overharvest by bottom-fish trawlers, another is added competition from millions of hatchery salmon and pollock. Russian, Japanese and U.S. scientists are studying changes in weather and ocean temperature.

Anchorage Daily News

Fuller A. Cowell
Publisher



Howard Weaver
Editor

In his visit to Alaska last summer, Interior Secretary Bruce Babbitt not only supported this kind of study of ecosystems but expressed concern in particular for the problems of the North Pacific. This is a promising start that needs to be translated into more action and continued cooperation.

Key players will be coastal Natives, who are considering forming a Native-run harbor seal commission similar to the already established whaling, walrus and sea otter commissions.

It's important for Native subsistence hunters to have a say in any restrictions federal agencies may impose should harbor seals be declared depleted. But more than that, a Native harbor seal commission could give scientists needed information.

Scientists have the same problem here that they have in Prince William Sound and other areas of Alaska: So little previous research had been done on harbor seals there's little with which to compare. Alaska Natives have a store of knowledge passed down from elders about what pelts looked like and how plentiful the animals were. This knowledge can be put to work ensuring that harbor seals remain healthy and plentiful for future generations.

SEABIRDS AS INDICATORS OF ENVIRONMENTAL CHANGE IN THE GULF OF ALASKA AND BERING SEA

There are indications that marine ecosystems in the northeastern Pacific are ecologically stressed, and concerns are mounting that human intervention, especially the removal of large quantities of biomass by national and international fisheries is a contributing factor. Populations of seabirds, murres and kittiwakes in particular, have declined by half on the Pribilof Islands since the mid-1970's (Fig. 1). In the eastern Aleutians and Gulf of Alaska, harbor seals and Steller sea lions have declined even more drastically since the 1970's. A sea lion rookery in the Semidi Islands (western Gulf of Alaska) that contained some 7,000 adults and subadults in 1978 had but 250 animals remaining in 1993. Possibly related to this phenomenon are the recurrent breeding failures observed in seabirds, especially kittiwakes (black-legged kittiwakes throughout Alaska, red-legged kittiwakes in the Bering Sea). On Middleton Island, north-central Gulf of Alaska, black-legged kittiwakes have failed completely to raise young in 9 of the last 11 years, and the colony (formerly 150,000 birds) has declined about 70% since 1980 (Fig. 1). Statewide, the productivity of kittiwakes has declined since the mid-1970's, as shown by running 5-year averages (Fig. 2). There is evidence that the food base of kittiwakes and other seabirds may be similar to that of juvenile Steller sea lions, which is thought to be the critical life stage of this failing and threatened species.

An important focus of attention is the harvest of walleye pollock, which currently support the world's largest single-species fishery (more than 5 million metric tons annually). The concerns of marine bird and mammal biologists are based on the fact that pollock comprise an important food source for many seabirds and pinnipeds. Tufted puffins, for instance, deliver up to 75% pollock by weight to their young in some colonies. Studies have shown that kittiwakes and murres rely heavily on pollock at some colonies in the Bering Sea, as do Steller sea lions in the Gulf of Alaska. The role of fishing in this situation is unclear, however, because the adult pollock (age 2+) taken in the fishery are important predators on juvenile pollock and other forage fish. Seabirds, and presumably the juvenile stages of the Steller sea lion, consume young pollock (ages 0 and 1) which are not harvested. Thus, the fishery could theoretically benefit piscivorous birds and mammals by reducing competition for their principal foods. Alternatively, the wholesale removal of huge amounts of fish biomass from the ocean may be having detrimental, if poorly understood, effects on the higher consumers that are showing signs of stress. Still another possibility is that food availability to seabirds and pinnipeds is determined by physical processes that are unfavorable at present, and possibly cyclic. The fact is, we do not know enough about these systems to distinguish among any number of reasonable hypotheses. The stakes, however, are high--both ecologically and economically.

There is little doubt that the troubles seen in marine birds and mammals have much to do with the abundance and availability of forage fish--herring, capelin, sandlance, juvenile pollock, myctophids, and the like. These species are notoriously difficult to monitor, and in many cases their basic biology is scarcely known. Recently, however, techniques have been developed that rely on seabirds as samplers of the forage fish community. Puffin nestling diets, in particular, are easy to sample quantitatively, and afford the opportunity to monitor changes in forage fish populations throughout the Gulf of Alaska and Aleutian Islands. Thus, there is ample justification for increased seabird monitoring and research effort in the northeastern Pacific, not only because of concerns for the welfare of the birds themselves, but also because of the contribution these studies can make to fisheries oceanography and management policies for the marine system as a whole.

What is needed is a network of permanent stations for seabird research and monitoring throughout the northeastern Pacific. This network should contain no fewer than three strategically chosen sites in the Gulf of Alaska and three sites in the eastern Bering Sea at which detailed investigations of seabird population dynamics, feeding ecology, and relationships to physical, biological, and fisheries oceanography can be carried out on an annual basis. In addition, the studies program should include an array of less intensively worked sites to achieve greater geographic coverage in sampling seabird diets and in monitoring their populations and productivity.

International fisheries are active in the western Bering Sea, in Russian territorial waters, and populations of seabirds and pinnipeds are showing some of the same signs of stress as in Alaska. The breeding of red- and black-legged kittiwakes on the Commander Islands in 1993 was well on the road to complete failure by mid-July, and Steller sea lions are known to have declined recently in this area. The status of red-legged kittiwakes is of special concern because this species is endemic to the Bering Sea and breeds in only four locations, of which the aggregation on the Commander Islands is second in size only to the colony on St. George Island in the Pribilofs (Fig. 3). Russian-American cooperative studies of seabird populations were begun on a limited basis in the Sea of Okhotsk in 1992, but as yet there is no similar effort in the western Bering Sea. The Commander Islands are the logical place to start because of the potential to address questions of interest to both sides, including ecological dysfunction in the Bering Sea and the status and trends of threatened species. Because of the current economic crisis in Russia, however, American involvement is essential if the relevant ecological investigations are to be conducted in the Commander Islands or elsewhere in the Russian Far East.

