MEMORANDUM

TO: Council, SSC and AP Members

FROM: Clarence G. Pautzke
Executive Director

DATE: April 12, 1995

ESTIMATED TIME
3 Hours

SUBJECT: Bycatch and Discard Reduction

ACTION REQUIRED

(a) Receive legal opinion and review discussion paper on Harvest Priority.
(b) Review discussion paper on seasonal allocation of rock sole TAC.
(c) Review discussion paper on Increased Retention/ Increased Utilization.

BACKGROUND

Increased Retention/Increased Utilization (IR/IU) and Harvest Priority (HP) have been proposed to address bycatch and discards. In December, the Council directed staff to provide a working document on implementation mechanics of HP and IR/IU alternatives for specified fisheries. The Council also directed staff to examine seasonal apportionment of the rock sole TAC as a means to reduce bycatch and discard.

Harvest Priority

NOAA GC has issued a legal opinion regarding due process and other issues raised regarding a harvest priority program. It was sent to you on March 8, but also is included here as Item C-8(a). A working document on the mechanics of a harvest priority program for the rock sole fishery will be distributed at the meeting. If the Council wishes to proceed with this proposal, an EA/RIR analysis would need to be prepared. Joe Terry (NMFS) and Sally Bibb (NMFS) will be on hand to present their findings.

Rock Sole Apportionment

In January, the Council directed staff to prepare a discussion paper on seasonal apportionment of the rock sole TAC, with options of a 50/50 and a 40/60 split into roe and non-roe seasons. The discussion paper is included here as Agenda Item C-8(b).

Increased Retention/Increased Utilization

A discussion paper on the implementation mechanics of IR/IU program for the BSAI rock sole and pelagic trawl pollock fisheries is Agenda Item C-8(c). In addition to status quo, options for retention, utilization, and timeline of implementation were examined. Retention options include prohibiting discards of target species or all groundfish except arrowtooth flounder and 'other' groundfish in the specified trawl fisheries. Options suggested for timelines included setting an effective date of January 1, 1996 or 1997, or a phase-in over three years to achieve 100% retention in the third year after implementation. Utilization options for minimum percentage to be processed for human consumption are 50%, 70% and 90%. The discussion paper highlights some of the implementation issues of this proposal, particularly with regard to monitoring, enforcement, and observer responsibilities. Lew Queirolo (NMFS) will brief the Council on his findings. If the Council wishes to proceed with this proposal, the Council needs to provide guidance to staff on the various issues for an EA/RIR analysis.

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AGENDA C-8(a)
APRIL 1995

DATE: February 24, 1995

MEMORANDUM FOR: North Pacific Fishery Management Council

FROM: Lisa L. Lindeman
Alaska Regional Counsel

SUBJECT: Due Process and the Harvest Priority Proposal

This responds to the North Pacific Fishery Management Council's request for a legal review of the due process aspects of the Harvest Priority Proposal (HPP) currently under consideration.

Under the HPP, the total allowable catch (TAC) in certain fisheries would be initially allocated between an open access TAC and a TAC that could be harvested only by vessels participating in a limited entry program. The HPP would set maximum acceptable bycatch rates for the open entry fisheries. The eligibility criteria for participation in the limited entry program would be a vessel's bycatch performance in the previous open entry fishery. A vessel failing to meet the bycatch standards would be excluded from the follow-up "reward" fishery either in the same or following year. Specifically, you have asked whether a vessel receiving an adverse initial determination, and whose owner administratively appeals that determination, can be excluded from a "reward" fishery prior to completion of an administrative hearing.

Summary

It is clear that a vessel that fails to meet bycatch standards cannot be excluded from any subsequent "reward" fishery until the vessel owner has first been given the right to an administrative hearing. As cases involving bycatch standards inevitably involve complex factual determinations, the hearings that will be required will just as inevitably be adversarial in which the appellants will have the right to dispute the government's case through presentation of their own evidence and arguments, and the right to confront and cross-examine adverse witnesses. The period of time

between the date of violation and final agency action can be best estimated by reference to the agency's experience under the existing Vessel Incentive Program (VIP). The most optimistic estimate that can be made is that the process will take approximately two to three years; in some cases, longer.

Discussion

Procedural Due Process

"Procedural due process imposes constraints on governmental decisions which deprive individuals of 'liberty' or 'property' interests within the meaning of the Due Process Clause of the Fifth or Fourteenth Amendment." Mathews v. Eldridge, 424 U.S. 319, 332 (1976). See also, Cleveland Bd. of Educ. v. Loudermill, 470 U.S. 532, 538 n. 3 (1985); Cassim v. Bowen, 824 F.2d 791, 796 (9th Cir. 1987). Licenses to pursue one's livelihood are clearly a "property" interest within the meaning of due process. See e.g., Barry v. Barchi, 443 U.S. 55, 64 (1979); Chalkboard, Inc. v. Brandt, 902 F.2d 1375, 1380 (9th Cir. 1989); Atlantic Richfield v. U.S., 774 F.2d 1193, 1202-1203 n. 39 (DC Cir. 1985). Although the legislative act of creating such a right is a matter of legislative grace, once created, it becomes a "property" interest protected by procedural due process. Cleveland Bd. of Educ. v. Loudermill, supra at 538; Hornsby v. Allen, 326 F.2d 605, 608 (5th Cir. 1964). The fact that the statutory right thus created can be termed a "privilege" is irrelevant. Goldberg v. Kelly, 397 U.S. 254, 262 (1970); Hornsby v. Allen, supra at 609. The protections of procedural due process are not only applicable to existing licenses (Chalkboard, Inc. v. Brandt, supra; Atlantic Richfield v. U.S., supra), but to the adjudication of initial eligibility for such licenses as well. Hornsby v. Allen, supra at 610.

The courts are unequivocal about the right to a hearing of some sort prior to adverse government action affecting a "property right" (such as the ability to pursue one's occupation). Cleveland Bd. of Educ. v. Loudermill, supra at 542; Mathews v. Eldridge, supra at 333; Goldberg v. Kelly, supra at 267; Goldsmith v. U.S. Bd. of Tax Appeals, 270 U.S. 117, 123 (1926); Lipke v. Lederer, 259 U.S. 557, 562 (1922); Chalkboard, Inc. v. Brandt, supra at 1380; Cassim v. Bowen, supra at 797; Hornsby v. Allen, supra at 608. The absolute right to a hearing is in no way dependent upon a showing of probable success. Cleveland Bd. of Educ. v. Loudermill, supra at 544.

Procedural due process is a flexible concept (Mathews v. Eldridge, supra at 334; Goldberg v. Kelly, supra at 262-263), and has been described as follows:

> An essential principle of due process is that a deprivation of life, liberty, or property 'be preceded by notice and opportunity for hearing appropriate to the nature of the case.'

Chalkboard, Inc. v. Brandt, supra at 1380. See also, Cleveland Bd. of Educ. v. Loudermill, supra at 546; Cassim v. Bowen, supra at 797. The only issue, therefore, is the sort of pre-deprivation hearing that will be deemed appropriate in any given situation. At a minimum, procedural due process requires a pre-deprivation procedure that involves notice of the evidence that forms the basis of the government's case against the individual and an opportunity for that individual to respond in a meaningful way to that evidence (e.g., in person or by written submission). Cleveland Bd. of Educ. v. Loudermill, supra at 546; Goldberg v. Kelly, supra at 268 n. 15. In some circumstances, depending upon the nature of the inquiry at hand, the right to respond to the evidence will include a right to refute the government's evidence by oral presentation of the appellant's own arguments and evidence and to confront and cross-examine adverse witnesses at a pre-deprivation adversarial hearing. Goldberg v. Kelly, supra at 267-268.

The Supreme Court has developed a three-part test to determine the nature of the pre-deprivation hearing that will be deemed appropriate in any given situation.

> [O]ur prior decisions indicate that identification of the specific dictates of due process generally requires consideration of three distinct factors: First, the private interest that will be affected by the official action; second, the risk of an erroneous deprivation of such interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards; and finally, the Government's interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail.

Mathews v. Eldridge, supra at 334-335. See also, Cleveland Bd. of Educ. v. Loudermill, supra at 542-543; Chalkboard, Inc. v. Brandt, supra at 1380; Cassim v. Bowen, supra at 797.

The private interest discussed in most of the cases cited above involved the individual appellant's interest in a continuing source of income during the pendency of the appeal.

> "[T]he significance of the private interest in retaining employment cannot be gainsaid. We have frequently recognized the severity of depriving a person of the means of livelihood.

Cleveland Bd. of Educ. v. Loudermill, supra at 543. See also, Mathews v. Eldridge, supra at 341; Chalkboard, Inc. v. Brandt, supra at 1381. In only one case, that of welfare recipients, was this sort of private interest deemed to be so compelling as to require a full pre-deprivation adversarial hearing. Goldberg v. Kelly, supra. For our purposes, however, it is important to note that in each of the cases that allowed something less than a pre-deprivation adversarial hearing, the agency had the ability to fully compensate any appellant who was ultimately successful - usually through back payments. Thus, the private interest involved was never the risk of a potential loss of benefits altogether, but merely that of going without such benefits during the pendency of the appeal. In the HPP, loss of participation in the "reward" fishery cannot be recouped at some later date should an appeal of the agency's initial determination prove successful. Compensation cannot be made for the lost fishing opportunities in a fishery from which a vessel has been wrongfully excluded. It seems likely, therefore, that the private interest involved under the HPP will require a pre-deprivation adversarial hearing.

The second element of the Mathews test, that of the risk of erroneous deprivation, is of great concern under the HPP. This risk is clearly to be measured in the context of the nature of the evidence under consideration by the agency. Mathews v. Eldridge, supra at 345. It has been analyzed as whether the agency can establish probable cause under the procedures in use. Barry v. Barchi, supra at 66; Bell v. Burson, 402 U.S. 535, 540 (1971). In cases in which the courts have upheld agency procedures that provided something less than a pre-deprivation adversarial hearing, there has either been no factual dispute at all (Codd v. Velger, 429 U.S. 624, 627 (1977); Atlantic Richfield Co. v. U.S., supra at 1203), or the "factual issue to be determined was susceptible of reasonably precise measurement by external standards" (Chalkboard, Inc. v. Brandt, supra at 1381) such as the findings of medical experts. Barry v. Barchi, supra at 65; Cassim v. Bowen, supra at 798 n. 3. Where factual disputes are not susceptible to reasonably precise measurement by external standards, especially where the factual disputes involve "issues of witness credibility and veracity," the risk of erroneous deprivation of constitutionally protected property interests is deemed too high and a pre-

deprivation adversarial hearing is required. Chalkboard, Inc. v. Brandt, supra at 1381. Given the fact that the HPP is based upon factual determinations made by at-sea observers, the accuracy and competence of which will inevitably be the central issue in any appeal of adverse determinations, it seems very likely that the courts will require an adversarial hearing prior to exclusion from any "reward" fishery.

Finally, it is doubtful that the government's interest in avoiding the fiscal and administrative burdens involved in providing appellants under the HPP with adversarial hearings prior to their exclusion from any subsequent "reward" fishery will outweigh either the private interests of the appellants or the risk of erroneous deprivation of those interests, as discussed above. This is especially true in light of the fact that under the existing VIP, this is precisely what the agency is now providing.

Penal Aspects of the HPP

Under the VIP, owners/operators of offending vessels have been subject to substantial civil penalties pursuant to section 308 of the Magnuson Fishery Conservation and Management Act, 16 U.S.C. 1858. Under the HPP, vessels failing to meet the bycatch standards would be excluded from participating in the follow-up "reward" fishery, either in the same or following year. Much has been made of the supposed difference between the HPP and VIP; that is, that unlike the VIP, the HPP is not "penal" because it does not seek to penalize those who do not meet the bycatch standards, but rather, seeks to "reward" those who do. From a due process/Administrative Procedure Act (APA) perspective, this is a distinction without a difference. The due process/APA rights to a prior hearing at issue in such a program are not the rights of those who get to participate in the "reward" fishery, but are, rather, the rights of those who are excluded from the fishery. For those excluded, the follow-up fishery is not a "reward:" it is a "sanction."[1] Their exclusion from it based upon an agency determination that they have not met the bycatch standards applicable in a previous fishery is

[1] The APA definition of "sanction' provides in pertinent part that a "'sanction' includes the whole or part of an agency--...(F) requirement, revocation, or suspension of a license; or (G) taking other compulsory or restrictive action." 5 U.S.C. 551(10).

just as "penal"[2] as the imposition of civil penalties for the same transgressions under the VIP.

A clear understanding that the "reward" fishery provisions of the HPP are in fact "penal" and constitute a "sanction" leads to certain inevitable results under due process, the APA, and the Magnuson Act (and its implementing regulations).

Procedural Due Process As Applied

There is a further constitutional problem with excluding appellants from participation in a "reward" fishery under the HPP prior to opportunity for an adversarial hearing. Even when the courts uphold an agency procedure providing something less than a full pre-deprivation adversarial hearing as facially valid, that same procedure can be violative of procedural due process as applied to the individual facts of the case if the agency does not provide a prompt post-deprivation hearing.

> The Due Process Clause requires provision of a hearing 'at a meaningful time.' At some point, a delay in the post-termination hearing would become a constitutional violation.

Cleveland Bd. of Educ. v. Loudermill, supra at 547.

> The general rule is that the less the predeprivation process, the greater must be the post-deprivation process.

Cassim v. Bowen, supra at 798.

In situations where imposition of a "penalty" is involved, the issue of a prompt post-deprivation hearing can be of particular importance. The leading case in this area is Barry v. Barchi, supra, which stands for the proposition that if the post-deprivation hearing does not occur before the appellant suffers a "penalty" in its entirety, the procedure is violative of due process. In Barry, even though the State held its post-deprivation hearings fairly promptly, because the penalty imposed (suspension of horse trainer for 15 days) was so short,

> ...it is as likely as not that Barchi and others

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[2] It has been asked how the HPP differs from the appeals process for the halibut and sablefish ITQ program. The answer is that the latter is not "penal."

> subject to relatively brief suspensions would have no opportunity to put the State to its proof until they have suffered the full penalty imposed.

Barry v. Barchi, supra at 66. See also, Lipke v. Lederer, supra at 561-62. Given the agency's experience under the existing VIP, it will almost certainly prove impossible to provide appellants a post-deprivation hearing within a year of the violation (i.e., prior to completion of the follow-up "reward" fishery). Thus, even in the unlikely event that the practice of excluding offending vessels from a "reward" fishery held the same or next year survives facial due process examination, it probably will be held violative of due process as applied.

Administrative Procedure Act

Because the "reward" fishery exclusion provision of the HPP will almost certainly be viewed as a "sanction" of an existing fishing license, provisions of the APA also will require an administrative hearing prior to such exclusion.

Section 9(b) of the APA, provides in pertinent part:

> ...Except in cases of willfulness or those in which public health, interest, or safety requires otherwise, the withdrawal, suspension, revocation, or annulment of a license is lawful only if, before the institution of agency proceedings therefor, the licensee has been given --
>
> (1) notice by the agency in writing of the facts or conduct which may warrant the action; and
>
> (2) opportunity to demonstrate or achieve compliance with all lawful requirements.

5 U.S.C. 558(c) (emphasis added). It seems clear that a fishing permit issued pursuant to the Magnuson Act is a "license," and that its suspension or revocation under the HPP with regard to the "reward" fishery is both an act of "licensing" by the agency and a "sanction" within the meaning of the APA. See definitions at 5 U.S.C. 551(8), (9), and (10).[3] The courts have interpreted the

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[3] 5 U.S.C. 551(8) provides that a "'license' includes the whole or a part of an agency permit, certificate, approval, registration, charter, membership, statutory exemption or other

definition of license included in the APA very broadly. Pan-Atlantic Steamship Corp. v. ATL Coast Line, 353 U.S. 436, 438-439 (1957); Air North America v. DOT, 937 F.2d 1427, 1437 (9th Cir. 1991); Atlantic Richfield Co. v. U.S., supra at 1200. The courts also have construed the prior hearing exceptions very narrowly, and have confined their application to "...unusual, emergency, situations." Air North America v. DOT, supra at 1437, n. 8. In considering the provisions discussed, above, one court has stated:

> A paraphrase of the provision taken as a whole might read 'before an agency can institute proceedings to withdraw, revoke, etc., an existing license, it must provide the licensee with notice in writing of the offending conduct and a hearing at which the licensee can refute the charges.'

Bankers Life & Cas. Co. v. Callaway, 530 F.2d 625, 635 (5th Cir. 1976), reh. den. 536 F.2d 1387, cert. den. 429 U.S. 1073.

Magnuson Act/Regulations

Finally, the Magnuson Act, and the agency's existing procedural regulations, also will require that an administrative hearing be provided prior to exclusion from any "reward" fishery held pursuant to the HPP.

Under the provisions of the Magnuson Act, those who commit acts prohibited by the Act or its implementing regulations (see 16 U.S.C. 1857) can be subjected to any of four sanctions: 1) civil penalties pursuant to section 308 (16 U.S.C. 1858); 2) permit sanctions, also under section 308; 3) criminal prosecutions pursuant to section 309 (16 U.S.C. 1859); and 4) civil forfeitures pursuant to section 310 (16 U.S.C. 1860). These are the only sanctions expressly provided by the language of the Act.

The Supreme Court has held that "'...penal statutes are to be construed strictly'... and that one 'is not to be subjected to a

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form of permission."

5 U.S.C. 551(9) provides that "'licensing' includes agency process respecting the grant, renewal, denial, revocation, suspension, annulment, withdrawal, limitation, amendment, modification, or conditioning of a license." (Emphasis added).

See note 1, supra, for definition of "sanction."

penalty unless the words of the statute plainly impose it'" [citations omitted]. I.R.S. v. Acker, 361 U.S. 87, 91 (1959). See also, Key Bank of Washington v. Concepcion, 847 F. Supp. 844, 848 (W.D. Wash 1994); section 9(a) of the APA, 5 U.S.C. 558(b).

Applying this rule of statutory construction to an analysis of the sanction proposed in the HPP, it seems clear that unless the exclusion of a vessel from the "reward" fishery can be termed a permit sanction, any attempt to enact the HPP pursuant to the Magnuson Act will be ultra vires and thus illegal.

Assuming, therefore, that the sanction proposed in the HPP is in fact in the nature of a permit sanction, existing agency regulations very clearly lay out the procedural requirements that must be met before such a sanction can be made effective. See 15 CFR 904, Subpart D. The individual against whom a permit sanction is sought has a right to a hearing before an Administrative Law Judge (ALJ). 15 CFR 904.304(a). Although upon application to the ALJ, the agency may seek to have the permit sanction effective on an interim basis during the pendency of the litigation, the standards to be met for such an action are very stringent and are not likely to be met in the context of the HPP. 15 CFR 904.322.[4]

Thus, one cannot assume that the agency will be able to exclude an individual vessel from any subsequent fishery until the offense has been investigated by the National Marine Fisheries Service (NMFS) Enforcement Division, then prosecuted by NOAA General Counsel. Such prosecution will not be final, and the permit sanction thus not effective, until "final agency action;" that is (assuming that the agency's determination is appealed), until the ALJ has rendered his decision.[5] Under present staffing levels, the most optimistic

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[4] In order to have such a request for interim effect granted by the ALJ, the Agency must make a showing that there is probable cause to believe that the offense has in fact occurred, and that the offense was "willful" or that making the permit sanction effective immediately (before final agency action) is required in the interest of public health, welfare, or safety. Id. To my knowledge, such an agency request has never been granted by the ALJ.

[5] It must be noted that the decision of the ALJ is subject to a discretionary appeal to the Administrator of NOAA, which would further delay the effective date of any permit sanction imposed by the ALJ. 15 CFR 904.273. In addition, such a "final agency decision" would be subject to an appeal to the United States District Court. Whether the court also would stay the effect of the agency's decision to exclude the appellant from any "reward"

estimate would be that an offending vessel could be excluded from a subsequent "reward" fishery no earlier than approximately two to three years from the date of violation.[6]

cc: Jay S. Johnson
Margaret F. Hayes
Robert C. Babson
Steve Pennoyer

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fishery held during the pendency of the District Court appeal is within the discretion of the court.

[6] The experience under the VIP program has been even more protracted. The program is slightly more than three years old. To date, 4 prosecutions have been brought, one has settled, the other three have gone to hearing and are still pending before the ALJs. In short, only one prosecution has resulted in "final agency action."

Seasonal Allocation of Rock Sole TAC

A discussion paper prepared by David Witherell

In December 1993, the Council directed staff to prepare discussion papers on Harvest Priority and Increased Retention/Increased Utilization, which are two programs that have been proposed to address bycatch and discards in groundfish fisheries. Another option, derived from Cold Sea International's multi-faceted proposal, would be to annually apportion the rock sole total allowable catch quotas (TACs) into two fishing seasons. The Council recommended that staff examine options of a 50/50 and a 40/60 split into roe and non-roe seasons, and provide a working document for review in April 1994.

The objective of the proposed apportionment was to improve retention of rock sole taken in the directed rock sole trawl fishery. Presumably, this would be accomplished by allocating a portion of the TAC into a non-roe season, when male rock sole would be of equal value to females, leading to higher retention rates for male rock sole. This paper was written to provide some general insights on the proposed allocation as a stand-alone management measure, without getting into detailed biological and economic analysis.

Rock Sole Biology and Fishery

Rock sole are an abundant flatfish in the eastern Bering Sea, where they occupy areas of the shelf down to 300 m. Seasonal movements are not known, however most spawning takes place from March to June at depths near 100 m. Rock sole are relatively slow growing and long-lived, reaching a maximum age of 25 years or more. Fifty percent are sexually mature at 8 years, corresponding to 29 cm (11") for males and 33 cm (13") for females. The abundance of rock sole has greatly increased over the past 15 years due to good recruitment and low exploitation.

The directed trawl fishery for rock sole in the Bering Sea is conducted by about 36 catcher/processors. The fishery targets on females with roe, from January 20 through about the end of February (Figure 1). Rock sole are generally processed by heading and gutting (H&G) operations, with roe remaining in the body cavity. In terms of product value, roe-bearing fish ($1.05/lb) are worth more than non-roe bearing fish ($0.25-0.40/lb); consequently, male rock sole and juveniles of both sexes are discarded in the race for fish and PSC (J. Gauvin, AFTA, presentation at UBC bycatch workshop). The minimum acceptable cull size for rock sole with roe is about 10-11". Of the 40,380 mt of rock sole taken in the 1994 directed fishery, about 58.5% were discarded.

Rock sole TACs have been set at much lower levels that could be sustained, limited by crab and halibut bycatch caps and the two million mt OY cap in the BSAI. In 1994 the rock sole TAC was set at 75,000 mt, well below the ABC of 313,000 mt. Reaching even this reduced TAC has proven difficult given crab and halibut PSC caps. For example, due to attainment of the red king crab PSC cap (110,000 crab) on February 25, 1994, the rock sole fishery was prohibited from fishing in Zone 1 (Areas 508, 509, 512, and 516), which has been the primary fishing grounds for rock sole (Figure 2). An emergency trawl closure to protect red king crab caused fishing effort to shift in 1995. The rock sole fishery was closed on February 21, 1995, when the first season halibut PSC limit (428 mt) was reached.

Implementation and Seasonal Allocation of TAC

Implementation of a seasonal allocation for rock sole would be rather straight-forward. The rock sole TAC would be divided into roe-season and non-roe-season allowances, after deduction of the reserve (15%). Regulations could be frame worked to allow amounts specified for each seasonal allowance to be determined during the annual groundfish TAC specification process, or as a fixed percentage set in the plan. Based on the 1995 BSAI rock

sole TAC of 60,000 mt, and percentages suggested by the Council in December, a seasonal allocation of quota after subtraction of reserve (9,000 mt) would be the following:

	ROE	NON-ROE
50/50 allocation	25,500 mt	25,500 mt
40/60 allocation	20,400 mt	30,600 mt

The Council would need to set seasons for the roe and non-roe fisheries. Perhaps the seasons could be the same as for pollock, such that the roe-season allowance in the BSAI area would be available for harvest from January 1 through April 15, and the non-roe season allowance would be available from June 1 through the end of the fishing year. The Cold Sea International proposal suggested that the non-roe season begin in August. Attainment of an allowance before the end of a season would cause the Secretary to prohibit directed fishing for rock sole until the beginning of the next season. If the roe-season allowance of rock sole was exceeded, the excess would be deducted from the non-roe season; likewise, any unharvested rock sole from the roe-season allowance would be added to the non-roe season allowance.

The Council would also need to seasonally apportion crab PSC allowances if the TAC were to be seasonally apportioned. Halibut mortality is already seasonally apportioned in the rocksole/other flatfish category, but the red king crab and bairdi crab limits have been set as an annual total. Recall that the rock sole fishery has generally been limited bycatch caps, and not TAC limits. Thus, it is conceivable that without a seasonal PSC apportionment, there could be no bycatch left to pursue a second season TAC, effectively eliminating a non-roe fishery. Seasonal apportionment could be done during the annual specification process. Changes to regulations that framework PSC apportionments would not be required.

Seasonal allowances will not necessarily increase the total amount of fishing time during the year. The harvesting capacity of the rock sole fishery exceeds that necessary for a year-round fishery within current TAC levels. Currently, duration of the rock sole fishery is about 30 days; therefore, under the proposed seasonal allocation, the roe-seasonal allocation would last about 15 days. The recently adopted minimum codend mesh regulations, and the proposed IR/IU program may serve to lengthen the season somewhat. Because a 15 day roe season that begins on January 20 may not occur during the time of maximum roe maturity, the Council may wish to consider modifying the starting date for the roe season to maximize value.

There are some similarities and differences with this proposal for rock sole seasons and the amendment to seasonally apportion the pollock TAC. Amendment 14 to the BSAI groundfish FMP prohibited roe stripping of pollock and divided the pollock TAC into roe (January 1 - April 15) and non-roe (June 1 - December 31) seasonal allowances. The objectives of Amendment 14 were to reduce wastage of the pollock resource, prevent possible adverse effects on the marine ecosystem and reproductive potential of pollock, and provide for an equitable distribution of the pollock resource among its users. The similarity of this proposal for rock sole and amendment 14 are that the TAC would be allocated into two seasons to provide for fuller utilization of the resource in terms of products for human consumption. The difference is that there is currently no roe-stripping in the rock sole fishery, as rock sole are processed by H&G.

Potential for Improved Retention

By splitting the season into roe and non-roe seasons, overall retention of rock sole in the directed rock sole fishery may increase slightly. Retention in the roe season, however, will likely remain unchanged, as the fleet will continue to target on large females. In 1994, 41.5 % of the rock sole were retained. Retention in the non-roe season would be expected to be higher, as the fleet will process both male and female rock sole. Retention rates

of rock sole taken in the non-roe fishery may be similar to what has been observed for the yellowfin sole or other flatfish fisheries. Retention of yellowfin sole in the 1994 yellowfin at-sea processing trawl fishery was 75%.

Assuming a rock sole TAC of 60,000 mt, a 50/50 seasonal allocation, 67% of the TAC taken in a directed fishery, and the expected retention rates described above, the total amount of rock sole retained under a seasonal allocation would be about 23,417 mt (roe = 8,342 mt; non-roe = 15,075 mt). Thus, the proposal may increase retention of rock sole in the directed fishery from 41.5% to about 58%. Similarly discards of rock sole in the directed fishery may be reduced from 23,664 mt to about 16,783 mt.

Discard rates of rock sole in non-directed fisheries may increase. After a directed roe-fishery closes, other fisheries will be limited by the amount of rock sole they can retain. The other flatfish fishery, in particular, would be expected to produce high discard rates of rock sole. Currently, it is very difficult to distinguish a directed rock sole fishery from other flatfish fisheries after the roe-period (J. Terry, pers. comm.).

Retention of other groundfish in the rocksole fishery may decrease. Seasonal apportionment of rock sole TAC would change the amount and composition of bycatch in the fishery. Like many other fish species, rock sole likely aggregate prior to spawning. Such aggregations result in a fishery with relatively high catch rates and lower bycatch rates that would occur later in the year when rock sole are likely more dispersed. Current bycatch rates of pollock, Pacific cod, and other flatfish in the rock sole fishery (Table 1) could increase later in the year during a non-roe rock sole season. Regulatory discards of these species may increase from current levels, because a portion of the rock sole fishery would occur later in the season, when most groundfish species are on bycatch or PSC status.

Some Potential Biological Impacts

From a biological prospective, a rock sole fishery conducted over two seasons could have some positive impacts on the rock sole population. The spawning stock biomass of rock sole, which is currently at record high abundance, may increase slightly with a two season fishery. Fishing on rock sole later in the year may increase both yield and spawning biomass-per-recruit. However, this would not be expected to result in a higher yield (TAC) because PSC bycatch caps already limit catch well below ABC.

With regards to potential impacts on endangered, threatened, or candidate species listed under the Endangered Species Act (salmon, seabirds, and marine mammals), significant adverse effects would not be expected. Data indicate that the rock sole fishery bycaught 342 chinook salmon and no "other" salmon in 1994 (Table 2). Moving some of the fishery to summer months would likely reduce the bycatch of chinook salmon, but could potentially cause some bycatch of "other salmon". Seabirds do not feed on rock sole, and would likely not be impacted. A variety of flatfish are eaten by Steller sea lions in the Gulf of Alaska, yet the significance of Bering Sea rock sole on marine mammal diets has not been determined. However, given the areas fished and the relative abundance of rock sole, seasonal apportionments would probably have neither a positive nor negative impacts on marine mammals.

Some Potential Economic Impacts

The costs to most fishing operations of a seasonal rock sole fishery may outweigh benefits, based on simple calculations. In 1994, 60,480 mt of rock sole were caught in the Bering Sea and Aleutian Islands area, of which 40,380 mt (67%) were taken in a directed rock sole fishery, based on NMFS target fishery analysis. A total of 16,754 mt of the catch was processed (41.5%), mostly by H&G with roe-in. Assuming a standard ex-vessel price from the Research Plan of $0.30 per pound (which is probably underestimated), the 1994 fishery was worth about

11 million dollars. Under the proposed allocations of TAC and retention/utilization rates similar to that observed in 1994, the fishery would be worth substantially less. For example, if the seasonal allocation was 50% roe and 50% non-roe, a roe season would have generated approximately $ 4.7 million [25,500 mt (56,218,171 lbs) of which 67% is in directed fishery with 41.5% retention @ $0.30/lb] and a non-roe season about $ 1.7 million [25,500 mt (56,218,171 lbs) of which 67% is in directed fishery with 75% retention @ $0.06 / lb], for a total of 6.4 million dollars. This represents a cost of $ 4.6 million dollars.

Changing the seasons for the rock sole fishery could have allocative and management effects. A 15 day roe season would potentially allow catcher/processor vessels to switch between fisheries as they open. This would mean that vessels may fish rock sole for 15 days beginning January 20 and then possibly switch to Pacific cod, pollock, or other lucrative target in the BSAI or GOA until freezers are filled to capacity. If the starting date for a rock sole roe fishery were delayed, vessels would likely target something else first, then finish with rock sole. A non-roe season for rock sole would likely be pursued by vessels participating in the BSAI yellowfin sole and other flatfish fishery. For managers, two short seasons will be more difficult to monitor than a single long season.

Summary

The proposal to seasonally allocate rock sole TAC may increase retention rates for rock sole in the directed fishery. Retention rates for the roe season would likely remain unchanged from the current fishery (41.5%), but may increase to 75% in a non-roe fishery. At a 50/50 seasonal allocation of the 1995 TAC, the total amount of rock sole retained would be about 23,417 mt. Thus, the proposal would be expected to increase retention rock sole in the directed fishery from 41.5% to about 58%. Similarly discards of rock sole in the directed fishery would be expected to be reduced from 23,664 mt to about 16,783 mt.

The proposal may change discarding practices in the rock sole and other fisheries. Discards of rock sole in other trawl fisheries may increase, particularly in other flatfish fisheries that occur after a directed rock sole fishery closed. In a non-roe rock sole fishery, discards of other groundfish may actually increase, as regulations restricting retention may be in effect later in the season.

The proposal may have significant costs to many operations in the existing fishery. Under the proposed allocations of TAC and 1994 retention/utilization rates, the fishery would be worth substantially less than the 1994 fishery (about 11 million dollars based on standard ex-vessel prices). For example, if the seasonal allocation was 50% roe and 50% non-roe, the roe season would generate approximately $ 4.7 million and the non-roe season about $ 1.7 million , for a total of $6.4 million. This cost to the fleet of $ 4.6 million. This cost could be less if future TAC was increased, particularly for the roe season. Additional costs and benefits have not been explored at this time.

Table 1. Catch and discard in the BSAI directed rock sole at-sea processing trawl fishery.

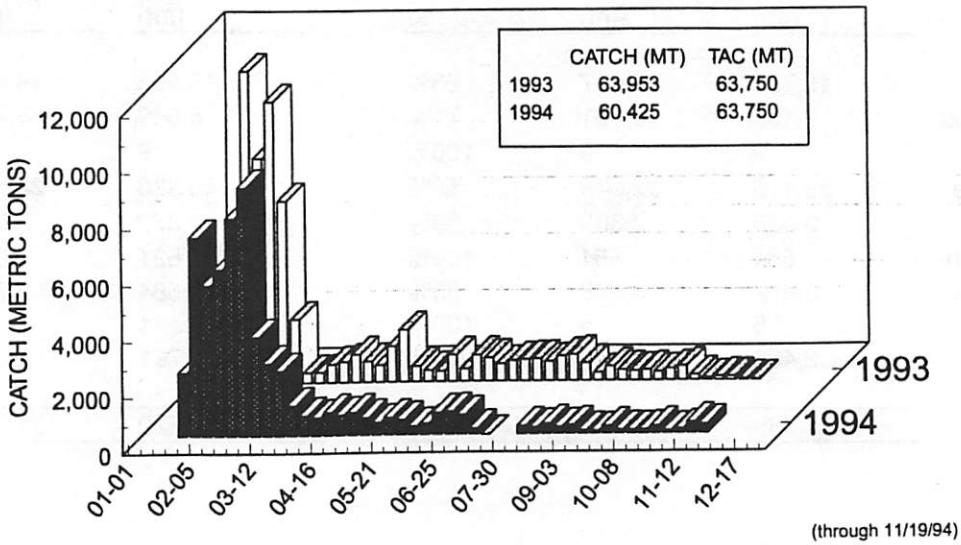
	1993			1994		
	Catch (mt)	Discard (mt)	Percent Discarded	Catch (mt)	Discard (mt)	Percent Discarded
pollock	15,761	14,617	93%	15,402	14,432	94%
Pacific cod	7,138	5,101	71%	5,649	3,766	67%
turbot	9	9	100%	9	9	100%
rock sole	**39,115**	**22,945**	**59%**	**40,380**	**23,572**	**58%**
yellowfin	3,935	2,309	59%	5,372	3,509	65%
arrowtooth	554	554	100%	621	621	100%
other flats	3,812	3,166	83%	3,584	2,738	76%
rockfish	5	5	100%	1	1	100%
other	2,456	2,410	98%	2,761	2,688	97%
Total	72,785	51,116	70%	73,779	51,336	70%

Table 2. Bycatch of PSC in the BSAI directed rock sole fishery.

