AGENDA C-9
SEPTEMBER 1989

MEMORANDUM

TO: Council, AP, and SSC Members

FROM: Clarence G. Pautzke
Executive Director

DATE: September 19, 1989

SUBJECT: Full utilization of fishery resources

ACTION REQUIRED

(a) Consider definitions and draft policy on waste.

(b) Review availability of data on non-utilization and waste.

(c) Give direction for further development.

BACKGROUND

In the initial discussion about the need for amendments to prohibit roe-stripping in the pollock fishery the Council considered the more general problem of non-utilization, waste and discard in the groundfish fisheries off Alaska and directed the staff to develop background information on the entire issue of full utilization. At the June 1989 meeting, after reviewing a staff discussion paper, you suggested that staff further examine the issue with particular attention to the definition of full utilization, the practice and policy of other management agencies in dealing with non-utilization and waste, and the availability of data.

C-9 (a) is a discussion paper which provides some possible definitions of full utilization, and reviews what other management agencies have done to limit discard. The Council needs to consider how to define full utilization and draft a policy on waste. The draft policy could be released for public review and finalized in December. The Council also should review the availability of data on the kind and quantity of discard and then determine how fast to proceed on the issue.

AGENDA C-9(a)
SEPTEMBER 1989

North Pacific Fishery Management Council
Discussion Paper 89-2

FULL UTILIZATION IN THE GROUNDFISH FISHERIES OFF ALASKA: DEFINITIONS AND POLICY

Prepared by the Staff of the
North Pacific Fishery Management Council

Anchorage, Alaska

September 20, 1989

The pollock fishery in the Gulf of Alaska closed on March 22, 1989 because all the available quota of 60,000 mt had been harvested. According to some, the early closure was partly a consequence of pollock roe-stripping, a practice whereby the carcasses of males and females from which the roe has been extracted are discarded without further processing. The Council heard much public testimony that the practice should be stopped. During the ensuing debate, when it was decided to proceed in as rapid a manner as possible with an amendment to address the pollock roe-stripping issue, it was also suggested that the Council begin examination of the more general problem of non-utilization, discard, and waste in the groundfish fisheries off Alaska.

A discussion paper, "Discard in the Groundfish Fisheries off Alaska"[1], distributed to the Council at its June 1989 meeting, indicates that definitions of full utilization, or its opposite, non-utilization, are elusive, and that data describing the kind and quantity of discard occurring in the fishery are lacking.

The purpose of this second discussion paper is to continue the debate on full utilization with particular focus on definitions, data availability, and policy. The policy and practice of other management agencies concerning the issue of full utilization are also reviewed and ongoing relevant research on discard issues highlighted.