Peru during the 1960's and early 1970's, intense fishing pressure and a series of El Nino warm-water events conspired to cause a crash of the anchovy stock. Concomitantly, a once-abundant assemblage of guano birds (pelicans, cormorants, and boobies) crashed along with their food supply, and neither has ever fully recovered. In northern Norway, a recent crash of capelin stocks was attended by a 90% reduction of the local murre population. In Shetland, overfishing and the decline of sandlance has resulted in spectacular breeding failures in species such as terns, puffins, and kittiwakes.

In Alaska, the same story is likely to be repeated, and may be unfolding already. In the Gulf of Alaska and Bering Sea, international fleets have successively decimated stocks of Pacific ocean perch, yellowfin sole, herring, and crabs. Currently, the main target of bottom trawlers is the walleye pollock, which has emerged as the world's largest single-species fishery (annual landings exceeding 5 million metric tons). The juvenile stages of walleye pollock, and also herring, are food for seabirds. More than likely, the ecological changes caused by these perturbations are at least partly responsible for untoward indicators in pinnipeds (declines of up to 70% since the 1970's), seabirds (breeding failure and population declines of up to 50% since 1975), and cetaceans (recent movements into marginal feeding areas).

There is every reason to be concerned about the welfare of seabirds that may be affected by human use of marine resources. But equally important--and quite aside from any value placed on this particular group of animals--is the demonstrated role that seabirds can serve as indicators of environmental change and of the health of marine ecosystems. Increasingly, fishery managers are realizing that seabirds can serve as cost-effective samplers of fish stocks, providing vital information on year-class strength, distribution, and phenology of early life stages that is difficult to get by any other means.

At least 80% of the nation's seabirds breed in Alaska, yet current funding for seabird research permits only limited, intermittent studies at one or two sites. What is needed is a coordinated program of population studies with suitable geographic coverage and continuity. A network of seabird research stations should be established in the Gulf of Alaska and Bering Sea, where the relationships among physical factors, food supply, and population dynamics can be systematically investigated. A system of planned comparisons is the applicable scientific approach. For example, paired observations on surface feeders and divers are appropriate, as are studies targeting different trophic levels (piscivores vs. planktivores) and species with contrasting foraging areas (inshore vs. oceanic feeders). Planned comparisons among species, colonies, and years permit inferences about the oceanic environment of seabirds even when the substrate itself cannot be sampled directly.

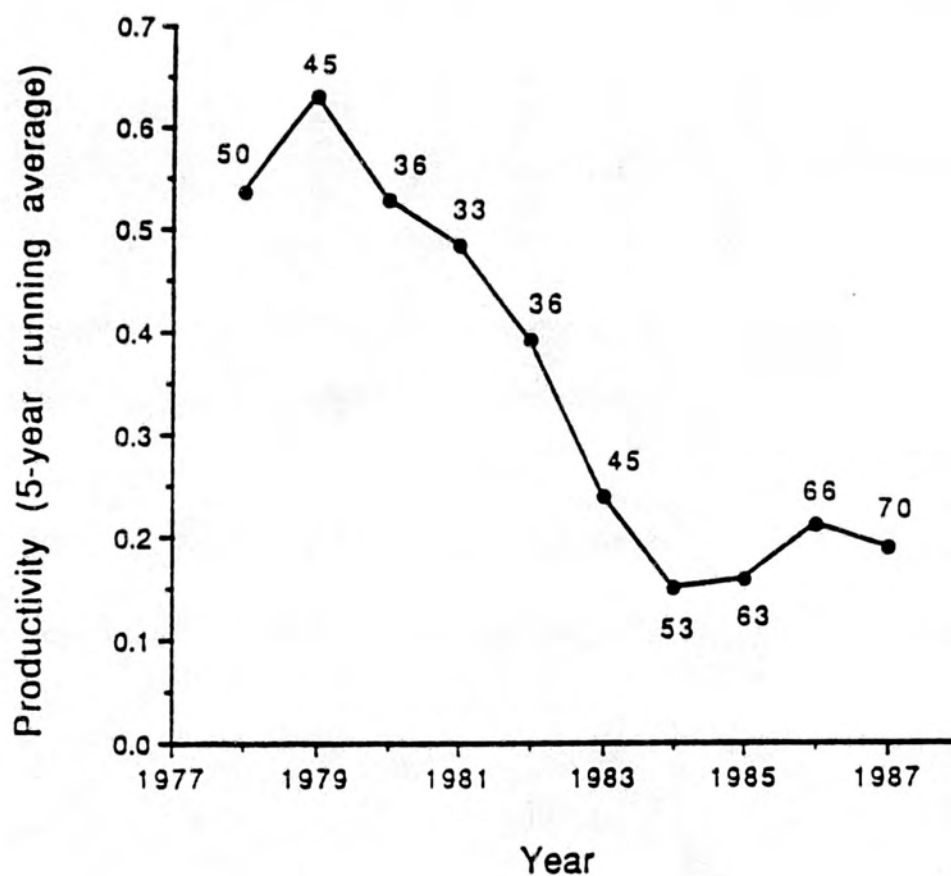


Figure 2. Productivity of Black-legged Kittiwakes in Alaska plotted as 5-year running averages from 1978 to 1987. The number of colony-years included in each mean is indicated.

ALASKA MARINE CONSERVATION COUNCIL

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BYCATCH AND WASTE

WOULDN'T IT BE BETTER NOT TO CATCH IT IN THE FIRST PLACE?

Last year more fish were discarded dead in our fisheries in the North Pacific than were landed by U.S. fishermen in the North Atlantic. Over 500,000,000 pounds of dead or dying fish were dumped over the side in 1992 including 20 million pounds of halibut, a million pounds of herring, 20 million crab; and this year over 360,000 salmon were intercepted in the offshore, federal fisheries.