	1993		1994	
	Bycatch	Bycatch rate	Bycatch	Bycatch rate
red king crab	171,520	2.03	216,517	2.77
other king crab	77,941	0.92	20,908	0.27
bairdi Tanner crab	455,311	5.39	603,739	7.77
other Tanners	2,513,468	29.77	380,890	4.87
halibut	692	8.20	935	11.96
herring	7	0.08	13	0.16
chinook	27	0.00	342	0.00
other salmon	357	0.00	0	0.00

*Note: bycatch units are tons for halibut and herring, and numbers for crab and salmon.

1993 & 1994 BSAI ROCK SOLE CATCH



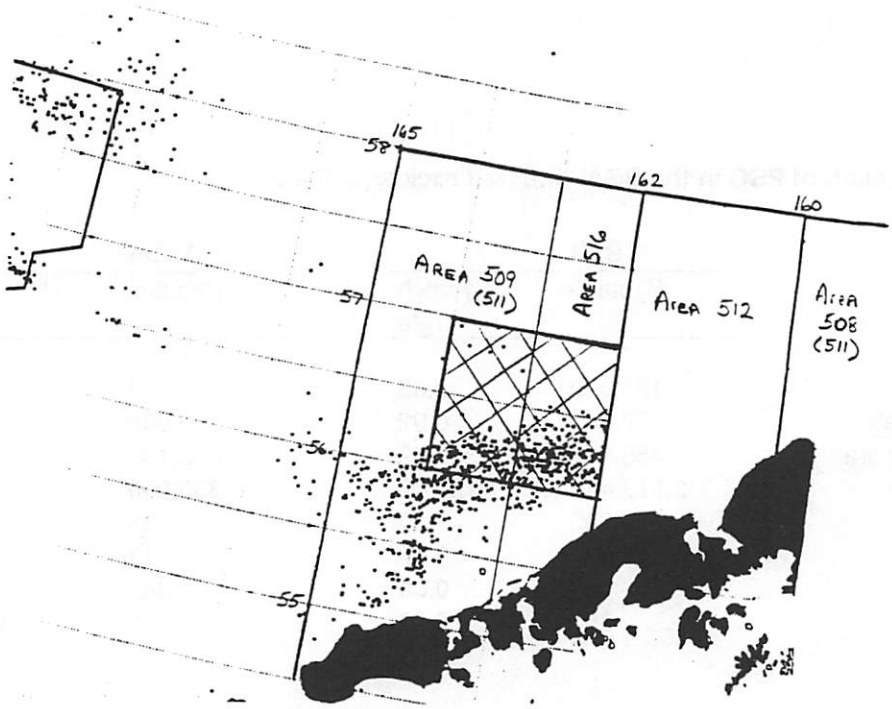


Figure 2. Distribution of observed hauls with catch greater than 25 mt in the rock sole fishery, 1990 - 1994. Hatched area was closed to trawling by emergency order in January 1995.

AGENDA C-8(c)
APRIL 1995

Increased Retention/ Increased Utilization Implementation Issues

associated with the

BSAI Mid-water Pollock and BSAI Rock Sole Fisheries

Prepared by the National Marine Fisheries Service
Alaska Region
Alaska Fishery Science Center

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EXECUTIVE SUMMARY
IMPLEMENTATION ISSUES RELATED TO THE PROPOSAL TO REQUIRE INCREASED RETENTION/INCREASED UTILIZATION

The following discussion is intended to briefly highlight "implementation" issues associated with the proposal to require increased retention and utilization of groundfish in the GOA and BSAI groundfish fisheries. Two specific fisheries, i.e., BSAI mid-water pollock, and BSAI rock sole, are treated as "case studies" for purposes of evaluating the specific elements of the Increased Retention/Increased Utilization (IR/IU) proposal. A detailed treatment of each element of the IR/IU proposal is contained in the body of this document. Readers wishing a more extensive discussion of any aspect of the implementation assessment are directed to the relevant section of the main text.

DISCARDS

Discards of groundfish may occur in a variety of ways, at various times, and numerous locations from vessels and processing plants. These may include:

"codend bleeding" - discards from a net before it is brought onboard the vessel;

discards from the deck before fish are transferred into the hold;

discards from several locations below deck, including multiple discharge chutes for whole fish and processing waste;

discards from shorebased processing plants after fish are landed by catcher vessels.

COMPLIANCE MONITORING WITH AN "INCREASED RETENTION" REQUIREMENT

* As envisioned, monitoring of compliance with an increased retention program would rely upon NMFS-certified observers. However, current levels of observer coverage, with existing sampling, monitoring, and data collection priorities, will <u>not</u> permit the additional duties of monitoring retention standards. In addition, monitoring a retention standard that is "less than 100% retention" is not possible with existing observer sampling.

In the face of reduced staff and increasing workloads, the NMFS Observer Program is having difficulty carrying out current scientific and monitoring responsibilities. No additional resources are expected in the near future.

Most observers onboard vessels are fully subscribed with current duties and are unable to take on any additional tasks without changing priorities, which means eliminating other duties and responsibilities. Therefore, observer monitoring of 100% retention requirements cannot be accomplished without either additional observers and support personnel, or a reallocation of existing resources (or both).

According to NMFS Observer Program managers, without adequate observer monitoring of discards, NMFS expects to be unable to assure compliance with the IR regulations, as proposed. Adequate monitoring could require multiple observers on all vessels capable of carrying observers, including those which are currently unobserved or only partially observed. One suggestion was that such a program would require two compliance monitors, in addition to the current scientific monitor, on each operation that fishes and/or processes more than eight to twelve hours each day. Even for vessels that do not operate on an "around-the-clock" basis, one observer may not be adequate.

It should be noted that this finding is not unique to an IR/IU program. It nonetheless represents an implementation issue of concern for the Council's proposal. Observers collect a variety of data which are used to serve multiple objectives. Their primary data collection activities are to : record fishing effort and estimate catch size; sample to estimate catch composition; monitor for the incidental take of marine mammals; gather data on the size and age composition of catch; estimate the incidence of Pacific halibut, salmon, herring, king crab, and Tanner crab bycatch; and report on the possible violation of U.S. fishing regulations.

The Council is advised that, under current circumstances, observer monitoring of IR requirements cannot be accomplished. The Council may, therefore, wish to consider, 1) what level of compliance monitoring they seek, 2) whether additional observer coverage can be required for implementation and monitoring of the IR proposal, 3) how current observer-resources and responsibilities may be reorganized and re-prioritized, 4) how and to whom any additional observer coverage would be applied, 5) how the additional coverage would be paid for, and 6) what changes in fishing and processing operations would be mandated to reduce the monitoring burden on observers?

ENFORCEMENT OF AN "INCREASED RETENTION" REQUIREMENT

* Rigorous enforcement of an increased retention requirement would rely principally upon monitoring by NMFS-certified observers and follow-up by enforcement personnel. It would be incumbent upon these individuals to provide the evidentiary basis for assuring compliance or allowing prosecution of non-compliance. It is the conclusion of NMFS Alaska Enforcement Division that, "Absent a true 'full retention' requirement, wherein no discards of ANY whole fish are permitted, a retention requirement (as proposed in the Council motion) is probably unenforceable."

In effect, if some species can continue to be discarded in-the-round, e.g., arrowtooth, "other" groundfish, etc., at the discretion of the operator, and some species are 'required' to be discarded (as under DFS bycatch-only or prohibited status), the *"burden of proof"* placed upon agents to document violations of a retention standard could effectively make bringing a successful case impossible.

Non-compliance could be expected to be very substantial for unobserved or partially observed operations, and even aboard vessels and at plants with observer coverage, since one observer cannot be present at all times or at all locations. From the standpoint of **field enforcement**, an increased retention program would have to be regarded as, in effect, "voluntary", according to the NMFS Enforcement Office.

Enforceability of any given management program, e.g., IR/IU, can be regarded as inversely related to the level and precision of compliance desired. If a high degree of IR/IU compliance, enforceable through successful prosecution, is demanded then this objective probably cannot be achieved without 'full' retention. However, if a more modest objective of assuring the detection and successful prosecution of gross violations of an IR regulation, is acceptable to the Council, then enforcement may be more likely.

If the Council concludes that the objectives of an IR/IU requirement can be substantially achieved by a program with a high probability of detecting gross violations and egregious departures from the IR/IU regulatory requirements, then a monitorable and enforceable program might be developed. One possible model for such a program is outlined briefly below, and treated in greater detail in the body of the document.

One option for developing a standardized procedure to estimate discards from processor vessels would be to combine information from the observer's estimates of total catch weight and species composition with processor reports of processed product weight back-calculated to the round weight equivalent of retained groundfish using standard product recovery rates (PRRs). In other words, the discards for each species would be determined by subtracting the round weight equivalent of processed product as reported by the processor from the observer's total catch estimate.

> This option has several potential difficulties which are described in more detail in the text. First, it relies on combining catch information from different sources (observer and processor) which will lead to conflicting conclusions in some cases. Second, with existing observer coverage levels, it will be possible to apply this method only to the observed hauls and not to all catch of the vessel. Finally, standard PRRs would be used to determine individual vessel performance, which is likely to be controversial.

The Council is advised that, in the absence of an absolute "Full Retention" requirement, field enforcement, i.e., reliance on "real time" observer and agent monitoring, of the retention proposal is probably not possible. The Council may, therefore, wish to consider whether, 1) the objectives of the increased retention proposal can be substantially met through a less rigorous enforcement program that may detect gross violations of IR/IU requirements, or 2) to require that ALL discarding of any species (perhaps including PSC species) be prohibited.

OTHER IMPLEMENTATION ISSUES

Several other issues arise in assessing the mechanics of an IR/IU program; they include the following.

* Retention standards as proposed will be in conflict with existing inseason management requirements to discard groundfish harvests that exceed Directed Fishing Standards limits (DFS).

> Mandatory retention of specific groundfish species to reduce discards would be secondary to other NMFS regulations that require discard of catch exceeding DFS threshold levels (retainable bycatch-only amounts) or discard of species on "prohibited" status because their TAC has been reached. This would, however, result in increased complexity for monitoring and enforcing IR compliance, perhaps beyond the limitations of available resources.

* The option of "phasing in" retention standards would require monitoring of variable retention or discard rates, i.e., not whether all of the catch of a particular species had been retained, but rather the specific <u>proportion</u> that had been retained (50%, 70%, etc.).

> The option to phase-in retention standards over a three year period would require NMFS to monitor "discard rates" on each target species, rather than monitoring whether all fish of a particular species were retained or not. The impracticality of monitoring discard rate standards under the existing priorities for observer data collection has been discussed in the previous section. Given current levels of observer and enforcement coverage, the complexity of the present observer's task, and the nature of monitoring "discard rates", a phase-in procedure for implementation of retention standards does not appear practical.

* While the Council identified two fisheries as case studies for assessing implementation issues for an IR/IU program, it is apparent that implementation of such a program could not be undertaken piece-meal. That is, the potential exists for vessels in an IR/IU regulated fishery to increase their bycatch, or manipulate catch composition, to effectively exempt themselves from IR/IU requirements. This "loophole" might actually be perceived as inducing <u>additional</u> bycatch, rather than reducing it.

An example of the implementation quandary cited above, might be the mid-water pollock fishery. Pelagic pollock fishing is defined as having a total catch composition of 95% pollock or more. If IR/IU requirements were adopted for the BSAI mid-water pollock fishery, but not simultaneously for say the BSAI bottom pollock fishery, it would be a relatively simple matter for an operation to manipulate catch composition, perhaps by fishing "hard-on-bottom" to acquire a total catch composition of less than 95% pollock, discard the additional unwanted catch, and be exempted from the IR/IU rules.

Similar scenarios can be envisioned for other fisheries, if implementation were done on a fishery-by-fishery basis. Undesired and unanticipated consequences may emerge as a result of this implementation procedure.

* U.S. Coast Guard regulations pertaining to vessel stability define a "Fish Processing Vessel" to mean a vessel that commercially prepares fish or fish products, other than by gutting, decapitating, gilling, skinning, shucking, icing, freezing, or brine chilling (see FR Vol.56, No.157, August 14, 1991) [emphasis added].

H&G processing vessels, which make up the vast majority of the operations in the BSAI rock sole fishery, are by definition exempted from the stringent Coast Guard stability and "load line" regulations. Should the adoption of IR/IU requirements for the BSAI rock sole fishery make necessary acquisition by the H&G fleet of additional processing equipment or capacity, such as filleting machines, meal plants, etc., all such vessels would be required to meet "load line" standards. Meeting "load line" requirements is a complex, time consuming, and very expensive process, according to Coast Guard sources. In some cases, for some vessels, attainment of "load line" certification may not be possible short of major reconstruction.

The operational and economic burden of adopting IR/IU requirements under these circumstances may fall disproportionately upon one segment of the domestic fleet, i.e., small H&G vessels.

The Council may wish to weigh the equity issue associated with implementation of the IR/IU proposal in this and similar fisheries.

* Current authority may not permit the Council to regulate, monitor, and enforce IR/IU requirements on the "onshore" sector of the domestic groundfish industry. While NOAA General Counsel has been asked to examine this issue, if the proposed IR/IU program cannot be applied to all elements of the fishery, one implementation issue may be whether a program that applies only to, in this case, the at-sea sector, is equitable, in terms of National Standards requirements.

For purposes of the case study on BSAI rock sole, this may not represent a significant concern. Currently, this fishery is virtually entirely "at-sea". It is a relevant implementation consideration for the BSAI mid-water pollock fishery, however, and probably will be for many other BSAI and GOA groundfish fisheries which may become the subjects of IR/IU regulation.

As above, the Council may wish to weigh the equity issue associated with implementation of the IR/IU proposal in this and similar fisheries, if having the State of Alaska impose equivalent requirements on inshore and onshore processors is not a viable remedy.

* U.S. EPA and/or Alaska DEC regulations and restrictions on fish processing waste discharging, ocean dumping, and landfilling, may impose operational limitations which some inshore and onshore processors cannot meet and remain economically viable. Likewise, EPA Clean Water Act and Ocean Dumping Act regulations may not provide authority to fully regulate disposal of processing waste, surplus product, and by-products by motherships and catcher/processors in the EEZ.

While a legal determination of the various authorities to control discharging, dumping, or landfilling of fish processing waste or surplus product has not been completed, there appears to be some doubt as to the adequacy of current regulations. Implementation of an IR/IU program may require the Council's explicit treatment of "disposal authority".

* An IU requirement that a minimum percent of retained groundfish catch be processed "for human consumption" will require explicit specification of which product forms "are", and which "are not", acceptable outputs under this standard, and an explicit definition of what constitutes compliance with this requirement.

Since these definitions represent the foundation upon which "regulatory compliance" will be judged, developing a standardized process for establishing and maintaining this listing will be a key implementation issue.

In the extreme the Council might conclude (perhaps with some justification) that, "If the product is not on the approved products list, it does not qualify". However, many products which are economically very important to the U.S. industry today, were not regarded as "products suited for human consumption" only a few years ago. Had strict prohibitions on their production been imposed, market opportunities could have be foregone, with very substantial economic consequences for domestic producers.

Because monitoring and control of utilization are not contemplated (and probably not feasible) beyond primary processing, the Council may wish to consider how such products will be treated for compliance monitoring and enforcement, should these latter obstacles be overcome. [This may require certified seafood inspectors. Some question exists as to whether at-sea processors are capable of accommodating these additional personnel.]

* The effectiveness of the "retention" requirement can be substantially decreased, or even negated, without a strict definition of what constitutes "utilization".

A very narrow interpretation of what constitutes compliance with the IU requirement could be excessively burdensome, impair new product development, and adversely effect the domestic industry's ability to access markets. A very broad interpretation could result in the circumventing of the IR requirement, and the effective negation of any potential benefits from an increased retention and utilization program.

An important part of an IR/IU program will involve defining how "utilization" will be measured. Two possible methods of compliance monitoring are evaluated in this document. Due to potential deficiencies with each, however, a preferred alternative has not been identified.

The Council may wish to consider how narrowly or broadly they will define acceptable "utilization", for purposes of judging compliance with the IU portion of the proposal. They may also wish to identify a "preferred alternative" for assessing compliance.

INCREASED RETENTION/INCREASED UTILIZATION IMPLEMENTATION ISSUES ASSOCIATED WITH THE BSAI MID-WATER POLLOCK AND BSAI ROCK SOLE FISHERIES

INTRODUCTION

On December 9, 1994, the North Pacific Management Council debated and then unanimously approved a motion to develop a set of options on two subject fisheries that would be used to outline the mechanics of implementing a "retention/utilization" program. The Council identified the two subject fisheries for assessment as, 1) the BSAI rock sole fishery, and 2) the BSAI mid-water pollock fishery. The Council requested that this document flesh out the specifics of how a "retention - utilization" program would work, looking at the various pros and cons. However, this document was not expected to contain a significant amount of cost-benefit analysis; material the Council concluded was more properly reserved for an EA/RIR.

The objective of the Council in proposing an initial assessment of an "Increased Retention/Increased Utilization" (IR/IU) regulation appears to center on the concern that, under present regulations, groundfish catches are being "underutilized", resulting in discard levels which are perceived to be unacceptably high. An IR/IU amendment would be expected to provide an incentive to avoid unwanted catch, increase utilization of fish that are taken, and thus reduce discards. Without reference to an explicit preference as to whether reduction is achieved by bycatch avoidance or increased utilization, the Council's objective implicitly suggests that either is equally valuable.

The motion, adopted in December, identifies two **"Retention Options"**, i.e., Option 1 - Status Quo, and Option 2 - Prohibit Discards of Target Groundfish. Under retention Option 2, two suboptions are specified, i.e., Suboption A - retention standards apply only to target species in subject fishery, and Suboption B - retention standards apply to all target species harvested in the subject fishery.

Two **"Time line Options"** are specified in the motion. Option 1 - Effective date to achieve 100% retention, contains two suboptions, i.e., Suboption A: January 1, 1996, and Suboption B: January 1, 1997. Option 2 provides for a phase in over three years, to achieve 100% retention in the third year, beginning with an unspecified percentage in 1996, and 1997, and 100% retention in 1998.

Finally, the motion contains two **"Utilization Options"**. The first, Option 1, is the Status Quo alternative, and provides that target species may be processed into any form. Product form could be meal or any other form, regardless of whether or not the product is fit for human consumption. Option 2 states that target species must be processed into human consumption form, based on a percentage of total round weight of harvest of target species. Under Option 2, three suboptions are identified. The suboptions for analysis of the minimum percentage of target species harvest which must be processed for human consumption are: Suboption A: 50%; Suboption B: 70%; and Suboption C: 90%.

INCREASED RETENTION REQUIREMENT

As noted, in the IR/IU motion the Council specified that, for purposes of examining implementation procedures and mechanisms for various retention and utilization proposals, two subject fisheries should be employed. These are the BSAI mid-water pollock trawl fishery and the BSAI rock sole trawl fishery. In addition, the Council specified two "retention" options. The first (Option 1) is the "Status Quo, or No-Action" alternative, which would provide for no change in regulations governing groundfish discards in these fisheries. The second alternative (Option 2), would "prohibit discards of target groundfish".

Under Option 2, the Council further defined two "suboptions". The first, Suboption A, provides that, "retention standards apply only to target species in the subject fishery". That is, for example, <u>all</u> pollock harvested in the

BSAI mid-water pollock trawl fishery would be required to be retained, as would all rock sole harvested in the BSAI rock sole fishery. Under this suboption, any other species bycaught in the prosecution of the directed mid-water pollock fishery, or rock sole fishery, respectively, could be retained or discarded at the discretion of the operator (so long as all other laws and regulations governing retention and discards were observed, e.g., EPA discharge standards, PSC requirements, etc.).

Under Option 2, Suboption B, "retention standards apply to all target species" harvested in the subject fishery. This suboption specifies that "target species" shall be defined as in the CRP license program. In this way, the Council has provided for the continued discard of some species for which no viable economic use can be made at present, thus reducing the potential for imposition of an unreasonable economic burden on the fishery. This distinction may be somewhat arbitrary, however, because several other species which are not exempted may equally meet these criteria.

As a result, the Council may wish to re-examine the rationale for, or the list of, exemptions.
For purposes of the current assessment of this suboption, it is assumed that all bycatch of groundfish species for which a TAC exists must be retained, with the exception of arrowtooth flounder and the "other" groundfish category.[1] All non-allocated species may continue to be discarded, and all Prohibited Species must be discarded, unless otherwise specifically provided for (e.g., retention of all salmon).

DEFINING DISCARDS

Discards of whole fish from catcher vessels, processor vessels, and shoreside processing plants occur for the following reasons:

1. economic discards: the processor or vessel operator is permitted to retain the fish, but chooses not to for various reasons (retaining only the highest value fish, factory not equipped to process particular fish, markets not developed, etc.) - most groundfish discards fall in this category;

2. regulatory discards: the processor or vessel operator is not permitted to retain a particular species of fish or shellfish because, 1) it is a prohibited species (salmon, crab, herring, halibut), 2) the directed fishery for a groundfish species has closed and only bycatch amounts may be retained, or 3) a groundfish TAC has been reached and additional catch of that species must be discarded.

Most discards in the BSAI pelagic pollock and rock sole fisheries, other than prohibited species, are *"economic"* rather than *"regulatory"*. Historically, economic discards have been highest in association with the "roe" fishery, although regulatory changes which banned roe-stripping in the pollock fishery, and opened yellowfin sole and "other" flatfish fisheries simultaneously with rock sole, have modified this pattern somewhat. The "roe" season in both fisheries occurs early in the calendar year when relatively few groundfish species are on bycatch-only or prohibited status, thus potentially reducing the role of regulatory discards in the groundfish bycatch problem in the two case study fisheries.

BSAI Mid-water pollock: The pelagic pollock fishery is defined on the basis of a catch composition of 95% or more pollock (total non-pollock bycatch of 5% or less). In actuality, the BSAI mid-water pollock fishery has historically recorded catches of 98% to 99% pollock. Unless retention is prohibited due to a TAC being reached, the 95% threshold in this fishery should allow for retention of all bycatch of other groundfish species.

BSAI Rock Sole: Traditionally, substantial quantities of yellowfin sole and "other" flatfish were routinely discarded during the rock sole roe fishery, ostensibly because the season openings for the respective fisheries did not coincide. In 1994, season-opening date changes for yellowfin sole and "other" flatfish reduced the possibility

[1] "Other" groundfish in the BSAI include sculpins, sharks, skates, eulachon, smelts, capelin, and octopus.

of regulatory discards of these flatfish in the roe rock sole fishery. Because of the substantial difference in "value" between yellowfin, "other" flatfish, and roe-bearing rock sole during this portion of the fishing year, it is likely that "regulatory" discarding of these flatfish species will be replaced with "economic" discarding in the absence of a retention requirement.

Regulatory discards of some groundfish may, nonetheless, occur in later season fisheries, such as the pollock "B"-season, or the post-roe rock sole season, as other groundfish TACs are reached. For example, Atka mackerel (4/9/94), sablefish (6/1/94), Greenland turbot (6/8/94), and Pacific cod (11/25/94) would have had to be discarded during at least part of the later season fisheries in 1994.[2]

The majority of discards from trawl vessels are made after the net has been brought onboard, as discarded fish are sorted from retained catch. However, some discards are made from the net before the fish are brought onboard. For example, "bleeding" of the codend is reportedly fairly common in the pollock catcher vessel fleet.[3] The pollock catcher vessels may "top off" to assure that their holds are as full as possible and discard fish in excess of hold capacity. Bleeding also reportedly occurs if the net contains a large proportion of non-target species or fish of undesirable size. In other cases, it is reported, nets are bled in response to "trip limits" imposed by processors. Finally, in some cases and under some operating conditions, nets must be bled for vessel safety or stability reasons.

Fish bled from codends are considered discards and are required to be included in both the industry and observer estimates of total catch. However, accurate estimation of the species, size, quantity, and condition of fish discharged from a net before it is taken onboard a vessel is problematic, whether for an operator or an observer. Furthermore, when operations are unobserved, or only partially observed, confirmation that estimates of fish bled from nets are appropriately reported cannot be assured.

The Council may wish consider whether mandatory retention requirements, as contained in the proposed action, will apply only to discards made after fish are brought onboard the vessel or to all categories of discards. In other words, is the intent to prohibit codend bleeding? Furthermore, the Council may wish to consider how, and if, such requirements will be applied to, and enforced upon, unobserved operations, or hauls.

Likewise, the Council may wish to consider whether exemptions will be given for diseased, contaminated, spoiled, or damaged fish. While this may create the potential for abuse, without such an exemption, will operators be asked to handle fish that should not be introduced into processing lines?

CURRENT METHODS OF ESTIMATING CATCH AND DISCARDS

The source of discard estimates depends on how total catch is estimated for a particular vessel or processor:

Catcher/Processors and Mothership/Processor Vessels

observer onboard: The blend system is used to estimate total catch by species for catcher/processors and mothership/processor vessels with an observer onboard the vessel. Each week, NMFS compares the observer's report of total catch weight with an estimate derived from the processor's Weekly Production Report (WPR). In most cases, the blend selects the higher of these two total catch weight estimates and the associated information about species composition and the distribution between retained catch and discards. In other words, if the blend selects the observer's report, then discard estimates for

[2] Date indicates when the species was placed on "prohibited status".

[3] "Bleeding" of the net reportedly occurs to some degree in all the trawl fisheries.

that processor and week are based on the observer's estimate. If the blend selects the processor's report, discard estimates are based on the processor's WPR.

without observer onboard: NMFS uses the estimates of discards provided by the processor on the WPR.

catcher vessels delivering to shoreside processing plants: NMFS applies information about the weight and species composition of discards from observed catcher vessels to unobserved catcher vessels operating in the same area, using the same gear-type, and participating in the same directed fishery.

shoreside processing plants: for fish landed and then discarded from shoreside processing plants, NMFS uses information supplied by processors on WPRs about the weight and species composition of plant discards regardless of whether the plant is observed or unobserved.

It is difficult to assess the accuracy of either industry or observer estimates. In the case of at-sea operators, neither source provides direct measurement of discards, and once the discards are made, estimates cannot be verified.

Onshore estimates, drawn from WPRs, are no better documented, since they depend solely on the data supplied by the operation, itself, and are filed with NMFS well after the discards have been sorted and disposed of, thus making physical verification impossible.

Observers have a "primary responsibility" to estimate the weight and species composition of the total catch to provide scientifically reliable information about fishing mortality. The disposition of catch between processed product or discards is, at present, regarded as "secondary information", and is provided by the observer on the basis of best available information. Several methods are used by the observer to estimate at-sea discards from trawl vessels:

1. if all of the catch of a particular species is being discarded, then discards equal the observer's estimate of total catch for that species;

2. the estimated round weight equivalent of retained catch based on production data can be subtracted from the observer's total catch estimate for a particular species (variation in product recovery rates will affect the accuracy of discard estimates using this method);

3. information about the minimum size of fish retained for processing combined with length frequency data collected by the observer can be used to estimate the proportion of the total catch discarded.

In addition to estimating the proportion of each species discarded from sampled hauls, the observer may extrapolate this information to unobserved hauls.

CATCH AND DISCARDS IN THE POLLOCK AND ROCK SOLE FISHERIES

Catch and discard data from NMFS Alaska Region Blend Estimates, and NMFS Weekly Production Reports, have been employed in evaluating the implementation process for Option 2, and Suboptions A & B, and contrasting these with Option 1, the Status Quo alternative, for the two subject fisheries. Further, the fishing years 1993 and 1994 were selected, with the expectation that they most nearly reflect the current pattern of catch, utilization, and discards in these fisheries. Preliminary 1995 data through March 18 are also presented. [The following table reflects these "Blend" data for the BSAI mid-water pollock trawl fishery (Table 1.0).]

Based upon these data, the following "preliminary" conclusions may be drawn, with respect to the two "Retention Options", and implementation of Suboptions A or B.

BSAI Mid-water Pollock

For the BSAI mid-water pollock trawl fishery, NMFS Weekly Production Reports indicate that 62 processors participated in the 1993 fishery (8 shoreside processing plants, 1 floating processor, 4 motherships, 49 trawl catcher/processors, of which 20 operated as both a catcher/processor and as a mothership). Forty-eight processors participated in the 1994 fishery (7 shoreside processors, 2 floating processors, 3 motherships, 36 catcher/processors, of which 12 operated as both a catcher/processor and as a mothership).

The NMFS blend catch and discard data indicate that, under the Status Quo alternative, the rate of discard in this fishery has been very low (see Table 1.0). Indeed, bycatch of groundfish species other than pollock is consistently quite small. In 1993, for example, 98.6% of the total catch in the mid-water pollock fishery was comprised of pollock. In 1994, 99% of the catch was pollock. Preliminary 1995 data suggest that 98.7% of the total catch in this fishery was composed of pollock.

Total discards in the BSAI mid-water pollock fishery, in 1993, accounted for 4.5% of catch, or 56,619 mt, out of a total harvest of 1,244,710 mt. However, arrowtooth and "other" groundfish (species for which no retention requirement is contemplated) accounted for 2,749 tons of this discard, in 1993. In 1994, total discards dropped to 28,725 mt, out of a total catch of 1,220,712 mt, a rate of less than 2.4%. In 1994, arrowtooth and the "other" groundfish species category accounted for 1,460 mt of the total discard. Preliminary 1995 data show a discard rate of approximately 4.5% through March 18, 1995.

It is significant to note that, based upon NMFS blend catch and discard data for all BSAI groundfish fisheries, the mid-water pollock fishery accounted for roughly 66% of the total groundfish catch, by weight, in 1993, and 19% of the total discards. In 1994, these figures were 61% of the total BSAI groundfish catch, and 9.8% of the discards, by weight.

The distinction between at-sea and onshore operations may be characterized as follows (see Tables 1.1 and 1.2). In 1993, at-sea and onshore operators accounted for approximately 74% and 26% of total catch in the BSAI mid-water pollock fishery, respectively. In 1994, at-sea catches represented approximately 63.5% of total catch, with onshore accounting for the remaining 36.5%. Preliminary 1995 data, through March 18, suggest the at-sea catch was approximately 64.9% of the total, with inshore landings accounting for the remaining 35.1%.

Table 1.0 Catch and discards of all groundfish in the BSAI pelagic pollock trawl fishery, 1993, 1994, and 1995*

	Total catch			Discarded catch				
	Metric tons	Species comp.	Percent contrib.	Metric tons	Species comp.	Discard rate	Percent contribution to discards	Percent contribution to catch
1993								
Pollock	1,227,495	98.6%	88.7%	41,359	73.0%	3.4%	36.9%	3.0%
Pacific cod	8,648	.7%	5.2%	7,052	12.5%	81.5%	19.0%	4.2%
Sablefish	0	.0%	.0%	0	.0%	15.9%	.1%	.0%
Turbot	67	.0%	.8%	66	.1%	99.6%	3.7%	.8%
Rock sole	2,089	.2%	3.3%	2,068	3.7%	99.0%	5.0%	3.2%
Yellowfin	579	.0%	.5%	556	1.0%	96.0%	1.9%	.5%
Arrowtooth	557	.0%	6.0%	497	.9%	89.2%	5.8%	5.3%
Flat other	2,659	.2%	9.1%	2,508	4.4%	94.3%	13.1%	8.6%
Rockfish	234	.0%	.9%	227	.4%	96.9%	2.8%	.9%
Atka mack	35	.0%	1%	34	.1%	98.0%	.2%	.1%
Other	2,346	.2%	9.5%	2,2524	.0%	96.0%	9.9%	9.1%
Total	1,244,710	100.0%	66.0%	56,619	100.0%	4.5%	19.1%	3.0%
1994								
Pollock	1,208,573	99.0%	85.0%	20,855	72.6%	1.7%	9.2%	1.5%
Pacific cod	8,276	.7%	4.2%	4,953	17.2%	59.8%	14.8%	.5%
Sablefish	2	.0%	1%	1	.0%	37.6%	.5%	0%
Turbo	65	.0%	.6%	64	.2%	99.6%	2.0%	.6%
Rock sole	333	.0%	5%	294	1.0%	88.2%	.7%	5%
Yellowfin	148	.0%	.1%	126	.4%	85.7%	3%	.1%
Arrowtooth	974	.1%	6.8%	853	3.0%	87.5%	6.2%	5.9%
Flat other	1,471	.1%	4.9%	892	3.1%	60.7%	4.8%	3.0%
Rockfish	91	.0%	.5%	61	.2%	66.8%	.9%	.3%
Atka mack	61	.0%	.1%	58	.2%	94.2%	.6%	.1%
Other	719	.1%	2.9%	568	2.0%	79.0%	2.4%	2.3%
Total	1,220,712	100.0%	61.2%	28,725	100.0%	2.4%	9.8%	1.4%
1995								
Pollock	520,220	98.7%	83.2%	19,389	82.0%	3.7%	37.0%	3.1%
Pacific cod	5,769	1.1%	5.5%	3,590	15.2%	62.2%	16.7%	3.4%
Sablefish	0	.0%	.2%	0	.0%	100.0%	21.2%	.2%
Turbo	4	.0%	1.9%	4	.0%	100.0%	10.3%	1.9%
Rock sole	283	.1%	.8%	217	.9%	76.4%	1.0%	.6%
Yellowfin	30	.0%	.4%	30	.1%	100.0%	1.5%	.4%
Arrowtooth	28	.0%	1.8%	28	.1%	100.0%	1.9%	1.8%
Flat other	165	.0%	3.2%	120	.5%	72.5%	3.0%	2.3%
Rockfish	65	.0%	1.0%	53	.2%	80.9%	4.4%	.8%
Atka mack	13	.0%	.0%	10	.0%	77.6%	.1%	.0%
Other	234	.0%	2.4%	212	.9%	90.2%	3.3%	2.1%
Total	526,813	100.0%	62.7%	23,652	100.0%	4.5%	19.9%	2.8%

*Source: NMFS Alaska Region blend estimates through March 18, 1995.

