AGENDA C-7
SEPTEMBER 1987

M E M O R A N D U M

TO: Council, AP and SSC Members

FROM: Jim H. Branson
Executive Director

DATE: September 16, 1987

SUBJECT: Sablefish Management Options

SBLFSH

ACTION REQUIRED

1. Review summary of proposals.
2. Review outline for controlled access considerations.
3. Prescribe action to be taken next.

BACKGROUND

During last year's groundfish amendment cycle consideration of sablefish limited entry options was placed on its own time schedule. In May 1987 the Council solicited recommendations from the public for management options for the sablefish fishery. At the September 1-2 meeting of the Policy & Planning Committee a summary of the public proposals was presented and is included here as item C-7(a).

Subsequent to a joint meeting of the Bering Sea/Aleutian Islands and Gulf of Alaska groundfish plan teams, an outline of controlled access considerations was derived for license limitation and share quota options [item C-7(b)]. This outline presents a first-cut at the types of decisions that should be made before embarking on the development of a detailed controlled-access program. Many of the potential trade-offs outlined are discussed more fully in a discussion paper developed by Council staff and presented at the Policy & Planning Committee meeting [item C-7(c)].

The Policy & Planning Committee recently forwarded a draft Statement of Commitment for future management of groundfish which included the implementation of a controlled access program for the sablefish longline fishery by the 1989 fishing season. In order for such a program to be developed, analyzed, and fully implemented, work must begin immediately. How it will be done is still a question. Contracting, inter-agency agreement, or increasing the staff are all possibilities. All have pluses and minuses. Development of the systems must go hand in hand with a comprehensive effort to acquaint everyone concerned with the problems and advantages and detailed workings of both systems (limited entry and ITQ).

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North Pacific Fishery Management Council

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MEMORANDUM

TO: Council, AP and SSC members

FROM: Jim H. Branson
Executive Director

DATE: August 14, 1987

SUBJECT: Summary of Sablefish Management Option Proposals

The Council received several management proposals during the groundfish amendment cycle last winter asking for some form of effort control for the sablefish fishery. Because of the time required to analyze the issue and the complexity of possible solutions, the Council chose to put "sablefish limited entry" on its own amendment cycle.

In May, the Council solicited recommendations from the public for management options for the sablefish fishery. The deadline for proposals was July 31. We received 59 proposals, some as late as August 14.

A summary of the proposals follows. They fall into five categories, (status quo, conventional methods, license limitation, share quota, and unconventional) with subcategories depending upon specific details in any particular proposal.

Status quo

Several respondents advocated the status quo, some with particular emphasis that no form of limited entry should be considered.

Conventional methods

Several respondents advocated conventional measures to improve management of sablefish. These included changes to seasons, exclusive registration areas, and limits on gear and/or crew.

Seasons:

Open all fisheries, except roe herring, on June 1.

Split season into two or more openings.

Establish five one-month openings, each with an individual quota April-August.

Schedule openings between halibut openings.

Exclusive registration areas:

Fishing by any individual to be allowed only in one area, registered preseason.

Gear restriction:

Eliminate trawling for sablefish.

Manage trawl-allocation as bycatch only.

Restrict amount of gear per boat to 25 skates and 12,000 hooks, or 300 pots.

Limit amount of gear and crew.

Other:

Allocate a percent of sablefish quota for salable bycatch in Pacific cod longline fishery.

Reserve portion of quota as salable bycatch in halibut fishery.

License limitation

Several respondents advocated some form of license limitation, but few suggested how many licenses should be issued or other details of a limitation system. Many proposers, however, indicated a preference for fisherman rather than vessel/owner licensing; although some did not. Several proposals were in combination with other suggestions, such as season openings.

Details:

Schedule openings between halibut openings.

Open season on July 1.

Cut-off dates for evaluating past performance in the fishery: Present, 12-31-86, 1-1-85, 1978.

Issue permits by area and date of prior participation:
SE Alaska 12-31-84, E. Yakutat 12-31-84, W. Yakutat 12-31-85, Central Gulf of Alaska 12-31-86, Western Gulf of Alaska 12-31-86, Bering Sea 12-31-87, Aleutian Islands 12-31-88.

Issue licenses by lottery, with winners getting transferable permits and losers getting non-transferable permits.

Make all permits nontransferable.

Preclude issuance to holders of other limited entry permits (e.g. salmon).

Issue permits by auction.

Categorize permits by vessel tonnage.

Preclude catcher-processors.

Limit number of permits to 200.

Establish limited entry for all longline fisheries.

Share quota

Several respondents specifically recommended limitations based on share quotas. Although most proposals did not explicitly distinguish between vessel shares or fishermen shares, the majority implicitly discussed shares to fishermen.

Details:

Cut-off dates for evaluating past performance in the fishery: 12-31-86.

Issue shares based upon past participation and production.

Calculate shares based on production over past 5 or 10 years.

Issue shares by area.

Shares to equal 100 pounds each.

Maximum share per individual equal 2% of total quota.

Unconventional

One proposal suggested elimination of any directed fishery for sablefish, and also for halibut, and reservation of these species as salable bycatch in longline fisheries for Pacific cod. A similar proposal is currently being considered by the Council's Bycatch Committee. Another proposal, although not an unconventional method, recommended a one-year closure of longlining for sablefish in a portion of the Bering Sea in order to study fishery/killer whale interactions.

Other

Two submissions provided no specific proposal, but rather some general comments.

OUTLINE OF CONSIDERATIONS FOR CONTROLLED ACCESS PROGRAMS

Prepared by the Bering Sea/Aleutian Islands and
Gulf of Alaska Groundfish Plan Teams

September 15, 1987

The groundfish plan teams, during their joint meetings on September 10-11, 1987 reviewed proposals submitted by the public that were solicited by the Council for consideration of sablefish management options. A summary, as presented on August 14, 1987, was approved by the plan teams as representing their interpretation of the proposals. Although none of the proposals outlined a complete management option, many included details which can be used in a fully developed strategy.

The plan teams recommend that those public proposals characterized as conventional methods should be forwarded for consideration during the next regular groundfish amendment cycle; those characterized as license limitation and share quota should be used as initial public input on the derivation of controlled access options. However, the teams believe that there is currently insufficient guidance for the full development of such options. Therefore members of the plan teams developed an outline of considerations that should be discussed, if not decided upon, before options are more fully prepared. Below is the outline for two controlled access options: license limitation and share quota.