Faced with declining populations and potential ESA listings of several marine species in the Bering Sea and Gulf of Alaska, many of our livelihoods and subsistence cultures are at risk. What they call "bycatch" are what subsistence users in western Alaska depend on to eat. What federal managers call prohibited species is what Alaska fishermen make their living on. What they call the "cost of doing business" is what could bankrupt our coastal communities.

We are seeking the following amendment to Sec. 303 of the Magnuson Act, Fishery Management Plans, which would reward those fishermen who successfully minimize bycatch, waste and disruption to habitat by giving them a reserved portion of the total allowable catch or some other Harvest Priority allocation.

Conservation and management measures shall include an allocation preference to those fishermen who minimize waste of catch of target species, minimize bycatch of non-target species and minimize disruption to habitat.

Any legislation addressing this issue must emphasize reducing bycatch and economic discards as a first step. Utilizing and subsidizing the processing of unwanted fish as fish meal or oil does not solve the larger problem of bycatch and conservation and may, in fact, contribute to legitimizing current practices. **We can not underscore enough the ecological, cultural, and economic importance of concentrating our efforts in avoiding not-target species in the first place.** Once bycatch is reduced to acceptable levels, we can turn our full attention to increased processing and utilization of catch.



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Harvest Priority

Don't sweep it under the rug

License limitation, ITQs or the status-quo madhouse. Those are the three options before the North Pacific Fishery Management Council as it moves ahead with "comprehensive rationalization" of the groundfish harvest off Alaska. That's the best nearly a decade of expert input and political horse-trading has been able to come up with. Or is it?

When the NPFMC met in Seattle in December, they were presented a sketch of a harvest priority system developed by the Alaska Marine Conservation Council. The plan proposes to withhold a percentage of the annual TAC from the open-access fishery and reward the additional quota to those harvesters who can meet or beat a negotiated bycatch standard. The set-aside could be increased over time, and the cleanest, most efficient fishermen within each gear group could gradually bid down the bycatch rate to distance themselves from the "dirtier" competition.

Instead of granting harvest shares to those who have historically boated the greatest catch—at whatever cost to the resource—the system would reward those who can adapt fishing savvy and modern technology to a more balanced ecological advantage. The statistical burden would shift away from an enforcement agency charged with proving fishermen wrong to a fleet of operators eager to prove themselves right. Observers might even be welcomed aboard.

Market forces would establish equilibrium. Ecological risk takers would have something to gain. The fair cost of bycatch could now be factored in, and the burden of excess would be born by the individuals who can't cut the mustard, not by entire fleets. Maybe it's just a pipe dream, but it's too beautiful to ignore.



V.A.

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HARVEST PRIORITY: QUESTIONS AND ANSWERS

What is it? An economic incentive to reward those fishermen who successfully minimize bycatch, waste and disruption to habitat by giving them additional fishing time, a reserved portion of the total allowable catch(TAC) or some other harvest preference as determined by the Council.

How would it help assure the long-term health and productivity of fish stocks and other living marine resources?

Harvest priority is distinguished from all other strategies to minimize bycatch, waste and discard in acknowledging the role and intrinsic value that non-commercial and low value species play in the maintenance of the ecosystem. By providing fishermen incentives to fish deliberately and selectively for target species and minimize their catch of non-commercial and non-target marine life, harvest priority embraces the importance and ecological value of all marine resources including those that do not have meaningful management plans and of which very little is known.

Harvest priority also helps maintain the food budget needs for marine mammal and birds, including several species that are on the brink of making the Endangered Species list. Today, many species are discarded for economic reasons even though they are critical elements in the food chain.

Would harvest priority favor one gear over another? Bycatch rates vary among gear. We do not know what the lowest rates for most gears are now because there has not been a direct economic incentive to operate them in a selective manner. Some gears with current high bycatch rates may actually be capable of very low bycatch rates. We would anticipate a push within all fisheries to clean up the use of their fishing gear. Conversion to and development of more selective gear and techniques is a way some fishermen will reduce their bycatch rates.

What about full utilization? If full utilization results in the bycatch being turned into fishmeal or oil, the ecosystem still suffers from the impact of the biomass extraction without knowing the effects. Many species have no fisheries management plans and harvesting them before knowing their ecology is inviting stock depletion or major composition shifts in the ocean food web.

Industry and management need to concentrate efforts in not catching non-target marine life in the first place.

People throughout Alaska working to protect the health and diversity of our marine ecosystem
A program of the Alaska Conservation Foundation

What about full retention? Again, from a conservation and enforcement point of view, it would be better to concentrate our efforts in not catching non-target species in the first place through the use of improved fishing practices as promoted under a harvest priority incentive.

If retained bycatch generates revenue to the vessel or covers the cost of handling, no reduction can be anticipated. Operational costs may be reduced since the whole catch could be dumped in the hold without sorting and dealt with by the processor at shoreside delivery. If bycatch fees, funds or fines become a revenue stream for the managing agency, agency resistance to reduction could be anticipated. No matter who is the beneficiary of the bycatch, a constituency for that bycatch will be created for continued access to that product. Full retention requires a high level of enforcement on every vessel to prevent many practices such as night dumping and highgrading.

Doesn't Comprehensive Rationalization involving Individual Fishing Quotas accomplish the same thing as Harvest Priority? IFQ's address the problem of fleet overcapitalization, but do not fully solve the conservation problems of bycatch, highgrading and habitat disruption in most fisheries. Possible bycatch reduction is governed by the economics within a particular fishery. If the product from a particular area can be value enhanced by such things as fresh market expansion, than IFQ's may spread the catch over a longer period of time and possibly result in more specific targeting of catch. If the product is frozen or further processed, fishermen will try to minimize cost by fishing quickly to allow their vessels harvesting opportunities in other fisheries. If size, color or other fact is increase value of one part of the catch, than IFQ's will stimulate high grading which increases the discard rate.