Table 1.1 Catch and discards of all groundfish in the BSAI pelagic pollock at-sea processing trawl fishery, 1993, 1994, and 1995*

	Total catch			Discarded catch				
	Metric tons	Species comp.	Percent contrib.	Metric tons	Species comp.	Discard rate	Percent contribution to discards	Percent contribution to catch
1993								
Pollock	901,565	98.4%	65.1%	34,907	71.0%	3.9%	31.1%	2.5%
Pacific cod	7,041	.8%	4.2%	6,426	13.1%	91.3%	17.3%	3.8%
Sablefish	0	.0%	.0%	0	.0%	100.0%	.1%	.0%
Turbot	33	.0%	.4%	33	.1%	99.7%	1.8%	.4%
Rock sole	2,033	.2%	3.2%	2,0164	.1%	99.1%	4.8%	3.1%
Yellowfin	579	.1%	.5%	556	1.1%	96.0%	1.9%	.5%
Arrowtooth	492	.1%	5.3%	451	.9%	91.6%	5.2%	4.9%
Flat other	2,510	.3%	8.6%	2,444	5.0%	97.4%	12.8%	8.4%
Rockfish	208	.0%	.8%	203	.4%	97.5%	2.5%	.8%
Atka mack	13	.0%	.0%	13	.0%	98.2%	.1%	.0%
Other	2,130	.2%	8.6%	2,114	4.3%	99.2%	9.2%	8.5%
Total	916,605	100.0%	48.6%	49,161	100.0%	5.4%	16.6%	2.6%
1994								
Pollock	768,914	99.0%	54.1%	16,438	70.8%	2.1%	15.2%	1.2%
Pacific cod	4,845	.6%	2.5%	4,230	18.2%	87.3%	12.6%	2.2%
Sablefish	0	.0%	.0%	0	.0%	99.3%	.1%	.0%
Turbot	23	.0%	.2%	23	.1%	99.9%	.7%	.2%
Rock sole	317	.0%	.5%	289	1.2%	91.2%	.7%	.5%
Yellowfin	128	.0%	.1%	125	.5%	97.9%	.3%	.1%
Arrowtooth	822	.1%	5.7%	817	3.5%	99.4%	5.9%	5.7%
Flat other	968	.1%	3.3%	802	3.5%	82.9%	4.3%	2.7%
Rockfish	22	.0%	.1%	20	.1%	91.5%	.3%	.1%
Atka mack	1	.0%	.0%	1	.0%	95.2%	.0%	.0%
Other	496	.1%	2.0%	488	2.1%	98.3%	2.1%	1.9%
Total	776,536	100.0%	38.9%	23,233	100.0%	3.0%	7.9%	1.2%
1995								
Pollock	338,109	98.9%	54.0%	16,552	82.7%	4.9%	31.6%	2.6%
Pacific cod	2,899	.8%	2.7%	2,856	14.3%	98.5%	13.3%	2.7%
Sablefish	0	.0%	.2%	0	.0%	100.0%	21.2%	.2%
Turbot	4	.0%	1.9%	4	.0%	100.0%	10.3%	1.9%
Rock sole	283	.1%	.8%	217	1.1%	76.4%	1.0%	.6%
Yellowfin	30	.0%	.4%	30	.1%	100.0%	1.5%	.4%
Arrowtooth	28	.0%	1.8%	28	.1%	100.0%	1.9%	1.8%
Flat other	106	.0%	2.0%	105	.5%	99.6%	2.7%	2.0%
Rockfish	65	.0%	1.0%	53	.3%	80.9%	4.4%	.8%
Atka mack	9	.0%	.0%	6	.0%	66.7%	.1%	.0%
Other	173	.1%	1.7%	171	.9%	98.5%	2.6%	1.7%
Total	341,707	100.0%	40.7%	20,021	100.0%	5.9%	16.8%	2.4%

*Source: NMFS Alaska Region blend estimates through March 18, 1995.

Table 1.2 Catch and discards of all groundfish in the BSAI pelagic pollock on-shore processing trawl fishery, 1993, 1994, and 1995*

	Total catch			Discarded catch				
	Metric tons	Species comp.	Percent contrib.	Metric tons	Species comp.	Discard rate	Percent contribution to discards	Percent contribution to catch
1993								
Pollock	325,930	99.3%	23.5%	6,452	86.5%	2.0%	5.8%	.5%
Pacific cod	1,607	.5%	1.0%	626	8.4%	39.0%	1.7%	.4%
Sablefish	0	.0%	.0%	.	.	.	.	.
Turbot	34	.0%	.4%	34	.5%	99.4%	1.9%	.4%
Rock sole	56	.0%	.1%	53	.7%	93.5%	.1%	.1%
Yellowfin	0	.0%	.0%	0	.0%	45.0%	.0%	.0%
Arrowtooth	65	.0%	.7%	46	.6%	70.3%	.5%	.5%
Flat other	148	.0%	.5%	63	.8%	42.6%	.3%	.2%
Rockfish	26	.0%	.1%	24	.3%	92.3%	.3%	.1%
Atka mack	22	.0%	.0%	22	.3%	97.9%	.1%	.0%
Other	216	.1%	.9%	139	1.9%	64.2%	.6%	.6%
Total	328,104	100.0%	17.4%	7,458	100.0%	2.3%	2.5%	.4%
1994								
Pollock	439,658	99.0%	30.9%	4,417	80.4%	1.0%	4.1%	.3%
Pacific cod	3,431	.8%	1.7%	723	13.2%	21.1%	2.2%	.4%
Sablefish	1	.0%	.1%	0	.0%	31.9%	.4%	.0%
Turbot	41	.0%	.4%	41	.7%	99.3%	1.3%	.4%
Rock sole	16	.0%	.0%	5	.1%	29.4%	.0%	.0%
Yellowfin	19	.0%	.0%	1	.0%	5.2%	.0%	.0%
Arrowtooth	152	.0%	1.1%	36	.7%	23.7%	.3%	.3%
Flat other	503	.1%	1.7%	91	1.6%	18.0%	.5%	.3%
Rockfish	69	.0%	.4%	41	.7%	58.9%.	6%	.2%
Atka mack	61	.0%	.1%	57	1.0%	94.2%	.6%	.1%
Other	223	.1%	.9%	81	1.5%	36.2%	.3%	.3%
Total	444,176	100.0%	22.3%	5,492	100.0%	1.2%	1.9%	.3%
1995								
Pollock	182,111	98.4%	29.1%	2,837	78.1%	1.6%	5.4%	.5%
Pacific cod	2,870	1.6%	2.7%	734	20.2%	25.6%	3.4%	.7%
Flat other	59	.0%	1.1%	14	.4%	24.2%	.4%	.3%
Atka mack	4	.0%	.0%	4	.1%	100.0%	.1%	.0%
Other	61	.0%	.6%	41	1.1%	66.7%	.6%	.4%
Total	185,106	100.0%	22.0%	3,631	100.0%	2.0%	3.0%	.4%

*Source: NMFS Alaska Region blend estimates through March 18, 1995.

Composition of the catch was very similar in both sectors, with at-sea reporting 98.4%, 99%, and 98.9% pollock composition in 1993, 1994, and 1995, respectively; and onshore reporting 99.3%, 99.0%, and 98.4% pollock, respectively, for the same three years. Discard rates for pollock were somewhat higher in each year for the at-sea operators, as compared to onshore operations, although both were relatively low. Onshore plants appear, in general, to discard other groundfish bycatch at lower rates than at-sea operations, although this pattern does not hold for all species.

Option 1

Retention of the Status Quo option, in the BSAI mid-water pollock trawl fishery would, presumably, result in continued groundfish bycatch discards on the order of those observed in recent years in this fishery. Despite the low bycatch rates in this fishery, mid-water pollock accounts for approximately 19% of all pollock discards and just under 10% of all groundfish discarded reported in groundfish fisheries in the BSAI, in 1994 (the last year for which complete data are available).

Option 2

Adoption of Option 2 would prohibit discards of "target" groundfish. Under Option 2, the Council specified Suboptions A and B, each of which defines more precisely "what may and may not be discarded".

Suboption A

As applied to the BSAI mid-water pollock fishery, Suboption A would require that all pollock harvested in this fishery be retained. Any other species incidentally caught while taking pollock could continue to be disposed of as the operator chose, including discarding in the round.[4] Based upon the blend catch and discard data, cited above, BSAI mid-water pollock operators discarded approximately 41,359 mt of pollock in 1993, 20,855 mt of pollock in 1994, and through March 18, 19,389 mt, in 1995. Had Suboption A been in place in this fishery in those years, these discards would have been prohibited.

Because the mid-water pollock fishery is highly selective in terms of catch composition, with pollock consistently accounting for more than 98% of total catch, the provisions of Suboption A which, in this case, prohibit discarding of pollock, can potentially be expected to significantly reduce total discards in this fishery, as compared to the status quo baseline. In 1993, for example, a prohibition on discarding of pollock could have reduced total bycatch discards in this fishery by more than 73%, from 56,619 mt to 15,260 mt. In 1994, discards could have declined by a similar percentage, from 28,725 mt to 7,870 mt. Through March 18, 1995, total discards could have been reduced by nearly 82%, from 23,652 mt to just 4,263 mt. Of the remaining discards in 1993, 2,749 mt were composed of arrowtooth flounder and "other" groundfish. In 1994, arrowtooth and the "other" groundfish category accounted for 1,421 mt of discard. In 1995, arrowtooth and "other" groundfish made up about 240 mt of the total discards. Eliminating arrowtooth and "other" groundfish from the total suggests that, had Suboption A been in place, "economic discards of concern", as defined in the IR/IU proposal, in this fishery

[4] Operators would, of course, be required to comply with all other regulations governing disposal, e.g., PSC regulations, EPA discharge requirements, etc., as well as specific retention requirements such as those currently governing the retention of all Pacific salmon bycatch.

could have been reduced to approximately 12,511 mt, 6,449 mt, and 4,023 mt, in 1993, 1994, and 1995 (through March 18) respectively, or approximately a 78% reduction in 1993 and 1994, and nearly 83% in 1995.[5]

Suboption B

Under the proposed Suboption B, the *retention standard* would be extended to include all "allocated species", except arrowtooth and the "other" groundfish category. In the case of the BSAI mid-water pollock trawl fishery, adoption of Suboption B would not be expected to result in substantial additional reductions in discards over the improvements cited under Suboption A. This is so precisely because of the highly selective nature of this fishery. As the data indicate, in 1993, 1994, and (preliminary) 1995 the catch composition in this fishery was consistently over 98%, and often more than 99%, pollock.

Based on the catch and discard data cited above, had Suboption B been in place in this fishery, total discards could have been reduced by 53,870 mt, 27,304 mt, and 23,412 mt, respectively, for 1993, 1994, and 1995 (through March 18), **as compared to the Status Quo option.** This potentially represents more than a 95% reduction in total discards in each year, again, **as compared to the status quo.** Adoption of Suboption B could potentially have reduced "economic discards of concern" by approximately an additional 23%, i.e., 12,511 mt in 1993, and 6,449 mt in 1994, as compared to levels achieved under Suboption A, in this fishery. [The preliminary 1995 numbers, i.e., 4,023 mt, yield an additional 17.2% reduction over Suboption A.]

While some improvement in bycatch avoidance may be induced by adoption of retention requirements, it is unlikely that all bycatch can be eliminated. The relative success of bycatch avoidance will also presumably vary by season and area. Nonetheless, for the foreseeable future at least, bycatches of non-target groundfish will continue to be associated with the groundfish trawl fishery.

Reduction Capacity

It is assumed for purposes of the following discussion that, if an operator had fish meal production capacity, that operator would have produced <u>some</u> quantity of meal at <u>some</u> <u>time</u> during the fishing year. It need not have been pollock meal in the pollock fishery, or rock sole meal in the rock sole fishery, but if an operator produced any meal, from any source, it is assumed the operation has meal capacity; otherwise not.

Based upon NMFS Weekly Production Reports, for both onshore and at-sea processors, it appears that approximately 49% of the operations participating in the mid-water pollock fishery, or 31 out of 63 operations, had fish meal capacity, in 1993. In 1994, the percentage rose only very slightly to 50%, or 24 operators out of 48.

It is revealing to note that of the 62 processors participating in the 1993 fishery, meal production was reported by 4 of the 8 shoreside processing plants, the 1 floating processor, all 4 motherships, and 14 of 49 trawl catcher/processors. In 1994, meal production was reported by 6 of the 7 shoreside processing plants, the 2 floating processors, all 3 motherships, and 13 of the 36 catcher/processors.

Most of the surimi catcher/processors operating in the BSAI mid-water pollock fishery have meal capacity. Fillet and H&G operations may not currently possess this technology, and would face the prospects of either acquiring

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[5] To the extent that harvesters are able to avoid bycatches of unwanted fish, these discard estimates may be further reduced by imposition of a "retention" requirement. At present, no empirical data are available with which to assess this potentiality. Presumably, adjustments to a "retention" requirement would occur over time as fishermen learn new techniques, or adjust fishing practices, patterns, and areas. It may require the observation of these operations over several seasons under a "retention" requirement before such information could be obtained, however.

meal plants (or ready access to such capacity)[6], finding some viable alternative means of handling bycatch, or leaving the fishery.

Other Regulatory Considerations

Other considerations may impair or prevent some operators from acquiring the capacity to meet the IR/IU requirements. For example, U.S. Coast Guard vessel stability and "load line" regulations may prevent smaller vessels in the fleet from acquiring the machinery and equipment necessary to remain an economically and/or operationally viable participant in this fishery.

U.S. EPA or Alaska DEC regulations and restrictions on waste disposal, ocean dumping, and landfilling, may impose limits which some inshore or onshore operators cannot meet and remain economically viable. Likewise, EPA "ocean dumping" regulations may not provide authority to fully regulate processing waste, surplus product, and by-product disposal by motherships and catcher/processors in the EEZ. Unfortunately, insufficient information with which to conduct an analysis on these aspects of the proposed IR/IU action is currently unavailable.

BSAI Rock Sole

Catch and discard data from NMFS Alaska Region Blend Estimates, and NMFS Weekly Production Reports, have been employed in evaluating the implementation process for Option 2, Suboptions A & B, and contrasting these with Option 1, the Status Quo alternative, for the rock sole fishery. Further, the fishing years 1993, 1994, and 1995 (through March 18) were selected, with the expectation that they most nearly reflect the current pattern of catch, utilization, and discards in this fishery. The following table reflects these "Blend" data for the BSAI rock sole fishery (Table 2.0).

NMFS Weekly Production Reports indicate that, in 1993, 38 operators participated in the BSAI rock sole fishery, at some time during the fishing year. In 1994, that number fell to 33. For the BSAI rock sole trawl fishery, the NMFS blend catch and discard data indicate that, under Option 1 (the Status Quo), the rate of discard in this fishery is relatively high (see Table 2.0). Indeed, bycatch of groundfish species of other than rock sole has historically been quite high as a percent of total catch. In 1993, 46.3% of the total catch in the rock sole fishery

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[6] In theory, access to fish meal reduction capacity may be provided by transferring catch to another vessel designed and equipped for this purpose. Reportedly, the *M/V Arctic V* is configured as a floating meal reduction plant. It currently supports the *Arctic Enterprise*, an inshore processing vessel, which does not have meal capability.

According to those familiar with this operation, the process requires that the *Arctic V* be continuously moored along side the *Arctic Enterprise* in relatively sheltered waters. The *Enterprise* reportedly fully occupies the capacity of the meal plant vessel. No other equivalent meal reduction vessels operate in the North Pacific. Several very large factory reduction vessels exist worldwide, but all are under foreign flag, e.g., Poland, The Russian Republic, and could not be brought in to the fishery to operate in the U.S. EEZ, except through a formal joint-venture agreement.

Catch destined for meal reduction could be retained and delivered by the fishing vessel itself to onshore meal plants, although logistical and operational costs could be very substantial. In some cases, this operational requirement could make participation in the fishery economically infeasible. Alternatively, bycatch might be transferred to another vessel for transport to an onshore meal plant. This too presents safety and logistical problems which may not be easily overcome, given existing technology.

Each of these methods represent alternatives to acquiring fish meal capacity by an individual vessel. The logistics, practicality, and relative cost, however, have not been evaluated in this assessment. Industry sources who have begun to examine these options suggest that technical problems may be substantial.

was comprised of groundfish species other than rock sole, i.e., 53.7% of the catch was rock sole. In 1994, 54.7% of the catch was rock sole, with the remaining 45.3% composed of groundfish other than rock sole. In 1995, through March 18, 55.6% of the total catch was rock sole.

It is significant to note that, based upon NMFS blend catch and discard data for all BSAI groundfish fisheries, the rock sole fishery accounted for just over 3.8% of the total BSAI groundfish catch, by weight, in 1993, and 17.24% of the total discards. In 1994, these figures were 3.7% of the BSAI total groundfish catch, and 17.44% of the total discards, by weight.

Total discards in the BSAI rock sole fishery, in 1993 and 1994, accounted for approximately 70.2% and 69.6% of catch, in 1993 and 1994, respectively. Preliminary data for 1995 indicate a total discard rate of 61.2%. It may be revealing to note that the discards in the BSAI rock sole fishery, some 51,116 mt, nearly reached the total discards of 56,619 mt in the BSAI mid-water pollock fishery in 1993, despite the fact that total catch in the rock sole fishery was under 72,784 mt, while the pollock fishery harvested more than 1,244,000 mt. In 1994, the disparity was even greater, with discards in the rock sole fishery of 51,335 mt out of a total catch of 73,778 mt, as compared to mid-water pollock discards of 28,725 mt from a catch of 1,220,712 mt. In the preliminary data for 1995, rock sole discards of 24,839 mt, actually exceeded the mid-water pollock fishery's discards of 23,652 mt. This, despite total catches in the rock sole fishery of 40,581 mt, as compared to 526,813 mt in mid-water pollock.

In some cases the physical comparison of discards are misleading, especially if value per unit of discard varies by species. For example, a metric ton of pollock discard would not be equivalent, in any way but its weight, to a metric ton of, say, male rock sole discard. Pollock TAC is fully subscribed and there are high valued, well established markets for this species. Male rock sole, on the other hand, do not, as yet, represent a highly valued product, and the rock sole TAC is not fully utilized. Therefore, to implicitly equate the discard (or savings) of a ton of pollock with a ton of male rock sole, may be misleading. Indeed, the Council has implicitly recognized that this is so by exempting such species as "arrowtooth" from the retention requirement, owing to its low relative value and limited use, as compared to other groundfish species.

Arrowtooth and "other" groundfish (species for which no retention requirement is contemplated) accounted for 2,964 mt of the discard in the rock sole fishery, in 1993. In 1994, arrowtooth and the "other" groundfish species category accounted for 3,309 mt of total discard. Through March 18, 1995, these species accounted for 1,121 mt.

Historically, the BSAI rock sole fishery has been essentially an "at-sea" fishery, with no appreciable onshore participation. Whether this pattern will be sustained in the future will, presumably, depend upon a number of factors, including market considerations, the availability and timing of other fisheries, and the cost of complying with any increased retention/increased utilization requirements established by the Council. At the present time, the BSAI rock sole fishery is primarily an H&G "catcher/processor" fishery, although some participation by smaller catcher boats supporting one or more "motherships" may change this pattern.

Option 1

Retention of the Status Quo option, in the BSAI rock sole trawl fishery would, presumably, result in continued groundfish bycatch discards on the order of those observed in recent years in this fishery.

Table 2.0 Catch and discards of all groundfish in the BSAI rock sole at-sea processing trawl fishery, 1993-1994*

	Total catch			Discarded catch				
	Metric tons	Species comp.	Percent contrib.	Metric tons	Species comp.	Discard rate	Percent contribution to discards	Percent contribution to catch
1993								
Pollock	15,761	21.7%	1.1%	14,617	28.6%	92.7%	13.1%	1.1%
Pacific cod	7,138	9.8%	4.3%	5,101	10.0%	71.5%	13.8%	3.0%
Turbot	9	.0%	.1%	9	.0%	100.0%	.5%	.1%
Rock sole	39,115	53.7%	60.9%	22,945	44.9%	58.7%	55.1%	35.7%
Yellowfin	3,935	5.4%	3.7%	2,309	4.5%	58.7%	8.0%	2.2%
Arrowtooth	554	.8%	6.0%	554	1.1%	100.0%	6.4%	6.0%
Flat other	3,812	5.2%	13.1%	3,166	6.2%	83.1%	16.5%	10.9%
Rockfish	5	.0%	.0%	5	.0%	100.0%	.1%	.0%
Other	2,456	3.4%	9.5%	2,410	4.7%	98.1%	10.4%	9.3%
Total	72,784	100.0%	3.9%	51,116	100.0%	70.2%	17.2%	2.7%
1994								
Pollock	15,402	20.9%	1.1%	14,432	28.1%	93.7%	13.3%	1.0%
Pacific cod	5,649	7.7%	2.9%	3,766	7.3%	66.7%	11.2%	1.9%
Turbot	9	.0%	.1%	9	.0%	100.0%	.3%	.1%
Rock sole	40,380	54.7%	66.7%	23,572	45.9%	58.4%	59.5%	38.9%
Yellowfin	5,372	7.3%	3.7%	3,509	6.8%	65.3%	9.5%	2.4%
Arrowtooth	621	.8%	4.4%	621	1.2%	100.0%	4.5%	4.4%
Flat other	3,584	4.9%	12.0%	2,738	5.3%	76.4%	14.6%	9.2%
Rockfish	1	.0%	.0%	1	.0%	100.0%	.0%	.0%
Other	2,761	3.7%	10.3%	2,688	5.2%	97.3%	11.5%	10.0%
Total	73,778	100.0%	3.7%	51,335	100.0%	69.6%	17.4%	2.6%
1995								
Pollock	6,833	16.8%	1.1%	6,031	24.3%	88.3%	11.5%	1.0%
Pacific cod	7,447	18.4%	7.0%	4,077	16.4%	54.7%	19.0%	3.9%
Turbot	2	.0%	1.0%	2	.0%	100.0%	5.2%	1.0%
Rock sole	22,572	55.6%	64.4%	12,004	48.3%	53.2%	55.2%	34.2%
Yellowfin	1,198	3.0%	14.9%	583	2.3%	48.7%	29.3%	7.3%
Arrowtooth	169	.4%	10.9%	166	.7%	98.1%	11.2%	10.7%
Flat other	1,398	3.4%	27.0%	1,021	4.1%	73.0%	25.8%	19.7%
Other	961	2.4%	9.6%	955	3.8%	99.3%	14.7%	9.6%
Total	40,581	100.0%	4.8%	24,839	100.0%	61.2%	20.9%	3.0%

Source: NMFS Alaska Region blend estimates through March 18, 1995.

Option 2

Option 2, as proposed by the Council, would prohibit discards of "target" groundfish. Suboptions A and B each define, more precisely, which bycatch species may and may not be discarded.

With reported rates of total discards on the order of 70% of total catch in the BSAI rock sole fishery (61.2% in 1995, through March 18), it seems, at least potentially, that substantial improvements in the rate of bycatch discards can be anticipated, should a "retention option" be adopted.

Arrowtooth flounder and "other" groundfish accounted for only approximately 4% to 5% of total catch, by weight, in the BSAI rock sole fishery. If arrowtooth and "other" groundfish are eliminated from the discard totals, the estimated aggregate discard rate for the BSAI rock sole trawl fishery was still on the order of 69% of total catch in 1993, and 68.2% in 1994 (60.1% through March 18, 1995).

Suboption A

As applied to the BSAI rock sole fishery, Suboption A would require that all rock sole harvested in this fishery be retained, while any other species incidentally caught while taking rock sole could continue to be disposed of as the operator chose, including discarding in the round.[7] Based upon the blend catch and discard data presented in Table 2.0 above, BSAI rock sole operators discarded approximately 22,945 mt of rock sole in 1993, 23,572 mt of rock sole in 1994, and (through March 18) 12,004 mt in 1995. Had Suboption A been in place in this fishery in those years, these discards would have been prohibited. In this case, barring substantial changes in catch composition or total harvest[8], total discards could potentially have been 28,171 mt, 27,763 mt, and 12,835 mt, respectively, in 1993, 1994, and 1995. This would represent just over a 55% reduction in total discards in the BSAI rock sole fishery in 1993, a 54% reduction in 1994, and approximately a 52% reduction in 1995.

Because the BSAI rock sole fishery is relatively non-selective in terms of catch composition, with rock sole accounting for only approximately 54% to 55% of total catch, the provisions of Suboption A which, in this case, prohibit discarding only of rock sole may not reduce total discards in this fishery to the extent, for example, that Suboption A could in the mid-water pollock fishery.

Suboption B

Under the proposed Suboption B, the retention standard would be extended to include all "allocated species", except arrowtooth and the "other" groundfish category. In the case of the BSAI rock sole trawl fishery, adoption of Suboption B could potentially be expected to result in substantial reductions in discards **over the improvements cited under Suboption A.** This is so precisely because of the relatively non-selective nature of this fishery. As the data indicate, in 1993 and 1994, the catch composition in this fishery was consistently in the 54% rock sole range. Even with the deletion of arrowtooth and the "other" groundfish categories from the discard

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[7] Operators would, of course, be required to comply with all other regulations governing disposal, e.g., EPA discharge requirements, PSC regulations, etc., as well as specific retention requirements such as those currently governing the retention of all Pacific salmon bycatch.

[8] Note that if it were technically (and economically) feasible for rock sole harvesters to alter their catch composition to avoid fish which they did not wish to catch, one would expect the adoption of a "retention requirement" to provide an incentive to undertake those actions. However, no empirically reliable data confirming the ability of fishermen to achieve this result, nor indications of how catch composition might be changed, exists at present. Indeed, it may be necessary for the rock sole fishery to operate for several seasons under a "retention requirement" before such empirical data could be compiled.

totals, substantial amounts of non-rock sole groundfish could be required to be retained under Suboption B, potentially yielding substantial decreases in total discards in this fishery, as compared to either the status quo or Suboption A.

Based on the catch and discard data cited in Table 2.0, had Suboption B been in place in this fishery, total discards could have been reduced by 48,152 mt, 48,026 mt, and 23,718 mt, respectively for 1993, 1994, and 1995, **as compared to the Status Quo**. This would have represented just slightly more than a 94% reduction in total discards in 1993, just over 93.5% in 1994, and nearly 95.5% through March 18, 1995, again, as compared to the status quo. Adoption of Suboption B could have reduced "economic discards of concern" by approximately an additional 52.35%, 50.92%, and 49.39%, respectively, over levels achieved under Suboption A, in this fishery, in these years.

Other Regulatory Considerations

Another consideration in assessing the implications of adopting a retention standard in the BSAI rock sole fishery centers on the size and configuration of the existing fleet. Because most of the operations in the BSAI rock sole fishery are "small- to medium-sized" vessels limited to H&G operations, available space in their production facilities is severe limited. Providing for extensive additional processing capability, e.g., filleting lines, meal plants, is probably physically impractical. It may also be "technically" infeasible, under current Federal Regulations.[9]

Very few of the vessels which currently participate in the BSAI rock sole fishery have the capability to do more than H&G processing. Virtually none have, for example, meal reduction capability. As noted earlier, U.S. Coast Guard "load line" and vessel stability regulations effectively preclude acquisition of additional processing capacity by most of this fleet. That is, because most of the vessels operating in the BSAI rock sole fishery at present are relatively small H&G boats, and therefore exempted from "load line" regulations, retro-fitting for almost any other processing capability, e.g., meal, fillets, etc., may not be possible, under U.S. Coast Guard vessel stability "load line" regulations. Therefore, retention and utilization requirements may place an insurmountable barrier before many of the current participants in this fishery. This operational constraint will fall disproportionately on the segment of the domestic industry made up of small vessels.

U.S. EPA "ocean dumping" regulations may not provide authority to fully regulate processing waste, surplus product, and by-product disposal by motherships and catcher/processors in the EEZ. Unfortunately, insufficient information with which to conduct an analysis on these aspects of the proposed IR/IU action is currently available.

DEFINING PARTICIPATION IN "DIRECTED FISHERIES"

The terms *target fishery*, *directed fishery*, or *fishery category* generally refer to the primary species or species group being harvested and retained by a fishing vessel. Applying retention/utilization standards to specific directed fisheries, such as rock sole or pelagic pollock, rather than to all groundfish fisheries requires a definition for the individual target fisheries. These definitions can be based on either:

(1) specific standards for retained catch composition as defined by *Directed Fishing Standards*; or

[9] Specifically, a vessel engaged in heading and gutting of fish is not technically a fish processing vessel, and therefore not subject to the stringent U.S. Coast Guard vessel stability requirements which apply to "fish processing vessels" (see Federal Register/ Vol. 56, No. 157/ August 14, 1991).

(2) the dominant species, as used to define fishery categories for *Prohibited Species Catch* (PSC) limits, the *Vessel Incentive Program* (VIP), and some observer coverage requirements under the Research Plan.

Directed Fishing Standards: NMFS has considered using directed fishing standards (DFS), or retainable bycatch amounts, to define whether a vessel was participating in an OPEN directed fishery. Currently, DFS are used to determine whether a vessel has exceeded the allowable bycatch of species for which the directed fishery is CLOSED. For example, once the directed fishery for rock sole closes, directed fishing standards are used to determine whether a vessel fishing in another flatfish fishery which is open at the time, say yellowfin sole, is retaining more than bycatch amounts of rock sole. In other words, these standards are used to determine if a vessel is directed fishing in a CLOSED fishery.

The Dominant Species Rule[10] is less complicated and follows the example of fisheries categories defined for several other fisheries management programs. Its application in the implementation of an IR/IU requirement is outlined below.

BSAI Mid-water Pollock

Pelagic, or mid-water, pollock currently is defined as follows in regulation:

> *675.21(b)(iii)(A) defines the mid-water (or pelagic) pollock fishery as "fishing with trawl gear during any weekly reporting period that results in a catch of pollock that is 95 percent or more of the total amount of groundfish caught during the week."*

Based upon a preliminary examination, it appears that the use of the *"dominant species rule"* definition in developing an IR/IU analysis is not without technical difficulties. Specifically, unless all BSAI trawl fisheries come under IR/IU regulation simultaneously, fishermen may be induced to undertake behavior to manipulate catch composition to "avoid" being categorized as participating in an IR/IU regulated fishery, thus exempting themselves from the retention requirements.

For example, specifying IR/IU standards for only the *"mid-water"* pollock fishery means that vessel operators could intentionally increase their bycatch rate to slightly over 5%, be categorized in the "bottom pollock" fishery, and avoid the "mid-water" retention/utilization standards.

This option would, of course, only be operationally viable for vessels processing pollock while both the bottom and pelagic fisheries were simultaneously open. It is interesting to note, however, that historically the mid-water pollock and bottom pollock seasons have been substantially overlapping. Therefore, an operation which was effectively targeting pollock in a "mid-water" mode, could strategically drop the gear "hard on bottom" to acquire a total catch composition which was just below the 95% pollock threshold, thus effectively exempting itself from the IR/IU regulations on "mid-water" trawling.

If a vessel exceeded the bycatch rate standard for the pelagic pollock fishery when the bottom pollock fishery was closed, it would be in violation of the prohibition on bottom trawling for pollock. If, on the other hand, the operation changed its catch composition enough to avoid the pollock bottom trawl fishery, thus qualifying for inclusion in another open groundfish fishery, it likely would not be catching enough pollock to support its processing needs, although this is an empirical question and could vary from operation to operation.

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[10] In the case of mid-water pollock, this rule is based on the dominant species in the total catch. In other fishery categories it is based on the dominant species in the retained catch.

The Council may, therefore, wish to consider adopting IR/IU standards for the pollock fishery as a whole, rather than specifying "mid-water" or "bottom" pollock, separately. Adoption of an "inclusive" pollock IR/IU program may have other structural, economic, and regulatory implications not anticipated or evaluated in the present assessment.

BSAI Rock Sole

Rock sole currently is not defined as a unique fishery category based on the dominant retained species rule. Flatfish species or species groups generally have been aggregated by the Council in other management programs because of the mixed species nature of these fisheries, and to reduce the need for vessels fishing in one flatfish fishery to be required to discard their bycatch of other flatfish species. For example, rock sole is included in the "rock sole/flathead sole/other flatfish" category for purposes of PSC limit apportionment and monitoring; in the "flatfish" category for observer coverage requirements; and in the "other trawl" group for the Vessel Incentive Program.

To specify "rock sole" as a unique fishery category using the *"dominant retained species rule"* would require an additional fishery category to be added to NMFS regulations for purposes of the retention/utilization standards. This would result in an additional set of fisheries categories specifically to implement the retention/utilization standards, which would be in addition to the three sets of fisheries categories already in regulation.

The Council may wish to consider applying IR/IU standards to an existing BSAI flatfish category, such as the "rock sole/flathead sole/other flatfish" designator used to monitor PSC limits. Adoption of this strategy will, however, bring a number of fisheries, in addition to the directed "rock sole" fishery identified in the Council proposal, under IR/IU restrictions. This may have other structural, economic, and regulatory implications not anticipated or evaluated in the present assessment.

MONITORING COMPLIANCE WITH INCREASED RETENTION STANDARDS

The Council proposal includes two options with regard to groundfish retention. Sub-option A would require retention of all catch of pollock by vessels and processors participating in the pelagic pollock fisheries and all catch of rock sole by vessels and processors participating in the rock sole fishery.

Sub-option B would require retention of all groundfish, except arrowtooth flounder and "other" groundfish, captured during these two fisheries.

Observer coverage

In recent years, only trawl catcher/processors categorized as having "100% observer coverage" have participated in the BSAI rock sole fishery. A mothership entering the flatfish fisheries in late 1994 was categorized as "100% observed", with unobserved catcher vessels delivering unsorted codends. All catcher/processors and motherships participating in BSAI mid-water pollock fisheries in 1994 were categorized as "100% observed". Ninety-six catcher vessels delivered pollock to motherships, shoreside processing plants, and catcher/processors in 1994. Forty-nine of these vessels were not required to have observers because they delivered unsorted codends, 25 were categorized as having "30% observer coverage", and 22 were categorized as having "100% observer coverage".

The level of compliance with IR regulations may vary directly with the level of observer coverage. Significant portions of the industry are, at present, either unobserved or have an observer onboard only 30% of the time. Even operations classified as having "100% observer coverage" do not, in fact, have all hauls or deliveries monitored. Typically an observer samples and estimates the catch of only a portion of the hauls that the vessel

makes. Further, because discards can take place at various sites on a vessel, it is not reasonable to expect an "on-duty" observer to monitor all discards.