LICENSE LIMITATION

- Units
  - Recipients
    - Vessel/Owner
    - Individual fisherman
  - Quantity (number) of licenses
  - Geographic extent
    - Entire management area
    - By sub-area
- Initial Allocation
  - Cut-off dates
    - September 26, 1985
    - Other
  - Lottery
    - Open to all
    - Only past participants
  - Performance Criteria
    - Years in fishery
    - Landings
    - Investment
    - Income dependency

- Transferability
  - Non-transferable
  - Transferable
    - Private transactions
    - Government-mediated transactions
  - Mixture of transferable/non-transferable
  - Restrictions (purchase, lease, etc.)
- Effort Maintenance/Reduction
  - Buy-back program
  - Attrition
  - Conventional management measures
- Administration
  - NPFMC
  - NMFS
  - Contract
    - Commercial Fisheries Entry Commission (CFEC)
    - Private contractor

SHARE QUOTA

- Units
  - Recipients
    - Vessel/owner
    - Individual fisherman
  - Types of share quota
    - Percentage (%) of TAC
    - Fixed weight
  - Ownership limits
    - Unlimited
    - Set maximum ownership (% or weight)
  - Geographical extent
    - Entire management area
    - By sub-area
- Initial Allocation
  - Cut-off dates
    - September 26, 1985
    - Other
  - Lottery
    - Open to all
    - Only past participants
  - Performance Criteria
    - Years in fishery
    - Landings
    - Investment
    - Income dependency
- Transferability
  - Non-transferable
  - Transferable
    - Private exchange
    - Government exchange
  - Restrictions (purchase, lease, etc.)
- Effort Reduction -- None required.
- Administration
  - NPFMC
  - NMFS
  - Contract

AGENDA C-7(c)
SEPTEMBER 1987

Limited Access in Alaskan Fisheries: Some Options

Terry Smith
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Discussion Paper 87-1
North Pacific Fishery Management Council
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587/AQ^2

LIMITED ACCESS IN ALASKAN FISHERIES: SOME OPTIONS

I. INTRODUCTION

The Policy and Planning Committee of the North Pacific Fishery Management Council, in consideration of the rapid Americanization of groundfish fisheries off Alaska and recent problems with the "olympic system" for joint ventures, wishes to reexamine long-term management strategies. The committee is conducting this re-examination to avoid some of the problems that have occurred in fisheries around the world as an ever-increasing number of vessels compete for finite amounts of fish.

The committee directed that, prior to the Council's September 23-25, 1987, meeting, a discussion paper or papers be prepared which would 1) outline the foreseeable difficulties in continuing the status quo; 2) examine future management in light of the Council's goals and objectives and the National Standards of the MFCMA; and 3) present, for discussion purposes, some examples of alternative management strategies.

This paper is the second of two discussion papers prepared by direction of the committee for Council review. The first, "Long-range Goals, Objectives, and Techniques for Managing North Pacific Groundfish Fisheries" addresses items 1) and 2) while this paper focuses only on item 3), alternative management strategies. The scope of the paper is further narrowed to concentrate primarily on describing limited access management, not because conventional management measures are inappropriate for future management, but because limited access is less well understood by the fishing industry and the public.

Organization of the paper is as follows. Section II presents definitions and Section III discusses the use of conventional management measures in an open access fishery. Presented in this section is the argument that the problems that have occurred in fully developed fisheries are often a result of the open access nature of the fishery. Section IV considers management using nonconventional methods. The first of the approaches is the use of license fees, taxes or royalties on fish landed, the second is limiting access through license limitation, and the third is controlling the fisheries via individual transferable quotas (ITQ).

In Section IV, license fees or taxes on fish or fishermen are dismissed as administratively impractical and unauthorized under current law. Therefore, the section is primarily a discussion of license limitation and ITQ approaches, particularly the "nuts and bolts" of each. For each method, strategies for initial allocation of fishing rights, questions of program administration, approaches to buy-back programs (license limitation) and quota adjustment (ITQ), and issues of enforcement are addressed.

Although examples focus on particular fisheries it should be noted that the issues, problems and questions to be resolved are generally applicable to any fishery where management by limiting access is contemplated.

II. DEFINITIONS

Common property, common resources, property rights and use rights

In discussions of open access fisheries and the need to limit access, the terms "common property resource," "privatized resource," and "property rights to the resource" are often used. These terms may be misleading since it is a well established precept in U.S. common law that migratory or free roaming wild animals such as fish, or birds, cannot be considered property, and therefore cannot be owned by anyone until "reduced to possession by skillful capture."[1] Although fishery resources in public waters are not property before capture, the states and federal government may, as trustees of a common resource, regulate the harvest of those resources found within their respective boundaries. In this position as trustee, a state or the federal government may grant use rights.

It is important to recognize that property and use rights are the core issues of open or limited access. The Magnuson Fishery Conservation and Management Act (MFCMA) declares that the United States will exercise control over the ocean's fishery resources that occur from 3 to 200 miles of the U.S. coast[2] and, by inference, that those resources are to be managed for the benefit of all U.S. citizens. The position of the United States with regard to fishermen's rights to use these resources determines the kind of access (open, limited) and rules (fees, taxes, etc.) that may occur.

Open access fishery

An open access fishery is one in which anyone with a registered vessel may participate. Normally, annual harvest amounts are limited by use of quotas, e.g. total allowable catch (TAC). Other measures often employed for limiting catch, in conjunction with quotas, are short openings, time/area restrictions, gear restrictions and gear allocations. These traditional management methods tend to raise fishermen's costs by limiting efficiency or restricting freedom of action, however, there is no barrier to new entrants to the fishery. In the context of use rights discussed above, there is no assignment of rights by the management authority.

Limited access fishery

Technically, limited access imposes some barrier to entry into a fishery. The two general methods of limiting access are license limitation and individual transferable quotas (both are defined below). A third approach, license fees, taxes or royalties, does not formally limit access at all, although the fees or taxes may be set so high as to create a disincentive to entry. Rather, it is a method to correct the open access problem, by forcing fishermen to recognize the cost their fishing activity has on other fishermen and society.

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1. Douglas v. Sea Coast Products, Inc., 431 U.S. 265, 284 (1977); Missouri v. Holland, 252 U.S. 416, 434 (1920).
2. With the exception of highly migratory species. MFCMA, §102.