Harvest priority does not prevent the eventual implementation of other programs such as Comprehensive Rationalization. In order for Harvest Priority to lower bycatch, however, it must come first since the allocation of harvest inherent in IFQ's would preclude its use.

Who benefits from the Harvest Priority approach? Fishermen who can minimize catch of non-target species; Agencies who can achieve the goal without high cost or additional staff; subsistence users who rely on bycatch for food and culture; recreational and commercial fishermen; Marine predators dependent on the ocean food chain; Fishermen in other fisheries that have occasional interaction with or take of marine mammals and birds threatened by ESA fishery shutdowns.

Won't this system fail because the observer data is not scientific enough to stand up in court as with previous vessel incentive programs? Previous programs were enforcement actions for violations of regulation caps. As a fishery management measure, a harvest priority program is not punishing offenders but rather rewarding those who choose to participate using the best available data as required by the Magnuson Act. In this case, federal observer program data would be the "best available" to participants in this voluntary program.

Variability among observer data has been a concern. The Council can make allowance for some variance since the downward pressure on bycatch rates, not a fixed number, is the goal. For example: The yellowfin sole fishery has an average discard rate of 38%. If it was determined that 8% was the qualifying bycatch rate, a 20% variability could be built into so that any rate under 10% would qualify. Bycatch would still be reduced by a factor of 4 below current practice. Data variability should decrease with observer verification of catch. Portions of the catch not observed would be calculated at previous year's fleet average. Weights and measures, valid sampling techniques and other tools currently being developed by NMFS to improve bycatch monitoring will also work to reduce data variability when they come online in 1994.

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Magnuson Fishery Conservation and Management Act

TESTIMONY
to be submitted to the U.S. Congress
by the

Fisheries Conservation Action Group

Introduction

The Fisheries Conservation Action Group (FCAG) is a coalition of 15 fisheries trade associations whose members harvest and process fish from the Bering Sea and the Gulf of Alaska. Approximately 40 processing companies and over 10,000 individuals are represented by the groups which form the FCAG coalition. The FCAG was formed in 1990 to support effective management measures that protect North Pacific fishery resources and promote long-term sustainable use.

Because FCAG chooses its positions only after careful consideration and because its broad based membership includes representation from Alaska, Washington, and Oregon, our organization has earned the attention and the respect of the North Pacific Fishery Management Council.

Our testimony to Congress regarding reauthorization of the Magnuson Fisheries Conservation and Management Act focuses on conservation and emphasizes support for amendments to the act that will:

- ✓ (1) Reduce bycatch.
- (2) Provide better protection for fisheries habitat.
- (3) Encourage the collection of more accurate and timely harvest data.

NPFMC Record on Conservation

When you consider the overall health and condition of our

nation's fisheries stocks, it is appropriate that conservation has emerged as one of the main issues in the current round of Magnuson Act reauthorization hearings.

Compared to other councils in the country, the North Pacific Fishery Management Council (NPFMC) has established a good record for resolving management conflicts on the side of conservation. The NPFMC has an established and functioning Scientific and Statistical Committee and an industry Advisory Panel that are integral parts of the council's decision making process.

Despite intense pressures from certain industry groups, the NPFMC has prohibited pollock roe stripping, maintained a two million metric ton cap on Bering Sea groundfish harvest since 1984, instituted the country's first comprehensive domestic observer program and started to address the overcapitalization problem by approving a moratorium on new entrants into the fishery. Additionally, the council has always followed the recommendations of its Scientific and Statistical Committee on biological issues.

We mention these issues to illustrate that the current system can work for the benefit of the resource. But while the NPFMC has made impressive strides on some conservation issues, many other areas still need improvement. Congress can provide help by clarifying the goals of the Magnuson Act, strengthening its conservation mandate, and providing the means to employ certain management tools. Specifically, we request that Congress identify the conservation of fishery resources as the principle objective of fishery management plans and the regulations promulgated to implement these plans.

The Bycatch Problem

No other management problem is more complicated than bycatch, and today it drives the fisheries in Alaska.

To clarify, "bycatch" refers to other fish that are caught while the gear is targeting a specific species. "Prohibited species bycatch" - such as halibut, crab, and salmon - must be returned to the ocean for conservation or management purposes. "Economic discards" are targeted species that are thrown away because they are the wrong size or are of poor quality, even though they could be processed into ancillary products such as meal and oil.

In the North Pacific, traditional management techniques have been used to restrict bycatch to acceptable levels. For example, fisheries managers will sometimes establish allowable bycatch rates or caps on the amount of bycatch that can be taken. These caps can trigger closures of target species whether or not the quota has been

reached. Another method is to restrict or prohibit fisheries from operating in specific areas and during specific times. Managers also can require the use of specific gear or fishing practices. These techniques are marginally successful and have created conflicting results. NOAA General Council states that individual vessels cannot be held accountable for overages. As a result, just a few fishermen with high bycatch rates have shut down entire fisheries. Premature closures of target fisheries are clearly a cost to the nation. Individual accountability unencumbered by burdensome confidentiality standards is essential to the efficient and productive use of the resource.

FCAG urges Congress to give the council the tools they need to tackle the bycatch problem.

We specifically recommend that Congress amend the Magnuson Act to:

- Explicitly define bycatch in the FCMA and declare a national policy to reduce fishing waste.
- Create incentives to develop gear and other fishing practices that reduce bycatch.
- Fund research on gear impacts and selectivity.
- Provide the councils with the legal and technical tools to manage bycatch on the basis of individual vessels.
- Enforce individual accountability over the maintenance of confidentiality.

Establishing Conservation as a Priority

Since the implementation of the Magnuson Act, our experience has been that the National Marine Fisheries Service has narrowly interpreted the National Standards to focus on and favor economic efficiency.

Economic efficiency should not be the sole driving force for determining the proper management of our fishery resources. Congress must require NMFS to give equal consideration to wastage, bycatch, habitat degradation, and the maintenance of biological diversity. Many of these factors have not been adequately addressed because they cannot be quantified.