In the face of reduced staff and increasing workloads, the NMFS observer program is having difficulty carrying out current scientific and monitoring responsibilities. However, no additional resources are expected in the near future.

Most observers onboard vessels are fully subscribed with current duties and are unable to take on any additional tasks without changing priorities, which means eliminating other duties and responsibilities. Therefore, observer monitoring of a 100% retention requirements cannot be accomplished without either additional observers and support personnel, or a reallocation of existing resources.

According to NMFS Observer Program managers, without adequate observer monitoring of discards, NMFS expects to be unable to assure compliance with the increased retention regulations, as proposed. An observers ability to monitor retention requirements depends upon, 1) what those specific requirements are, and 2) what level of monitoring is expected. **"What constitutes adequate monitoring"**, is currently undefined.

Depending on what level is defined as "adequate", monitoring could require multiple observers on all vessels capable of carrying observers, including those which are currently unobserved or only partially observed. One suggestion was that such a program would require two compliance monitors in addition to the current scientific monitor on each operation that fishes and/or processes more than eight to twelve hours each day.

Direct measurement of discards would require sorting and weighing discards by species. This approach does not appear to be feasible on processor vessels due to space constraints. Current procedures used by observers to estimate discards would have to be changed if NMFS were to monitor discards at the level of an individual processor on the basis of observer data. These changed procedures would likely require modifications in the way processors currently handle fish. Clearly, improved discard estimation would require substantial changes in both vessel and Observer Program operations.

The Council may wish to consider whether additional observer coverage will be required for implementation and enforcement of the IR/IU proposal. If so, how and to whom will the additional coverage be applied?

Enforceability

Rigorous enforcement of an increased retention requirement would rely principally upon monitoring by NMFS-certified observers, and follow-up by enforcement personnel. It would be incumbent upon these individuals to provide the evidentiary basis for assuring compliance or allowing prosecution of non-compliance. It is the conclusion of NMFS Alaska Enforcement Division that, "Absent a true 'full retention' requirement, wherein no discards of ANY whole fish are permitted, a retention requirement (as proposed in the Council motion) is probably unenforceable."

In effect, if some species can continue to be discarded in-the-round, e.g., arrowtooth, "other" groundfish, etc., at the discretion of the operator, and some species can be 'required' to be discarded (as under DFS bycatch-only or prohibited status), the *"burden of proof"* placed upon agents to document violations of a retention standard could effectively make bringing a successful case impossible.

Non-compliance could be expected to be very substantial for unobserved or partially observed operations, and even aboard vessels and at plants with observer coverage, since one observer cannot be present at all times or at all locations. From the standpoint of **field enforcement**, an increased retention program would have to be regarded as, in effect, "voluntary", according to the NMFS Enforcement Office.

Enforceability of any given management program, e.g., IR/IU, can be regarded as inversely related to the level and precision of compliance desired. If a high degree of IR/IU compliance, enforceable through successful prosecution, is demanded then this objective probably cannot be achieved without 'full' retention. However, if a more modest objective of assuring the detection and successful prosecution of gross violations of an IR regulation, is acceptable to the Council, then enforcement may be more likely.

If the Council concludes that the objectives of an IR/IU requirement can be substantially achieved by a program with a high probability of detecting gross violations and egregious departures from the IR/IU regulatory requirements, then a monitorable and enforceable program might be developed.

Compliance with increased retention standards could be evaluated based on vessel and processor logbooks, WPRs and other landings records submitted to NMFS, and on observer reports. One option to estimate discards from processor vessels would be to combine information from the observer's estimates of total catch weight and species composition with processor reports of processed product weight back-calculated to the round weight equivalent of retained groundfish using standard product recovery rates (PRRs). In other words, the discards for each species would be determined by subtracting the round weight equivalent of processed product as reported by the processor from the observer's total catch estimate.

This option has several difficulties. First, it relies on combining catch information from different sources (observer and processor) which will lead to conflicting conclusions in some cases. For example, an observer's estimate of the total catch of a particular species could be less than the estimate of retained catch based on applying standard PRRs to product weight. This result could occur due to expected sampling error in procedures used by the observer (density sampling, species composition sampling, etc.), due to incorrect measurement of the volume of fish in a bin or the weight of fish in samples, or due to the expected difference between individual vessel PRRs and the standard PRR.[11]

Another difficulty in this method is that observer estimates of total catch and species composition are made on a haul-by-haul basis. Production data is reported daily and is not required to be tied to a specific haul, although record keeping and reporting requirements could be changed. However, with existing observer coverage levels, it will be possible to apply this method only to the observed hauls and not to all catch of the vessel.[12]

Finally, the use of standard PRRs has been controversial in the past because individual vessel rates differ from the standard or average rate for the fleet. Vessels with PRRs better (higher) than the standard rate are attributed with more groundfish catch than they actually take and processors with PRRs less than the standard are attributed with less catch. The variation in actual PRRs may average out for purposes of monitoring fleet-wide quotas. In other words, the underestimates of catch on some vessels are balanced by the over-estimates of catch on other vessels. However, as standard PRRs are increasingly used to determine individual vessel performance, more controversy can be expected.

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[11] The use of published standard PRRs has developed to estimate total catch by processor vessels and because of the need to enforce regulations governing retained catch composition (such as DFSs and roe-stripping) without the ability to provide accurate, reliable, and timely estimates of total or retained catch weight.

[12] Observers sample about 60 percent of hauls on observed trawl vessels.

Required discards under DFS

Mandatory retention of specific groundfish species to reduce discards would be secondary to other NMFS regulations that require discard of catch exceeding DFS threshold levels (retainable bycatch amounts) or discard of species on "prohibited" status because their TAC has been reached. This would, however, result in increased complexity for monitoring and enforcing compliance, perhaps beyond the limitations of available resources.

Sub-option A does not pose any potential conflict with these requirements because, by definition, unlimited retention, for example, of pollock in the mid-water fishery, and rock sole in the rock sole fishery, are allowed while the respective directed fisheries are open.

Sub-option B will likely result in continued regulatory discards of some groundfish species under *"increased retention"* regulations. First, it will continue to be the case that any groundfish species on "prohibited species" status must be discarded. This requirement will affect both the BSAI mid-water pollock and rock sole fisheries in a similar manner.

Second, it will continue to be required that catches in excess of retainable bycatch amounts of groundfish species on DFS "bycatch-only" status must be discarded. This requirement is not likely to affect retention requirements in the mid-water pollock fishery because low bycatch rates will rarely result in vessels exceeding DFS thresholds for other groundfish species. However, it is likely that regulatory discards will occur in the BSAI rock sole fishery to meet DFS thresholds.

Table 1 illustrates this situation with an example of catch during a rock sole fishing trip. Under the heading "without increased retention", is catch, retention, and discard of 100 metric tons of groundfish. Fishery status for all species in the catch is indicated as either "open" or "bycatch-only" status. Under the heading "with increased retention", the catch is redistributed to show that:

1. all catch of groundfish, other than arrowtooth and "other" groundfish, for which the directed fishery is open must be retained;

2. catch of arrowtooth or "other" groundfish may be retained or discarded subject to other regulations;

3. catch of any groundfish species for which the directed fishery is closed (i.e., on bycatch-only status) must be retained until the DFS is reached. At that point, all additional bycatch of that species must be discarded.

In Table 4, groundfish species on bycatch-only status are shown in the bottom half of the table. Catch of Greenland turbot, rockfish, and Atka mackerel do not exceed DFS thresholds, so all of this catch must be retained. However, if all of the pollock catch of 20 mt were to be retained, the DFS threshold for pollock would be exceeded. The vessel may retain pollock up to 20% of the retained catch of other groundfish species for which the directed fishery is open (.2 x 73.3 mt = 14.66 mt). If we assume that the vessel must retain 14.65 mt of pollock (no more than 20%), then they must discard the remainder (5.35 mt). Arrowtooth flounder is not subject to mandatory retention under the IR/IU proposal, so may be discarded.

Table 4.0 Hypothetical distribution of 100 metric tons of groundfish catch in a rock sole fishery, without and with an increased retention requirement.

Species	Status of Fishery	Without Increased Retention[1/]			With Increased Retention		
		Retained	Discarded	Total	Retained[2/]	Discarded	Total
Rock sole	open	21	31	52	52	0	52
Yellowfin sole	open	2	4	6	6	0	6
Other flatfish	open	3	4	7	7	0	7
P. cod	open	3	5	8	8	0	8
Sablefish	open	0.1	0.1	0.2	0.2	0	0.2
Other groundfish	open	0.1	3	3.1	0.1	3	3.1
Subtotal		29.2	47.1	76.3	73.3[3/]	3	76.3
Pollock	byc[4/]	2	18	20	14.65	5.45[4/]	20.1
Greenland turbot	byc	0.1	0.1	0.2	0.2	0	0.2
Rockfish	byc	0.5	0.1	0.6	0.6	0	0.6
Atka mackerel	byc	0.5	0.1	0.6	0.6	0	0.6
Arrowtooth	byc	0.3	2	2.3	0.3	2	2.3
Total		32.6	67.4	100	89.65	10.45	100.1

1/ Only catch exceeding DFSs must be discarded.
2/ Catch of all groundfish except arrowtooth flounder and "other" groundfish and that NOT exceeding DFSs must be retained.
3/ amount of retained groundfish used to calculate retainable bycatch amounts for species on bycatch-only status.
4/ bycatch-only status
5/ amount of groundfish that must be discarded because retention would violate DFSs.

The example in Table 1 illustrates a simple case of one species for which the vessel operator must retain a portion of the catch to meet "increased retention" standards, while being required to discard the remainder to stay within DFS threshold under the pollock fishery closure. While the vessel operator's accounting in this example is exactly the same calculation that is currently required to maximize retention of species closed to directed fishing, the IR/IU proposal would make this process mandatory for all vessels in the rock sole fishery with respect to almost all groundfish species. As more fisheries are put on bycatch-only or "prohibited species" status, it becomes more complicated for the industry, observers, and NMFS to monitor the exact quantity of bycatch species that must be retained, and that which must be discarded. Continuous accounting must be made of the status of all groundfish fisheries (open, bycatch, PSC status), the vessel's retained catch composition, how much of each species on bycatch-only status must be retained, and at what point further catch of that species must be discarded to comply with DFS.

Monitoring retention or discard rates

The Council proposal includes an option to phase-in retention standards over a three year period. This proposal would require NMFS to monitor discard rates - not just whether discards of a particular species had occurred, but the proportion of the total catch of each species that was discarded. Regardless of whether the method used to estimate discards is based solely on observer collected data or on a combination of observer reports of total catch and industry reports of processed product, monitoring discard rates is much more difficult than monitoring whether any discards of a particular species occurred. Given current levels of observer and enforcement coverage, the complexity of the present observer's task, and the nature of monitoring "discard rates", a phase-in procedure for implementation of retention standards does not appear practical.

INCREASED UTILIZATION

The Council's motion on utilization objectives was fairly general. An examination of the specific elements of the motion suggests that a range of regulatory approaches may provide "improvement" in the current rate of utilization consistent with the Council's objectives, but with varying tradeoffs. That is, the more complex and intrusive the program, the greater will be the expected increase in utilization compliance. However, with complexity also comes increased costs for administration, monitoring, and enforcement, as well as reductions in operational flexibility for the U.S. industry.

The Council may wish to consider these tradeoffs in determining the specific form that "improved utilization" requirements might take.

The Council proposal includes two options for IU requirements. Option 1 would place no requirements on which products would have to be produced from retained groundfish. Option 2 would require a designated portion of retained catch to be processed into products "for human consumption". The Council did not define what "for human consumption" means. Under current regulation, everything except "processing waste", fish meal, and bait is assumed to be "for human consumption".[13]

Adoption of Option 1 would only require that "some form of processing" be applied to all retained catch, without regard to specific product forms, output quantities, or product recovery rates (PRR).

Option 2 would be somewhat more restrictive, in as much as it would require certain levels of product output be achieved and, further, that a requisite percentage, i.e., 50%, 70%, 90%, of production be directed toward product

[13] The remainder of the discussion of utilization standards in the pollock and rock sole fisheries focuses on fish meal. Consideration of bait as a product not for human consumption probably would be more of an issue in fisheries such as Pacific cod.

forms "for human consumption". Even Option 2 provides some latitude, however, in the way these requirement might be interpreted.

Two possible IU approaches are characterized below. In a relatively simple program, the IU regulations could specify that 50%, 70%, or 90% of retained catch (or delivery) would have to be delivered into a plant, into a process, to develop a product form for human consumption. So long as the requisite percentage of the retained catch was "delivered" into a process designed to produce a product form for human consumption, the IU requirement would, by definition, have been met.

In this IU procedure, no effort would be made to "prescribe" the specific product mix, output form, or PRR. Instead, the operator would be expected to "process" the delivered catch in the most efficient manner possible, given the technical, physical, and market limitations confronting the specific operation, and consistent with the requirement that the production be directed toward product forms "for human consumption".

One means of monitoring compliance in the above case, if detailed reliance upon product-specific PRR's is to be avoided, may be to define products that do not meet the requirement of *"for human consumption."* That is, if fish meal continues to be defined in regulation as a product "not-for-human-consumption", or at least "grades" of fish meal are identified which differentiate between meal "for humans" and "not for humans", then a relatively efficient and effective means of monitoring utilization may rely on measuring round fish diverted into a reduction plant, and/or the output of fish meal "not for humans". That is, if, say 70% of the retained catch must enter a process, geared for production of a product form for human consumption, then no more than 30% of retained catch may be diverted into "not for humans" grade meal production. One option would be to monitor the output of this grade of fish meal, and back cast to round-weight, to certify that 30% or less of the retained catch was directed into meal production of this grade. By default, if 30% or less went to meal "not for humans", 70% or more must have gone into processes geared to produce products for human consumption.

There are, of course, limitations with this monitoring and enforcement scheme. First, because processing waste may also enter the meal reduction process, back-casting from fish meal "output" to round-weight "input" may be clouded. However, processors currently report the amounts of "processing waste" and "whole fish" diverted to meal plants as separate categories. While these reports are currently voluntary, accurate reports could be made mandatory. Although there would be an economic incentive to "bias" such reports, this incentive would be no greater than in other cases where the operator's data are relied upon for monitoring purposes.

Another drawback to this approach may be that, even with perfect compliance, under this arrangement it would, in theory, be sufficient to direct fish "into a process geared to produce a product for human consumption", then simply cut the fish in half and send both halves to the meal plant or grinder. Because no mandatory PRR is imposed, and no direct output monitoring of products for human consumption performed, this compliance monitoring approach could be circumvented in this way. However, since one of the principal reasons for requiring increased utilization seems to be to provide an economic incentive to the operator to avoid catching unwanted fish, the added cost of handling and "processing" these bycatches even in this superficial manner may, nonetheless, provide that incentive.

Use of this reporting method for monitoring IU compliance may be an acceptable option for analysis. For example, if all "round fish" diverted directly to meal is "accounted for" before entering the reduction process, then the proportion of meal deriving from round fish should be easily obtained. How unobserved or partially observed operations will be evaluated is less clear; however, this problem is not unique to this element of the IR/IU proposal.

Reliance on this method of monitoring IU compliance obviously assumes each operator has sufficient fish meal production capacity to accommodate reduction requirements. If this is not the case, either meal capacity would

have to be added to the processing facility, or ready access to an alternative source of such capacity would be required, e.g., round fish destined for meal plants would have to be retained until they could be delivered to a reduction plant. In the latter case, all such fish could be weighed to assure that no more than the permissible percentage of total retained catch was diverted to "not for humans" grade meal.

An alternative proposal for monitoring and enforcing compliance with IU requirements, which involves in some sense a more complex and certainly more intrusive procedure relying on PRR standards, can be envisioned. For example, NMFS could monitor compliance with Option 2 on the basis of processed product information submitted on processor's WPR. Standard PRR's would be used to back-calculate from processed product weight to round weight.

Two interpretations of the utilization standards could be made. The standards could be applied on a "species by species" basis, or on the "total" retained catch. If the standards are applied on a species by species basis, the round weight equivalent of products for human consumption would have to represent at least the requisite percentage, i.e., 50%, 70%, or 90%, of the estimated total catch of each species each week.

For example, using the information presented in Table 1, 52 mt of rock sole would be required to be retained under IR provisions. Based on the processor's WPR, NMFS could verify that the round weight equivalent of processed products, defined as "for human consumption", was at least 26 mt (50% utilization), 36.4 mt (70%), or 46.8 mt (90%). A similar calculation would be made for all groundfish species except arrowtooth flounder and "other" groundfish.

The utilization standard could also be applied to the "total" retained catch, rather than on a species by species basis. In this case, 50%, 70%, or 90% of the round weight equivalent of retained groundfish (except arrowtooth and "other" groundfish) would have to be processed into products "for human consumption". Again, using the example in Table 1, of the total catch of groundfish species that is retained (89.65 mt), either 44.9 (50%), 62.8 mt (70%), or 80.7 mt (90%) would have to be processed into products "for human consumption".

This second alternative, based upon "total" retained catch, would allow processors more flexibility to determine product mix because a utilization rate higher than the standard in one species could offset lower utilization rates for other species.

PRODUCTS FOR HUMAN CONSUMPTION

One important feature of the IR/IU proposal is the requirement that a specific percentage of retained catch (e.g., 50%, 70%, 90%) be directed toward the production of "product forms for human consumption". This provision would require an unambiguous regulatory definition of which specific products would qualify as "product forms for human consumption" and which would not.

The question arises then, who shall determine this qualifying product listing? Because technology and markets change over time, flexibility and responsiveness to such changes will be important to avoid imposing unanticipated, and unwarranted, economic costs on the domestic industry. It seems probable that some formal mechanism will have to be designed for monitoring, reviewing, and updating the "qualifying list". The Council should consider how, when, and by whom the product list will be maintained.

Since these definitions represent the foundation upon which "regulatory compliance" will be judged, it may be appropriate to make provisions for arbitration of disputes as to whether a particular product form, manufactured by a specific operator, meets the Council's definition. Because denial of inclusion of some specific product form could impose penalties, and thus costs, on some operators, it seems that some mechanism for appeals of this kind may be required.

Therefore, the Council may wish to consider, through what mechanism shall such a disagreement be resolved?

At one extreme, the Council might conclude, with some justification, that, "If the product is not on the list, it does not qualify". However, many products which are economically very important to the U.S. industry today, were not regarded as "products suited for human consumption" only a few years ago. Had strict prohibitions on their production been imposed, market opportunities could have be foregone, with very substantial economic consequences for domestic producers.

Even at present, some economically important processed forms are not directly converted into products for human consumption by their "primary" processor, e.g., fish frozen in-the-round, but have historically been destined for secondary processing plants where they were converted into "a product form for human consumption".

Because monitoring and control of utilization are not contemplated (and probably not feasible) beyond primary processing, the Council may wish to consider how such products will be treated for compliance monitoring and enforcement?

Perhaps a bill of sale stating the intended destination could be required; but absent follow-up monitoring and enforcement capability, that requirement would not be much of a deterrent. Indeed, for vertically integrated operations, with multi-national or geographically dispersed facilities, the "paper trail" would be virtually costless to provide.

It may be informative to note that, at least the following product forms are (or have been) reportedly produced by U.S. operators from North Pacific groundfish, and marketed for "human consumption". These include, roe (both separate from and retained within the fish), fillets (both standard and "deep skin"), surimi (of varying grades and forms), H&G, stock fish, hard salted fish, fish in brine, heads, fish eyes, milt, stomachs, cheeks, tongues, fish in-the-round, fish oils and other solubles, bone meal, and whitefish meal. There are, presumably, other products which either already exist or, as cited above, may emerge over time.

Table 5 lists all product forms reported to NMFS from 1994 groundfish harvests off Alaska. Products are divided among primary and ancillary products and human and non-human consumption forms, based on current definitions. The list of primary products includes products such as whole fish, headed-and-gutted, filleted, surimi, and minced fish. The proportion of the whole fish utilized in these products range from 13 percent to 100 percent. Ancillary products, such as roe, heads, cheeks, etc. currently are produced in addition to a primary product. For example, heads are an ancillary product to headed-and-gutted cod. However, unless specifically prohibited in the utilization regulations, processors could meet utilization standards by producing traditionally ancillary products, which could use less than five percent of the whole fish, as primary products.

As noted, at present, NMFS regulations provide that all forms of product output, except fish meal and production waste, are assumed to be "products for human consumption". Testimony was offered at the Seattle meeting of the NPFMC's IR/IU Industry Committee, in November 1994, suggested that, for some operators, fish meal and bone meal are being produced for human consumption. Thus, it may be desirable (necessary) to either include meal in the "qualifying list", or differentiate between "grades" of fish meal, so as to avoid imposing unjustified and unanticipated economic costs on operators that do actually produce human-grade meal. [If fish meal is included in the list of "qualifying" products, there may be some doubt about the need or efficacy of the requirement that a fixed percentage of catch be directed to the production of "a product form for human consumption." Presumably then, any and all of the above product forms would qualify.]

Table 5. Processed product form for all groundfish retained and processed at-sea in the GOA and BSAI in 1994 (mt).

Product Form	PRR	Product Wt.	Round Wt.
Human consumption - primary products			
Whole fish	1	54,338	54,268
Bled only	0.98	1	1
Gutted only	.80 - .90	12	17
H&G w/roe	.55 - .80	12,182	15,231
H&G western	.50 - .78	11,621	18,758
H&G eastern	.32 - .65	87,743	165,931
H&G tail removed	.44 - .62	3,064	5,002
Kirimi	0.48	17,251	35,914
Salted/split	0.45	61	134
Wings	0.32	373	1,164
Fillets w/skin,ribs	.32 - .45	564	1,320
Fillets w/skin, no ribs	.27 - .38	694	2,430
Fillets w/ribs, no skin	.25 - .35	130	497
Fillets, no skin, ribs	.21 - .25	25,685	143,195
Fillets, deep-skin	0.13	22,872	174,039
Surimi	.15 - .18	92,303	573,623
Minced	.22 - .50	12,771	30,866
Mantles	.75 - .85	0.2	0.2
Other retained		31	30
Total		341,695	1,222,420
Human consumption - ancillary products			
Roe	0.08	8,718	1,556
Pectoral girdle	0.05	18	0
Heads	.15 - .20	73	0
Cheeks	0.05	8	0
Chins	0.05	72	0
Belly	.01 - .10	21	0
Fish oil	na	1,134	0
Milt	na	266	0
Stomachs	na	389	0
Total		10,701	1,556
Non-human consumption			
Bait (primary)	1	326	324
Fish meal (ancillary)	.17 - .22	25,655	16,486
Total		25,980	16,810
Total, all products		378,375	1,240,785

Table 5. (continued) Processed product form for all groundfish processed by shoreside plants in the GOA and BSAI in 1994 (mt).

Product Form	PRR	Product Wt.	Round Wt.
Human consumption - primary products			
Whole fish	1	7,040	7,020
Bled only	0.98	828	835
Gutted only	.80 - .90	131	155
Gutted only	.80 - .90	100	117
H&G w/roe	.55 - .80	133	162
H&G western	.50 - .78	3,069	5,372
H&G eastern	.32 - .65	14,091	22,765
H&G tail removed	.44 - .62	184	304
Kirimi	0.48	268	543
Salted/split	0.45	4,300	9,477
Wings	0.32	2	6
Fillets w/skin,ribs	.32 - .45	116	332
Fillets w/skin, no ribs	.27 - .38	148	508
Fillets, no skin, ribs	.21 - .25	137	557
Fillets w/ribs, no skin	.25 - .35	226	842
Fillets, no skin, ribs	.21 - .25	24,273	126,699
Fillets, deep-skin	0.13	489	3,762
Surimi	.15 - .18	89,226	488,657
Minced	.22 - .50	2,590	1,171
Mantles	.75 - .85	2	2
Butterfly, no backbone	0.43	1	1
Other retained		0.01	0
Total		147,352	669,288
Human consumption - ancillary Products			
Roe	0.08	5,160	219
Pectoral girdle	0.05	22	0
Heads	.15 - .20	107	0
Chins	0.05	3	0
Belly	.01 - .10	28	1,106
Fish oil	na	8,021	0
Stomachs	na	10	0
Milt	na	408	0
Bones	na	4,061	0
Total		17,820	1,325
Non-human consumption			
Bait (primary)	1	932	809
Fish meal (ancillary)	.17 - .22	33,671	5,522
Total		34,603	6,331
Total, all products		199,775	676,944

Once a "qualifying list" is established, the next element in the regulatory program will involve provisions for tracking of production output, monitoring, and enforcement. At present, these functions rely primarily upon "back casting" from product weight to round weight. If a similar monitoring and enforcement strategy were adopted under the IR/IU regulations, employing "back casting" from individual product-outputs to round weight equivalents, it would be necessary to prescribe "acceptable" product recovery rates (PRR's) for all approved product forms.

Some PRR's would, by definition, be very low, e.g., heads, cheeks, milt. Others may be highly variable, e.g., roe, deep skin fillets. As was found in the *Pollock Roe Stripping Amendment* and the *Inshore/Offshore Amendment*, PRR's can be controversial, subject to manipulation and interpretation, and variable within and between operations, over time and species. These complexities may confound efforts to monitor compliance with the proposed utilization requirement, and in combination with the diversity of "product forms for human consumption", undermine the intent to significantly increase mandatory utilization of groundfish catch.

Adherence to this monitoring and enforcement strategy could require imposition of further limitations or restrictions on "acceptable" outputs, e.g., defining outputs which may be "primary" products, and those forms which may only be regarded as "ancillary", for purposes of meeting the utilization requirement.

DISPOSITION AND DISPOSAL OF SURPLUS PRODUCT

Regulatory requirements for increased retention and increased utilization in a fishery implicitly raise questions about monitoring the disposition of production output. To paraphrase an old adage, *you may require that a product be produced from a given quantity of catch, but you can't always assure somebody will buy it.... and certainly not for a price that will cover all the production costs.* Expressed another way, while imposing retention and utilization requirements on groundfish harvesters and processors may reduce discards of fish in-the-round and, by extension, impose some costs associated with handling, processing, and storage (all of which may, it is hoped, induce harvesters to modify their behavior to avoid unwanted catches), it will be true that some products will not find markets.

There may be several reasons for this. Some product may be "unsalable" as a result of inferior handling, processing, and storage. Certainly, some of the raw catch will be of the wrong size (too small or too large), given the operators "primary" mode of production. Some will be the wrong species, and thus not amenable to existing processing procedures or plant configuration. And still other bycatch will have attributes which do not meet "primary" product requirements, e.g., wrong sex, parasite infestation, or physically damaged.

It seems probable that individual operators, confronted with restrictive retention and utilization requirements, will assess their options, given the physical limitations of their plant, and the cost [in terms of, 1) handling, processing, storing, and marketing these "secondary" products, and 2) the associated loss in "primary" product output], and then seek the least cost means of "optimizing" production, subject to these constraints.

This may mean "utilizing" bycatch to produce output that requires the lowest investment in processing and/or the least amount of post-production storage space. In some cases, at least in the shortrun, this may mean processing these "secondary" products in the quickest, least costly way available, and then disposing of the "product" as efficiently as possible, while meeting the technical letter of all applicable laws and regulations.

Mandatory Product Retention

Requiring that all products be retained until sold could present implementation problems. First, such a requirement might exceed monitoring and enforcement capabilities and authority, since all production would have to be tract beyond primary production.

Clearly, for an IR/IU FMP Amendment to achieve its goals, some provision governing the disposition and disposal of products resulting from IR/IU requirements will be needed. While not closing all possible loopholes associated with the disposition of retained bycatch, the Council may wish to consider, for example, requiring that all production of groundfish products within the EEZ be retained until either, 1) landed onshore, or 2) transferred at-sea to another vessel for transshipment out of the U.S. EEZ. While, in either case, it is possible that disposal of product will, nonetheless, take place, this provision does prevent the at-sea processor from directly and immediately "dumping" unwanted product.

Legal issues

The following conclusions with regard to NMFS authority over activities of processors are made in the NOAA GC opinion on limitations on roe stripping (December 1, 1989 - page 2):

> (3) There is also authority under the Act to limit wasteful practices by requiring at-sea processors to retain harvested fish rather than discarding them. At-sea processing is "fishing" subject to regulation under the Act.
>
> (4) There is authority -- though not as clear-cut -- to limit wasteful practices by requiring at-sea processors to utilize fish flesh for food products and fish meal. There have been no instances thus far of directly mandating what a processor does with legally processed fish for purposes of full utilization.
>
> (5) There is no authority to limit wasteful practices by regulating on-shore processors, because on-shore processors can be regulated only indirectly as an incidence of managing "fishing."

In other words, NMFS does not have the authority to mandate catch utilization standards for shoreside processors.

The Council may wish to request the State of Alaska to implement parallel regulations governing shoreside processors' catch utilization.

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AGENDA C-8
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Supplemental

ALASKA MARINE CONSERVATION COUNCIL

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BY HAND DELIVERY

April 12, 1995

Rick Lauber, Chair
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, AK 99510

RE: Council Consideration of Harvest Priority

Dear Mr. Chairman,

The time is ripe for the Council to move forward with a comprehensive approach to reduce bycatch. Without a program in which to instigate the necessary behavioral changes in the way we harvest our fish, we continue to apply bandaids in an isolated and incomplete way through:

- Time and area closures, hot spot authority (salmon)
- Bycatch caps (PSC's and other groundfish)
- No trawl zones (crab)
- Vessel Incentive Program (halibut, chinook salmon)
- Trawl mesh size regulations

While each approach has some effect, none of them attacks the problem of bycatch comprehensively. Nor do they address bycatch of non-commercial species. Changing behavior so that unwanted fish are not caught in the first place is critical if we are to effectively reduce the stupendous level of waste occurring now in our groundfish fisheries.

Harvest Priority. One such comprehensive proposal, Harvest Priority, would provide economic incentives that reward those fishermen who successfully minimize bycatch and discards by giving them access to a reserved portion of the total allowable catch or some other Harvest Priority allocation. HP provides the Council an opportunity for an incentive program that rewards individual initiative and innovation in bycatch and discard reduction, whose parameters are set by fishermen themselves, that is verifiable because it is based on observer data, that works within existing gear allocations, and that addresses the problem of all bycatch including non-commercial species, economic discards, and prohibited species.

Staff has analyzed the HP proposal at least three times. At the December Council meeting, the ad-hoc committee appointed by the Council presented pros and cons of the proposal. The committee's supplementary report presented options for ten decision points raised by NMFS. At this meeting, the Council will receive another report by staff on how HP could be applied to the rock sole fishery. AMCC did not endorse looking only at the rock sole fishery since the rock sole fishery has been changed considerably due to the trawl closure in

their main grounds. We recommended that HP be considered for Bering Sea P-cod (longline, bottom trawl, pot, jig), Bering Sea mid-water pollock, and Bering Sea yellowfin sole (bottom trawl). Together, these fisheries amount to 60% of all groundfish discards in the Bering Sea.

In the last year and a half of study of this proposal, no one has questioned that the basic premise of HP -- positive economic incentives -- would provide great impetus for fishermen to avoid catching unwanted fish. The main objections have been over implementation. One objection has been over how bureaucratic the appeals procedure needs to be. By separate cover, AMCC has submitted a legal opinion by the Sierra Club Legal Defense Fund and Trustees for Alaska stating emphatically that a streamlined appeals procedure would meet every legal requirement. Other objections have been over the role of observers in collecting the data and the cost of the program.

Because our fisheries management is so complicated, any new fisheries management program is bound to be complex. If more details need to be ironed out, then the Council could set up an implementation working group to work them out. Once the fisheries have been selected and the details worked out, NMFS can estimate the cost of the program and what new monies, if any, will be needed. AMCC will gladly work with the Council and NMFS to help secure any funds necessary.

The Council is ready to take action on HP. At this meeting, the Council could ask staff to prepare a request for proposal for fishermen to make HP proposals for specified fisheries. The proposals could be limited to parameters issued in guidelines governing observer requirements, percentage of TAC or fishing time in the reward season, timing of the reward season, and qualifying rates for bycatch including economic and non-commercial discards and PSC. Concurrently, implementation issues could be worked out on the appeals procedure, observer changes needed, and directed fishing standards through participation from NMFS, NOAA GC, Council staff, and fishermen.

The only thing lacking is for the Council to send a message to start working on a comprehensive, incentive-based way to clean up our fisheries now.

Other Ways to Reduce Bycatch. If, however, the Council chooses for whatever reason not to proceed further with HP, the Council is not off the proverbial hook. There are many ways to make large reductions in bycatch through existing authority that do not rely on individual incentives. The public in Alaska and in the United States have shown that they will not tolerate such high levels of discards in our fisheries for long. AMCC urges you to seriously consider one or more of the following ways to reduce discards:

(1) Eliminate all bottom trawling. Begin with pollock, rock sole, yellowfin sole, rockfish bottom trawling. The rock sole and yellowfin sole bottom trawl fisheries alone are responsible for 40% of bycatch in the Bering Sea.[1] They illustrate a case of deficit fishing whereby the bycatch of groundfish and crab discarded in these fisheries is actually more commercially

[1] Pacific Associates, Discards in the Groundfish Fisheries of the Bering Sea/ Aleutian Islands and the Gulf of Alaska During 1993, prepared for the Alaska Department of Fish and Game (August 1994).

valuable than the sole being caught as a target species.[2] Pollock can be successfully caught using only pelagic gear, lessening the potential for crab and other demersal bycatch. Pacific ocean perch in the Gulf of Alaska are in a tenuous rebuilding program, and current bycatch of other rockfish is not well documented. These long lived and non-migratory fish will stand a much better chance if only selective gear is allowed to harvest them.

The Council could phase-in conversion to cleaner gear types for these fisheries under the following options.

- Extend any pot season where bottom trawling can be eliminated. The Council could reduce PSC caps and still have a longer season because caps would not be reached as quickly using the cleaner method of pots.

- Give an incentive for fishermen to switch to cleaner gears by allocating those gear types more fish. Also, longer seasons or more expansive fishing grounds could be made available to such gear types, thereby encouraging their use and innovation for selective gear. Increased allocation for jig and pots for cod and pots for yellowfin sole and rock sole could be done right now, providing for much-reduced bycatch, less impact on marine habitat, and year-round fisheries for coastal communities

(2) Place net size restrictions on all pelagic nets. Gargantuan nets scooping 100 tons in one tow present a significant challenge to a management system struggling to account for total harvests of target species and the level of bycatch incurred. They also, perhaps, tax the marine ecosystem in untold ways as we extract enormous quantities of living things from our ocean at one time. For greater accountability as well as a more sustainable approach in commercial harvests, limiting the size of trawl nets is appropriate. Virtually every other net fishery in Alaska (salmon seine and gillnet, herring gillnet) has a net size restriction in effect as an integral part of fisheries management.