License limitation

Under this type of management regime, participation in a fishery is limited to those owning a license or permit. On the western coast of the United States this limited access system has become synonymous with the term "limited entry".[3] Traditionally, at start-up, licenses are granted based upon a history of participation in the fishery. No additional licenses are granted, and new entrants must purchase an existing permit in order to participate. It has often been the case that, after initial issuance, a future reduction in permit holders is prescribed through a buy-back program.

Individual Transferable Quotas

Management by individual transferable quota (ITQ) is a limited access scheme based on the principle that the available catch (annual quota) is allocated to individual users (usually a vessel owner, a vessel captain, or a vessel). The quota holder may harvest this amount of the resource and the owner may trade quota shares on the open market. Traditionally, when an ITQ system is put in place, fishermen who have established historical participation in the fishery are given an initial allocation of some portion of the overall quota. The allocation may be a certain share of the overall quota (e.g. 1%) or a fixed amount (e.g. 100 mt). The individual quota amount is available to the fishermen in perpetuity but it may, of course, be augmented through purchase or lease or decreased through sale or lease to others. Thus, the ITQ system may not limit participants per se but only the initial distribution of quota. After start-up the ITQ may be traded freely. The development and nature of the market for quota will be discussed below.

III. CONVENTIONAL MANAGEMENT MEASURES AND THE OPEN-ACCESS PROBLEM

The open-access problem, as it applies to fisheries, was first described more than thirty years ago (Gordon, 1954; Scott, 1955). The problem is, since no use rights are assigned to the fishery, anyone may participate, and a "race for fish" develops since there is no incentive to preserve any part of the common pool of fish for future harvesting. To refrain from fishing would likely lead to someone else catching the fish. Participating fishermen are then forced to invest in increasing their ability to catch fish quickly, by purchasing larger vessels, more gear, better technology, etc. Fishermen who wish to compete in the race must also get on the grounds earlier to insure a share of the catch. This often means that fishermen must fish regardless of weather, thereby leading to increased safety and operational costs.

From an economic perspective, an open access fishery is characterized by increasing costs for the fishermen as more and more capital is invested so that the participant may hold his ground in the face of increasing numbers of participants, TAC reduction, or both. If the fishermen passes these costs

3. Therefore, to avoid confusion, we will not use the term "limited entry" in this paper, but, instead, rely on the generic term, "limited access," or the specific term, "license limitation."

on to the processor, wholesaler and retailer, the price of fish to the consumer increases. This is undesirable from a national perspective since the consumer could, in the absence of these increased costs, purchase fish more cheaply and use remaining income for other purchases. Increased prices are undesirable also from a marketing perspective as buyers will reduce, or eliminate, their purchase of fish if prices become too high.

Of course, not passing on the cost increases due to the "race-for-fish" will reduce the profits of the fishermen. In the long run, if profits continue to decline, only the largest and most efficient operations will be able to survive.

It is not necessarily this end result that troubles resource users and managers (though the capital and labor resources of the fishery may be more efficiently used elsewhere in the economy) but rather the disruption that occurs in arriving at the reduced fishery (i.e., the "shakeout" that occurs with attendant economic dislocations and bankruptcies). In the process of rationalization much capital and labor will be needlessly wasted, fishermen will face business failure and career changes, the economies and social structures of fishing communities may be adversely affected, and, from a management perspective, there will be increased pressure to raise quotas, thereby increasing the likelihood of overfishing and stock collapse.

Traditional management measures used to control the fisheries harvest around the world and in Alaska (short openings, time/area closures, gear limits/allocations) are measures designed to slow or prevent this costly transition. Generally, these measures have not worked as increased pressures on the resource (more boats, more gear, more efficient gear, more effective political pressure) have either led to an overfishing situation or to a situation where the risk of a stock collapse has increased.[4/]

That is not to say conventional management measures should not be used in fisheries management; however, when practiced alone, they fail to adequately protect the economic, and sometimes biological, well being of fisheries. The balance of this paper considers nonconventional management methods, specifically limited access methods.

IV. LIMITED ACCESS OPTIONS

License fees, taxes or royalties

Theory

Fishermen are motivated in part by economic objectives. For example a harvester may try to minimize costs, maximize profits, or maximize revenue. In an open access fishery, a fisherman will consider only his own economic position and will tend to ignore the costs and revenues of others. However, one fisherman's operation may increase the costs to another fisherman. An obvious example is that of gear conflict where one harvester's activity leads to gear damage or loss on the part of another fisherman. Another example is

4. See the discussion paper, "Long-range Goals, Objectives and Techniques for Managing North Pacific Groundfish Fisheries."

the incidental catch of a species other than the target species; this bycatch has negative consequences for the fisherman who wished to target on that species.

In more general terms, in an open access system all harvesting activity raises the cost to all other harvesters simply because the removal of some portion of the stock makes it harder (i.e., more expensive) for others to catch fish. In the extreme, where a serious "race-for-fish" has developed, all operators must get on the grounds and fish with the maximal amount of the most efficient gear in order to compete. Each year they are forced to spend more to catch the same amount of fish.

The rationale for imposition of a fee or taxation system is that since fishermen do not recognize these external costs they fish in a suboptimal way (they are making decisions without all available information). Therefore, if the magnitude of these external costs can be determined and the fishermen made to pay a tax equal to the costs, these previously hidden costs will be revealed to the fisherman and the fisherman held accountable. In sum, fishermen will be made to absorb the costs of stock declines or stock deterioration and will therefore account properly (through the tax) for the fishing activity of others.

Administrative and legal problems of fees

Although taxes or royalties on landings or license fees levied on vessels, gear, or fishermen could limit entry into a fishery since those who are unable or did not wish to pay these costs would be discouraged from participating, the primary impact of the method is an increase in operating costs. Since the royalties go to the managing entity (State or Federal government), the public would benefit from the reduced public outlay.

Fishermen may not be in a noticeably better position under a fee system in terms of greater profits, but their situation in the long term would not be worse than under an open access system. Also, since marginal operations may be forced out of the fisheries the annual catch would be taken over a longer period of time, using less overall harvest effort, thereby decreasing costs and increasing profits to the remaining fishermen.