Hence, Congress must provide guidelines that place these factors on equal footing with economic efficiency.

For example, non-selective gear can substantially impact non-targeted species taken as bycatch and can result in the waste of targeted species that are discarded because they are the wrong size. Non-selective gear can also have detrimental effects on immature fish. If habitat is damaged as a result of harvesting, then those costs also need to be considered. All of these factors help to weigh the long term costs of harvesting our groundfish and crab resources. Measuring only the economic harvest costs does not give a clear picture of the "real" costs associated with harvesting the marine resources.

Clearly, the environmentally-concerned public has no tolerance for the bycatch mortality and waste generated by some of our commercial fisheries. We can no longer view excessive bycatch and discards merely as a cost of doing business.

Our industry and the resource itself have no future unless we protect our ocean habitat. Therefore, we must modify and improve our gear and fishing practices to ensure that sustainable harvests can occur while protecting spawning stocks, nursery areas, and the marine environment.

(Examples of management actions that accomplish the above: No trawl zones to protect crab in the Gulf of Alaska and Bering Sea, halibut savings areas, and maintenance of the split between pollock A and B seasons.)

Conclusion

In 1992, the Cancun International Conference on Responsible Fishing declared that "states should promote the development and use of selective fishing gear practices that minimize waste of catch of target species and minimize bycatch of non-target species." Interestingly, the U.S. government played a leadership role in the conference's proclamation that, "states commit themselves to the conservation and sustainable use of living marine resources."

Additionally, the United Nations Conference on Environment and Development declared "...it is necessary to...promote the development and use of selective fishing gear and practices that minimize waste of catch of target species and minimize bycatch of non-target species..."

As participants in North Pacific commercial fisheries, we recognize that our industry depends on the perpetuation of the stocks and on sustainable harvest levels. We must make the conservation of fishery resources a shared responsibility among

all affected interests. It is crucial that Congress clearly direct our fishery managers to make the conservation of our fishery resources the Magnuson Act's primary focus.

These goals can only be accomplished through the consideration of factors other than "economic efficiency". The protection of habitat, the reduction of waste and bycatch, the use of truly effective conservation measures, the promotion of both full utilization and, where practicable, selective harvest practices must be clearly identified as explicit objectives of the Magnuson Act. Where appropriate, they should also be incorporated into National Standard Five. If Congress provides these tools, our organization believes the management councils can do the rest.

As part of our conclusion, we also wish to note that all the suggested amendments to the Magnuson Act - no matter how well drafted and how carefully considered - will do very little to solve our problems unless they are accompanied by adequate funding for the councils and NMFS to do their jobs.

Speaking for a broad cross-section of the North Pacific seafood industry, we wish to thank you for the opportunity to provide testimony. We would be pleased to provide you with additional information on fishery conservation issues.

ALASKA MARINE CONSERVATION COUNCIL

Box 101145 Anchorage, Alaska 99510
(907) 277-5357 (kelp) 274-4145 (Fax)

BYCATCH AND WASTE

WOULDN'T IT BE BETTER NOT TO CATCH IT IN THE FIRST PLACE?

Last year more fish were discarded dead in our fisheries in the North Pacific than were landed by U.S. fishermen in the North Atlantic. Over 500,000,000 pounds of dead or dying fish were dumped over the side in 1992 including 20 million pounds of halibut, a million pounds of herring, 20 million crab; and this year over 360,000 salmon were intercepted in the offshore, federal fisheries.

Faced with declining populations and potential ESA listings of several marine species in the Bering Sea and Gulf of Alaska, many of our livelihoods and subsistence cultures are at risk. What they call "bycatch" are what subsistence users in western Alaska depend on to eat. What federal managers call prohibited species is what Alaska fishermen make their living on. What they call the "cost of doing business" is what could bankrupt our coastal communities.

We are seeking the following amendment to Sec. 303 of the Magnuson Act, Fishery Management Plans, which would reward those fishermen who successfully minimize bycatch, waste and disruption to habitat by giving them a reserved portion of the total allowable catch or some other Harvest Priority allocation.

Conservation and management measures shall include an allocation preference to those fishermen who minimize waste of catch of target species, minimize bycatch of non-target species and minimize disruption to habitat.

Any legislation addressing this issue must emphasize reducing bycatch and economic discards as a first step. Utilizing and subsidizing the processing of unwanted fish as fish meal or oil does not solve the larger problem of bycatch and conservation and may, in fact, contribute to legitimizing current practices. **We can not underscore enough the ecological, cultural, and economic importance of concentrating our efforts in avoiding not-target species in the first place.** Once bycatch is reduced to acceptable levels, we can turn our full attention to increased processing and utilization of catch.

People throughout Alaska working to protect the health and diversity of our marine ecosystem

A program of the Alaska Conservation Foundation



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Harvest Priority

Don't sweep it under the rug

License limitation, ITQs or the status-quo madhouse. Those are the three options before the North Pacific Fishery Management Council as it moves ahead with "comprehensive rationalization" of the groundfish harvest off Alaska. That's the best nearly a decade of expert input and political horse-trading has been able to come up with. Or is it?

When the NPFMC met in Seattle in December, they were presented a sketch of a harvest priority system developed by the Alaska Marine Conservation Council. The plan proposes to withhold a percentage of the annual TAC from the open-access fishery and reward the additional quota to those harvesters who can meet or beat a negotiated bycatch standard. The set-aside could be increased over time, and the cleanest, most efficient fishermen within each gear group could gradually bid down the bycatch rate to distance themselves from the "dirtier" competition.

Instead of granting harvest shares to those who have historically boated the greatest catch—at whatever cost to the resource—the system would reward those who can adapt fishing savvy and modern technology to a more balanced ecological advantage. The statistical burden would shift away from an enforcement agency charged with proving fishermen wrong to a fleet of operators eager to prove themselves right. Observers might even be welcomed aboard.