(3) Lower Existing PSC Caps. A simple way to reduce bycatch of salmon, herring, crab, and halibut would be to lower existing PSC caps for those species. We already know that fishermen can fish cleaner. If individual dirty fishermen force the season to end prematurely, then perhaps industry as a whole will find the will power to fix the problem. In the meantime, the fish stocks and the ecosystem will not bear all the cost of indiscriminate fishing behavior and practices.

(4) Crank Down Existing VIP Rates. Lower the existing VIP rates for chinook salmon and halibut in order to reduce discards of these valuable species. Save now for the future. The IPHC reports that halibut in the North Pacific are declining at a rate of 10% annually and recruitment levels are the lowest in two decades.

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[2] Homer Crab Group, Discussion of the Impacts on Bristol Bay Red King Crab of Rock and Yellowfin Sole Trawling and Non-Enforcement of PSC (1994). Table 13 shows a 1993 value of these discards of $30.51 million compared to a value of retained catch of $24.13 million. This does not include the cost of the foregone red king crab season or the environmental costs of habitat destruction from hard on bottom trawling or the waste of non-commercial species.

(5) Calculate Observer Fees By Percentage of Total Catch. Currently, the research plan calculates the 2% fee for observers based on what is sold. If the fee were calculated on the total percentage of catch, fishermen would have a direct, monetary incentive to avoid unwanted fish, including non-commercial species. Furthermore, the amount should be calculated as a standard value regardless of the method of harvest or the disposition of the product.

* * * * *

Full Utilization. The other proposal before the Council is the State's improved retention/improved utilization proposal. Once bycatch has been reduced to the lowest practicable levels, fuller use of the smaller amount of bycatch would be a good idea. Unless fisheries have reduced bycatch to low levels first, a requirement for full utilization could easily turn into an incentive to turn bycatch into fish meal, powder and oil -- rather than an incentive not to catch bycatch in the first place. Turning unwanted fish into meal would provide no ecological benefits to an already stressed ecosystem. Fuller retention may be a necessary step in improved accounting of catch including bycatch and should be considered along with standardized bins, mandatory use of scales, and electronic recording of data as goals toward this end. However, unless necessary for accurate enumeration, fuller retention may reduce fishermen's flexibility and capital available for operational changes to accomplish bycatch reductions under Harvest Priority.

Thank you for allowing AMCC to present its views.

Sincerely,

Scott Highleyman
Executive Director

Fran Bennis
Field Coordinator

ALASKA MARINE CONSERVATION COUNCIL
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BY HAND DELIVERY

April 10, 1995

Rick Lauber, Chair
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, AK 99510

RE: Harvest Priority Legal Analysis

Dear Mr. Chairman,

As you know, in December the Council requested NOAA General Counsel to work with the Alaska Marine Conservation Council (AMCC) on any legal problems with the Harvest Priority (HP) proposal to reduce bycatch in our fisheries. HP is designed to reduce bycatch by offering clean fishermen an incentive in the form of extra fishing time in the following year. The main issue NOAA GC raised was over the kind of appeals procedure required by law. As part of HP, AMCC proposed streamlined appeals that could be resolved within a year, in time for the bonus HP season. AMCC proposed modelling the HP appeals after the halibut/sablefish appeals procedure already approved by the Secretary. NOAA GC maintains that appeals under HP need to be much lengthier and more cumbersome to pass legal muster.

In February, AMCC and two law firms, the Sierra Club Legal Defense Fund (SCLDF) and Trustees for Alaska, met with NOAA GC at their offices in Juneau. Although we enjoyed a frank and candid exchange of views, NOAA GC was unpersuaded by our arguments that a streamlined HP appeals procedure was well within legal authority. NOAA GC subsequently released a written opinion concluding that a two or three year appeals procedure would be necessary.

Attached is a legal memo prepared by SCLDF and Trustees rebutting NOAA GC's opinion. In the memo, these well-respected law firms find that the HP appeals process envisioned by AMCC easily would pass muster under Constitutional due process as well as the Magnuson Act and the Administrative Procedures Act. They conclude: "*...NOAA's conclusions to the contrary are simply not supported by the law....*" The memo also points out that an even more abbreviated appeals procedure could be devised that would still meet all legal standards.

Opponents of HP are using NOAA GC's due process argument as an excuse to vote against HP. The attached memo removes this argument. AMCC sincerely hopes the debate over HP can be shifted squarely to policy grounds. The question is whether the Council wants to reduce bycatch with an incentive-based system that rewards individual fishermen for clean fishing. AMCC urges the Council to approach HP on those grounds and not to hide behind a legal fig leaf.

Sincerely,

Scott Highleyman

Scott Highleyman
Executive Director

MEMORANDUM

TO: Scott Highleyman, Executive Director
Alaska Marine Conservation Council

FROM: Eric Jorgensen, Desiree Peri
Sierra Club Legal Defense Fund, and

Peter Van Tuyn, John Buccheit
Trustees for Alaska

RE: Analysis of NOAA General Counsel's Legal Opinion on AMCC's Harvest Priority Proposal, dated February 24, 1995.

DATE: April 7, 1995

In response to your request, SCLDF and Trustees have prepared a legal analysis of NOAA GC's legal opinion ("Opinion") concerning the due process aspects of AMCC's Harvest Priority ("HP") Proposal. As you know, NOAA concluded that HP cannot pass muster under due process principles absent a pre-deprivation adversarial hearing. Moreover, it estimated that this process would take two to three years; thus precluding the possibility that final agency action would occur prior to the advent of the HP reward season. NOAA further concluded that both the Magnuson Fishery Conservation and Management Act (Magnuson Act) and the Administrative Procedure Act (APA) require certain restrictive procedures which limit the effectiveness of the HP Proposal to meet its goal of reducing bycatch.

Our analysis of these issues leads to entirely different conclusions. The HP appeals process envisioned by AMCC[1] readily passes muster under the due process principles

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[1] AMCC has suggested following the appeals procedure like that already approved by the Secretary for the halibut/sablefish ITQ program. 50 C.F.R. Part 676. Under such a streamlined appeals procedure, a fisher would apply for an HP permit needed to fish the HP reward season. NMFS would make a determination of eligibility based on observer coverage and bycatch rates in the qualifying season. A fisher denied an HP permit would have the opportunity to file an appeal, request a written or informal oral hearing, and present evidence

embodied in the Fifth Amendment to the United States Constitution. Balancing the individual's interest in participating in the HP reward season with the risk that the government will erroneously deprive the individual of this interest and the government's interest in the program, the inescapable conclusion is that HP is constitutionally valid.

The Secretary and council have broad authority under the Magnuson Act to adopt the proposed HP program and restructure the existing permit program. As a result, denial of an HP permit would not represent a sanction under the Act to the fishers who fail to qualify for a reward season. Thus, the specific procedures required by the Act before a sanction can be applied are not relevant to the denial of an HP permit.

Finally, because denial of an HP permit application would effect no suspension, revocation or annulment of any fisher's permit, the APA does not apply to limit the effectiveness of the HP Proposal in meeting its goal. Even if HP permit denials were seen as affecting a fisher's existing rights, appeal procedures under HP are more than adequate to comply with the APA.

As detailed below, NOAA's conclusions to the contrary are simply not supported by the law as reflected in the Constitution, relevant statutes and regulations, and case law.

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before the agency issues a final decision. In fact, the ITQ appeals program provides more process than is required under the U.S. Constitution, the APA, and the Magnuson Act. Thus, an even more streamlined appeals procedure, without, for example, oral hearings, could be devised to resolve appeals.

We suggest that to avoid any possible successful constitutional challenge, the HP program be defined to include deadlines for each step in the process from initial determination to decision on appeals to ensure that the appeal process concludes before the HP season at issue.

I. AN INFORMAL HP APPEAL PROCESS MEETS PROCEDURAL DUE PROCESS REQUIREMENTS.

NOAA's legal opinion appropriately sets forth the Mathews factors as the test for determining the procedural due process owed a denied HP applicant. Mathews v. Eldridge, 424 U.S. 319 (1976). In general, courts balance:

> First, the private interest that will be affected by the official action; second, the risk of an erroneous deprivation of such interest through the procedures used and the probable value, if any of additional or substitute procedural safeguards; and finally, the Government's interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirements would entail.

Mathews, 424 U.S. at 335 (holding that government's interest in minimizing administrative and social costs outbalance the recipient's interest in continued disability benefits and slight risk of agency error). As NOAA explains, the constitutionality of the HP appeal process will be determined according to these factors.

A. The Private Interest Of An HP Applicant

NOAA strays radically from the Mathews test when addressing the very first factor--the private interest at stake. Opinion at 4. NOAA fails to focus its analysis on the actual Mathews factor--the significance of the interest at stake, here the interest of an applicant for a government permit. Instead, NOAA introduces a new and unsupported theory. NOAA proposes that it is the permanence of the individual's loss that should determine the need for a pre-deprivation adversarial hearing, rather than the significance of the private interest. Based on this theory, NOAA contends a pre-deprivation adversarial hearing is required whenever an agency is unable "to fully compensate any appellant who is ultimately successful." Id.

NOAA's reformulation of the private interest factor fails for two fundamental reasons. First, the United States Supreme Court and many other courts have condoned informal agency adjudications irrespective of an agency's ability to fully compensate a successful appellant. See, e.g., Goss v. Lopez, 419 U.S. 565 (1975) (deprivation of educational benefits during suspension); Bd. of Univ. of Missouri Curators v. Horowitz, 435 U.S. 78 (1978) (same); Barry v. Barchi, 443 U.S. 55,64 (1979) (no pre-deprivation evidentiary hearing required prior to "effectuation of [horse trainer's license] suspension"). Indeed, as evidenced by NOAA's failure to cite any support for its position, see Opinion at 4, NOAA's suggestion to the contrary is without support in the law.[2]

Second, evaluating the private interest in terms of an agency's ability to compensate the applicant presupposes that the applicant possesses a substantial private interest. NOAA's analysis sidesteps the very heart of the first prong of the Mathews test, i.e., determining the magnitude of the individual's interest. As an initial matter, it must be determined whether the

[2] NOAA's argument is also a classic example of bootstrapping. NOAA argues that an adversarial hearing is required because the agency cannot compensate the fisher who is excluded from the HP season wrongfully, as determined by some process concluded later. But if the appeal process is informal and completed before the HP season begins as we recommend, then there is no need for compensation for "ultimately successful" fishers. Those who win appeals will be granted permits and be permitted to fish. NOAA's argument essentially is, therefore, that adversarial hearings are required because to meet due process the hearing must be concluded before the HP season and formal, complicated adversarial hearings cannot be concluded before the season. In other words, NOAA's argument that adversarial hearings are required is based on an assumption that adversarial hearings are required and informal, prompt process is not available.

Moreover, we question one other assumption in NOAA's argument. We see no reason why fishers could not be compensated for a wrongful permit denial by, for example, automatic qualification for the next reward season.

private interest at stake is sufficiently important to warrant an adversarial hearing. This analysis must focus upon the nature of the government benefit at stake.

When evaluating the importance of a private interest, courts weigh the gravity of harm to the individual should the benefit be withheld. Compare Goldberg v. Kelly, 397 U.S. 254, 262-63 (1970) ("grievous loss" of welfare benefits calls for adversarial hearing) with Goss v. Lopez, 419 U.S. at 581-83 (ten day suspension of right to education requires only informal hearing). As a general rule, the most complex administrative appeal procedures apply to interests in government benefits essential to a person's "means of livelihood." Cleveland Bd. of Educ. v. Loudermill, 470 U.S. 532, 543 (1985) cited in Opinion at 4.

In Chalkboard, for example, the Ninth Circuit concluded that a property interest in a day care center's license to operate is "clearly substantial" for due process purposes because it is "essential to the licensee's entire business." Chalkboard, Inc. v. Brandt, 902 F.2d 1375, 1381 (9th Cir. 1989) (emphasis added); see also Barry v. Barchi, 443 U.S. 55 (horse trainer wholly precluded from work in profession during suspension of license); Bell v. Burson, 402 U.S. 535, 539 (1971)(driver's license may be critical to holder's livelihood); Amsden v. Moran, 904 F.2d 748, 754 (1st Cir. 1990), cert. denied, 498 U.S. 1041 (1991) (interest in occupational license of "considerable concern"). In Chalkboard, the Court determined, on balance, that a day care center's interest in a license essential to daily operations weighed in favor of more formal pre-deprivation proceedings. The Ninth Circuit did not go so far, however, as to require an adversarial pre-deprivation hearing to protect the owner's interest. 902 F.2d at 1381. Indeed, NOAA itself admits that "[i]n only one case, that of welfare

recipients," did a court find a private interest "to be so compelling as to require a full pre-deprivation adversarial hearing." Opinion at 4 citing Goldberg v. Kelly, 397 U.S. 254.

Unlike the day care center which is wholly inoperable without a license, or the welfare recipient with no alternative means of sustenance, the HP applicant does not depend on the HP season for her "entire business." The reward season comprises merely a percentage of the total allowable catch in one fishery, albeit one that is enough to make qualifying for the reward season worth the effort. As the only way to qualify for the reward season is to fish in the regular season, by definition HP will not be the sole basis for a fisher's entire livelihood. Moreover, fishers, especially in the North Pacific, traditionally participate in more than one fishery each year, further diluting the impact on their livelihood of the failure to qualify for a HP reward season.

Furthermore, the interests of permit applicants, like the denied HP permit applicant, are less substantial as a general rule than the interests of a permit holder who seeks to retain a permit. See Derwinski, 994 F.2d at 590 ("applicants have weaker interests in government benefits than recipients."). While the Supreme Court recognizes that applicants may be entitled to due process, "[o]nce licenses are issued . . . their continued possession may become essential in the pursuit of their livelihood." Bell v. Burson, 402 U.S. at 539. Recipients of a government benefit, who are more likely to rely reasonably on its continuation, have an interest which gains more importance with time. See, e.g. Cloutier v. Town of Epping, 714 F.2d 1184, 1191-92 (1st Cir. 1983) (developer's interest in sewage permit nominal where only

held for a few days). The HP applicant cannot reasonably rely on the potential future benefit to the same extent that a recipient of benefits relies upon continuation of those benefits.

Far from evoking a pre-deprivation adversarial hearing, the HP applicant's interest tips the scale in favor of an informal hearing. Simply put, after twenty-five years and an amalgam of procedural due process jurisprudence regularly affirming the constitutionality of informal hearing processes, a court will not find an HP applicant's interest to be so unusual as to raise the same concerns addressed in Goldberg v. Kelly and become what may be, as NOAA suggests, only the second case in history where a full scale pre-deprivation adversarial hearing would be required.

B. The Risk of an Erroneous Deprivation

To decide whether an adversarial pre-deprivation hearing is urged by the second factor under the Mathews test, a court will decide whether "a wide variety of information may be deemed relevant and [whether] issues of witness credibility and veracity ... [are] crucial to the decisionmaking process." See Mathews, 424 U.S. at 343-44. In particular, in assessing the HP program a court will assess whether the observer data, upon which the agency bases its decision, "was susceptible of reasonably precise measurement by external standards." Chalkboard, 902 F.2d at 1381. The Ninth Circuit in Chalkboard was especially concerned that a state health agency lacked any external standards upon which to make "delicate judgments" about child abuse occurrences. In that regard, the court distinguished a line of cases involving agency decisions based on data of reasonably precise measurement by external standards,

including the suspension of a drivers' license based on convictions amounting to a preset number of points. Id. (citing Dixon v. Love, 431 U.S. 105, 113 (1977)).

In these circumstances, NOAA argues that because HP eligibility will be determined from data gathered by at-sea observers, the risk of erroneous denials will be high and therefore an adversarial hearing is necessary. NOAA's analysis misapplies the relevant case law and is wrong. Analyzed under a continuum, the observer data is less like the standardless child abuse determinations, and significantly more akin to driver's licensing decisions grounded in objective criteria.

At one extreme, child abuse questions raised during a license revocation hearing may involve countless witnesses giving purely subjective testimony regarding a "wide variety" of issues. Because such evidence does not involve a standardized process, trained observers or objective, statistically valid evidence, the Ninth Circuit recognized the risk of erroneous deprivations. Chalkboard, 902 F.2d at 1381. In stark contrast, driver's license suspension decisions based on systematic and standardized reports of traffic convictions by trained persons are not viewed with the same suspicion. Mackey v. Montrym, 443 U.S. 1, 14 (1979).

The HP Program falls on the objective side of this continuum. It is built on a standardized structure designed to award HP permits based on statistically valid data.[3] As a key component of the program, observers follow a standard methodology for collecting and

[3] Observer data gathering is recognized as essential to manage fisheries consistent with conservation and management principles. See Discards in the Groundfish Fisheries of the Bering Sea/Aleutian Islands & the Gulf of Alaska During 1993, prepared for The Alaska Department of Fish and Game, August, 1994, at 2.

recording data.[4] To bolster the reliability of agency decisions, observer data is reviewed and adjusted by National Marine Fisheries Service officials to minimize disparities between vessels. See, e.g., Discards in the Groundfish Fisheries, supra at n. 4. The accuracy of observer data is therefore measured with reasonable precision according to external standards, and poses a de minimus risk of erroneous deprivation.

NOAA's suggestion, that determinations "susceptible of reasonably precise measurement by external standards" are limited to expert-like decisions cannot withstand the weight of authority. Opinion at 4. Agency decisionmaking need not be perfect or based on professional or expert judgments to be consonant with the Due Process Clause. See, e.g., Ramirez v. Ahn, 843 F.2d 864, 868-69 (5th Cir. 1988), reh'g denied, 849 F.2d 1471 (1988). Instead, the Ninth Circuit focuses on "whether the [decisionmaking] process has produced or is substantially likely to produce a significant number of wrongful denials." Nat'l Ass'n of Radiation Survivors v. Derwinski, 994 F.2d 583, 591 (9th Cir. 1992), cert. denied, 114 S.Ct. 634 (1993) (citing Walters v. Nat'l Ass'n of Radiation Survivors, 473 U.S. 305,326 (1985)) (emphasis added). In Derwinski, the court concluded that claimants of VA benefits were not improperly denied a full evidentiary hearing because of the medical and scientific complexities of the issues raised in their claims. Similarly, it is unlikely that a "significant number" of HP

[4] Potential observers attend a three week course covering fisheries management, sampling methods, biological data collection, data forms, obtaining haul information, delivery weight allocation, catch message transmission, species identification, and compliance. See William A. Karp, Prequalification Requirements for Groundfish Observers, attachment to Marine Observation Report, Jan. 4, 1995 at 1, 3. Failure to pass a final examination precludes a potential observer's certification and employment. Id.

applicants will be denied permits because of inaccurate observer data in light of the standardized structure comprising the HP proposal.[5]

Furthermore, courts have been very willing to find that an informal pre-deprivation hearing adequately protects against a risk of an erroneous deprivation. Even in Chalkboard, upon which NOAA places great emphasis, the Ninth Circuit found the risk of error to be "high," and yet did not require an adversarial pre-deprivation hearing. Chalkboard, 902 F.2d at 1382 ("Chalkboard was entitled to notice and some form of opportunity to respond prior to the summary suspension of its license"); see also Hewitt v. Helms, 459 U.S. 460 (1983) (prison disciplinary proceedings utilizing staff reports); Amsden v. Moran, 904 F.2d at 756 (zoning board relied on evidence collected outside permit applicant's presence).

C. The Importance of the Government Interest

Contrary to NOAA's assertion, under the Mathews balancing test, the government's interests weigh strongly in favor of an informal hearing. The government's interest in ensuring the proper effectuation of the Magnuson Act is paramount here. See, e.g., Barchi, 443 U.S at 64. In these circumstances, the government's interest in protecting and conserving

[5] Given the margin of error permitted in agency decisionmaking before a full evidentiary hearing is warranted, an argument that individual observers may not perform their job appropriately simply will not undercut an entire standardized agency program. See, e.g., Parham v. J.R., 442 U.S. 584, 612-13 (1979) (informal hearing appropriate despite potential for improper motives tainting agency decision to commit minor). Moreover, observers are responsible to their supervisors, and may be decertified for falsification of data, failure to complete their duties, or an inability to work without supervision. See Karp, supra at n. 4. Inappropriate observer behavior or incompetence may be the basis for appeal of the denial from HP application in a particular case, but cannot serve as an adequate basis to conclude that the program as a whole is likely to lead to significant numbers of wrongful denials.

fishery resources is firmly grounded in law and public policy. See 16 U.S.C. § 1801(b) (denoting conservation purposes of Magnuson Act). Both NMFS and the North Pacific Fishery Council have identified reduction of bycatch as a paramount management goal. NMFS, Comprehensive Fishery Management Goals, (December 1984).

Because the HP proposal, if adopted, would constitute a primary way of meeting conservation goals through bycatch reduction, the government has a valid interest in the success of the HP program. Yet HP success hinges on there being a brief lapse of time between the reward and general fishing seasons in order to create effective incentives to reduce bycatch. Consequently, when weighing the importance of the government interest, the Mathews scale tips in favor of an informal pre-deprivation hearing promptly concluded before the start of the HP season.

In addition, the Supreme Court has recognized the government's interest in minimizing the costs and administrative burdens associated with more formalized hearings. Mathews, 424 U.S. at 335, 347. As agencies are not solely charge with protecting the constitutional rights of a few individuals, the rights of the public at large in "conserving scarce fiscal administrative resources is a factor which must be weighed." Id. at 348; see also Hall v. Cal. Dep't of Corrections, 835 F.Supp. 522, 528 (N.D. Cal. 1993). The National Marine Fisheries Service has an important interest in efficiently processing HP appeals and therefore avoiding a trial-type hearing.

NOAA suggests that the government interest in conserving agency resources is "doubtful" given the current allocation of resources to adversarial hearings under the VIP

program. Opinion at 5. NOAA once again misses the point. The proper focus for inquiry is upon the government's fiscal constraints under the present program. Mathews, 402 U.S. at 334-35. Accordingly, a court is unlikely to find that the allocation of agency resources toward one program, with its different goals, structure and procedures, necessitates comparable funding to a wholly separate program with its own goals, structure and procedures. If anything, prior commitments of resources elsewhere enhances the concern that procedures be streamlined in future programs.

C. Balancing the Mathews Factors

In the event that the HP Program is challenged as a whole prior to its implementation, a court will weigh the three Mathews factors enumerated above to determine whether the Due Process Clause guarantees, as NOAA suggests, an adversarial pre-deprivation hearing to all denied applicants or whether the nearly universal informal process will be adequate. Mathews, 424 U.S. at 335; Washington v. Harper, 494 U.S. 210, 229 (1990); Chalkboard, 902 F.2d at 1380; accord Opinion at 3.

The only case the government could find requiring an adversarial pre-deprivation hearing is Goldberg v. Kelly, involving the denial of welfare benefits to current recipients of those benefits. Goldberg, 397 U.S. 254; Opinion at 4. Here, neither the HP applicant's interest nor the risk of an erroneous deprivation is sufficiently weighty to override the government's interest in expeditiously processing appeals to effectuate fully its conservation goals. A court will conclude, based on the Mathews test, that an informal opportunity to be heard is constitutional.

First, the HP applicant's interest is unlikely to be viewed as so substantial as to require an adversarial hearing. Unlike government benefits cases in which a claimant's interest is afforded great weight, the HP applicant does not depend on the HP permit for his or her entire livelihood, nor rely on the permit to the same extent as a permit holder who, based on the certainty of a permit in hand, reasonably expends time and resources.

By contrast, the government's interest in implementing an effective conservation strategy is well recognized. Here, NMFS's ability to carry out HP hinges on effective incentives unfettered by protracted appeal proceedings. Hence, the government interest is certainly tantamount, if not superior to, the private interest.

Moreover, the risk that an HP applicant will suffer an erroneous deprivation of a reward fishing opportunity carries little weight. An HP application decision does not depend on the credibility of witnesses, but rather focuses on the results of a standardized methodology followed by both at-sea observers and their supervisors. Because both the courts and the HP Program[6] leave some room for agency error in decisionmaking, the potential for sporadic inaccuracies among observers is insufficient to undercut the entire HP Program with a pre-deprivation adversarial hearing requirement.

[6] Of course, the Secretary retains flexible rulemaking authority to cure any perceived inadequacies through additional standardization measures. For example, AMCC has suggested that the statistical confidence interval for HP bycatch rates could be built into the reward determination. Thus, a target bycatch rate could be set at 5% with an additional 3% allowed to cover data discrepancies. Thus, any participant in the qualification fishery who demonstrates a less-than-8% bycatch rate, would qualify for the reward season.

NOAA's analysis concludes with another irrelevant issue--whether the denial of an application for an HP permit is penal.[7] This is not a relevant question under the Mathews analysis. The proper focus for any due process inquiry is not whether an individual will suffer a loss or penalty or sanction, as everyone denied government benefits will suffer a loss in some sense, but whether the process is adequate to protect the interest at stake. See Mathews, 424 U.S. at 335.

A balancing of these factors supports the constitutionality of an informal process like that contained in the AMCC HP proposal. NOAA itself recognizes that "[p]rocedural due process is a flexible concept." Opinion at 3 (citing Chalkboard at 1380 (requiring "hearing appropriate to the nature of the case")). The United States Supreme Court soundly supports the principle that "[t]he very nature of due process negates any concept of inflexible procedures universally applicable to every imaginable situation." Cafeteria Workers v. McElroy, 367 U.S. 886, 895 (1961); see also Richardson v. Wright, 405 U.S. 208, 209 (1972) (administrative process "must have a reasonable opportunity to evolve procedures to meet needs as they arise"). The Court has therefore discounted the need for trial-type administrative hearings in favor of more practical procedures which serve the needs of both the individual and the regulatory program. See, e.g., Morrissey v. Brewer, 408 U.S. 471,

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[7] NOAA states that:

> The due process . . . rights to a prior hearing at issue in such a program are not the rights of those who get to participate in the "reward" fishery , but are, rather, the rights of those who are excluded from the fishery. . . . A clear understanding that the "reward" fishery provisions of the HPP are in fact "penal," and constitute a "sanction" leads to certain inevitable results under due process . . .."

Opinion at 5, 6.

481(1972); Goss, 419 U.S. at 581-82 (full evidentiary hearing is not synonymous with due process); Zinermon v. Burch, 494 U.S. 113, 127 (1982).

Thus, NOAA's adherence to a traditional trial-type hearing is inconsistent with the judicial trend toward informality and practicality. Since the Mathews decision, which recognized that the "judicial model of an evidentiary hearing is neither required, nor even the most effective method of decisionmaking in all circumstances," 424 U.S. at 348, the Court has repeatedly allowed less than full adversarial hearings. See Bell v. Burson, 402 U.S. at 540 (1971); Hewitt v. Helms, 459 U.S. 460 ("informal nonadversary review of evidence" adequate during prison's confinement hearings); Goss v. Lopez, 419 U.S 565 (notice, opportunity for informal conference and some statement of reasons sufficient for school suspension hearing). More specifically, courts recognize that a strictly paper hearing is often adequate to protect an individual's right to confrontation, cross-examination of witnesses, and counsel. See Gleason v. Bd. of Education of City of Chicago, 792 F.2d 76, 79-80 (7th Cir. 1986); Natural Resources Defense Council, Inc. v. U.S. E.P.A., 859 F.2d 156 (D.C. Cir. 1988) (cross-examination is not fundamental to due process); Wolff v. McDonnell, 418 U.S. 539 (1974) (representation by counsel is not a due process right).

Simply stated, the informal HP appeal process is constitutional on its face.[8] Administrative hearings must meet minimum due process protections, including notice, an

[8] Should the appeal process extend in a particular case into or beyond the reward season despite deadlines which should prevent this result in most cases, a "due process as applied" claim against the government is foreseeable. In that rare case, the entire program, which is structured to conclude before the relevant HP season, is not invalidated. In Barchi, for instance, the Supreme Court found that a state agency's appeal procedures failed, as applied,

opportunity to comment on the adverse observer data, and a statement of reasons for the denial. See generally, Goss v. Lopez, 419 U.S. 565. However, even these minimum criteria may be applied to fit the interests at hand. See, e.g., Cloutier v. Town of Epping, 714 F.2d at 1191 (written notice and opportunity to meet with decisionmakers following sewer permit revocation is constitutional). Under HP, therefore, notice, access to an informal oral or written hearing, an opportunity to respond with written affidavits to adverse observer data, and a record of decision provide the HP applicant with informal due process protections consistent with the Due Process Clause. NOAA's argument for an adversarial trial type hearing is a red herring properly left in the ocean.[9]

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to ensure the prompt conclusion of license suspension hearings. Unlike the process in Barchi, however, the HP appeal process would be facially and substantively designed to accommodate all appeals prior to the HP reward season. For that reason, a court will be much less likely to accept an "as applied" argument than in Barchi. In any event, because the basic fairness of an appeal proceeding does not turn on the outcome in a particular case, the important point is the entire HP appeal process will not be vanquished by a few "as applied" claimants. See, e.g., Walters, 473 U.S. at 305.

[9] There are, obviously, a variety of forms of informal appeals procedures that would meet the requirements of due process in this case. AMCC has suggested a process like that used for the halibut ITQ program which may involve oral hearings. The agency need not provide oral hearings to meet constitutional requirements in these circumstances. An opportunity to provide written argument and evidence followed by written decision from the agency would be adequate.

The agency could also meet due process requirements by providing an abbreviated opportunity to respond to a proposed decision, say through a 30 day period after notice, then make a decision to grant or deny an HP permit. The agency could then provide for a more thorough appeal process following the decision, but still exclude the fisher from the HP season if the appeal were not concluded. This process would have the advantage of more quickly reaching a decision which the agency could implement but may be perceived as more resource intensive. The point is that the agency has a variety of options to choose from and can create a process which meets constitutional requirements and is practical for the agency.

II. THE MAGNUSON ACT

The issue now becomes what impact, if any, the Magnuson Act has on the HP proposal. The first question is whether the HP Proposal is a valid interpretation of the authority granted to the Secretary of Commerce by the Magnuson Act. The second issue is NOAA's contention that NMFS' regulations arising out of the sanction provisions of the Act must govern HP decisions.

A. The Secretary Has Broad Authority Under Magnuson Act To Manage Fisheries.

As envisioned by AMCC, in order to implement HP, the current general permit scheme would be changed to clarify that a general fishing permit in no way entitles a fisherman to participate in all the fisheries in the North Pacific. Permits to participate in a HP reward season would only be granted under the auspices of the HP Program, its rules and implementing regulations. Thus, it is in this context that the Secretary's authority must be analyzed.

As an initial matter, administrative agencies have broad discretion to develop and change permitting programs. See, e.g., City of Chicago v. Fed. Power Comm'n, 385 F.2d 629, 637 (D.C. Cir. 1967), cert. denied, 390 U.S. 945 (1968). When reviewing agency rulemaking, a court will "defer[] to the agency's statutory interpretation to the extent that it [does] not conflict with the actual terms of the statute." See Air North America v. D.O.T., 937 F.2d 1427, 1432 (9th Cir. 1991); Lawrence v. Commodity Futures Trading Comm'n, 759 F.2d 767 (9th Cir. 1985); Washington Dep't of Ecology v. EPA, 752 F.2d 1465 (9th Cir. 1985).

Furthermore, Congress' delegation of rulemaking authority to an administrative agency is not only "consonant with the Constitution, [but also] necessary for proper effectuation of [a] statute." United States v. Grimaund, 220 U.S. 506 (1911). Though when promulgating regulations an agency must implement Congressional intent, gleaned either expressly or implicitly from the relevant statute, see, e.g., Brock v. Writers Guild of Am., West, Inc., 762 F.2d 1349, 1353 (9th Cir. 1985), an agency otherwise retains substantial flexibility in applying Congressional policy to the numerous circumstances arising in connection with the program. Misretta v. U.S., 488 U.S. 361, 372 (1989) (Congress can delegate power to an agency under broad general directives); Lichter v. United States, 334 U.S. 742 (1948).

Further, no bar exists to an agency making substantial changes to an existing regulatory or management scheme. Kelly v. United States Dep't of Interior, 229 F.Supp. 1095, 1100 (E.D. Cal. 1972) (the power to make rules includes the power to change them). Creativity and flexibility in rulemaking are inherent to an agency's role:

> Administrators need room to freshen stale policies, adjust their rules to reflect actual experiences and even reverse their thinking if necessary to promote Congress' programs effectively.

Id. The Ninth Circuit has similarly recognized

> . . . when the language and policy of a statute permit a wide range of alternative approaches to a particular problem, the courts must allow the agency charged with implementing the statute to choose the alternative the agency prefers.

Air North Am. at 1431-32 (interpreting Chevron USA v. Natural Resources Defense Council, 467 U.S. 837, 843-44 (1984)) (court deferred to agency's policy change in both cases); accord Maine v. Kreps, 563 F.2d 1052, 1055 (1st Cir. 1977) (when examining regulations pursuant

to the Magnuson Act, court will only determine whether Secretary's discretion was exercised "rationally and consistently with the standards set by Congress"); Alaska Factory Trawler Ass'n v. Baldridge, 831 F.2d 1456, 1460 (9th Cir. 1987).

Congress delegated expansive rulemaking authority for the effectuation of fishery management plans (FMP's) to the Regional Fishery Management Councils (Councils) and to the Secretary. See 16 U.S.C. §§ 1853(c), 1854, and 1855 (Councils generally propose plans and promulgate regulations which the Secretary then implements). The Secretary may exercise this authority consistent with these general principles to modify and amend existing regulations to effectuate Congress' broad policies under the Act.

The HP program does not conflict with any specific Congressional guidance in the Magnuson Act. To the contrary, the Act affords the Secretary great flexibility in fashioning a permit program. For example, the "discretionary provisions" of the Act not only allow the Council to formulate a permit program and set limits on the catch of fish, but even more generally, to "prescribe such other measures, requirements or conditions and restrictions as are determined to be necessary and appropriate for the conservation and management of the fishery." See 16 U.S.C. §§ 1853(b)(1), (3), 1853(c). This broad discretion extends to both initial and subsequent planning and regulatory efforts. 16 U.S.C. § 1853(c) ("regulations which the Council deems necessary or appropriate for purposes of carrying out a plan or amendment to a plan") (emphasis added). Simply put, the Magnuson Act does not prevent the Council and NMFS from developing a distinct, incentive-based HP permitting process.