While landing taxes, royalties, or fees may have some attraction from a societal perspective; specifically, the generation of revenues from the use of a common resource, their negative administrative and legal aspects may well serve as roadblocks to implementation. Because of natural fluctuations that occur in any fishery, a fishery management regime must be flexible to be effective. It could, therefore, prove to be a difficult administrative task to constantly adjust tax or royalty schedules to reflect changes in exvessel fish prices, supply, demand, and resource conditions. If these adjustments were not made, product price increases or cost decreases could be an incentive to new entry into the fishery. Conversely, price decreases, or cost increases (perhaps due to stock decline) would leave the fee too high.

The discretionary authority to charge fees to domestic fishermen under a fishery management plan is clearly set out in Section 303(b)(1) of the Act; however, the Act also limits the level of those fees to the administrative

costs of issuing domestic fishing permits.[5] If fees on domestic fishing in the EEZ are to be levied under the authority of the MFCMA, they may not be set at a level that would have any limiting effect on harvesting effort. The effort reduction principle of the landings fee is thus rendered useless. Fees at a level above those administrative costs would only be possible with an amendment to the law; a change that would be widely opposed by the harvesting industry.

A system of taxes or royalties on landings is therefore: 1) administratively burdensome; 2) inflexible; and 3) not authorized under the current language in the MFCMA. For these reasons, fees or royalties are dismissed as currently impractical.

Limited Access - Some General Considerations

The following two sections present issues specific to license limitation and to an individual transferable quota system -- issues which must be resolved prior to implementation of either approach.

Before that specific discussion, however, it may be useful to mention two general areas of concern. The first is the potentially high administrative cost of an appeal and adjudication system should either the license limitation or ITQ system contemplate barring current participants from the fishery. An example of such a system is the State of Alaska's Limited Entry Commission. These kinds of systems are common under license limitation but also occur under management by ITQ. The potential volume of trial-type administrative adjudications may be substantially reduced under either a license limitation or ITQ system if harvest rights are assigned based on general "legislative" facts supported by official written records rather than specific "adjudicative" facts. Legislative facts are general facts relating to the political, economic or social situation an agency is attempting to affect. Adjudicative facts are facts about individuals who are subject to a particular agency action.[6] Trial-type hearings are not required when the dispute concerns only legislative facts.

To illustrate the difference between legislative and adjudicative facts one need only compare the Council's proposed 1983 halibut moratorium and the State of Alaska's initial limited entry regime. Eligibility for participation during the halibut moratorium was based on the legal harvest and commercial sale of halibut at any time between January 1, 1978 and December 31, 1982 as demonstrated by official documents of sale. The only question to be decided regarding a particular applicant was whether he/she fished during the five-year base period. If he/she legally harvested and sold halibut during the period in question, they were included under the moratorium; if they did not fish during that time period they were excluded. Nothing would have been accomplished by conducting an administrative hearing for someone with no history of legal harvest and sale during the relevant five-year period. The question of a legal harvest and sale was a legislative fact supported by official records.

5. See Section 304(d) of the MFCMA.
6. Travers, 1983.

The first fisheries the State of Alaska placed under limitation allowed an applicant to claim participation credit if he/she had been prevented from fishing by "unavoidable circumstances" or circumstances beyond their control. This provision gave rise to a substantial portion of the administrative hearings the Alaska Commercial Fisheries Entry Commission has held since 1974. Often the only evidence offered in support of an unavoidable circumstance claim is oral testimony. An unavoidable circumstance is an adjudicative fact, or a question of, "who, what, when, how and why" relating to a specific fisherman.

The second area of concern is the possibility that the transition to limited access will disrupt or isolate small fishing communities. The probability of this occurring is enhanced when a license reduction program is mandated with licenses concentrating in one area or with one owner. Local economic disruption is also likely during the initial phase of an ITQ management system when quota held by marginal operations is bought up by other operations.

There appears to be some protection in the MFCMA against the concentration of licenses or shares in one owner. Section 301(a)(4) states in part, "If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges." (Emphasis added.) No definition is provided for "excessive share" but, as in any Council regulation, a Council-established limit would be approvable by the Secretary of Commerce if the Council demonstrated a reasonable basis for its decision and that decision met the requirements of the MFCMA and other applicable law.

The potential problem of harvest right migration out of small fishing communities may well be more difficult, if not impossible, for the Council to address than the monopoly question. The Council could not favor Alaska communities over communities outside the state because of Constitutional guarantees of equal protection and the MFCMA's mandate that, "Conservation and management measures shall not discriminate between residents of different states." Section 301(a)(4). The social engineering necessary to prevent harvest right out-migration might well be beyond the scope of the Council's charge under the MFCMA.

License Limitation

The most commonly employed form of access limitation is license limitation. The issues to be resolved in establishing such a system are 1) access (grandfathering, historical participation, etc.); 2) license reduction to optimal effort level (buy back); and, 3) the use of other conventional management methods (quota, gear restrictions, etc.).

Access

One way of deciding the access question is to grant a limited access license to all those current participating in the fishery. This is a form of moratorium on new entry. This type of system usually requires a subsequent reduction in units of gear to an optimum level of effort, generally, through a

buy-back program often funded by a government entity. A freezing of the fleet at its current level and buyback may be more politically acceptable to fishermen than many other forms of access limitation since no current participant is excluded outright and the fishermen, as beneficiaries of the subsequent fleet reduction, do not bear the costs of the buyback program.

In the existing Alaska license limitation system for salmon and herring, access is based upon the degree of economic hardship a person would suffer if excluded from a fishery. Applicants are ranked under a point system based upon their history of participation in, and economic dependence upon, a fishery. A maximum number of permits are established for each fishery based upon recent participation patterns in that fishery. After the applicants are ranked, permits are issued, first to the highest ranked and then down the list until all permits are issued with enough permits reserved to accommodate any applicants challenging their rankings. If more applicants are ranked at a particular point level than permits available, those permits are to be issued under a lottery system.[7]

Permit Reduction

The Alaska system also provides for reduction in permits through a buy-back program. After the maximum number of permits for a fishery are issued the law requires the state to establish an optimum number of permits for a fishery based upon a "reasonable balance" of economic considerations and the effort level needed for an orderly and efficient harvest of the resource.[8] If the optimum number is less than the number of permits issued, the state is to initiate a buy-back of permits down to the optimum level. The buy-back is to be funded by an assessment of up to 7% of the gross fishing income for each permit holder in the relevant fishery.[9] The State of Alaska has yet to initiate a buy-back program since it is still issuing permits for fisheries placed under limitation in 1973.