Definitions

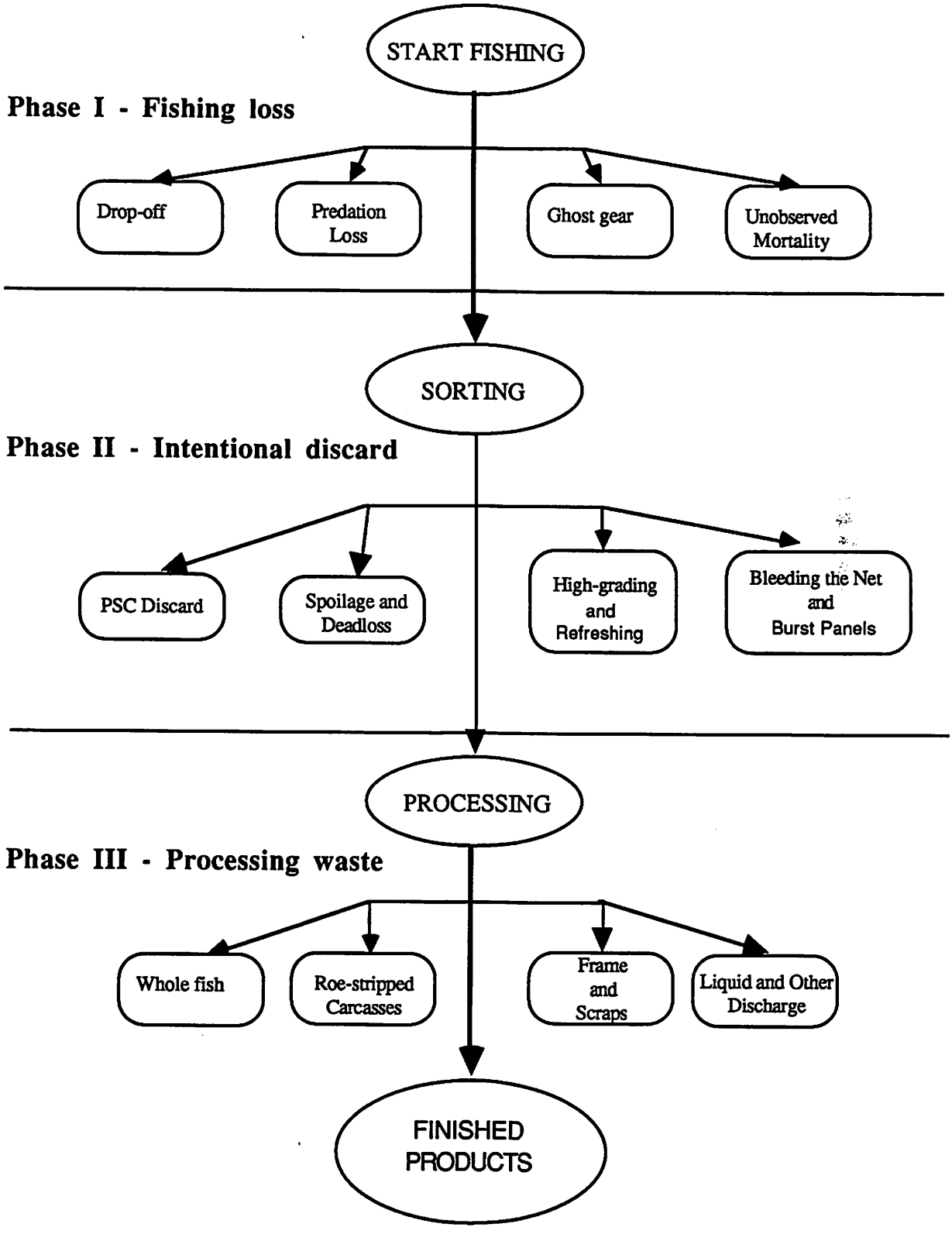
As pointed out in the earlier discussion paper, "One man's waste is another's profit margin." Whether a processing practice is wasteful depends on one's point of view. For example, from an economic perspective there may be no such thing as waste, since each entrepreuner decides the best mix of products to produce from his input of fish. Production depends on machinery installed, throughput on the lines, costs of labor and other necessary inputs to the production process, and, most importantly, the market for the various potential products.

The perspective on the "waste problem" can change, however, when the needs of the entire industry or the owners of the resource, the public, are factored in. Is it wasteful to discard useful protein which could be used for human consumption while millions on Earth go hungry? Is it "wasteful" to idle shoreside human and fiscal capital because of early closure of fisheries and the subsequent loss of supply? Is it "wasteful" to require a vessel to retro-fit an onboard meal reduction facility even if doing so forces the company to bankruptcy? Is it "wasteful" to require that all processing plants, shorebased and at-sea, follow prescribed processing practices, producing certain mixes of products, regardless of the market demand for the products or the profitability of doing so?

Clearly, there are no simple answers to these difficult questions. As a first step, however, we should abandon the words "waste" and "full utilization" and focus instead on the more manageable concept of non-utilization or discard. There are many sources of discard or loss in a fishery. All fisheries throw things away. Recovery rates or yields in a fish processing operation may range from less than 20% (say, an offshore surimi processor of pollock) to 50% or 60% (for example, a processing operation on pollock which takes roe, and fillets and produces minced product, meal and oil). Figure 1 identifies specific stages in the fishing and processing operation where losses occur. Some of these losses can be limited by management agencies and some can not. Phase I, or fishing losses, are, by and large, uncontrollable. Phase II and Phase III losses, intentional

1. Discussion Paper 89-1. North Pacific Fishery Management Council, Anchorage, AK, June 1989. Available upon request.

Figure 1. Sources of non-utilization in the groundfish fisheries.



discard and processing discard, can be controlled through regulations. However, limiting or eliminating loss in any one of the categories listed will require different regulations and different enforcement techniques. Thus, just as there is no simple answer to the question of what is waste, there is no single solution to the "discard problem".

What is necessary is a clearer definition of the problem, or, put another way, determination of the Council's goals and objectives on this issue. Is it the desire of the Council to entirely eliminate the 11 types of losses described in Figure 1; only sorting losses; only processing losses or some other combination?

For example, the Council could decide to adopt a policy of full utilization where full utilization is defined as the minimization of the controllable discard losses identified in Figure 1. They could adopt a policy prohibiting roe-stripping, a policy requiring reduction to meal, and so forth. The policy they adopt will depend on the sources of discard they wish to control.