Even if a general permit holder possesses a legally cognizable property interest in his or her permit under the existing regulatory program, the HP program is not invalid for altering the value of that permit by restructuring the program. Agencies may diminish a licensee's entitlement under a license by way of rule making if a generic rule imposes new criteria on all interested persons. See Upjohn Co. v. FDA, 811 F.2d 1583, 1585 (D.C. Cir. 1987) (after notice and comment rulemaking, agency entitled to expressly revoke manufacturer's right under current certificates) (emphasis added); see also Interport Pilots Agency Inc. v. Sammis, 14 F.3d 133 (2d Cir. 1994); Am. Airlines, Inc. v. C.A.B., 359 F.2d 624 (D.C. Cir. 1966), cert. denied, 385 U.S. 843 (1966). Similarly, the HP qualifying standards will be adopted by general regulation modifying the existing permit program and will broadly apply to all past and future general permit holders. Thus, there is no blanket prohibition against changes to the general fishery permit regulations to accommodate the HP program.

Consequently, the regulatory restructuring of the present fishery season into a general season and a reward season (the HP program) can define the general permit holder's interest in what will become the HP reward season. Rulemaking alone should distinguish the applicant's interest in the two programs so that a general permit holder has no statutory right to fish during the reward season.

In analogous circumstances, the Ninth Circuit has refused to recognize a limited licensee's interest in further licensing. Kraft v. Jacka, 872 F.2d 862 (9th Cir. 1989). In Kraft, holders of one year limited gaming licenses sought further licensing after their limited licenses automatically expired. Regardless of the limited licensee's substantial investment

under the belief that a permanent operating license would be granted, the court held that the legislature did not intend to grant entitlements to limited licensees who, from the outset, had not been considered deserving of a permanent license. Id. at 866-69. The court concluded the statutory regime offered clear guidance that denial of further licensing does not constitute a "revocation or suspension of an existing license." Id. at 867. In other words, a permittee's interest in engaging in an activity under a conditional permit will not necessarily foreordain his interest in continuing the same activity under a separate permit. In a similar way, the general permit grants fishing privileges for a finite period, and eligibility for that season is distinct from, and not determinative of, eligibility for the HP season.

B. The Magnuson Act's Sanction Provisions Do Not Apply to HP.

NOAA categorizes the HP reward fishery as a "sanction" against those who, because their bycatch rate during the general fishery period is too high, are precluded from the reward fishery. Opinion at 8-10. Referencing general rules of statutory construction, NOAA states that "'penal statutes are to be construed strictly' . . . and that one 'is not to be subjected to a penalty unless the words of a statute plainly impose it,'" Opinion at 7-8. NOAA then argues that either the HP program will have to be managed under the Act's sanction provisions, and the cumbersome regulations which implement them, or the program will violate the Act.

NOAA's conclusion is a classic example of the "the tail wagging the dog." Following NOAA's logic, any regulatory restructuring that restricts a fisher's access to her or his current

harvest rights violates the Act because it is penal.[10] While restrictions on an agency's authority certainly exist, i.e., regulations must not conflict with Congressional intent, Brock, 762 F.2d at 1352-53, the preceding discussion illustrates that the agency has ample authority to adopt a new program even if it means altering privileges granted under the existing structure. As Congress stated, the Secretary is "to take immediate action to conserve and manage the fishery resources found off the coasts of the United States . . . ." 16 U.S.C. § 1801(b)(1).

The sanction provisions of the Act, and the implementing regulations, on the other hand, exist for the purpose of punishing actions taken by fishers in violation of the mandatory requirements of the Act, agency regulation or individual permits. 16 U.S.C. §§ 1857-60; 50 C.F.R. §§ 904.300-01. For example, a person who fishes in the reward season without an HP permit would violate the mandatory requirements of the statute and be subject to the sanction provisions and procedures. But assuming, as we have shown, that the Secretary could lawfully adopt the HP program and restructure the permit system, no fisher denied an HP permit will have violated any provision of the Act or permit condition, and will, therefore, not be subject to the sanction provisions. The fisher will simply have failed to qualify for a permit. That under a prior regulatory program a fisher was entitled to fish the entire season under a general permit without meeting additional requirements will no longer be relevant.

[10] Using NOAA's logic, the halibut/sablefish ITQ appeal regulations would also violate the Magnuson Act because they are streamlined and do not employ the permit sanction regulations. NOAA attempts to distinguish the ITQ program by saying it is not "penal." Opinion at 5 n.1. Yet clearly the ITQ program imposes a restriction on historic participants in a fishery--exactly the reason NOAA gives for saying HP is "penal" and, therefore, requires imposition of permit sanctions.

As a result, NOAA's suggestion that HP permit denials must be handled through the sanction regulations in order to be consistent with the Magnuson Act is just another artificial barrier that can be safely ignored.

III. ADMINISTRATIVE PROCEDURE ACT

The provisions of the APA which set out the procedural requirements for withdrawals of licenses are not applicable to the HP proposal. Even if they were applicable, the HP proposal as currently structured meets the requirements of the APA.

A. Section 558(c) of the APA Does Not Apply to HP Permit Denials.

NOAA suggests the APA imposes substantial procedural obligations for the denial of an HP permit. The relevant portion of the APA cited by NOAA reads as follows:

> Except in cases of willfulness or those in which public health, interest, or safety requires otherwise, the withdrawal, suspension, revocation, or annulment of a license is lawful only if, before the institution of agency proceedings therefor, the licensee has been given-
>
> (1) notice by the agency in writing of the facts or conduct which may warrant the action; and
>
> (2) opportunity to demonstrate or achieve compliance with all lawful requirements.

5 U.S.C. 558(c) (emphasis added).

As the plain language of the APA shows, this section of the APA is not applicable to the HP program because the denial of an application for an HP permit is not a "withdrawal, suspension, revocation, or annulment of a license." No existing license is revoked when an

HP permit application is denied. The NOAA opinion includes the following quote from one court interpreting section 558(c) of the APA, but ignores the critical words of the court:

> A paraphrase of the provision taken as a whole might read "before an agency can institute proceedings to withdraw, revoke, etc., an existing license, it must provide the licensee with notice in writing of the offending conduct and a hearing . . . ."

Bankers Life & Gas Co. v. Calloway, 530 F.2d 625, 635 (5th Cir. 1976), reh'g denied, 536 F.2d 1387, cert. denied, 429 U.S. 1073 (1977) (emphasis added). The HP program is not a sanction that revokes existing licenses. The program merely denies applicants who choose to attempt to qualify for the reward season, but do not meet the bycatch standards, from fishing in the reward season. As a result, the procedures required by this section of the APA do not apply.

B. The HP Proposal Complies With Section 558(c).

Even if section 558(c) of the APA applied to denial of HP permit applications, the proposed program's appeal process meets its requirements. Because section 558(c) does not mandate formal adjudicatory hearings, NOAA retains some flexibility in structuring and streamlining a permit application appeal proceeding. Marathon Oil Co. v. EPA, 564 F.2d 1253, 1260-61, n.25 (9th Cir. 1977). Section 558(c) merely requires that the agency give: (1) notice in writing of the facts or conduct which warrant the action, and (2) an "opportunity to demonstrate or achieve compliance." See 5 U.S.C. § 558(c). An agency need only give a licensee an opportunity to demonstrate compliance to satisfy section 558(c)(2); it need not also provide an opportunity to achieve compliance. See Central National Bank of Mattoon v. U.S.

Dep't of Treasury, 912 F.2d 897, 906 (7th Cir. 1990) (agency's duty under section 558(c)(2) is disjunctive.) See also Moore v. Madigan, 900 F.2d 375, 379 (8th Cir. 1993). Under the HP proposal described above, written notice will be provided of NMFS's determination that a fisherman did not qualify for the reward fishery. Further, the agency will afford an applicant an opportunity in an appeal to submit information in response to the notice. Only then will NMFS make the final determination whether that particular fisherman failed to qualify for the reward season.

CONCLUSION

As described above, the appeal process set up under the HP Proposal is constitutionally and statutorily valid. NOAA's conclusions to the contrary are not supported in the law and should not buttress inaction on the HP Proposal by either the Council or the Secretary of Commerce.

Agenda Item C-8

HARVEST PRIORITY WORKING DOCUMENT: THE MECHANICS OF IMPLEMENTATION FOR THE BERING SEA/ALEUTIAN ISLANDS ROCK SOLE FISHERY

Prepared for the
North Pacific Fishery Management Council

Prepared by

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April 13, 1995

EXECUTIVE SUMMARY

At its December 1994 meeting, the Council requested that NMFS staff prepare a working document that would "flesh out the mechanics of implementing" Harvest Priority (HP) programs for the Bering Sea/Aleutian Islands (BSAI) rock sole fishery based on the Alaska Marine Conservation Council (AMCC) and Cold Sea International Inc. (CSII) proposals and that NOAA General Counsel pursue solutions to the "legal roadblocks" encountered with HP. The working document that was prepared summarizes the AMCC and CSII proposals, provides NMFS's interpretation of the February 24, 1995 legal opinion on HP, identifies and discusses potential implementation problems, and outlines options which the Council may wish to consider.

The two Harvest Priority (HP) proposals for the BSAI rock sole fishery are as follows:

1. Alaska Marine Conservation Council's (AMCC) proposal is to establish a reward fishery comprised of either additional time or TAC that would be accessible only to vessels that met discard rate and prohibited species bycatch rate standards in the open access or qualifying portion of the rock sole fishery.

2. The proposal by Cold Sea International Inc. (CSII) is to seasonally apportion the rock sole TAC and PSC allowances and to limit participation in the second season (August - December) to those who discard 60 percent or less of their catch during the first season (January - July).

The ability of NMFS to exclude from the reward portion of the rock sole fishery vessels that did not meet all the HP standards is a critical factor in determining the feasibility of an effective HP program. If vessels that do not meet the standards cannot be excluded, those who meet the standards would not receive the reward of sole access to the reward fishery.

Analysis of these proposals has identified three primary implementation issues:

1. **Legal issues:** NOAA General Counsel concluded that a determination by NMFS that a vessel participating in the HP program was ineligible for the reward fishery because it had failed to meet performance standards is a permit sanction. Those who appealed the NMFS determination could not be prevented from participating in the reward fishery until their appeal had been resolved.

Based both on this legal opinion and on the expectation of reductions in the resources that will be available to the Agency, the Agency cannot assure that the incentive necessary to effectively implement the HP program can be provided.

2. **Monitoring issues:** Both the AMCC and CSII proposals would require NMFS to monitor individual vessel discard rates (the proportion of the total catch of a specific group of species that is discarded). Data currently collected through observer sampling focus on total catch weight and species composition. Observers do not sample to determine discard rates, but provide rough estimates of discards for informational purposes only. These estimates are not adequate to enforce individual vessel discard rate standards. Options for improving estimates of discard rates by using information from both observers and processors are addressed in the working document. Although the changes in observer sampling procedures and priorities that would be necessary to rely solely on observer estimates of discard rates are expected to be substantial, they have not yet been fully evaluated by NMFS.

   The AMCC HP proposal would also require observers to monitor prohibited species bycatch rates for individual vessels. This monitoring effort is already being done for halibut and red king crab PSC bycatch rates under the vessel incentive program (VIP). With the AMCC proposal, comparable estimates would be required for all prohibited species. This probably can be done without much difficulty for the other crab species. However, providing adequate estimates of salmon bycatch by vessel remains a challenge.

3. **Agency resources:** The HP proposals for the BSAI rock sole fishery would require increases in observers. Additional NMFS staff will also be required in the Observer Program office, in-season management, Enforcement, and General Counsel. The agency hiring freeze, initiated to respond to specific staff reduction goals over the next few years, does not authorize hiring additional staff and, in many cases, filling vacated positions. Provisions for industry to share the cost of management programs would not address many concerns about staff resources. HP proposals also should be considered in light of the resources that will be required to implement other programs being considered by the Council, such as the license limitation program and the expanded CDQ program. This is particularly important if the Council considers HP programs for additional fisheries.

Additional implementation issues are as follows:

1. A critical factor in determining the effectiveness of a HP discard rate standard would be the definitions of "catch" and "retained catch" because "discard" is the difference between catch and retained catch. Without strict rules on what constitutes acceptable processing, a vessel could retain some minimal part of each fish or process whole fish into meal and be considered to have 100% retention. This problem also is discussed in the April 1995 working document on increased retention and increased utilization.

2. Many of the implementation tasks are simplified substantially or eliminated when HP is being considered only for the BSAI rock sole fishery. This is due to the homogeneity of the current participants in the rock sole fishery, the fact that the rock sole fishery is a relatively small part of the BSAI and GOA groundfish fishery, and the fact that the rock sole TAC is substantially below its ABC. These tasks include the following: (1) determine which fisheries to include in a HP program; (2) determine what to do about vessels which cannot physically of fiscally carry the observers necessary to participate in the HP program; (3) set different HP standards for different vessel classes in a fishery; (4) determine the percent of the TAC that would be reserved for bycatch in other groundfish fisheries; and (5) determine who would pay for any additional observer requirements.

3. The other implementation issues for a BSAI rock sole fishery HP program include the need to complete several tasks including the following: (1) determine what types of HP standards would be used and what the numerical value of each would be; (2) determine how much of the rock sole fishery's share of the rock sole TAC and PSC limits would be allocated to the reward fishery or what other type of reward would be used; (3) determine if the HP standards would apply only to vessels that catch the fish; (4) determine if the HP standards should be applied to a group of vessels rather than to individual vessels and if some transfers of the right to participate in the reward fishery should be allowed; (5) determine whether importance-weighted average discard rate standards should be used to account for species-specific differences in the importance of discards; (6) determine whether an aggregate importance-weighted HP standard should be used in place of multiple standards that do not account for the tradeoffs among individual standards; (7) determine the base year rates to use given the recent regulatory changes for the rock sole fishery; (8) determine the minimum level of participation in the qualification period required to qualify for the reward portion the fishery; and (9) determine the minimum percent concurrence

by current participants in rock sole fishery that will be required to establish the HP standards and rewards.

Options that the Council may wish to consider are presented below.

1. The objective of the HP proposal is to provide fishermen an incentive to reduce discards, perhaps including non-allocated species, and bycatch of prohibited species. The Council is considering limits on discards in the BSAI rock sole fishery under the Increased Retention and Increased Utilization (IR/IU) proposal. The principal differences between the current IR/IU proposal and the portions of the HP proposal that deal with groundfish retention and utilization are as follows: (1) the species to be included in the retention standard; (2) the result for a vessel of not meeting a standard; and (3) the numerical value of the retention standard. Because this part of the HP proposals is basically a set of options for a IR/IU program, it shares most of the implementation issues identified for other IR/IU proposals. Therefor, it may be more effective for the Council to address this part of the HP proposal as part of a redefined IR/IU proposal instead of continuing to address it within the context of the HP proposals.

2. In terms of potential reductions in the bycatch of prohibited species, a variety of measures are available that could be used in conjunction with or as alternatives to the parts of the HP proposals that address this problem. Specifically, the Council may want to recommend further analysis of proposals such as Individual Bycatch Quotas (IBQ), through which the Council could annually allocate a portion of the halibut and crab PSC limits to individual vessels. Proposals such as IBQs would incorporate the objectives of the HP proposal to provide fishermen with an incentive to reduce prohibited species bycatch, but would not rely on final resolution of appeals for effective implementation. The analyses of IBQs and other bycatch reduction proposals for the flatfish fisheries (rock sole, flathead sole, yellowfin sole, and other flatfish) could be completed by staff in time for review at the September, 1995 Council meeting.

HARVEST PRIORITY WORKING DOCUMENT: THE MECHANICS OF IMPLEMENTATION FOR THE BERING SEA/ALEUTIAN ISLANDS ROCK SOLE FISHERY

INTRODUCTION

At its September 1994 meeting, the Council reviewed three discussion papers concerning the harvest priority (HP) proposal and what is now referred to as the increased retention and increased utilization (IR/IU) proposal. The Council established a committee to develop further the specifics and alternatives for HP and IR/IU proposals for the following four fisheries: Bering Sea/Aleutian Islands (BSAI) rock sole, BSAI mid-water pollock, BSAI longline Pacific cod, and Gulf of Alaska (GOA) flatfish. The Committee met in November and prepared a report for the Council. The Council discussed the Committee's report in December and directed staff to further develop these proposals. With respect to the HP proposal, the Council directed staff to prepare the following for Council review in April 1995:

1. a working document on the mechanics of a HP program for the BSAI rock sole fishery and

2. a NOAA General Counsel examination of HP legal issues.

The objective of the Harvest Priority (HP) proposals is to provide fishermen an incentive to reduce their catch and discard of unwanted or prohibited fish and other marine life. The incentive is additional fishing time for fishing vessels that meet specific performance standards. The HP proposal would require the Council to set performance standards for discard rates and/or prohibited species bycatch rates for individual participants in a particular fishery. In addition, the Council would determine a "reward" that would be available to those who met all the standards and not available to those who failed to meet one or more of the standards. Although HP programs may be based on proposals by fishermen, eventual design of a specific program would require the Council to make recommendations to NMFS on the specifics of a HP program.

This report is the working document on the mechanics of a harvest priority program for the BSAI rock sole fishery. The report identifies and discusses both the specifics of such a program and several potentially significant implementation problems, and it outlines alternatives that are available to address such problems. The report is intended to provide information that will assist the Council in addressing the discard and prohibited species catch (PSC) problems in the groundfish fishery and in other fisheries within the Council's jurisdiction. This report is not intended to identify the magnitude of either the groundfish discard and PSC problem in the BSAI rock sole fishery

or the expected benefits and costs of alternative HP programs for that fishery. Those would be some of the objectives of an Environmental Assessment/Regulatory Impact Review (EA/RIR) for a specific set of HP program alternatives. However, summary data on groundfish catch and discards and prohibited species bycatch for the rock sole fishery as well as on TACs, ABCs, and PSC allowances are provided in Appendix I.

The specifics and implementation issues for HP programs for the BSAI rock sole fishery are addressed principally by considering potential answers to the implementation questions identified in the Harvest Priority Discussion Paper which was available to and discussed by the Council in September. Those questions are as follows:

1. Can the Agency assure that the incentive necessary to effectively implement the HP program can be provided?

2. What types of HP standards will be used?

3. Which target fisheries (species, area, and gear type) will operate under a HP program?

4. Will a TAC be allocated between vessels that can carry the observers necessary to attempt to meet the HP standards and vessels that cannot carry the required observers, will the latter group of vessels be allowed automatically to participate in the HP reward portion of the fishery, or will that group of vessels simply have a smaller portion of the TAC available to it? If separate allocations are established, how will they be established?

5. How will a TAC be allocated among vessels with different HP standards?

6. How will the TAC for a species be allocated between fisheries with HP programs and fisheries that take that species only as bycatch?

7. How many tiers of HP standards will there be?

8. How much of the TAC will be allocated to the qualifying period and to each tier of the reward portion of the fishery?

9. Will the HP standards apply only to fishing vessels?

10. Can the HP standards be met by a group of operations based on the groups performance or can the reward be transferred to another vessel?

11. What additional observer requirements will be established and how will they be paid for?

12. What will be the numerical value of each standard for each HP tier and fishery? Due to differences among the fisheries, it is expected that a separate set of HP standards would have to be determined for each HP fishery.

13. What weighting factors will be used to calculate meaningful aggregates with respect to the HP standards?

14. How will the Council and NMFS establish the reference year bycatch and discard rates that would be used for unobserved catch?

15. Will a minimum level of participation in the qualification portion of a HP fishery be required to qualify for the reward portion of that HP fishery?

16. Will the process for establishing the HP standards and rewards for a HP fishery require concurrence by a fixed percent of the current participants in that fishery?

After the first two questions which appear to the most critical with respect to potential implementation problems, the questions are not in order of significance.

The answers discussed below are based on the following: (1) the December 1994 Harvest Priority and Full Retention/Full Utilization Committee Supplemental Report that was prepared by the Alaska Marine Conservation Council (AMCC); (2) comments by the Council's HP and FR/FU Committee; (3) the HP proposal submitted by Cold Sea International Inc. (CSII); and (4) work done by NMFS staff. The CSII proposal is being considered because, as of December 1994, it was the only fishery-specific HP proposal submitted to the Council from the industry.

SUMMARY OF THE AMCC AND CSII HP PROPOSALS

The following are brief descriptions of the AMCC and CSII HP proposals. The AMCC proposal has been revised several times. The following description is for their latest proposal. Appendix II contains information submitted to the Council by both AMCC and CSII.

The AMCC Harvest Priority Proposal

The AMCC harvest priority proposal includes six elements with options for several elements. The following is a brief description of the fundamental elements.

1. A groundfish discard rate standard for non-regulatory (i.e., discretionary) discards and a PSC index standard would be set annually below the industry averages. This would be done for each HP fishery and fisheries would be defined by target species, area, gear, mode of operation (.e., at-sea/on-shore processing), vessel size, etc.

2. Fishing vessels which voluntarily meet all of the HP performance standards would qualify for either a second season with a reserved TAC or a reserved fishing area or period. Either type of reward probably would occur the next fishing year.

3. All bycatch rates must be verified by an observer. Bycatch rates for unobserved harvest would be assumed to equal reference year average rates for the fleet. Alternatively, 100% of harvesting would be observed and sampled.

4. Only selected fisheries, not all, would be included in the program. Specific fisheries would be identified in consultation with industry using a work group.

5. Vessels fishing the HP reserve that exhibit bycatch/discard rates above the established standards would have their rates for that period averaged into the next qualifying season.

6. Sequential reserves could be established and a fisherman who performs exceptionally well either in the open fishery or reserve, could qualify for the next reserve which would be at even higher standards. That is, there could be two or more tiers to the HP program, each with its own reserve and a consecutively higher set of HP standards.

The CSII Harvest Priority Proposal

The CSII harvest priority proposal contains the following four elements:

1. The BSAI rock sole fishery would be split into "A" and "B" seasons. The seasons would start in January and August, respectively.

2. 50% of the TAC and the PSC allowances would be allocated to each season.

3. Retention standards of 60% and 75% would be established for the "A" and "B" seasons, respectively, for the TAC species as a group excluding arrowtooth flounder and the other groundfish group.

4. Only vessels that met the retention standard during the "A" season could fish in the "B" season and only vessels that met the standards in both the "A" and "B" seasons could participate in the fishery if it is reopened after the initial closure of the "B" season.

POTENTIAL ANSWERS TO 16 IMPLEMENTATION QUESTIONS

1. Can the Agency assure that the incentive necessary to effectively implement the HP program can be provided?

The ability of NMFS to exclude from the reward portion of the rock sole fishery vessels that did not meet all the HP standards is a critical factor in determining the feasibility of an effective HP program. If vessels that do not meet the standards cannot be excluded, those who meet the standards would not receive the reward of sole access to the reward fishery. This would decrease substantially the incentive for fishermen and processors to incur the costs of additional observers and bycatch reduction measures.

The ability of NMFS to exclude specific vessels tends to increase both as the length of time between the qualifying and reward periods increases and as the Agency resources available for the data, qualification determination, and appeals processes increase. Time and resources are required to collect, enter, error check, and analyze observer data and to conduct the qualification determination and appeals processes. With the CSII proposal, there would be less than four months between the qualification and reward fisheries, that is between the "A" and "B" seasons and potentially very little time between the initial closure of the "B" season and any subsequent reopening. Without a more timely data process, it would be difficult to assure that the data process had been completed for all vessels within four months. However, improvements that are being planned would be expected to eliminate this problem, except for the "B" season reopening. With the AMCC proposal, there would be sufficient time between the two periods to allow the data process to be completed even without improvements in the timeliness of that process.

The more critical problem is the time required for the qualification determination and appeals processes. This is the topic of the legal opinion issued on February 24, 1995 by NOAA General Counsel (see Appendix III). NOAA General Counsel concluded that a determination by NMFS that a vessel

participating in the HP program was ineligible for the reward fishery because it had failed to meet performance standards is a permit sanction. Those who appealed the NMFS determination could not be prevented from participating in the reward fishery until their appeal had been resolved. Appeals may be resolved with a single hearing or they may require several hearings including one before an Administrative Law Judge (ALJ). It is the latter that may take from one to three years and substantial Agency resources to conclude. Based both on this legal opinion and on the expectation of reductions in the resources that will be available to the Agency, the Agency cannot assure that the incentive necessary to effectively implement the HP program can be provided.

2. What types of HP standards will be used?

AMCC suggested two standards should be used, they are: (1) a discard rate standard for discretionary discards (i.e., non-regulatory discards which AMCC defines as the sum of economic discard and the discards of non-commercial species) and (2) a prohibited species catch (PSC) index standard. The distinction between these two types of discretionary discards may have been made to make it explicit that non-commercial species would be included. All discretionary discards can in fact be considered to be economic discards. With the CSII proposal, there would be a groundfish retention standard of 60% in the "A" season and 75% in the "B" season and the standard would apply to all groundfish TAC species collectively with the exceptions of arrowtooth flounder and the other groundfish group. Issues associated with each standard are discussed below.

2.1 Monitoring a Discard Rate Standard

To monitor a vessel's performance with respect to the discard standard for discretionary (i.e., non-regulatory) discards, it would be necessary both to differentiate between regulatory discards and other discards and to estimate the rate of the latter on a vessel by vessel basis. The latter is discussed first because it poses the greater problem.

2.1.1 Monitoring total discard rates

The difficulty in providing adequate estimates of total discards by vessel is a critical problem for which no simple solution has been found. NMFS-certified observer's on vessels have several functions one of which is to provide a rough estimate of discards from sampled hauls. An observer's primary work responsibilities are to estimate total catch weights and sample for species composition of the catch. The disposition of the catch after catch estimation and composition sampling is at most a secondary concern. Rough discard estimates, however, are made for each haul sampled for species composition.

To estimate discards, observers take the results of their species composition sample and gauge the percentage of each species or species group the vessel is retaining for further processing. This percentage retained is included on the observer catch message which the observer sends to NMFS weekly.

If it is known that every fish of a given species is discarded, the estimate of discards for that species is equal to and is as good as the estimate of total catch for that species. Similarly, if it is known that every fish of a given species is retained, the estimate of discards for that species is zero. The absence of product log data for a species would be a basis for believing that all fish of that species are discarded unless the observer noticed that some of that species was processed. The absence of a species in observed discards combined with knowledge of the vessel's preference to retain that species provides a substantially weaker basis for believing that none of that species is discarded.

Between these extremes of 100 percent discard and 100 percent retention, the estimation is less clear and generally involves gross estimation on the part of the observer based on what they see happening in the factory. In many cases, this percent retained estimate is a rough visual approximation. In others, the vessel criteria for selection of fish for discard is rigid and provides an alternative method for estimating discards. For example, in some fishing operations fish of a certain size are discarded. In those cases, the observer can apply these same criteria to the fish in the size composition sample. This latter method is less common. In instances where a species is caught and discarded but is not present in the observer sample, there may be no record of that species being caught or discarded.

Extrapolations of observer sampling and percent retained data to total catch are made by NMFS upon receipt of the observer catch message. These data are then incorporated into the blend procedure.

While industry reports of discards on weekly production reports (WPRs) and observer reports may provide general information about the discarded catch, the current procedures do not provide data adequate to monitor individual vessel discard rate standards. Unless significant changes in vessel operating procedures were implemented to simplify the task of estimating discards, it would be difficult for observers to increase significantly the quality of the discard estimates by vessel even with a substantial change in the priorities established for observers.

The following text from pages 6-16 of the 1995 NMFS Groundfish Observer Manual indicates clearly both that adequate estimates of discards by vessel would be very difficult to provide and that estimates of discards, as opposed to estimates of total catch by

species, are not a priority.

> There is no clear scientific way for observers to arrive at the percent retained by species group figure because of the variability in discarding that occurs on vessels, and the many different places discard takes place. Recognizing these limitations, we want observers to make an approximation based on what they see happening on their particular vessel. Because this is an approximation, corresponding time and effort given to obtaining it should be minimized and complex mathematical approaches to this task avoided. .... In most instances, this estimate will only be a visual approximation based on the observer's best judgment and observations of what is going on in the factory. For this figure, it is acceptable to make your best guess.

An alternative to improving the observer estimates of discards would be to estimate discards by combining information from observer estimates of total catch weight and species composition with processor reports of processed product weight back-calculated to the round weight equivalent of retained groundfish using standard product recovery rates (PRRs). In other words, the discard rate for each species would be determined by subtracting the round weight equivalent of processed product as reported by the processor from the observer's total catch estimate.

Unfortunately, this method of estimating discards by species and vessel has two significant flaws. First, the use of standard PRRs continues to be controversial because individual vessel rates often differ from the standard or average rate for the fleet. Discards would tend to be understated for vessels with PRRs better (higher) than the standard rates. Conversely, discards would tend to be overstated for vessels with PRRs below the standard rates. Current controversy with standard PRRs relates to their use in determining both when a fleet-wide quota has been reached and when an individual vessel is in violation of either the directed fishing standards or the on roe-stripping regulations. We can expect increased controversy when these standard rates are used to determine the discard rates of individual vessels. However, it should be recognized that the controversy is due to the variability in PRRs among vessels. If there were relatively little variability in the PRRs for the dominant retained products in the rock sole fishery, this problem would not be significant. Therefore, it is important to determine the variability of the relevant PRRs.

The second significant flaw is that because discards would be calculated as the difference between the observer estimate of total catch weight and the round weight equivalent of the product weights of non-ancillary products, relatively small errors in the

estimates of total catch and product weights can result in a large error in the estimated discard rate. Consider the following example:

	Actual	Estimated	Error
Total catch	100	103	3.0%
Round weight equivalent	94	90	4.3%
Discards	6	13	116.7%
Discard rate	6.0%	12.6%	110.0%

In addition to incorrect PRRs, the sources of error for this method of estimating discards are as follows: an error in total catch, an error in product weights by species or product form, and an error in differentiating between primary and ancillary products. Note that if this method were used, a processor would have an incentive to report ancillary products as primary products because this would result in a double counting when the round weight equivalent is calculated. These sources of error would be expected to result in large errors in the estimated discard rates for some fishing operations.

2.1.2 Monitoring discretionary discards

An additional problem exists when the discard standard does not include regulatory discards. This is because much of the regulatory discards are determined by the directed fishing standards which vary during the year depending on which fisheries are closed. The directed fishing standards are intended to prevent, or at least limit, targeting on a species once the target fishery for that species is closed. The directed fishing standards for a species typically indicate that, once the target fishery for that species is closed, the round weight equivalent of the retained catch of that species cannot exceed a fixed percent of the round weight equivalent of the retained catch of all other groundfish species excluding arrowtooth flounder and each species for which the target fishery is closed. If a closure occurs mid-week, weekly data cannot be used to differentiate between discretionary and regulatory discards. In fact because the directed fishing standards apply to the retained catch on a vessel at any moment, as opposed to the amount only at the end of a day, week, or trip, daily data are not sufficient to make that differentiation. Basically, continuous information on catch and retained catch by vessel would be necessary to estimate regulatory discards. This problem could be eliminated by having all discards included in the standard. Therefore, the difficulty in measuring regulatory discards in not a critical problem for a harvest priority proposal unless regulatory discards are excluded from the discard standard. The CSII proposal does not address regulatory discards; therefore, it is assumed that, under that proposal, the retention standard does not include an exemption for regulatory discards.

2.2 Discard Rate Standard Effectiveness

The objective of a HP program is to provide fishermen with an incentive to use fish more wisely. Three potential problems for a discard rate standard with respect to being effective in meeting this objective are discussed in this section.

2.2.1 Defining discards

A critical factor in determining the effectiveness of a HP discard rate standard would be the definitions of "catch" and "retained catch" because "discard" is the difference between catch and retained catch. If catch is defined to occur when fish are brought aboard the vessel, fish in a codend in the water would not yet be part of the catch; therefore, fish that are bled from the codend before it is brought aboard would not be counted as discards. Basically, a decision has to be made whether such fish should be included as discards. The observers estimate the amount of fish that are released when they observe net bleeding and these estimates are used in their estimates of total discards. Similarly, vessels are required to make their own estimates of this type of discard and include them in their discard reports. However, it is very difficult to make accurate estimates of this type of discard.

The definition of "retention" is potentially a much more serious problem. Currently, fish are considered to be retained if they are retained as either whole fish or in some other unprocessed form (e.g., headed and gutted but not frozen) or if they are processed regardless of how much of a fish becomes processing waste. Therefore, without strict rules on what constitutes acceptable processing, a vessel could retain some minimal part of each fish or process whole fish into meal and be considered to have 100% retention. This problem is discussed more fully in the April 1995 working document on increased retention and increased utilization.

2.2.2 Species-specific differences in the importance of discards

An aggregate discard rate standard ignores the fact that the opportunity cost of using a species as discard and thus the benefit of decreasing discards are expected to vary by species. The opportunity cost of using fish as discard reflects the highest valued alternative use of that fish. The alternatives include being used as any of the following: (1) retained catch in any one of many commercial, recreational, or subsistence fisheries; (2) discard in another fishery; (3) a predator or prey for other species; and (4) a contributor to the future surplus production of the stock of that species of fish. Many actions recommended by the Council and implemented by the Secretary of Commerce indicate that the benefit of reducing bycatch does vary

by species. Therefore, the use of a groundfish discard standard that is not species-specific or that is not weighted based on the relative value of each species can result in undesirable outcomes. For example, a fisherman may be able to change his fishing methods in a way that increases pollock discards by 1 mt for each 2 mt reduction in rock sole discards. Such a change in fishing methods would reduce total discards but it may well increase the cost of discards if a 1 mt reduction in pollock discards is worth more than a 2 mt reduction in rock sole discards.

This problem could be eliminated by using a discard rate index based on appropriately weighted discard rates by species. The weights should be based on the value of decreasing the discards of each species, where that value would reflect the expected biological, ecological, economic, and social effects of decreasing the discards of that species.

2.2.3 Decreasing discards by decreasing or retaining unwanted bycatch

An additional potential effectiveness problem with a discard rate standard results from the following: (1) a fishing operation can decrease its discard rate by either reducing its bycatch of fish that would normally be discarded or by retaining that bycatch and (2) the use of this standard implies that society does not have a preference between these two methods of decreasing discards. This is a problem, for example, if the fishing operation responds to the discard rate standard principally by increasing its retention even though the benefits to the nation would be substantially greater if instead bycatch were decreased. Including a groundfish bycatch rate standard would be a partial solution. However, such a standard would result in other problems.