Because the Alaska license limitation system does not attempt to control harvest effort at the individual level, there is still a need for conventional efficiency limitations such as time and gear restrictions. These regulations are adopted by the Alaska Board of Fisheries and implemented by the Alaska Department of Fish and Game.

MFCMA Considerations

While the Alaska license limitation system may serve as an example for the Council in its review of the mechanics of establishing an access limitation regime, the MFCMA lists certain criteria that must be considered during the development of such a system, be it license limitation or ITQs. Under Section 303(b)(6) of the Act, before establishment of limited access, a Council or the Secretary of Commerce must, "take into account -

(A) present participation in the fishery,
(B) historical fishing practices in, and dependence on, the fishery,
(C) the economics of the fishery;

7. A.S. 16.43.010, et seq. and Title 20, Alaska Administrative Code, Chapter 05.
8. A.S. 16.43.290
9. A.S. 16.43.310

(D) the capability of fishing vessels used in the fishery to engage in other fisheries,
(E) the cultural and social framework relevant to the fishery, and
(F) any other relevant considerations. . ."

These criteria need not be specifically accommodated by a limited access system established under the Act if there is a reasonable basis for predicating the system upon other criteria.[10]

Additional MFCMA guidelines are found in the National Standards enumerated in Section 301. Although any Council fishery management plan, or regulation implementing a plan, must conform with the seven Standards, Standards 4 and 5 have particular relevance when considering limited access, or an allocation of harvest rights. Standard 4 states, "Conservation and management measures shall not discriminate between residents of different states. If it becomes necessary to allocate or assign fishing privileges among various United States fishermen, such allocation shall be (A) fair and equitable to all such fishermen; (B) reasonably calculated to promote conservation; and (C) carried out in such a manner that no particular individual, corporation, or other entity acquires an excessive share of such privileges." Standard 5 provides, "Conservation and management measures shall, where practical, promote efficiency in the utilization of fishery resources; except that no such measures shall have economic allocation as its sole purpose." (Emphasis added.)

Disadvantages

One of the advantages of a license limitation system is its similarity to the traditional method of management in most fisheries in this country, i.e., the licensing of fishermen and vessels. There is a basic weakness in this system, however, that renders it useless in reducing overcapitalization and spreading fishing effort over time. License limitation, alone, provides no direct control of harvest effort by those with licenses. Since fish harvesting is multi-faceted, restrictions on one dimension of effort would not halt an expansion in overall harvest capacity. If fleet prices rise or harvesting costs decrease, there will be incentive to increase harvest capacity through substitution of unrestricted dimensions for restricted dimensions. An example of this may be seen in the British Columbia salmon fishery. A licensing and buy-back system in the fishery initially limited the number of vessels participating. The fleet responded by replacing older vessels with newer, larger vessels. This move led to a new restriction allowing vessel replacement on a ton-for-ton basis only. The harvest effort continued to grow through improvements in gear and the fleet called for a second buy-back program.

Recent developments in other Canadian fisheries further demonstrate the inability of a license limitation system to prevent a "race for fish". The British Columbia sablefish fishery was placed under limitation in 1979. The season length has decreased from 246 days in 1981 (catch - 3,830 mt) to 64 days in 1986 (catch - 4,460 mt).

10. Travers, 1983.

In 1979 the British Columbia halibut fishery was also placed under license limitation. In 1980 the Canadian halibut fleet harvested 5.2 million pounds in 61 days with 360 vessels. In 1986, 11.2 million pounds of halibut were harvested off British Columbia in 15 days with 355 vessels. Even with a form of limited access, the British Columbia fishermen saw a contraction in season length at a time of expanding quotas. A major factor contributing to this contraction was the introduction of an unrestricted input -- the highly efficient circle hook. Further shortening of seasons may be expected if the B.C. fleet adopts other gear efficiencies, such as auto-longlining, on a large scale.

It might be possible for a license limitation system to restrict all inputs or dimensions of harvest effort, but such a system would have to limit the number of licenses issued, the size of vessels, engines and crews, restrict the time and area of harvest, and regulate harvesting and electronic gear. Administration and enforcement of such a regime would be prohibitively expensive.

In general, the administrative costs of a license limitation system will depend on access criteria: if all participants are allowed access, administration will entail the creation and maintenance of a permit holder recordkeeping system; if participants are ranked according to historical participation, and, especially, if some participants will not be allowed access, a complex system for scoring, awarding, and administering will need to be established.

Conclusion

A license limitation system, therefore, has the following advantages: It is well understood by the industry and there is precedent in the Alaskan fisheries for imposition of such a system. A cap on licenses will potentially "freeze" the rate of overcapitalization and prevent the worsening of the difficulties arising from the open access nature of the fishery. Fixing the fleet size at current levels avoids the immediate problem of fleet size reduction and its attendant economic and social consequences. Under a successful buy-back program fleet overcapitalization may be reduced and an orderly rationalization of the fishery may occur. Enforcement of the permit system is straightforward.

License limitation has the major disadvantage, however, that a cap on licenses (or even a reduction in licenses) may not correct the fundamental problem motivating imposition of limited access since harvesters may add gear, invest in more efficient gear, or otherwise increase catching capacity; in short, overcapitalize the individual fishing operation instead of overcapitalizing the fleet. Controls on other inputs such as gear, vessel size, horsepower, etc., create an administrative system which is burdensome and impractical.

Individual Transferable Quotas

Before implementation, several issues relating to the establishment and administration of the system of management by individual transferable quota must be resolved. Initial concerns are the determination of the scope of the system and the mechanism for determining the initial allocation of quota. Questions of administration -- how the overall quota level is established, how it might be adjusted, and how the market for quota would be expected to

develop -- also need to be addressed. Last, problem areas specific to an ITQ system need to be discussed.

Scope

The first decision to be made is one of application, that is, what fishery or fisheries will be placed under the system. For example, two well known southern hemisphere ITQ systems are the Australian southern bluefin tuna fishery and the New Zealand groundfish fishery. The first is limited in scope to bluefin tuna while the latter encompasses all marine species. The examples presented at the end of this section assume that the scope of the system is the British Columbia sablefish fishery.