Data availability

Policy is one issue, but how would the policy be put into practice? This will prove difficult at present since there is no source of information on the kind and quantity of discard occurring. At-sea processing vessels do not always report discards on the fish tickets and those vessels that do enter the information have different methods of counting discard. For example, one captain may enter only the amount of undersized fish discarded, while another may include as well the tonnage discarded off the processing line. Shoreside processing plants may not want to process undersize fish and those fish may either be dumped or sent to a meal reduction facility. In either case it is likely that the amount of fish will not be reported to the management agency.

Thus we have a reporting problem and an accounting problem. We are unable to attach numbers to the boxes depicting discard loss in Figure 1. This is a problem not only with respect to getting a handle on non-utilization, but also in tracking the attainment of the TAC for a species and in assessing the level of mortality for a species to be used in determining next year's ABC. Clearly, if unreported discards currently account for a large fraction of the catch, caution must be exercised.

The Council's observer program should begin to provide information on some of the sources of non-utilization in the fisheries. Amendments 18 and 13 to the groundfish FMPs, if approved, will also provide information on discards. The catcher/processor and mothership daily cumulative production log, the shoreside processor catch receipt and daily cumulative production log, the catcher vessel daily fishing effort log, and the processor weekly production log all require discard information, by species. Given these new data collection mechanisms it might be prudent to collect data during 1990, and at the end of the year, determine how to implement Council policy on full utilization via an amendment in the 1991 groundfish amendment cycle.

Policy and practice around the world

The North Pacific Fishery Management Council is not the first management agency to confront the problem of discard in the fishery. The states of Alaska, Washington and Oregon all have statutes prohibiting wanton waste. In 1977, the Alaska legislature approved a policy on the utilization of herring, enacted via Alaska Statue 16.10.173 which states that "a person may not waste or cause to be wasted any commercially taken herring". Waste means "the failure to use the flesh of commercially taken herring for reduction to meal, production of fish food, human consumption, food for domestic animals, scientific or educational purposes, or round herring bait." Apparently the genesis of the regulation was partly in response to the then current processing practice for roe

extraction in which the catch was placed in vats and allowed to partially decompose, so that the resulting "belly burn" would make it easier to extract the roe. Roe-stripping of herring was not totally eliminated in 1977, however; certain fisheries were phased out over a schedule specified in the statute. As of July 1, 1988, it became illegal statewide to discard herring carcasses following extraction of roe. Currently, processors often freeze the whole fish and ship the product frozen to foreign buyers. The foreign processors may thaw the fish, extract the roe and discard the carcass or they may further process the herring.

The only other statute on the books in Alaska dealing explicitly with the discard issue is a regulation prohibiting the waste of salmon (AS 16.05.831). The statute reads "a person may not waste salmon intentionally, knowingly, or with reckless disregard for the consequences. In this section, 'waste' means the failure to utilize the majority of the carcass, excluding viscera and sex parts, of a salmon intended for

(1) sale to a commercial buyer or processor;
(2) consumption by humans or domesticated animals; or
(3) scientific, educational, or display purposes."

The State of Oregon, has a more general statute (509.112) which prohibits the wanton waste of food fish, any edible portion of any game mammal, game bird or game fish, or the felt of any fur bearing animal. In Washington waste of food fish or shellfish is unlawful (Title 75 RCW 75.12.120). The regulation reads:

> It is unlawful to waste or destroy food fish or shellfish wantonly, except for disposals authorized by RCW 69.30.110 (an exemption allowing the disposal of shellfish taken from polluted waters).

In Washington the majority of citations deal with recreational discards; throwing razor clams in roadside dumpsters, dumping smelt, and so forth. Apparently, in Washington and Oregon prosecution for commercial fishing discard in the sense of this discussion paper is very rare.

To our knowledge Federal agencies have not explicitly dealt with the discard problem. There are, of course, regulations which prohibit at-sea discards (often in fisheries managed by ITQs), and regulations which affect the discard rate, for example, mesh size regulations in the New England groundfish fishery and trip limits in the Washington, Oregon, California groundfish fisheries. Recently a controversy arose on the Atlantic coast when it was discovered that longline fishermen were cutting the valuable fins off sharks taken as bycatch and then throwing the finless sharks overboard. This practice has since been prohibited.

Research in progress

Some research relevant to the discard issue is occurring on the west coast. The Pacific Fishery Management Council is interested in how trip limits might affect the discard rate, that is, whether a change in trip limits will lead to changes in the amount of fish dumped overboard. Results of the research are just now becoming available. One conclusion of the researchers is that there is a tendency for discard rate to increase as trip limits are reduced.