Market forces would establish equilibrium. Ecological risk takers would have something to gain. The fair cost of bycatch could now be factored in, and the burden of excess would be born by the individuals who can't cut the mustard, not by entire fleets. Maybe it's just a pipe dream, but it's too beautiful to ignore.



V.A.

ALASKA MARINE CONSERVATION COUNCIL

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HARVEST PRIORITY: QUESTIONS AND ANSWERS

What is it? An economic incentive to reward those fishermen who successfully minimize bycatch, waste and disruption to habitat by giving them additional fishing time, a reserved portion of the total allowable catch(TAC) or some other harvest preference as determined by the Council.

How would it help assure the long-term health and productivity of fish stocks and other living marine resources?

Harvest priority is distinguished from all other strategies to minimize bycatch, waste and discard in acknowledging the role and intrinsic value that non-commercial and low value species play in the maintenance of the ecosystem. By providing fishermen incentives to fish deliberately and selectively for target species and minimize their catch of non-commercial and non-target marine life, harvest priority embraces the importance and ecological value of all marine resources including those that do not have meaningful management plans and of which very little is known.

Harvest priority also helps maintain the food budget needs for marine mammal and birds, including several species that are on the brink of making the Endangered Species list. Today, many species are discarded for economic reasons even though they are critical elements in the food chain.

Would harvest priority favor one gear over another? Bycatch rates vary among gear. We do not know what the lowest rates for most gears are now because there has not been a direct economic incentive to operate them in a selective manner. Some gears with current high bycatch rates may actually be capable of very low bycatch rates. We would anticipate a push within all fisheries to clean up the use of their fishing gear. Conversion to and development of more selective gear and techniques is a way some fishermen will reduce their bycatch rates.

What about full utilization? If full utilization results in the bycatch being turned into fishmeal or oil, the ecosystem still suffers from the impact of the biomass extraction without knowing the effects. Many species have no fisheries management plans and harvesting them before knowing their ecology is inviting stock depletion or major composition shifts in the ocean food web.

Industry and management need to concentrate efforts in not catching non-target marine life in the first place.

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A program of the Alaska Conservation Foundation

What about full retention? Again, from a conservation and enforcement point of view, it would be better to concentrate our efforts in not catching non-target species in the first place through the use of improved fishing practices as promoted under a harvest priority incentive.

If retained bycatch generates revenue to the vessel or covers the cost of handling, no reduction can be anticipated. Operational costs may be reduced since the whole catch could be dumped in the hold without sorting and dealt with by the processor at shoreside delivery. If bycatch fees, funds or fines become a revenue stream for the managing agency, agency resistance to reduction could be anticipated. No matter who is the beneficiary of the bycatch, a constituency for that bycatch will be created for continued access to that product. Full retention requires a high level of enforcement on every vessel to prevent many practices such as night dumping and highgrading.

Doesn't Comprehensive Rationalization involving Individual Fishing Quotas accomplish the same thing as Harvest Priority? IFQ's address the problem of fleet overcapitalization, but do not fully solve the conservation problems of bycatch, highgrading and habitat disruption in most fisheries. Possible bycatch reduction is governed by the economics within a particular fishery. If the product from a particular area can be value enhanced by such things as fresh market expansion, than IFQ's may spread the catch over a longer period of time and possibly result in more specific targeting of catch. If the product is frozen or further processed, fishermen will try to minimize cost by fishing quickly to allow their vessels harvesting opportunities in other fisheries. If size, color or other fact is increase value of one part of the catch, than IFQ's will stimulate high grading which increases the discard rate.

Harvest priority does not prevent the eventual implementation of other programs such as Comprehensive Rationalization. In order for Harvest Priority to lower bycatch, however, it must come first since the allocation of harvest inherent in IFQ's would preclude its use.

Who benefits from the Harvest Priority approach? Fishermen who can minimize catch of non-target species; Agencies who can achieve the goal without high cost or additional staff; subsistence users who rely on bycatch for food and culture; recreational and commercial fishermen; Marine predators dependent on the ocean food chain; Fishermen in other fisheries that have occasional interaction with or take of marine mammals and birds threatened by ESA fishery shutdowns.

Won't this system fail because the observer data is not scientific enough to stand up in court as with previous vessel incentive programs? Previous programs were enforcement actions for violations of regulation caps. As a fishery management measure, a harvest priority program is not punishing offenders but rather rewarding those who choose to participate using the best available data as required by the Magnuson Act. In this case, federal observer program data would be the "best available" to participants in this voluntary program.

Variability among observer data has been a concern. The Council can make allowance for some variance since the downward pressure on bycatch rates, not a fixed number, is the goal. For example: The yellowfin sole fishery has an average discard rate of 38%. If it was determined that 8% was the qualifying bycatch rate, a 20% variability could be built into so that any rate under 10% would qualify. Bycatch would still be reduced by a factor of 4 below current practice. Data variability should decrease with observer verification of catch. Portions of the catch not observed would be calculated at previous year's fleet average. Weights and measures, valid sampling techniques and other tools currently being developed by NMFS to improve bycatch monitoring will also work to reduce data variability when they come online in 1994.

6/16/93
12:00pm

Economic
Impacts of
Fisheries

TESTIMONY OF CARL L. ROSIER
COMMISSIONER
ALASKA DEPARTMENT OF FISH AND GAME
BEFORE THE
HOUSE OF REPRESENTATIVES
COMMITTEE ON MERCHANT MARINE AND FISHERIES
SUBCOMMITTEE ON FISHERIES MANAGEMENT

June 16, 1993
Washington D.C.

Mr. Chairman and Members of the Committee, thank you for this opportunity to come before you today to discuss one of the nation's most important pieces of oceans legislation, the Magnuson Fishery Conservation and Management Act (the Act). I am Carl L. Rosier, Commissioner of the Alaska Department of Fish and Game.