2.3 PSC Rate Index Standard

The PSC index would be a weighted average of the bycatch rates for all prohibited species (i.e., crab, halibut, herring, and salmon). For example, if red king crab and halibut were the only prohibited species of concern and weights of 0.6 and 0.4 were given to red king crab and halibut, respectively, the PSC index of a vessel would equal 0.6 x CBCR + 0.4 x HBCR, where CBCR is the vessel's red king crab bycatch rate and HBCR is its halibut bycatch rate. In this example, if the vessel's red king crab bycatch rate is 1 crab per metric ton of groundfish catch and if its halibut bycatch rate is 50 kilograms of halibut per metric ton of groundfish catch, the PSC index for the vessel would be 20.6 ([0.6 x 1] + [0.4 x 50] = 20.6). The weights used to calculate a weighted average sum to 1, in this example 0.6 + 0.4 = 1. The following assumption is implicit in the use of weighted average bycatch rates to calculate a PSC index, the importance of

bycatch per unit varies by species.

The AMCC has not specified the method that would be used to determine the weight to be used for each bycatch rate. Two mutually exclusive alternatives are as follows: (1) the weights would be proposed by rock sole fishermen and (2) the weights would be based on the relative benefit of a reduction in bycatch for each prohibited species.

With the former weighting alternative, each fishing operation participating in the rock sole fishery would want the weights that will give it a competitive advantage in the rock sole fishery. Therefore, it would want high weights for the bycatch species either for which it already had low bycatch rates compared to other rock sole operations or for which it thought it could decrease its bycatch rate more easily than could other operations. Conversely, it would want low weights for species for which: (1) it currently has relatively high bycatch rates, (2) it has a relative disadvantage in terms of reducing bycatch rates, and (3) it expects the bycatch rates to increase, perhaps as it decreases other bycatch rates.

In the absence of a scientific basis for evaluating the merits of various weighting proposals from competing interest groups, the annual or periodic process for establishing the weights could be very contentious and time consuming. Furthermore, there would be no assurance that a fishing operation that decreased its PSC index necessarily would have decreased the cost it is imposing on others due to its bycatch. The cost being imposed on others is the opportunity cost of bycatch. In many cases, this is the foregone net benefit in the fisheries that target on the species that cannot be retained in the groundfish fisheries. The ambiguity occurs only when the bycatch rates decrease for some species but increase for at least one other.

The latter alternative is based on the premise that the purpose of a weighted average or index is to account for the fact that the importance of a unit of bycatch can differ significantly by species. Consider the simple example discussed above in which red king crab and halibut are the only prohibited species of concern. If it is determined that the foregone benefits due to red king crab and halibut bycatch are due exclusively to foregone catch in the red king crab and halibut fisheries and if the benefits are estimated to be $15 per red king crab and $5 per kg of halibut taken as bycatch, the weights would be 0.75 and 0.25, respectively, for the red king crab and halibut bycatch rates of each fishing operation. For a fishing operation with red king crab and halibut bycatch rates of 1 crab and 50 kg of halibut per metric ton of groundfish catch, the PSC index would be 13.25 ([1 x 0.75] + [50 x 0.25] = 13.25).

Although this provides a less arbitrary method of establishing the weights, the process could still be contentious and time consuming due to the uncertainty concerning the relative benefit of reducing the bycatch of each prohibited species. Any set of estimates of those values would necessarily be based on less than complete information. However, if the value weighted index is used, there is a substantially increased assurance that a fishing operation that decreased its PSC index would have decreased the cost it is imposing on others (e.g., crab, halibut, herring, and salmon fishermen) due to its bycatch of prohibited species when the bycatch rates decrease for some species and increase for others. It can be demonstrated that, if the actions that a fishing operation takes to reduce its PSC index do not increase its groundfish catch, a decrease in the PSC index assures that the PSC-induced costs imposed on others (i.e, the opportunity cost of using prohibited species as bycatch) will also decrease. The PSC index and this PSC-induced cost can move in opposite directions only if total groundfish catch is increased. In that case, the index and PSC-induced cost can, but would not necessarily, move in opposite directions.

An additional potential problem for the PSC index is that, if the index is in terms of bycatch as proposed by AMCC instead of in terms of bycatch mortality, there will be a bias in favor of reducing the bycatch rate regardless of what it does to the discard mortality rate. This would be a problem if some actions that a fishing operation would take to reduce its bycatch rates would increase its discard mortality rates. In this case, the benefit of the reduced bycatch rates would be at least partially offset. It is not known to what extent this would occur. If adequate discard mortality information were available by fishing operation, using a bycatch mortality rate index instead of simply a bycatch rate index would be a solution. However, such information is not expected to be available.

Prohibited species bycatch monitoring by vessel is already being done for halibut and red king crab PSC bycatch rates under the vessel incentive program (VIP). With the AMCC proposal, comparable estimates would be required for all prohibited species. This probably can be done without much difficulty for the other crab species. However, providing adequate estimates of salmon bycatch by vessel remains a challenge.

3. Which target fisheries (species, area, and gear type) will operate under a HP program?

The Council has tentatively identified the BSAI trawl rock sole fishery as the first fishery for which a HP program would be developed. The CSII HP proposal is also limited to the BSAI rock sole fishery.

It will be necessary to define the fishing activities that are included in this fishery. Three alternatives are: (1) a dominant retained species definition similar to those used to monitor PSC limit allowances by fishery; (2) the directed fishing standards for rock sole; and (3) a combination of the two. During the reward fishery, rock sole will be on bycatch-only status for vessels not eligible for the reward fishery. Therefore, the directed fishing standards would be used to determine how much rock sole bycatch could be retained during the reward fishery by a vessel not eligible for the reward fishery. That is, the directed fishing standards for rock sole will be used to exclude from the reward portion of the rock sole fishery vessels that did not meet the HP standards. Therefore, consistency is one reason for using the directed fishing standards to define the rock sole fishery for all the purposes of a HP program. The alternatives for defining the rock sole fishery and the potential problems associated with each alternative are discussed more fully in the April 1995 working document on increased retention and increased utilization.

4. Will a TAC be allocated between vessels that can carry the observers necessary to attempt to meet the HP standards and vessels that cannot carry the required observers, will the latter group of vessels be allowed automatically to participate in the HP reward portion of the fishery, or will that group of vessels simply have a smaller portion of the TAC available to it? If separate allocations are established, how will they be established?

This group of questions would not have to be addressed unless vessels that were not able to carry observers entered the rock sole fishery. When the rock sole fishery is defined in terms of the dominant retained species by processor, factory trawlers were the dominant participants in the 1994 and 1995 BSAI rock sole fisheries. The other participants were catcher vessels that delivered unsorted codends to a mothership. The factory trawlers and motherships that have participated in these fisheries would have observers under the current observer coverage requirements. However, as noted in the answer to Question 11, additional observers would be needed on many of these vessels for a vessel to demonstrate that it met the HP standards.

5. How will a TAC be allocated among vessels with different HP standards?

Given the current homogeneity of the vessels participating in the rock sole fishery, it would not be necessary either to establish separate HP standards for different groups of vessels or to allocate the rock sole TAC among such groups. If in the future there were sufficient differences among the vessels in terms of either their abilities to carry observers or their product mixes, such allocations would be necessary.

6. How will the TAC for a species be allocated between fisheries with HP programs and fisheries that take that species only as bycatch?

Historical catch and bycatch data could be used to estimate how much rock sole would be taken as bycatch in other groundfish fisheries. The remainder of the TAC could be used for the qualifying and reward portions of the rock sole fishery. The definition of the rock sole fishery and the ability of vessels that are not in the rock sole fishery to target on rock sole would have to be considered to project accurately the catch of rock sole in other fisheries by vessels that would be excluded from the reward portion of the rock sole fishery. In 1994 the initial rock sole TAC was 63,750 mt, total rock sole catch was 60,511 mt, of which about 20,000 mt was taken as bycatch in other groundfish fisheries. Therefore, in the absence of other information, about 20,000 mt of the rock sole TAC would be reserved for bycatch and the remainder could be allocated between the qualification and reward portions of the rock sole fishery.

The allocation of the rock sole TAC between the rock sole fishery and other groundfish fisheries is not expected to be a significant problem. Unexpectedly high levels of rock sole bycatch in other groundfish fisheries could be accommodated without requiring rock sole discards in those fisheries for the following reasons: (1) there is a nonspecies-specific reserve in the BSAI groundfish fishery and (2) the rock sole TAC is expected to continue to be set substantially below its acceptable biological catch (ABC). If this flexibility were not available, it might be necessary to change the directed fishing standard for rock sole. This would be done to prevent covert targeting on rock sole by excluded vessels from using so much of the rock sole bycatch reserve that the rock sole TAC is taken before all fisheries that take and retain rock sole bycatch have ended for the year. Otherwise, rock sole would become a prohibited species and additional rock sole discards would occur in other fisheries.

7. How many tiers of HP standards will there be?

There could be two or more tiers to the HP program, each with its own reserve and a consecutively higher set of HP standards. AMCC suggested that initially one tier should be used and that two tiers would be an option for the future. The CSII proposal would establish one tier.

8. How much of the TAC and PSC limit allowances for the rock sole fishery will be allocated to the qualifying period and to each tier of the reward portion of the fishery?

AMCC has suggested up to either 40% or 60% of the rock sole fishery's share of the rock sole TAC would be reserved for the reward portion of the rock sole fishery. Alternatively, AMCC has

suggested that the reward be for a specific, but as yet unidentified, time period or area. The AMCC proposal does not address the apportionment of the PSC limit allowances for the rock sole fishery. With the CSII proposal, 50% of the rock sole fishery's share of the TAC and the PSC limits would be reserved for the "B" season (August - December); during the first year of the HP program, only the vessels that met the HP standards during the "A" season (January - July) would be allowed to fish in the "B" season; and only the vessels that met the HP standards for the "A" and "B" seasons would be allowed to take part in the fishery if it is reopened after the initial closure of the "B" season.

It is not clear that the same percent of the rock sole fishery's share of the TAC and the PSC limits should be reserved for the reward fishery. With the AMCC proposal and in the absence of seasonal differences in bycatch rates, the prohibited species bycatch rates would be expected to be lower during the reward fishery. Therefore, if that expectation is correct, proportional reserves would in effect decrease the percent of the TAC that could be taken during the qualifying portion of the fishery. The expected difference between the mean bycatch rates during the qualifying and reward portions of the fishery for each PSC limit species could be used to apportion each PSC allowance. Because the formulation of those expectations would be difficult, the annual process for establishing the apportionment of the PSC allowances would tend to be time consuming and contentious.

Currently, there are not separate PSC limit allowances for the rock sole fishery. The rock sole, flathead sole, and other flatfish fisheries share PSC allowances. Therefore, separate allowances for the rock sole fishery would have to be established before such allowances could be further subdivided between the qualifying and reward portions of the rock sole fishery. By itself, this is not expected to be a major impediment. In fact, if the reward portion of the fishery would be at the beginning of the fishing year, the need to apportion the PSC limit allowances between the reward and qualification portions of the rock sole fishery would be decreased substantially or eliminated. Given that it is preferable to fish early in the year, the reward period would be expected to occur then.

9. Will the HP standards apply only to fishing vessels?

There are several issues that need to be considered with respect to whether the discards by a processor that receives catch from a catcher vessel would be considered in determining a catcher vessel's performance with respect to HP standards. The issues are associated with the following potential advantages and disadvantages of considering discards by processors.

Advantages: If the objective is to decrease discards, it is difficult to justify treating discards by a vessel and by a processor differently. It would be more equitable to count all discards because to do otherwise would provide an advantage to catcher vessels relative to catcher/processors and to catcher vessels that do not sort at sea compared to those that do.

Disadvantages: First, the cost and difficulty of monitoring discards would be increased. In addition to monitoring the discards of vessels, it would be necessary both to monitor the total discards of a processor and to determine how much of the total was accounted for by catch from each vessel. However, the discards of the processor could be prorated based on the catch by vessel. Second, each vessels would be placed in the undesirable position of having its HP performance being in part determined by the actions of the processors. Finally, the definition of discards may require additional attention. Currently, unprocessed fish that are sent to the meal plant in Kodiak are considered to be discards. The same is true for all on-shore and at-sea processors for the purposes of the Observer Plan fees.

Related to the issue of counting the discards of processors and the definition of "discards" is the need to determine if discards beyond the vessel and processor would be considered. If they are not, a third party could discard the fish without adversely affecting the HP performance of a vessel. In this case, the intent of the HP program would not be met, in fact, the cost of the discard problem would increase by the cost of having the third party dispose of the fish.

10. Can the HP standards be met by a group of operations based on the group's performance or can the reward be transferred to another vessel?

The difficulty in obtaining adequate estimates of a vessel's performance with respect to the HP standards, particularly the discard rate standard, would tend to be reduced by evaluating the performance of individual groups of vessels instead of individual vessels. An alternative that would take advantage of this is as follows: all the vessels in a group that met the HP standards would have access to the reward portion of the HP fishery and none of the vessels in a group that did not meet the HP standards would have access to the reward fishery. In addition to potentially having better estimates of performance, this alternative would provide some protection against a vessel just missing a HP standard due to the random component of its bycatch. The groups could be formed voluntarily and each group could have its own set of rules to provide individual vessels with incentives to help the group meet the standards. Such rules would be enforced by contract law not by NMFS or NOAA. The use of group standards instead of individual vessel standards is a form of transferability.

The issue of the transferability of the right to participate in the HP reward portion of a fishery should be addressed. The AMCC HP proposal states that a vessel that met of the HP standards would qualify to participate. However, because the harvest priority portion of the fishery probably would occur the following year, the lack of transferability would create some problems.

One problem is that a vessel owner, who would have otherwise retired a vessel, would be more likely to decide not to if the vessel had qualified and the right were not transferable. Therefore, the lack of transferability could hinder efforts to reduce overcapitalization. Another problem is that the owner of a vessel that is lost after qualifying would have an additional loss if the right were not transferable. Without transferable rights, a new vessel could not participate in the HP reward portion of the fishery. This would be true whether the new vessel would be an additional vessel or a replacement for an existing vessel. Therefore, the incentive would be decreased to replace an existing vessel with one that is designed to be more fuel efficient, to have lower bycatch and discard rates, or to be safer.

Unfortunately there are also some disadvantages to allowing transfers and a complex set of vessel replacement rules might be necessary to capture the advantages and limit the disadvantages of transferability.

11. What additional observer requirements will be established and how will they be paid for?

The AMCC HP proposal includes the following statement:

> If any portion of the catch was not observed, it [the bycatch rate] would be calculated at the fleet average effectively providing an incentive to make sure that everything is seen.

The same rule would presumably be applicable to the discard rate. In either case, it is necessary to clarify what is meant by "observed". The concern that an extrapolation from observed hauls to total hauls to measure the HP performance of a vessel and the associated use of the term "observed harvest" suggest that the following related questions should be considered.

1. If it is not appropriate to extrapolate from observed hauls to all hauls which occur while an observer in on the vessel, is it appropriate to extrapolate to a total haul from basket samples or other partial haul samples?

2. Should "unobserved" apply to the part of a haul that is not sampled as well as to hauls that are not sampled?

For example, if better estimates of a vessel's HP performance would be provided by whole haul samples of say 20% of its hauls than by basket samples of all of its hauls, the rule that allows one type of extrapolation but not the other is counterproductive in terms of the cost and feasibility of having better estimates of the vessel's HP performance.

A related question is as follows:

> Would vessels that deliver unsorted codends to a mothership be required to have observers to qualify for the HP reward fishery?

The amount of additional observer coverage required for vessels to participate fully in the HP program would depend on the answers to these three questions. A rough estimate based on the number of processor vessels reporting catch in the rock sole target fishery in 1994 and 1995 indicates that between 680 and 870 additional observer days may be needed to sample all hauls in the rock sole fishery.[1] With a cost per observer day of about $225, the cost of the additional observer coverage would be $153,000 to $196,000 for the factory trawlers. Perhaps the estimate would be increased by about $30,000 if catcher boats delivering codends were required to have observers.

The next question is how will the additional observer coverage be paid for? The alternatives are as follows: (1) have each vessel pay for any additional coverage, (2) have all observer coverage paid for by the Research (Observer) Plan Fee Program, or (3) use a combination of the first two options.

The AMCC expected the first alternative would be used. However, there are several potential problems with this option. NMFS believes that all observer coverage should be provided through the Research Plan fee assessment program. The Magnuson Act currently does not authorize NMFS to collect additional funds from any processor or vessel to pay for additional or voluntary observer coverage. This position, the basis for it, and an option for addressing the issue are included in the following text from an attachment to a letter from the Regional Director to the Council Chairman.

> From NMFS' perspective, all observer coverage specified for the Northern Pacific halibut fishery and for fisheries managed under FMPs prepared by the Council should be covered

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[1]In 1994, processor vessels submitted 124 weekly production reports in the rock sole target fishery (124*7 days = 868 observer days). Through March 18, 1995, processor vessels submitted 97 weekly production reports in the rock sole target fishery (97*7 = 679 observer days).

under the North Pacific Fisheries Research Plan (Research Plan). We take this position for two reasons. First, observer coverage outside the Research Plan would require that a separate observer program and arrangements with observer contractors be established; this would require additional staff and budget resources that currently are not available. Second, the problems that gave rise to the Research Plan would be allowed to continue if observer coverage outside the Research Plan were endorsed.

Fees collected under the Research Plan cannot exceed two percent of the value of fish and shell fish harvested under the jurisdiction of the Council (section 313(b)(2)(E) of the Magnuson Act). NMFS believes the revenue generated under the authorized fee collection will meet current observer coverage needs. However, new management programs that require increased observer coverage to monitor compliance (e.g. vessels participating in programs that require additional observer coverage or more than one observer on a vessel or at an on-shore plant) could not be supported by the current fee structure without jeopardizing observer coverage necessary to monitor catch and discard amounts in the Research Plan fisheries. An increase in the fee percentage likely is not acceptable and would not address the perception of inequity that rises if the fee collection program is used to subsidize fishing operations that require two observers on board a vessel to satisfy increased needs for observer data. The Council's current consideration of an expanded groundfish CDQ program or a harvest priority-type program to address discards in the groundfish fisheries likely could not be implemented without an increase in observer coverage that probably cannot be supported under the current Research Plan.

Option to Address the Issue. If the Council wishes to pursue special management programs that require significant increases in observer coverage beyond the scope of current observer coverage requirements, it will need to address current statutory constraints that limit funding for observer programs to 2 percent of the exvessel value of Research Plan fish. A Magnuson Act amendment to authorize a supplemental fee collection program based on the cost of an observer day or some other unit of cost likely would require the Council to develop criteria to determine when the implementation of a supplemental fee collection program is appropriate. Supplemental fees would be deposited in the North Pacific Fishery Observer Fund. Under a supplemental program, observer services could be provided within the contractual arrangements developed for the current Research Plan.

As noted in the preceding text, the problem with the second alternative is that the Magnuson Act limits the fee percentage that can be used to 2%. Given the expected observer coverage requirements for the crab and groundfish fisheries, there would be only a limited possibility of paying for HP program-induced increases in observer coverage with Research Plan fees. However, if the HP program is implemented only for the BSAI rock sole fishery and if the Council gives that program a sufficiently high priority, the additional cost of less than $200,000 by itself would not be a major impediment.

12. What will be the numerical value of each standard for each HP tier and fishery? Due to differences among the fisheries, it is expected that a separate set of HP standards would have to be determined for each HP fishery.

This is a simpler question because the Council is only addressing a HP program for the BSAI rock sole fishery at this time and because only one tier is being considered initially. As noted in the answer to Question 2, two types of HP standards have been suggested for the rock sole fishery under the AMCC proposal. However, the specifics of the PSC index and the numerical values of the standards have not been identified. The CSII proposal includes specific retention rates by season (see the answer to Question 2).

13. What weighting factors will be used to calculate meaningful aggregates with respect to the HP standards?

AMCC suggested that no weighting factors be used for groundfish discards and that an unspecified set of weights be used to calculate the PSC bycatch index. The issue of developing a weighted index for the two standards together has not been addressed. In the absence of an aggregate standard, the tradeoffs between the discard and PSC index standards would not be considered. Therefore, a fishing operation that just meets each of two standards would qualify for the reward portion of the rock sole fishery, where as an operation that had a discard rate just above the standard but a PSC index substantially below the standard would be excluded even if the latter operation were imposing a lower aggregate groundfish discard and PSC cost on others. With an aggregate standard, there would be one overall standard to be met to qualify for the reward fishery and the problem in this example would be eliminated.

14. How will the Council and NMFS establish the reference year bycatch and discard rates that would be used for unobserved catch?

AMCC suggested that fishery-wide averages from the most recent year be used as the assumed rates for unobserved catch. Because these averages would be greater than the HP standards, vessels

would have an incentive to have fuller observer coverage if their actual rates were less than the assumed rates. Because a vessel without observer coverage would be assumed to have the average, it could not qualify for the reward portion of the fishery. Similarly, a vessel with 30% observer coverage would have difficulty qualifying because the average rates would be applied to the unobserved catch which would in most cases exceed 70% of its catch. However, most vessels in the rock sole fishery have 100% coverage in terms of vessel days. Changes in regulations, such as time/area closures or mesh size requirements, would make it more difficult to use historical bycatch and discard rate data to establish standards and assumed rates.

15. Will a minimum level of participation in the qualification portion of a HP fishery be required to qualify for the reward portion of that HP fishery?

The requirement for a minimum level of participation in the rock sole fishery during the qualification portion of the fishery to meet the HP standards is not addressed by either HP proposal. In the absence of such a requirement, a vessel that participated in the rock sole fishery for only one day during the qualifying period and met the HP standards for that one day would be eligible to participate fully in the reward fishery. In this example, the ratio of the benefits for the vessel to the benefits to society would be very high for such a vessel compared to that of a vessel that met the HP standards while participating fully in the qualification period. The Council should determine whether the benefits provided to a vessel via the reward should be roughly proportional to the reduction in discards and prohibited species bycatch accounted for by a vessel. If it should be, the lack of a minimum participation requirement is potentially a serious problem.

16. Will the process for establishing the HP standards and rewards for a HP fishery require concurrence by a fixed percent of the current participants in that fishery?

If the HP program is intended to provide the participants in that fishery a method to improve their performance with respect to bycatch and discards by setting HP standards that are supported by the participants in the fishery, the Council may want to consider including a minimum level of concurrence on HP standards and rewards by current participants as an element of the HP program. Such a requirement would eliminate the concern that the HP standards and rewards would be set to the advantage of a very small number of participants in the fishery.

OPTIONS

Options that the Council may wish to consider are presented below.

1. The objective of the HP proposal is to provide fishermen an incentive to reduce discards, perhaps including non-allocated species, and bycatch of prohibited species. The Council is considering limits on discards in the BSAI rock sole fishery under the Increased Retention and Increased Utilization (IR/IU) proposal. The principal differences between the current IR/IU proposal and the portions of the HP proposal that deal with groundfish retention and utilization are as follows: (1) the species to be included in the retention standard; (2) the result for a vessel of not meeting a standard; and (3) the numerical value of the retention standard. Because this part of the HP proposals is basically a set of options for a IR/IU program, it shares most of the implementation issues identified for other IR/IU proposals. Therefor, it may be more effective for the Council to address this part of the HP proposal as part of a redefined IR/IU proposal instead of continuing to address it within the context of the HP proposals.

2. In terms of potential reductions in the bycatch of prohibited species, a variety of measures are available that could be used in conjunction with or as alternatives to the parts of the HP proposals that address this problem. Specifically, the Council may want to recommend further analysis of proposals such as Individual Bycatch Quotas (IBQ), through which the Council could annually allocate a portion of the halibut and crab PSC limits to individual vessels. Proposals such as IBQs would incorporate the objectives of the HP proposal to provide fishermen with an incentive to reduce prohibited species bycatch, but would not rely on final resolution of appeals for effective implementation. The analyses of IBQs and other bycatch reduction proposals for the flatfish fisheries (rock sole, flathead sole, yellowfin sole, and other flatfish) could be completed by staff in time for review at the September, 1995 Council meeting.

APPENDIX I

SUMMARY DATA FOR THE BSAI ROCK SOLE FISHERY

Table 1. Catch and discards of all groundfish in the BSAI rock sole at-sea processing trawl fishery, 1993-1994*

	Total catch			Discarded catch				
	Metric tons	Species comp.	Percent contrib.	Metric tons	Species comp.	Discard rate	Percent contribution to discards	Percent contribution to catch
1993								
Pollock	15,761	21.7%	1.1%	14,617	28.6%	92.7%	13.1%	1.1%
Pacific cod	7,138	9.8%	4.3%	5,101	10.0%	71.5%	13.8%	3.0%
Turbot	9	.0%	.1%	9	.0%	100.0%	.5%	.1%
Rock sole	39,115	53.7%	60.9%	22,945	44.9%	58.7%	55.1%	35.7%
Yellowfin	3,935	5.4%	3.7%	2,309	4.5%	58.7%	8.0%	2.2%
Arrowtooth	554	.8%	6.0%	554	1.1%	100.0%	6.4%	6.0%
Flat other	3,812	5.2%	13.1%	3,166	6.2%	83.1%	16.5%	10.9%
Rockfish	5	.0%	.0%	5	.0%	100.0%	.1%	.0%
Other	2,456	3.4%	9.5%	2,410	4.7%	98.1%	10.4%	9.3%
Total	72,784	100.0%	3.9%	51,116	100.0%	70.2%	17.2%	2.7%
1994								
Pollock	15,402	20.9%	1.1%	14,432	28.1%	93.7%	13.3%	1.0%
Pacific cod	5,649	7.7%	2.9%	3,766	7.3%	66.7%	11.2%	1.9%
Turbot	9	.0%	.1%	9	.0%	100.0%	.3%	.1%
Rock sole	40,380	54.7%	66.7%	23,572	45.9%	58.4%	59.5%	38.9%
Yellowfin	5,372	7.3%	3.7%	3,509	6.8%	65.3%	9.5%	2.4%
Arrowtooth	621	.8%	4.4%	621	1.2%	100.0%	4.5%	4.4%
Flat other	3,584	4.9%	12.0%	2,738	5.3%	76.4%	14.6%	9.2%
Rockfish	1	.0%	.0%	1	.0%	100.0%	.0%	.0%
Other	2,761	3.7%	10.3%	2,688	5.2%	97.3%	11.5%	10.0%
Total	73,778	100.0%	3.7%	51,335	100.0%	69.6%	17.4%	2.6%
1995								
Pollock	6,833	16.8%	1.1%	6,031	24.3%	88.3%	11.5%	1.0%
Pacific cod	7,447	18.4%	7.0%	4,077	16.4%	54.7%	19.0%	3.9%
Turbot	2	.0%	1.0%	2	.0%	100.0%	5.2%	1.0%
Rock sole	22,572	55.6%	64.4%	12,004	48.3%	53.2%	55.2%	34.2%
Yellowfin	1,198	3.0%	14.9%	583	2.3%	48.7%	29.3%	7.3%
Arrowtooth	169	.4%	10.9%	166	.7%	98.1%	11.2%	10.7%
Flat other	1,398	3.4%	27.0%	1,021	4.1%	73.0%	25.8%	19.7%
Other	961	2.4%	9.6%	955	3.8%	99.3%	14.7%	9.6%
Total	40,581	100.0%	4.8%	24,839	100.0%	61.2%	20.9%	3.0%

Source: NMFS Alaska Region blend estimates through Mar 18, 1995.

Note: The target has been recalculated to provide continuity over time and distinguishes rock sole from other flatfish as a target category.

Table 2. Crab, halibut, herring, and salmon bycatch in the BSAI rock sole at-sea processing trawl fishery, 1993-1995

	Bycatch**	Percent contribution	Bycatch** rate	Discard mortality rate	Discard mortality	Percent contribution	Bycatch** mortality rate
1993							
Red king crab	160,296	62.7%	2.202	.	.	.	.
Other king crab	61,878	46.5%	.850	.	.	.	.
Bairdi	374,484	10.7%	5.145	.	.	.	.
Other tanner crab	1,643,972	10.7%	22.587	.	.	.	.
Halibut	636	7.2%	8.745	72.0%	458	10.3%	6.30
Herring	4	.5%	.055	.	.	.	.
Chinook	27	.1%	.000	.	.	.	.
Other salmon	249	.1%	.003	.	.	.	.
1994							
Red king crab	215,410	76.7%	2.920	.	.	.	.
Other king crab	21,925	28.3%	.297	.	.	.	.
Bairdi	592,151	23.3%	8.026	.	.	.	.
Other tanner crab	723,413	5.8%	9.805	.	.	.	.
Halibut	845	6.0%	11.451	70.0%	591	11.3%	8.02
Herring	11	.6%	.153	.	.	.	.
Chinook	284	.6%	.004	.	.	.	.
Other salmon	0	.0%	.000	.	.	.	.
1995							
Red king crab	19,012	65.5%	.468	.	.	.	.
Other king crab	593	18.8%	.015	.	.	.	.
Bairdi	326,057	44.9%	8.035	.	.	.	.
Other tanner crab	24,528	21.0%	.604	.	.	.	.
Halibut	597	13.4%	14.705	70.0%	418	22.4%	10.29
Herring	0	.6%	.000	.	.	.	.
Chinook	461	3.3%	.011	.	.	.	.
Other salmon	0	.0%	.000	.	.	.	.

Source: NMFS Alaska Region blend estimates through Mar 18, 1995.

Note: The target has been recalculated to provide continuity over time and distinguishes rock sole from other flatfish as a target category. Bycatch units are tons for halibut or herring, and numbers for crab or salmon. Likewise the bycatch rate and bycatch mortality rate could be kilograms/tons or numbers/tons.

Table 3. Overfishing limits, ABC, TAC, and ITAC for the 1994 and 1995 rock sole fisheries in the BSAI (metric tons).

Category	1994	1995
Overfishing	363,000	388,000
ABC	313,000	347,000
TAC	75,000	60,000
ITAC	63,750	51,000

Table 4. Apportionment of prohibited species catch limits for the rock sole/other flatfish category in the BSAI in 1994 and 1995.

Category	1994	1995
Halibut (mt) [1]		
Jan 20 - Mar 29	428	428
Mar 29 - June 28	180	180
June 28 - Dec 31	80	82
Total	688	690
Red king crab (#) Zone 1	110,000	110,000
Bairdi Tanner crab (#)		
Zone 1	475,000	475,000
Zone 2	260,000	510,000

1/ dates for beginning and ends of quarters differ slightly in 1995.

APPENDIX II

HARVEST PRIORITY PROPOSALS SUBMITTED BY THE ALASKA MARINE CONSERVATION COUNCIL AND COLD SEA INTERNATIONAL INC.

ALASKA MARINE CONSERVATION COUNCIL

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

To: Mr. Chris Oliver
NPFMC Staff

From: Nevette Bowen
Coordinator

Date: January 26, 1994

Re: Harvest Priority information for Council analysis

Please find attached some of the ideas we are working on. As you know our intent is to keep things as simple as possible, place the burden of proof on participants to demonstrate reduced bycatch/discard, No enforcement, and rely to the maximum extent possible on industry recommendations. A true incentive - not a penalty. I would be happy to run down any information or get the answers to any questions you may have. You might want to contact these folks directly at some point.

Peter Van Tuyn, our legal counsel, at Trustees for Alaska 907-276-4244 and Bob Mikol (479-3761), a former fisheries observer and our number cruncher who has fleshed out some of the enclosed framework for analysis. Both of them can help with questions regarding confidence and timeliness in data, appeals and adjudication. AMCC President Paul Seaton (235-6342) can speak to the concept and also answer any questions you may have.

Here is the basic idea:

A qualifying standard would be established by the Council for each fishery proposed for harvest priority in consultation with industry. It would be based on bycatch and discard rates and set below industry averages to provide competitive incentive for vessels that minimize their bycatch.

In order to qualify, a vessel must meet or exceed this Harvest Priority standard during their participation in the regular, open fishery in order to be allowed to fish the reserve or some other opportunity. If a vessel fails to meet the standard during the Harvest Priority fishing time, their bycatch rates for that period would be averaged into the next qualifying season.

As we see it, there are three major elements of determining a Harvest Priority qualification standard.

1. **Discarded bycatch per total catch ____%**

   Discards would include economic discards, non-commercial species bycatch, prohibited species and regulatory discards.
   This recognizes the reality of a mixed species fishery involving co-target catches.

   A minimum percent (15% for example) of the fish by weight must be used for human consumption, except surimi, otherwise it should be considered an economic discard for the purposes of Harvest Priority opportunities.

   a. Retained catch per total catch. _____.

      Simply the inverse calculation of the discarded bycatch - understands that a mixed bag of fish is not necessarily dirty fishing and that co-target species catch is desirable if it is retained for human consumption.

2. **The target species catch should constitute ____% of the total retained catch.**

   This maintains the focus of the fishing effort on the target species by requiring that a percentage of the retained catch is the intended target species.

3. **The prohibited species index**

   This index refers to the number of animals caught in a fishery per metric ton.

   For example, if 6 PSC species were identified, the PSC Index number to achieve is equal to or less than 6.0. This standard rate would be indexed to the numeric value of "1.0"per prohibited species. By-catch rates above or below X animals per metric ton would have an indexed value greater or less than 1.0.

For analysis purposes, we propose a participant should meet all three elements in order to qualify for harvest priority. Any unobserved harvest (tows or haul) should be calculated at a reference year average for the fleet.

ALASKA MARINE CONSERVATION COUNCIL
Box 101145 Anchorage, Alaska 99510
(907) 277-5357 (kelp); 277-5975 (fax)

HARVEST PRIORITY: QUESTIONS AND ANSWERS

What is it? A positive 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 opportunity. It provides fishermen with a chance to use their own knowledge, experience and ingenuity to fish cleaner.

Have economic incentives been used successfully in fisheries management before? Yes. This approach was used to Americanize our North Pacific fisheries in the 1980s; it could be used again to clean them up.

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. Today, many species are discarded for economic reasons even though they are critical elements in the food chain. 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.

Would harvest priority favor one gear type 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 non-target and juvenile fish 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 ecological niche is inviting stock depletion or major composition shifts in the ocean food web.