Initial allocation

The next question, and certainly the most difficult and controversial, is how an initial allocation of quota (a distribution of quota shares) is to be made. Shares may be based on historical catches, investment, years of participation, other measures of past fishery performance, or some combination of these factors. In practice it may be useful to explore several options for initial distribution with allowance made for public review and comment. One particularly effective method has been to solicit the industry's preferences, determine the "best" set of alternatives, and, for each of those alternatives, for each potential participant in the program, calculate the initial quota. The potential participants are then mailed the results of the simulation for review (D.F.O., 1987).

Since the initial allocation is the only time that management intervenes in the individual allocation process and since an initial allocation is in itself an assignment of harvest rights or "wealth," the allocation process involves much public discussion and debate. That process may, therefore, last a year or more.

The market for quota

Once initial assignment of quota occurs, a market where quota is traded will develop. If an operator determines that his initial allocation is insufficient relative to his current needs he will attempt to purchase or lease quota from an operator who has excess quota. Conversely, if, during the fishing year, the fisherman discovers that he has quota in excess of his needs he may offer that quota for sale or lease.

Given that quota needs to be traded on an orderly and timely basis some system of exchange will develop. One possibility is that fishermen will organize to create a market for quotas. Another is that some third party will create (and charge for) a quota exchange. A third possibility is that the government or the management agency will develop a trading system where individual shares may be bought, sold, and leased.

A government trading system has been developed in New Zealand. In that country the system is much like a brokerage for commodities such as grain and precious metals. Processors and fishermen access the commodity exchange via computer terminal and are able to conduct transactions in real time. Some fishermen even have computer terminals on the fishing vessel so that, should

they encounter a target of opportunity while fishing, but not hold quota for that species, they can purchase additional shares while on the grounds. Likewise, should the bycatch rate in a particularly profitable fishery become such that bycatch quota will be exhausted, they may purchase additional shares of the bycatch species to allow continuation of the target fishery.

The flexibility engendered by rapid and orderly quota adjustment is the primary advantage of an ITQ system. The management agency need not regulate bycatch rates, individual vessel performance, gear limitations or restrictions, short seasons, etc. This is because the market for quota reflects the current and correct value of the various species at all times. The management agency need only concern itself with maintenance of the overall quota and with enforcement.

Control of the overall quota

Setting a total quota for a species under an ITQ system is no different than the current Council approach to the annual establishment of a TAC. As stated earlier, quota shares may be either rights to harvest some fixed proportion of the catch in a fishery, for example 1% of the TAC, or they may be some fixed amount of catch, such as 100 mt. For the former, quota adjustment is straightforward; the TAC is set annually and the fisherman becomes entitled to a quota equal to the TAC multiplied by his share percentage. Obviously, the amount of quota rises and falls with the TAC, lending some uncertainty with regard to future harvest levels, and with regard to the value of the quota held.

Under a fixed amount system the individual harvest allowed may change should the TAC change. Should the biomass of a species increase such that an increase in quota is warranted, the management agency can make additional quota available for purchase. The situation where declines in the stock lead to a reduction in quota is much more difficult to manage. One possibility is an across-the-board reduction in the value of a quota share in proportion to the quota reduction. For example, if it is necessary to reduce the overall TAC for a stock of fish by 10%, all shares which are currently equal to 1 mt of sablefish would be worth 0.9 mt after the reduction. This value adjustment is analogous to changes in the value of holdings due to currency fluctuations or to a loss of real value through inflation. Another mechanism for quota reduction, when amounts are fixed, is for either the management agency or an industry association to purchase and remove from the market quota excess to the new biological limit to harvest.

In New Zealand, the government has purchased and held quota when reduction has been necessary. This is possible, philosophically, because the government assumed property rights to the resource, viewing the fishing fleet as lessees of those rights. It is possible, operationally, because the government made a financial commitment to fund the administration of the program and to make funds available for quota buy-back (Crothers, 1987).

Recently, in Australia it became necessary to reduce the quota for southern bluefin tuna for 1987 by devaluing the value of a quota "unit" (Robinson, pers. comm.). Since that country's government had made no philosophical or financial commitment to holding quotas, and since the reduction proposed was in the order of 21%, the situation seemed grim; however, the Australian Tuna

Boat Owners' Association intervened by purchasing the excess quota. Should the quota subsequently increase, the association plans to release the held quota to its members.

Thus, in terms of both the individual and overall quota, the individual transferable quota system allows orderly and timely adjustments. This is the strength of the system. At the same time, imposition and maintenance of an ITQ system presents a somewhat unique set of problems,[11] which are discussed below.

Administration

Relative to the commitment of the government or management agency to holding and trading quota, some institutional arrangement for quota transactions will need to be established. If the commodity market for quota is publicly held (i.e., a government agency), the public will incur the cost of a large and complex administrative system for managing the quota. In the case of the Alaskan fisheries it will be necessary to create an entirely new infrastructure capable of handling real time purchase/sale/lease of quota, of providing accurate and timely information to the fishermen concerning quota availability and price, and capable of providing real time accounting of the flow of fishery products from fishermen to processors to wholesalers. Clearly, this will necessitate an extensive computer terminal network. Such a system will not only be expensive but will require considerable time and effort for installation and performance evaluation.

It is also possible, in the absence of government intervention, for a quota trading agency to arise. In this case the public would not bear the administrative cost of the system but fishermen would, presumably, have to pay a commission on all transactions. Under the private commodity market alternative it will still be necessary for the management agency to have access to the accounting part of the system to give the enforcement authority the ability to monitor "paper" versus actual performance.

Offsetting the increased costs necessary for system administration will be cost reductions for preseason and inseason management, since, in general, less management intervention will occur.

Enforcement

Given a quota tracking system, processing performance can be monitored. The crucial enforcement issue under an ITQ system, however, is at-sea enforcement at the harvesting level. First, in terms of target quota, there will be a tendency to overharvest the quota, particularly for high-valued species. This may be dealt with by fines, forfeiture of overage, reduction of an ITQ for an overage in a preceding year, or by some allowance for harvest over quota.[12]

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11. See Copes, 1987, for a more complete discussion of practical problems under an ITQ system.

12. New Zealand, for example, allows vessel to land 110% of its quota with the excess quota forfeited to the government. The quota for that species for that vessel is then reduced in the following year.

Second, there is a tendency to "high-grade," that is, discard smaller sized or lower valued fish over the side so as to maximize the value of the landed catch. High grading is not unique to a fishery managed by ITQ but the fact that all fish will be counted against quota when landed leads to its prevalence.