The Act is perhaps the most important piece of fisheries legislation passed by Congress. The Act provides the framework for conservation, management, and allocation of the fisheries off our shores. It established the regime under which the United States gained control of its fisheries, which led to the Americanization of the immense groundfish fisheries off Alaska.

But these same successes, and the rapid development of the domestic offshore fleet in response to the policy of Americanization, have led to many of the management and allocation issues which will be the subject of this next reauthorization of the Act. Interestingly

The Importance of Fisheries to Alaska

In order for you to understand the significance of these issues to Alaska, let me first provide you some information about the importance of our fisheries to Alaska and the nation.

If Alaska were a separate nation, it would rank among the world's top ten in total fish harvest. In 1992, the catch off Alaska totalled over 5.2 billion pounds of seafood. This was about half the national harvest and over 3 times greater than the amount landed by fishermen in the Gulf of Mexico, the nation's second ranking region. Alaska's 1992 catch was up about 6% from the year before.

The ex-vessel value of Alaska's commercial fisheries has grown from an estimated \$565 million in 1985, to a record \$1.8 billion in 1988. The first wholesale level was estimated at \$3 billion in 1988. Preliminary figures indicate the 1992 ex-vessel value was roughly \$1.5 billion.

In a state with little or no manufacturing-based economy, the seafood industry is the largest private, basic industry employer, providing more than 77,000 seasonal jobs which equal 33,000 year-round direct and indirect jobs. Total investment is estimated at roughly \$4 billion, and the payroll is the largest in the state among private industries: approximately \$600 million. Dutch Harbor-Unalaska ranked number one in the nation for seafood

landings in 1992, with total landings in excess of 736 million pounds, nearly 3 times greater than the next largest non-Alaska port. Seafood landed at Dutch Harbor-Unalaska was worth about \$194 million to commercial fishermen, about 25% greater than seafood landed in New Bedford, Massachusetts, the highest ranking non-Alaska port in the country. Two Alaska communities were among the top ten volume ports in the United States in 1992. In one region of the state, the seafood industry accounts for almost 90% of the private sector income, and many of our coastal communities are almost entirely dependent on commercial fisheries for cash income.

The economic and social significance of fisheries to Alaskans underscores the importance the state places on the effectiveness of the Act to govern domestic fisheries. While the Act has been a remarkable success since originally passed in 1976, the transfer from a foreign dominated fishery to a fishery which is almost wholly domestic created new issues and management problems not foreseen at the time of passage.

The Need to Conserve Our Fish Stocks and Fully Utilize Harvested Resources.

The State of Alaska does not condone the waste of fish. In fact, state law makes it a criminal offense for any individual to engage in the wanton waste of seafood or seafood products. Similarly, the nation has an overriding interest in seeing that public resources are properly utilized. This includes controlling and reducing

species. Conflicts arise when bycatch in one target fishery reduces the amount of resource available to a different directed fishery. In extreme cases, bycatch of species or stocks with low or declining populations can lead to conservation problems for those species or stocks. Incidental catch of halibut, Tanner crab, king crab, herring, and salmon have been of particular concern in the groundfish fisheries off Alaska.

Out of our growing concern regarding the increasing problems of bycatch control and discard waste, the State commissioned a report to document the 1992 levels of bycatch and economic discards in the Gulf of Alaska and Bering Sea/Aleutian Island groundfish fisheries. The report relies entirely on NMFS data taken from vessel operator/processor reports. It does not look at data from the federal observer program. This is an important distinction. Generally it means that the data presented in the report are very conservative, because in most instances bycatch and discard data are higher in observer reports. For comparison, the pollock discard level in the Bering Sea reported by operators was 47,772 mt, while federal observers reported 113,000 mt (249,000,000 pounds), a 237% difference.

The findings in this report are startling:

- * Over 507 million pounds of groundfish were thrown away as bycatch or as economic discards, 462 million pounds came out of the Bering Sea/Aleutian Islands (BSAI) alone.

bycatch, and eliminating the waste associated with economic discards.

Economic discards are fish which are harvested in a target fishery but not processed because they are the wrong size, the quality is poor, or for some other economic reason. These fish could be processed into ancillary products such as meal and oil, and some of their value retained. Instead, they are simply thrown away. An example would be undersized pollock which are taken in a directed fishery for pollock but discarded due to their size.

Economic discards, and the biological and economic losses resulting from this practice, are a major concern to the State. In 1991, pollock discards totalled 111,313 metric tons (mt) in the directed pollock fishery in the Bering Sea. This was approximately 245,400,000 pounds of discarded fish, which was roughly equivalent to approximately six times the entire commercial harvest of salmon in Washington State, or the entire combined commercial harvest of herring, halibut, and shellfish in Alaska in 1990. These economic discards represented approximately \$35 million in lost value to the nation for this one fishery.

Bycatch differs from economic discards. Bycatch is a term for fish or shellfish taken in a directed fishery which is targeting on a different species. The use of nonselective harvesting methods such as trawls, longlines, and pots often yields catch composed of a variety of species including both target and incidental (bycatch)

WORK ORDER REQUEST FORM

W.O. [18] LS-1767

KEYWORDS: FISH/GAME, FISHERIES ASSIGNED: Utermohle

REQUEST FOR: Resolution TAKEN BY: Utermohle

SUBJECT: Wanton Waste of Fish

REQUESTED FOR: HC HRLS BY: Cheryl Sutton PHONE: 465-6848

DELIVER TO: Rep. Moses, Attn: Cheryl Sutton, Cap 204

INSTRUCTIONS: Prepare HJR relating to wanton waste of fish in the North Pacific fisheries.