The Pacific Council is also looking at trawl mesh size regulations. Researchers at the University of Washington and Oregon State University are examining species selectivity with regard to the mesh size and shape (diamond or square) of the cod end of the trawl. Preliminary results indicate that very different assemblages are caught with different kinds of nets. Reports on this research should be available sometime in 1990.

Towards a policy on full utilization

The Magnuson Fishery Conservation and Management Act (MFCMA, PL 94-265, August 1988) provides some policy guidance on this issue. In Section 2, "Findings" is the statement that "a national program for the conservation and management of the fishery resources of the United States is necessary ..... to realize the full potential of the Nation's fishery resources." The definition of optimum yield itself is relevant as OY is the yield from a fishery "which will provide the greatest overall benefit to the Nation, with particular reference to food production and recreational opportunities".

The National Standards also provide some insight on policy. National Standard 1 emphasizes this concept of optimum yield stating

> Conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the optimum yield from each fishery for the United States fishing industry.

and National Standard 5 states that

> Conservation and management measures shall, where practicable, promote efficiency in the utilization of fishery resources; except that no such measure shall have economic allocation as its sole purpose.

In November, 1984 the Council adopted nine comprehensive fishery management goals. Goal 5 is most relevant to the full utilization issue.

> Minimize the catch, mortality, and waste of non-target species, and reduce the adverse impacts of one fishery on another.

The groundfish fishery management plans also contain goal and objective sections. Objective 3 of the Gulf of Alaska Groundfish FMP directly addresses the issue of discard waste:

> The Council will manage the fisheries to minimize waste by:
>
> (a) Developing approaches to treating bycatches other than as a prohibited species. Any system adopted must address the problems of covert targeting and enforcement.
>
> (b) Developing management measures that encourage the use of gear and fishing techniques that minimize discards.

This last statement of policy concerning groundfish (and prohibited species) discard might serve as a starting point for new Council policy on full utilization. For example, the Council could specify the above as an overall management goal or add such a goal to the list contained in the Bering Sea/Aleutian Islands FMP.

Recommendations

The discard issue will be difficult to resolve. The Council's new domestic observer program may begin to provide hard information on the kinds and quantities of discard and processing losses

occurring in the groundfish fisheries. There appears to be little information on which to base an analysis until the end of 1990. The Council may wish to begin development of a policy on discard in the fisheries. The specificity of that policy will be determined by the need to control the types of fisheries losses as diagrammed in Figure 1.

Acknowledgements

We wish to publicly thank the many individuals who contributed useful information. From the management agency side, thanks to Ken Parker and Al Didier of the Alaska Department of Fish and Game, to Jack Tagart, Tom Northup and Evan Jacoby of the Washington Department of Fisheries, Kay Brown of the Oregon Department of Fish and Wildlife, and Jim Glock of the Pacific Fishery Management Council. On the research side we wish to acknowledge Susan Hanna of Oregon State University, Hans Radkte of the Pacific Council and Jim Hastie of the AFSC. The Alaska Fisheries Development Foundation is active in research and development in the area of fishery byproduct utilization. We benefited greatly from review of AFDF reference material and discussions with AFDF staff; Loretta Lure, Mel Monsen, and Peter Moore.

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AGENDA C-9
SEPTEMBER 1989
SUPPLEMENTAL

UniSea

September 22, 1989

Mr. Clarence Pautzke
Executive Director
North Pacific Fishery Management Council
Box 103136
Anchorage, AK 99510

Dear Clarence:

During a meeting with John Peterson the other morning, the subject of total utilization was discussed. I told him what total utilization meant to me, and used our surimi plant in Dutch Harbor as an example. He suggested that I submit these figures to you for your consideration.

During the first four months of 1989, UniSea's Dutch Harbor surimi plant purchased 64,189,368 pounds (29,116.1 MT) of round weight pollock.

From this, we produced the following:

	12,208,622 lbs.	of surimi	(19.02%)
	15,639,702 lbs.	of fish meal	(8.79%)
	493,400 lbs.	of bone meal	(0.77%)
	824,100 lbs.	of fish oil	(1.28%)
	801,871 lbs.	of roe	(1.25%)
Total	19,967,695 lbs.		31.11%

In my opinion, this defines total utilization. Any future plant which does not have the capability to produce this full range of product from the pollock resource probably should not be licensed to operate.

I trust this data proves helpful in your deliberation. Please do not hesitate to ask if this raises additional questions.

With kind personal regards,

Sincerely yours,
UNISEA, INC.

J. Richard Pace
President

/pb

cc John Peterson

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