Third, the problem of incidental catch or bycatch may be exacerbated by an ITQ. In one sense there may be no bycatch problem under an individual transferable quota system since all species may be subject to quota and since the share price will appropriately reflect the value of that fish, be it a target species or a bycatch species. In practice, however, it will be necessary to count the bycatch species at sea as there will be a tendency to discard bycatch whether retention is allowed or whether discard is required. Administrative and enforcement problems under an ITQ system are not qualitatively different than those under conventional management. However, the cost of the administrative and enforcement systems may be considerably greater than under conventional management if the government manages the quota market and if discard of incidental catch is allowed. If the market for quota is privatized, government administrative costs may be similar to status quo costs.

An Example

The most difficult issue in establishing an ITQ management system, however, will be the initial allocation of quota shares. A set of examples from the proposed ITQ system for sablefish off British Columbia is presented to illustrate some of the possibilities for initial allocation.[13]

Suppose initial allocations are to be based on an individual's

1) past performance (historical catches),
2) past participation (days fished),
3) past investment (using a proxy for investment of boat length),

or,

4) that shares should be equally divided among all potential participants.

The proposed ITQ system for the British Columbia sablefish fishery selected four alternatives for initial allocation of quota shares. The alternatives used one or more of the four considerations listed above and are:

1) 100% performance - initial share distribution is based entirely on past performance using the last four years of catch for each boat (1983-86), selecting the two best years from that four-year record, and computing the average annual catch from the best two years.

2) 73% performance, 27% equal - 73% of the ITQ is based on a share as calculated in 1), while 27% of the quota is distributed equally to all license holders.

13. Taken from: Department of Fisheries and Oceans, Canada. 1987. "Fishermen's Discussion paper on Individual Transferable Quota (ITQ) in the Sablefish Fishery," unpub. mss., 12 pp. (March).

3) 77% performance, 13% participation, 5% investment, 5% equal - past performance, as calculated above, accounts for 77% of the initial share of the quota; 13% is based on participation using the total number of days fished between 1983 and 1986 in relation to the total days fished by the entire fleet over the same period; 5% is based on investment by computing the vessel's "share" of total boat length; the remaining 5% is shared equally among all licensees.

4) 40% performance, 20% participation, 20% investment, 20% equal - as in 3) except the relative weighting of performance, participation, investment and equal shares is modified as indicated.

The Canadian discussion paper continues by calculating the initial quota allocation for each vessel in the fishery (48 licensees) for each of the four scenarios, producing a table of allocations unique to each vessel. The vessel owners were then mailed an individualized copy of the discussion paper. The results for a representative vessel are reported below.

Table 1. Vessel Description
Length: 21.0 meters, 69'[1/]

	Catch History				
	1983	1984	1985	1986	Average
Days fished	62	88	51	45	62
Catch, mt	33.68	77.43	42.25	29.31	45.67

Best 2 years, catch, mt - 77.43 (1984); 42.25 (1985)
" average - 59.84
" share - 1.1%

1. Taken from Table 1. op. cit., p.5.

Table 2. Initial allocations for vessel above under four alternatives[1/]

	Alternative[2/]			
	1	2	3	4
Vessel Quota (ITQ), mt	34.37	27.84	29.93	44.76
Gain/(Loss), mt (compared to 1986)	5.06	(1.47)	0.62	15.45
Gain/(Loss), percent	17.3%	(5.0%)	2.1%	52.7%

1. Taken from Table 2, op. cit., p.5.
2. See text for a discussion of the four alternatives examined.

The hypothetical vessel described in Table 1 tends to gain the most (relative to 1986) under Alternative 4 (40% performance, 20% participation, 20% investment, 20% equal), and lose the most under Alternative 2 (77% performance, 13% participation, 5% investment, 5% equal) (Table 2). That vessel would most likely favor Alternative 4. It is not yet known what alternative, if any, the majority of Canadian license holders tends to favor.

Through exercises like this it may be possible for the industry to reach consensus for initial allocation of quota.

Conclusion

An ITQ system is adaptable to changes in the overall quota. It is one of the more direct harvest controls available to the fishery manager. Under ITQs, there would be greater freedom to determine both the level of harvest effort needed and the timing of the harvest since fishermen would only be entitled to catch an assigned share of the quota. Regulations on input such as vessel and gear would be unnecessary because there would be no incentive to bring more harvesting capacity to the fishery than that required to harvest a particular share. Fishermen and processors would be able to contract with one another to schedule deliveries in a manner that improves the marketing of the fish, reduces the cost of production, or both.

Quota share systems tend to lower the costs of production, both on the harvesting and processing sides, by stabilizing employment patterns and moderating the peak production periods that accompany many of our fisheries as currently prosecuted. These lowered costs would translate to increased competitiveness of American products in our own and world markets, which (other things being equal) would tend to help redress our fisheries trade imbalance. To the extent that year-round production is possible, the consumer would benefit from increased availability and possibly decreased price.

If the government manages the quota market, and if increased enforcement is necessary to ensure compliance, the administrative and enforcement costs borne by government may increase. A private market for quota would greatly reduce the potential administrative costs.

By reducing the incentive for fishermen to fish rapidly in order to increase his share of a fixed quota, the rate of harvest would be slowed and the effort which managers devote to inseason monitoring of the fishery could be reduced.

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GREENPEACE TESTIMONY BEFORE THE NORTH PACIFIC FISHERY MANAGEMENT COUNCIL REGARDING SABLEFISH MANAGEMENT IN THE BERING SEA/ALEUTIAN ISLANDS

Submitted to the
78th Plenary Session
North Pacific Fishery
Management Council

Anchorage, Alaska

September 24, 1987

Prepared by
Cindy Lowry
Alaska Field Representative

MY NAME IS CINDY LOWRY AND I AM THE ALASKA FIELD REPRESENTATIVE FOR GREENPEACE, AN INTERNATIONAL ENVIRONMENTAL ORGANIZATION WITH OVER 550,000 SUPPORTERS IN THE UNITED STATES, INCLUDING 1800 IN ALASKA. I APPRECIATE THIS OPPORTUNITY TO COMMENT ON OUR SABLEFISH MANAGEMENT PROPOSAL SUBMITTED FOR YOUR CONSIDERATION AT THIS COUNCIL MEETING. AS AN ORGANIZATION DEDICATED TO THE PROTECTION OF WHALE SPECIES, WE CONTINUE TO BE CONCERNED ABOUT THE LETHAL HARRASSMENT OF KILLER WHALES (ORCINUS ORCA) DURING THE BLACK COD (SABLEFISH) FISHERY.