Wouldn't full retention do the job of reducing bycatch? No. If fishermen and fisheries technology were static and unchanging, this "you catch it, you keep it approach" might be the single answer to reducing bycatch. However, under full retention, vessel conversions, tendering arrangements and other innovative transformations are to be expected from the fleet to maximize their capacity for retaining bycatch so as not to cut into their bottom line. As a disincentive program, full retention also requires a high level of enforcement on every vessel to prevent many practices such as night dumping and highgrading. Under a Harvest Priority system, on the other hand, full retention of target species in many fisheries will be inherent since the quickest way for fishermen to reduce their discard rate will be to fully utilize their entire target catch.

Don't Individual Fishing Quotas (IFQs) accomplish the same thing as Harvest Priority? IFQs 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. Harvest Priority does not prevent the eventual implementation of other programs such as IFQs. In order for Harvest Priority to lower bycatch, however, it must come first. The allocation of harvest to status quo participants inherent in IFQs would preclude the use of Harvest Priority as an incentive to reduce bycatch. IFQs could institutionalize the high levels of bycatch and discard.

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.

Aren't economic incentives another form of penalty to fishermen? Economic incentives provide a choice for fishermen to "fish clean," and thereby become eligible to fish the qualifying seasons. Everyone currently eligible for the fishery would be eligible to fish the majority part of the quota no matter what their bycatch. However, those who meet agreed-upon rates set by the Council in consultation with fishermen would have the opportunity to fish for more.

Won't this system fail because the observer data is not scientific enough to stand up in court? 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.

Since Harvest Priority requires observer verification of 100% of the fishing activity, variability from the traditional extrapolations for non-observed fishing is eliminated. Portions of the catch not observed would be calculated at the reference year's fleet average. The Council can set the bycatch standard within the statistical margin of error to further strengthen the program. 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 on line in the near future.

What about CDQ programs? How would harvest priority effect them? A CDQ program can coexist with the harvest priority system by reserving a fixed portion of the TAC to coastal communities as currently takes place with Bering Sea pollock. We encourage the use of bycatch and discard reduction in CDQ fisheries as a criterion for awarding CDQ allocations among applicants. Since CDQ's are proportioned yearly, harvest priority for selective fishing could actively work to reduce bycatch in this program as well as in the general commercial fishery.

Harvest Priority and Full Retention/Full Utilization Committee

SUPPLEMENTAL REPORT*

The Committee suffered from a lack of consensus on the task of the committee. The two conflicting missions were: (1) take the four specified fisheries and determine the nature of the discards in those fisheries and look for solutions to their problems including HP and FR/FU and individual pros and cons; or, (2) flesh out details of the HP & FR/FU proposals then test implementation by hypothetically applying them to the four example fisheries. This would serve to identify potential pitfalls and inconsistencies for which solutions would be generated or identified as remaining problems for the programs.

As you can see from the committee report, by and large the first approach was followed. Nevertheless, a number of questions relating to the second approach were intertwined and answered during the process. The purpose of this supplemental report is to clearly state those points. This report does not endorse or reject either HP or FR/FU.

HARVEST PRIORITY

1. NOAA GC stated that under their interpretation of HP as originally proposed, a vessel could be excluded from the reward season only through a permit sanction. As a permit sanction, a lengthy appeals process (1-2 years) would be followed and the vessel could fish the reward fishery during the interim. We recommend the HP proposal be modified to require a separate fishing permit for participation in the HP reward fishery. One of the qualifying standards for the HP permit would be demonstration of meeting low bycatch standards. Under such a system, a streamlined appeal procedure could be designed that could exclude non-qualifying vessels from the HP reward fishery without permit sanctions. We also recommend continued dialogue with NOAA GC on how this or other approaches could be designed to alleviate NOAA GC's concerns.

2. NOAA GC reported that none of the five appeals currently pending under VIP challenge the observer data upon which the violations were brought. NOAA GC stated that the rate-based system under VIP is based on a viable sample methodology. We note that although the sampling methodology for HP would be modified, such a modified rate-based system could also work.

3. NMFS data showing individual vessel bycatch rates was provided only for the rock sole fishery. The data showed a wide variability in bycatch rates for economic discards, total groundfish discards, and PSC. Even within the highest producing ten vessels, some vessels were able to achieve much lower discard rates than others. It should be noted that these bycatch rates exist without economic incentives. Graphs with this information are attached to this report.

4. The committee did address the ten questions NMFS' Joe Terry requested answered in his preliminary analysis presented to the Council at the September meeting. The committee recommended answers to those questions and Joe Terry indicated that would be sufficient direction. We recommend that the Council review those ten questions, the recommendations of both the committee and AMCC, and select the answers. Once done, that will establish guidelines for HP proposals from fishermen.

* Submitted by the Alaska Marine Conservation Council

NMFS' discussion paper (Sept. 1994) states the following 10 decisions need to be made by the Council and NMFS for Harvest Priority before implementation. Following are the 10 decisions with options for Council consideration. Parenthesis indicate the HP & FR/FU Committee recommendation and AMCC's recommendation.

HARVEST PRIORITY OPTIONS FOR COUNCIL

1. • Which target fisheries will operate under HP?

Option A: Council makes request for proposals in certain fisheries (Committee) (AMCC)
Option B: All fisheries immediately open for proposals

• How are fisheries defined?

___ species (Committee) (AMCC)
___ area (Committee) (AMCC)
___ gear type (Committee) (AMCC)
___ inshore/offshore (Committee) (AMCC)
___ vessel size (Committee) (AMCC)
___ other - meet HP std. (AMCC)

2. Observer requirements

• level of observer coverage

Option A: 100% of harvesting observed and sampled (Committee) (AMCC)
Option B: no additional observer requirements

• exception from observer coverage in fisheries with mixed vessel size (assuming fishery definition not based on vessel size)

Option A: automatically eligible to participate in HP season (AMCC)
___ vessel size too small (moratorium exemption
___ safety factor
___ observer cost vs. fishery volume
___ catch volume below threshold

Option B: no exceptions

3. One HP Standard or Different Standards Allowed in Each Fishery?

Option A: Single set of bycatch reduction standards (economic discards, PSC index, non-commercial species) in each HP fishery (Committee) (AMCC)
Option B: More than one HP standards within a fishery

4. How will TAC be allocated between HP target fishery and bycatch allowances in other fisheries?

Option A: Use current Council process for allocating bycatch (Committee) (AMCC)
Option B: Other

5. How many tiers for HP standards will there be?

Option A: one tier
Option B: two tier option for the future

6. • How much TAC allocated to HP season? (based on proposals from fishermen)

Option A: up to 40%
Option B: up to 60%

• Other reward system

___ time block within season (Committee) (AMCC)
___ access to area or specific zone (Committee)

7. Types of HP standards

___ Reduction in bycatch rate from standard year
___ PCS index

8. Numerical value of each HP standard?

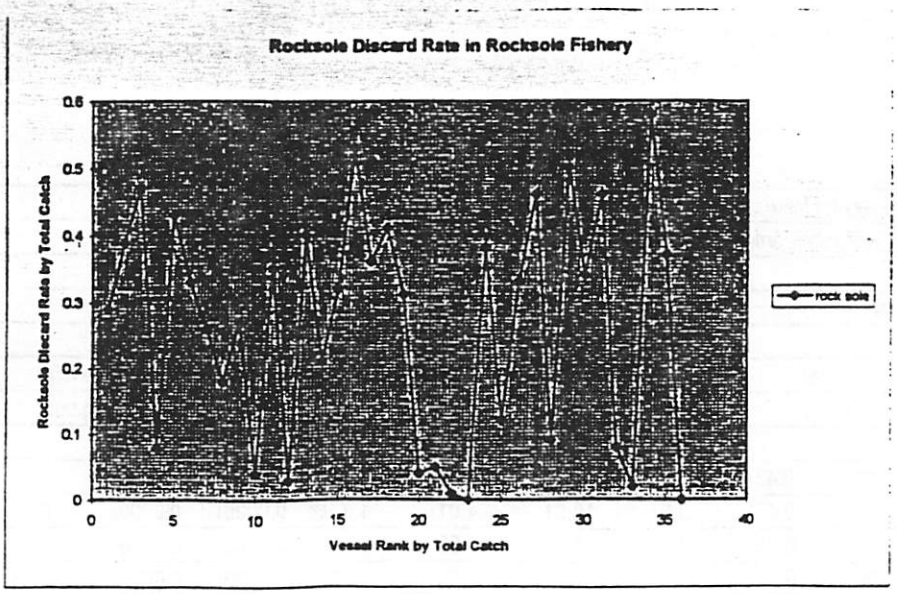
___ Based on specific HP proposals from fishermen (Committee) (AMCC)
___ Other

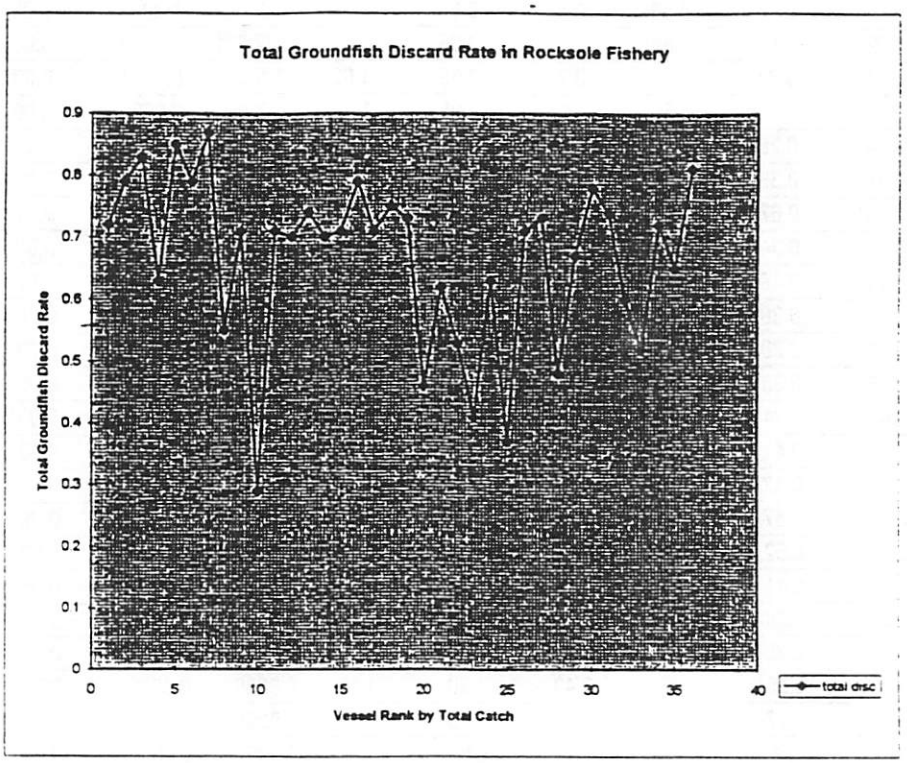
9. Weighting factor for aggregates of species

___ PSC index (AMCC)
___ all target species weighted the same (AMCC)

10. What is the reference year for HP rates and unobserved catch rates?

___ 1992
___ 1993 (Committee)


Rocksole Discard Rate in Rocksole Fishery
Rocksole Discard Rate by Total Catch
0.6
0.5
0.4
0.3
0.2
0.1
0
0
5
10
15
20
25
30
35
40
Vessel Rank by Total Catch
rock sole


Total Groundfish Discard Rate in Rocksole Fishery
Total Groundfish Discard Rate
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
0
5
10
15
20
25
30
35
40
Vessel Rank by Total Catch
total disc

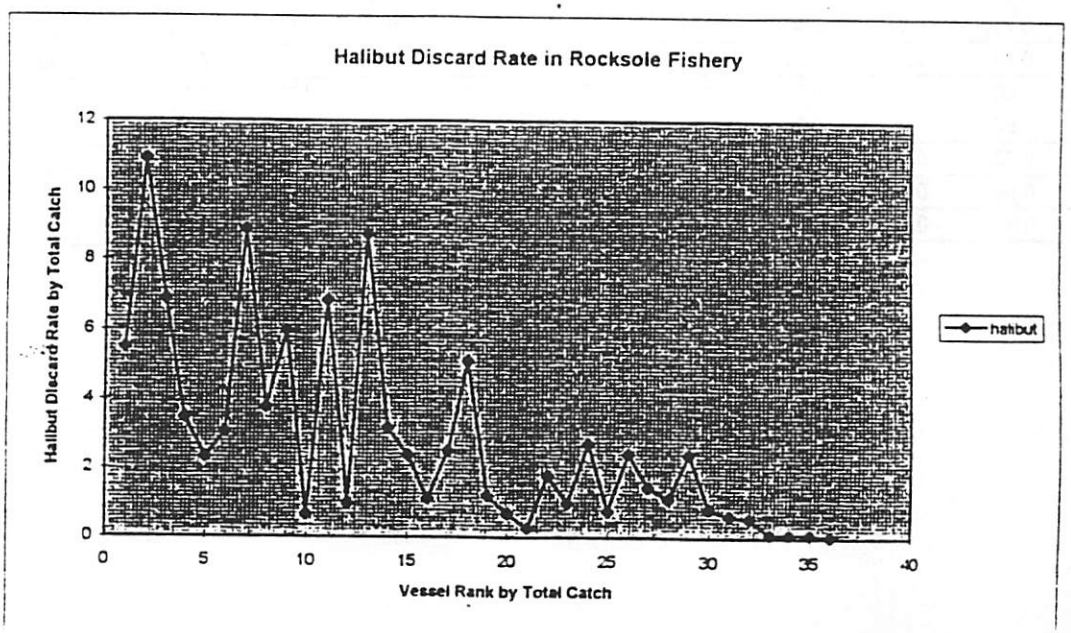

Halibut Discard Rate in Rocksole Fishery
Halibut Discard Rate by Total Catch
12
10
8
6
4
2
0
0
5
10
15
20
25
30
35
40
Vessel Rank by Total Catch
halibut

Table 4. Discard and bycatch rates for individual catcher/processors in the 1993 rock sole target fisheries, (vessel ids ranked in descending order of total groundfish catch).

	Rate discarded per mt Total groundfish catch			Discard Rsole per mt	Prohibited Species Bycatch Rates							
Vessel ID	Total Gfish	Rock Sole	Other Gfish		Halibut (kg/mt)	Bairdi crab (#/mt)	Red King (#/mt)	Chinook (kg/mt)	O. salmon (kg/mt)	Herring (kg/mt)	O. Tanner (#/mt)	Other King (#/mt)
1	0.72	0.29	0.43	0.65	5.48	3.76	1.18	0.0000	0.0000	0.24	9.32	0.58
2	0.79	0.39	0.40	0.67	10.91	4.01	1.77	0.0000	0.0000	0.16	2.57	0.03
3	0.83	0.47	0.36	0.75	6.87	5.50	0.23	0.0000	0.0000	0.00	0.00	0.00
4	0.63	0.08	0.55	0.72	3.46	1.78	1.06	0.0000	0.0075	0.06	34.94	1.42
5	0.85	0.43	0.42	0.81	2.31	1.28	1.22	0.0000	0.0000	0.03	22.15	0.17
6	0.79	0.33	0.46	0.66	3.05	3.63	1.26	0.0000	0.0000	0.00	0.50	0.31
7	0.87	0.26	0.61	0.68	8.87	7.35	0.31	0.0000	0.0000	0.00	0.08	0.00
8	0.55	0.18	0.37	0.38	3.76	2.35	1.03	0.0000	0.0061	0.03	26.41	0.96
9	0.71	0.27	0.43	0.56	5.96	2.95	1.79	0.0000	0.0000	0.00	6.97	0.01
10	0.29	0.04	0.25	0.14	0.66	0.47	0.68	0.0000	0.0000	0.18	59.17	2.32
11	0.71	0.35	0.36	0.59	6.82	2.28	0.33	0.0000	0.0000	0.00	4.37	0.00
12	0.70	0.03	0.67	0.14	0.99	0.07	0.17	0.0000	0.0294	0.01	30.63	1.89
13	0.74	0.40	0.34	0.67	8.73	2.30	0.59	0.0000	0.0000	0.00	0.02	0.00
14	0.70	0.21	0.48	0.63	3.17	1.16	0.79	0.0000	0.0000	0.09	7.66	0.30
15	0.71	0.32	0.39	0.59	2.38	3.97	0.75	0.0034	0.0000	0.00	16.73	0.03
16	0.79	0.53	0.26	0.77	1.14	1.40	0.03	0.0000	0.0000	0.00	0.28	0.01
17	0.71	0.36	0.35	0.60	2.51	4.02	0.15	0.0000	0.0007	0.00	1.09	0.03
18	0.75	0.41	0.34	0.67	5.10	3.34	2.19	0.0000	0.0000	0.00	0.00	0.00
19	0.73	0.31	0.41	0.58	1.23	0.93	0.11	0.0000	0.0000	0.00	0.00	0.00
20	0.46	0.04	0.42	0.09	0.70	0.04	0.13	0.0000	0.0000	0.04	83.65	1.02
21	0.62	0.05	0.57	0.30	0.28	3.98	0.06	0.0000	0.0000	0.06	42.87	0.75
22	0.53	0.01	0.52	0.07	1.79	0.99	0.42	0.0000	0.0051	0.02	7.47	0.24
23	0.41	0.00	0.41	0.01	1.01	0.37	0.60	0.0000	0.0000	0.05	1.55	0.63
24	0.63	0.38	0.24	0.64	2.71	0.96	1.84	0.0000	0.0000	0.00	0.00	0.00
25	0.37	0.12	0.25	0.26	0.77	0.64	1.87	0.0000	0.0000	0.00	0.10	0.00
26	0.71	0.33	0.38	0.62	2.43	1.90	0.43	0.0000	0.0000	0.00	0.22	0.03
27	0.73	0.46	0.27	0.67	1.46	0.70	0.58	0.0000	0.0000	0.00	0.03	0.00
28	0.48	0.09	0.39	0.19	1.14	0.80	0.29	0.0002	0.0016	0.01	1.77	0.10
29	0.67	0.50	0.17	0.68	2.42	1.32	1.53	0.0000	0.0000	0.00	0.00	0.00
30	0.78	0.34	0.44	0.61	0.85	0.47	0.34	0.0000	0.0000	0.00	0.00	0.00
31	0.74	0.46	0.27	0.64	0.63	0.36	0.26	0.0000	0.0000	0.00	0.02	0.00
32	0.60	0.08	0.52	0.17	0.57	0.40	0.08	0.0000	0.0000	0.00	0.00	0.00
33	0.52	0.02	0.51	0.03	0.12	0.16	0.27	0.0000	0.0000	0.00	0.30	0.21
34	0.72	0.58	0.14	0.70	0.12	0.41	0.52	0.0000	0.0000	0.00	0.00	0.00
35	0.65	0.37	0.29	0.57	0.12	0.00	0.10	0.0000	0.0000	0.00	0.00	0.02
36	0.81	0.00	0.81	0.00	0.03	0.06	0.01	0.0000	0.0000	0.00	0.08	0.00

GROUNDFISH FISHERY MANAGEMENT PLAN AMENDMENT PROPOSAL

North Pacific Fishery Management Council

Name of Proposer: **Date: November 16, 1994**

Cold Sea International, Inc.
2909 Arctic Boulevard, Suite 100
Anchorage, Alaska 99503
Phone: 907-562-2653
Fax: 907-561-3468

Fishery Management Plan: 1995 BSAI Rock Sole.

Brief Statement of Proposal:

a. 1995 BSAI Rock Sole be split into A and B seasons. A season should start in January, and B season should start in August.
b. 50% of the TAC should be allocated to each of the seasons.
c. Bycatch should also be split 50-50 between the A and B seasons.
d. Retention:
   (1) 60% of whatever is in the trawl/codend should be retained in the A season, and 75% should be retained in the B season.
   (2) Exceptions: Arrowtooth, sculpin and skate should not be counted for the purposes of the 60% and 75% retention standards.
e. Only those boats/fishermen who meet the above retention standards in the A season should be allowed to fish the B season. Only those who meet the standards for the A and B seasons should be rewarded by being allowed to take part in further allocations and/or reserve commitments.
f. This value of the Rock Sole fishery increases from more than **$27 million** under past policies and practices to more than **$45 million** under this proposal.

Objectives of Proposal: (What is the Problem?)

a. The first objective is to effect a dramatic reduction in the economic discards of the Rock Sole fishery during the 1995 allocation period. In general, it can

be stated that the current discard rate of about 66% will be reduced to about 33% during the first year of the implementation of this proposal. If as successfully as expected, then this proposal can be continued under its present or even expanded standards.

b. A second objective is to reduce the practice of pulse fishing, which has negative consequences on fishery management and conservation.

c. A third objective is to increase opportunities to expand and diversify markets for the Rock Sole products. Rock Sole with Roe is now dominated by the Japanese market. Adding other product lines will encourage development of other markets, which decreases risks.

d. A fourth objective is to require retention and use of economically viable fish which are now being consciously discarded. This includes non-Rock Sole species such as Pollock, Cod, Yellowfin Sole and others, all of which will have values in a range of, say $0.20 - $0.60 per pound round frozen or H&G frozen. Since there is no incentive or requirement to retain these species during the Rock Sole fishery, they are very naturally being discarded to leave precious freezer room for the higher value Rock Sole with Roe. This proposal provides for correction of such practices and incentives to do so.

e. It will be shown herein that the overall value of the Rock Sole fishery will be greatly increased by adopting this proposal, despite the allocation of 50% of the Rock Sole into a non-roe B season.

f. This proposal is a reasonable first step toward the resolution of the large economic discard record of the Rock Sole fishery.

g. It is possible that there will also be positive effects in bycatch, since it likely that the pace of fishing will be slower, allowing for the possibility of greater escapement of halibut. In addition, it would appear that King Crab bycatch could be reduced, since fishing seasons would be spread out into periods when the King Crab may not be present in the Rock Sole fishing grounds in as great a concentration as in the January - March period. The record of the first year's experience under this proposed regime will indicate the degree of positive effects this proposal will have on bycatch.

Need and Justification for Council Action: (Why can't the problem be resolved through other channels?)

a. The Council is the responsible authority for the sound economic harvest of the resource, combined with effective conservation practices. This proposal is properly submitted to the Council for consideration and implementation. No other authority exists for such action.

b. Increased political, environmental and media attention is being focused on the waste in the Rock Sole fishery. This attention emanates from national,

regional and local sectors as more and more information on the extent of the waste is promulgated.

c. Unless positive steps are taken, the entire Rock Sole fishery could be shut down. Policy makers at all levels are demonstrating a recognition that the record of waste demands strong corrective action.

d. Recent Council meetings signal a strong will on the part of the Council to take action in response to the problems in the Rock Sole fishery. Council's November 14 teleconference was an example of the Council's earnest attempt to respond to the problem, in this instance regarding the King Crab bycatch issue.

e. The mechanism of splitting into A and B seasons is already established in the Pollock fishery. This mechanism was designed to control a Pollock fishery which was, at the time, a frenzied pulse-style fishery in danger of becoming dedicated soley for the harvest of the Pollock roe. To a very large extent, this is exactly the case with the existing Rock Sole fishery. Thus the mechanism should have very healthy effect. It provides a management process which is known and tested by the Council and NMFS.

Foreseeable Impacts of Proposal: (Who wins, who loses?)

a. Those who desire an increase in retention, with a concomitant strong reduction of economic waste, in the Rock Sole fishery are winners.

b. Industry and market elements who can respond to the increased standards of retention are winners. Those who cannot respond are losers until they adapt, unless they simply move to another fishery.

c. Public and private sectors interested in value-added industry for economic development will be winners, since it is certain that the value of retained resource in the A and B seasons will outstrip any loss of the roe in the A season. (See supporting data below.)

d. Those who share tax revenues, to include the State of Alaska, its political subdivisions, and others, will be winners, since the base taxable value of the fishery will increase.

Are There Alternative Solutions? If so, what are they and why do you consider your proposal the best way of solving the problem?

a. The Harvest Priority/Full Retention/Full Utilization concepts contain measures which present alternative solutions.

b. Representatives of the Rock Sole fleet have presented the Council with steps which present alternative solutions. These include increased mesh size and voluntary reporting of bycatch hot-spots.

c. This proposal has the following merits:

(1) It can be implemented immediately, since its management is familiar to existing authority. It would follow the patterns of the Pollock fishery.

(2) It responds quickly and effectively to the growing pressure from political, environmental and media sectors to do something to lessen or totally curtail the waste which is on record in the Rock Sole fishery.

(3) The proposal works with, as opposed to against, concepts which are contained in the Harvest Priority family of objectives.

(4) It delivers a large, quantifiable savings in the area of economic waste. Instead of a discard rate of 66% (for a total of 39,321 mt) as has occurred through November 5, 1994, the following figures could emerge in 1995:

75,000 mt	1995 TAC
63,750 mt	1995 ITAC
31,875 mt	A season ITAC (at 15% reserve)
19,125 mt	A season retention at 60%
31,875 mt	B season ITAC (at 15% reserve)
23,906 mt	B season retention at 75%

Note that 1994 rates shows a 34% retention rate, but 1995 would show under this proposal a 67.5% retention of Rock Sole ITAC in A and B seasons combined.
(19,125 + 23,906 = 43,031 ÷ 63,750 = 67.5%)

Supportive Data & Other Information: What data are available and where can they be found?

a. NMFS records catch and discard data for the Rock Sole fishery. From even a brief look at that data, it appears that this proposal should show savings not only in the Rock Sole fishery but also in others. This occurs because of the requirement to save a high percentage (60% and 75% in the A and B seasons, respectively) of economically viable fish which are in the codend. This means that usable species such as other flatfish,

Yellowfin Sole, Pollock, Cod and Plaice will have to be retained instead of being discarded as is now happening in the one-season Rock Sole with Roe fishery.

b. Various ADF&G reports identify the extent and kinds of waste. Most recently, their November 7, 1994, report discusses the issue of King Crab bycatch.

c. Attached are two scenarios which outline the values of the Rock Sole with Roe fishery at typical discard rates and the Rock Sole fishery as proposed herein. These two outlines provide a means of comparing the values of the Rock Sole fishery we have come to expect with the Rock Sole fishery under this proposal.

Respectfully,
Cold Sea International, Inc.

William C. Noll
Vice President

Scenario I

Rock Sole with Roe Fishery
Typical, Based on Past Allocations and Practices

75,000 mt	TAC
63,750 mt	ITAC
42,075 mt	Discards (at 66%)
21,675 mt	Retained Rock Sole
13,005 mt	Rock Sole product, applying a 0.6 recovery factor.

Discussion.

a. Estimate two-thirds of the Rock Sole are retained during the roe season, and the remaining one-third is taken as allowable bycatch during the remainder of the year. This split would be typical of the fishery experience for the purposes of this discussion.

b. The two-thirds taken during roe season will be counted as female with roe at a value of $1.20 per pound, and the remaining one-third will be counted as H&G frozen with a value of $0.50 per pound.

c. Two-thirds of the Rock Sole product equals a total of 8,670 mt. Its value at $1.20 per pound is about $22,937,000. (Use 2204.6 pounds per metric ton.)

d. One-third of the Rock Sole product equals a total of 4,335 mt. Its value at $0.50 per pound is $4,778,000.

Conclusion.

$22,937,000	Value of Rock Sole with Roe.
4,778,000	Value of other Rock Sole.
$27,715,000	Total value of typical Rock Sole fishery under past allocations and practices.

Scenario II

Proposed Rock Sole Fishery
Featuring A and B Seasons and Mandatory Retention

75,000 mt	TAC
63,750 mt	ITAC
31,875 mt	A and B season ITAC (each)

1. Discussion, A Season.

a. During A season boats will retain all female with roe. This should represent about one-third of the A season ITAC catch.

b. The balance of the 60% retained during A season will be comprised of males and females with immature roe.

c. Based on these assumptions, out of the 31,875 mt A season ITAC, about 10,625 mt (one-third) will be female with roe. All of them will be retained. Applying a 0.6 recovery factor, there will be about 6,375 mt of the female with roe product. At a value of $1.20 per pound, the value of this portion of the A season will be about $16,865,000.

d. Since there is only a 60% retention of the ITAC required during A season, then the total required to be retained is 19,125 mt. Since 10,625 mt has been shown to be female with roe, we can assume that the remaining 8,500 mt will be male or females with immature roe.

e. Applying a recovery factor of 0.25 to the 8,500 mt yields 2,125 mt of product. At a value of $1.00 per pound, the value of this portion of A season is about $4,685,000.

2. Discussion, B Season and Remainder of Year.

a. During B season there will be a requirement to retain 75% of everything in the codend (see above). However, it is assumed that, out of the 31,875 Rock Sole ITAC a much higher percentage will be retained. This will be true during B season, as well as allowable bycatch during the remainder of the year. For the purposes of this discussion, let us assume that 90% Rock Sole will be retained during B season and the remainder of the year as allowable bycatch, the remaining 10% being discarded for reason of being bruised, broken, crushed or otherwise economically unusable.

b. Under these assumptions about 28,687 mt of Rock Sole will be retained in B season and the remainder of the year. Applying a 0.25 recovery factor for processing yields about 7172 mt. At $1.00 per pound, this gives a value to this portion of the Rock Sole fishery of $15,811,000.

3. Combined Value of A Season, B Season and Remainder of Year.

$16,685,000	A season females with roe.
4,685,000	A season, fillets.
15,811,000	B season and remainder of year, fillets.
$37,181,000	Total value of Rock Sole products in proposed Rock Sole fishery.

4. Discussion, other values.

a. With the mandatory retention standards imposed during the A and B seasons, it is assumed that a large quantity of otherwise-discarded fish will be retained, processed to at least a minimum degree, and marketed. As mentioned earlier above, these species will include other flatfish, Yellowfin Sole, Pollock, Cod and Plaice.

b. For the purposes of this discussion, the proposal assumes that 10,000 - 20,000 metric tons of these fish will be retained instead of being discarded.

c. Using an average of 15,000 mt, further assume one-half of that volume is round frozen at an average value of $0.20 per pound. Further assume that the other half is H&G frozen with a 0.6 recovery factor and at an average value of $0.50 per pound.

d. These assumptions yield values of:

$ 3,306,900	7,500 mt of round frozen at $0.20 per pound.
$ 4,960,350	7,500 mt at 0.6 recovery factor at $0.50 per pound.
$ 8,267,250	Other values of retained species in proposed Rock Sole fishery.

5. Conclusion.

The estimated total value of the Rock Sole fishery as proposed is:

$37,811,000	Rock Sole products.
8,267,250	Products from other retained species.
$45,448,250	Grand total.

6. **Final Comparison.**

$27,715,000	**Value of typical Rock Sole fishery under past allocations and practices.**
$45,448,250	**Value of Rock Sole fishery, including other species retained, under this proposal.**

APPENDIX III

NOAA GENERAL COUNSEL LEGAL OPINION ISSUED ON FEBRUARY 24, 1995

NOTE: The legal opinion is included in the Council Action Memorandum for this agenda item (C-8). Therefore, it is not reproduced in this appendix.

UNITED STATES DEPARTMENT OF COMMERC
National Oceanic and Atmospheric Administratior
National Marine Fisheries Service
P.O. Box 21668
Juneau, Alaska 99802-1668

AGENDA C-8
APRIL 1995
Supplemental

April 14, 1995

RECEIVED
APR 17 1995

Richard Lauber
Chairman
North Pacific Fishery Management Council
P.O. Box 103136
Anchorage, Alaska 99510

Dear Chairman ~~Lauber~~ Rick:

This letter responds to the Council's December, 1994 request that NMFS staff "flesh out the mechanics of implementing" Harvest Priority (HP) programs for the rock sole fishery based on the Alaska Marine Conservation Council (AMCC) and Cold Sea International, Inc. proposals and that NOAA General Counsel pursue solutions to the "legal roadblocks" encountered with HP.

The attached discussion paper summarizes the AMCC and Cold Sea proposals, provides NMFS's interpretation of the February 24, 1995 legal opinion on HP, and outlines the options we believe are available to the Council.

Successful implementation of either the AMCC or Cold Sea HP proposal would depend on the ability of NMFS to allow only qualified vessels access to a reward fishery. However, NOAA General Counsel has determined that the owners or operators of vessels receiving a negative determination from NMFS have a right to appeal and that those vessels for which appeals are unresolved cannot be prevented from participating in the reward fishery. Appeals could take from one to three years to resolve. Based on both this legal opinion and on the expectation of reductions in the resources that will be available to the Agency, we cannot assure that the incentive necessary to effectively implement the HP program can be provided.

Both the AMCC and Cold Sea proposals would require NMFS to monitor individual vessel discard rates (the proportion of the total catch of each or all species that is discarded). Data currently collected through observer sampling focus on total catch weight and species composition. Observers do not sample to determine discard rates, but provide rough estimates of discards for informational purposes only. These estimates are not adequate to enforce individual vessel discard rate standards. Options for improving estimates of discard rates by using information from both observers and processors are addressed in the discussion paper. Although the changes in observer sampling procedures and priorities that would be necessary to rely solely on observer estimates of discard rates are expected to be substantial, they have not yet been fully evaluated by NMFS.

Both HP proposals may require additional observer coverage to demonstrate that a vessel has met the HP standards. Given the limit on the funds that will be available to pay for observer coverage under the Research Plan, the Council may have to evaluate its observer coverage priorities or determine if a supplemental observer program is feasible to provide the additional observers used for a HP program.

The objective of the HP proposal is to provide fishermen an incentive to reduce discards, including non-allocated species, and bycatch of prohibited species. The Council is considering limits on discards under the Increased Retention/Utilization proposal although only selected target species are currently included in the proposal.

In terms of potential reductions in PSC bycatch, a variety of measures are available that could be used in conjunction with or as alternatives to the parts of the HP proposals that address this problem. NMFS recommends further analysis of proposals such as Individual Bycatch Quotas (IBQ), through which the Council could annually allocate a portion of the halibut or crab PSC limits to individual vessels. IBQs could incorporate the objectives of the HP proposal to provide fishermen with an incentive to reduce PSC bycatch. However, they would not necessarily tie benefits to those who reduced PSC bycatch to NMFS's ability to resolve all appeals within one year. We propose to analyze IBQs and other bycatch reduction proposals for the flatfish fisheries (rock sole, flathead sole, yellowfin sole, and other flatfish) and present the draft analysis at the September, 1995 Council meeting.

A recommendation to analyze alternative bycatch reduction proposals is not a committment that the agency resources will be available to implement these programs. All of the proposals discussed, including the AMCC and Cold Sea HP proposals and the IBQ proposal would require substantial increases in observers. Additional NMFS staff will also be required in the Observer Program office, In-season management, Enforcement, and General Counsel. Provisions for industry to share the cost of management programs would not address many concerns about staff resources.

Sincerely,

Steven Pennoyer
Director, Alaska Region