OBTAIN

SPECIAL DRAFTING INSTRUCTIONS ATTACHED []

AUTHORIZED TO CONFER WITH _____

RETURN _____

_____ TO REQUESTOR

APPROVED: X DIRECTOR, LEGAL SERVICES

REVIEWED _____

IN 02/17/94 DUE _____

TYPED: Draft _____ Date _____

Final _____ Date _____

PROOFED _____ DELIVERED _____

SPECIAL INSTRUCTIONS to TYPING/PROOFING

For delivery to House Clerk before

5PM today

Request for FINAL

HOUSE JOINT RESOLUTION NO. 59

IN THE LEGISLATURE OF THE STATE OF ALASKA

EIGHTEENTH LEGISLATURE - SECOND SESSION

BY THE HOUSE RULES COMMITTEE

Introduced: 2/18/94

Referred: House Special Committee on Fisheries, Resources

A RESOLUTION

1 Relating to reduction of wanton waste in North Pacific Ocean and Bering Sea
2 fisheries.

3 BE IT RESOLVED BY THE LEGISLATURE OF THE STATE OF ALASKA:

4 WHEREAS more fish were discarded in the federally managed fisheries of the North
5 Pacific Ocean than were landed by American fishermen in the North Atlantic Ocean in 1992;
6 and

7 WHEREAS over 500,000,000 pounds of ~~discarded fishery resources~~ marine life were dumped overboard in the
8 Bering Sea and the North Pacific Ocean, including 20,000,000 pounds of halibut, 1,000,000
9 pounds of herring, and over 20,000,000 pounds of crab; and *(not pounds, actual crabs)*

10 WHEREAS, in 1993, over 360,000 salmon were intercepted by North Pacific Ocean
11 and Bering Sea trawl fisheries; and

12 WHEREAS these discarded herring, crab, and salmon are State of Alaska managed
13 resources that were intercepted in offshore federal waters; and

14 WHEREAS these resources are the economic and cultural lifeblood for many Alaskans
15 who depend on the sea for their livelihoods and subsistence; and

16 WHEREAS this continued wanton waste undermines any long-term management

1 strategy for sustained commercial, subsistence, and recreational fisheries, and places ~~our~~ ^{and non-commercial} rural
2 communities at risk; and

3 **WHEREAS** Alaska marine waters face declining wildlife populations and potential
4 endangered species listings of several marine species that depend on fish for food; and

5 **WHEREAS** minimizing the catch of undersized fish and reducing wanton waste will
6 conserve fisheries resources for present and future generations of subsistence users,
7 commercial and recreational fishermen, seafood industries, ~~and non-commercial~~ coastal communities, consumers,
8 and the nation;

9 **BE IT RESOLVED** by the Alaska State Legislature that the wanton waste now
10 occurring in federal fisheries of the North Pacific Ocean and the Bering Sea is of utmost
11 importance ^{socially,} economically, and ecologically; and be it

12 **FURTHER RESOLVED** that the Alaska State Legislature respectfully urges the
13 Congress to amend the Magnuson Fishery Conservation and Management Act, or to enact
14 other legislation, encompassing a broad range of measures to reduce wanton waste in North
15 Pacific Ocean and Bering Sea fisheries, including harvest priority incentives for clean fishing
16 practices and other management tools.

17 **COPIES** of this resolution shall be sent to the Honorable Ron Brown, Secretary of the
18 United States Department of Commerce; the Honorable Richard B. Lauber, chair of the North
19 Pacific Fishery Management Council; and to the Honorable Ted Stevens and the Honorable
20 Frank Murkowski, U.S. Senators, and the Honorable Don Young, U.S. Representative,
21 members of the Alaska delegation in Congress.

WHEREAS fisheries can technically or operationally reduce waste or the incidental taking of non-target species if given economic incentives through appropriate regulatory measures

February 28, 1994

George,

Additional language and some minor changes for **HJR 59** -- please draft a CS for me.

Page 1, line 7 - delete, [marine life], add fishery resources

Page 1, line 9 - delete [pounds of], add crabs

Page 2, line 11 - change the order to read as follows:

"importance ecologically, socially, and economically; and be it"

NEW WHEREAS

place following page 2, line 8 (make it last WHEREAS)

WHEREAS fisheries can technically or operationally reduce waste or the incidental taking of non-target species if given economic incentives or through appropriate regulatory measures;

Cheryl (6848)

P.S. Of course, I have this scheduled for a hearing on Wednesday morning!

Post-It™ brand fax transmittal memo 7671		# of pages ▶ 1
To <u>GEORGE LI.</u>	From <u>CHERYL (Rep. 1125)</u>	
Co.	Co.	
Dept.	Phone # <u>6848</u>	
Fax # <u>465 2039</u>	Fax # <u>3445</u>	

8-LS1767E
Utermohle
2/28/94

**CS FOR HOUSE JOINT RESOLUTION NO. 59(FSH)
IN THE LEGISLATURE OF THE STATE OF ALASKA
EIGHTEENTH LEGISLATURE - SECOND SESSION**

BY THE HOUSE SPECIAL COMMITTEE ON FISHERIES

**Offered:
Referred:**

Sponsor(s): HOUSE RULES COMMITTEE

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8 the Bering Sea and the North Pacific Ocean, including 20,000,000 pounds of halibut,
9 1,000,000 pounds of herring, and over 20,000,000 crabs; and

10 WHEREAS, in 1993, over 360,000 salmon were intercepted by North Pacific Ocean
11 and Bering Sea trawl fisheries; and

12 WHEREAS these discarded herring, crab, and salmon are State of Alaska managed
13 resources that were intercepted in offshore federal waters; and

14 WHEREAS these resources are the economic and cultural lifeblood for many Alaskans
15 who depend on the sea for their livelihoods and subsistence; and

16 WHEREAS this continued wanton waste undermines any long-term management

1 strategy for sustained commercial, subsistence, and recreational fisheries, and places our rural
2 communities at risk; and

3 **WHEREAS** Alaska marine waters face declining wildlife populations and potential
4 endangered species listings of several marine species that depend on fish for food; and

5 **WHEREAS** minimizing the catch of undersized fish and reducing wanton waste will
6 conserve fisheries resources for present and future generations of subsistence users,
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8-LS1767E

Utermohle

2/28/94

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