WE PROPOSE A ONE YEAR EXPERIMENTAL CLOSURE OF BLACK COD LONGLINING LIMITED TO THE AREA SOUTH OF 55 DEGREES (UNIMAK PASS) NORTH LATITUDE AND EAST OF 168 DEGREES (UMNAK ISLAND) WEST LONGITUDE ON THE BERING SEA SIDE. THE CLOSURE DATES WOULD BE FROM JANUARY 1 THRU DECEMBER 31, 1988, WITH AN EVALUATION OF THE EFFECT OF THE CLOSURE AT THE COUNCIL'S FALL 1988 MEETING. WE ARE NOT RECOMMENDING ANY OTHER CLOSURES AT THIS TIME, HOWEVER, THERE ARE OTHER AREAS OF REPORTED KILLER WHALE/BLACK COD FISHERY CONFLICTS THAT WE WILL CONTINUE TO MONITOR.

KILLER WHALE DEPREDATIONS ON BLACK COD LONGLINE FISHERIES HAS BEEN A SERIOUS PROBLEM FOR FOREIGN VESSELS IN ALASKA SINCE THE EARLY 1960'S AND MOST RECENTLY WITH THE AMERICAN FLEET. WITH THE PHASE OUT OF THE JAPANESE BLACK COD FISHERY, THE AMERICAN FLEET HAS INHERITED THE DIFFICULTIES WITH KILLER WHALES AND THE FINANCIAL LOSS DUE TO DEPREDATIONS HAS BEEN ESTIMATED BETWEEN $1 AND $2 MILLION/YEAR INDUSTRY WIDE. THE PROBLEMS HAVE OCCURRED PRIMARILY IN THE BERING SEA/ALEUTIAN ISLANDS AND WITH THE EXPANSION OF THE FISHERY, THE CONFLICT WITH THE WHALES CONTINUES TO GROW IN FREQUENCY AND INTENSITY.

FRUSTRATED FISHERMEN HAVE RESORTED TO SUCH TACTICS AS SHOOTING KILLER WHALES AND USING HIGH POWERED EXPLOSIVES TO DETER THEM FROM THEIR CATCH. IN MAY 1986, THE CONFLICT BECAME MORE EVIDENT WHEREBY KILLER WHALES THAT HAD BEEN SEEN WITH BULLET WOUNDS IN 1985 WERE NOW MISSING AND PRESUMED DEAD. WHILE A MODIFICATION OF THE CERTIFICATE OF INCLUSION PERMIT WAS MADE LAST YEAR WHICH PROHIBITS THE USE OF FIREARMS AND EXPLOSIVES ON KILLER WHALES, IT HAS BEEN VIRTUALLY INEFFECTIVE TO STOP THIS FORM OF LETHAL HARRASSMENT BECAUSE OF THE UNENFORCEABILITY PROBLEM.

FURTHERMORE, I MAKE REFERENCE TO RICK STEINER'S JULY 1987 REPORT ON DOCKSIDE INTERVIEWS AT DUTCH HARBOR REGARDING KILLER WHALE-LONGLINE INTERACTIONS, A COPY OF WHICH I SUBMITTED ALONG WITH MY PROPOSAL TO THE COUNCIL. UNDER THE SECTION REGARDING "DETERRENT TRIED," IT STATES THAT "SEVERAL, POSSIBLY MOST, VESSELS HAVE SHOT AT WHALES IN ATTEMPTS TO DETER THEM." AND THAT "AT LEAST A COUPLE HAVE REPORTEDLY BEEN KILLED."

THE OBJECTIVE OF AN EXPERIMENTAL CLOSURE IS THAT IT IS OUR UNDERSTANDING THAT THIS IS THE PRINCIPAL AREA OF CONFLICT AND MIGHT EFFECTIVELY REDUCE THE FREQUENCY OF INTERACTIONS IF THE FLEET SPREADS OUT OVER A WIDER AREA. THE CLOSURE WOULD ALSO HELP TO DETERMINE IF THIS HIATUS WOULD BREAK THE WHALE'S BEHAVIOR. IN ADDITION, THIS TIME PERIOD WOULD GIVE FISHERY MANAGERS AN OPPORTUNITY TO DEVELOP A SYSTEM TO ACCURATELY ESTIMATE THE AMOUNT OF FISH BEING CONSUMED BY THE WHALES. MANAGEMENT AGENCIES SUCH AS THE NATIONAL MARINE FISHERIES SERVICE (NMFS) WOULD ALSO BE ABLE TO EXPERIMENT WITH BENIGN DETERRENTS.

SOME POSITIVE ASPECTS OF A CLOSURE WOULD INCLUDE THE ELIMINATION OF WHALE/FISHERY INTERACTIONS AND UNENFORCEABLE ILLEGAL HARASSMENTS OF WHALES IN THAT AREA, AS WELL AS, REDUCE THE IMPACTS OF WHALES ON THE RESOURCE. THE ECONOMIC HARDSHIP DUE TO WHALE DEPREDATIONS WOULD BE ELIMINATED BY ENCOURAGING THE LONGLINE VESSELS TO EXPAND WEST OF 168 DEGREES AND EXPLORATION OF NEW GROUNDS WHERE WHALE INTERACTIONS MIGHT BE LESS FREQUENT AND SIGNIFICANT.

THE ARGUMENT MAY BE RAISED THAT A CLOSURE IN AND OF ITSELF IS AN ECONOMIC HARDSHIP TO THE FISHERMEN, HOWEVER, WE DON'T FEEL THAT WOULD BE A VALID STATEMENT SINCE THE VESSELS WILL STILL BE ABLE TO CATCH THE SAME QUOTA BUT IN ANOTHER GEOGRAPHICAL AREA.

AS WE HAVE STATED BEFORE, OTHER AVENUES HAVE BEEN EXHAUSTED TOWARDS MITIGATING THIS CONFLICT. GREENPEACE ACTIVELY WORKED WITH NMFS DURING THE MODIFICATION OF THE CERTIFICATE OF INCLUSION PERMIT PROCESS AND HAVE SUBMITTED PROPOSALS TO THE ARCTIC RESEARCH POLICY COMMISSION REQUESTING FUNDING SPECIFICALLY FOR EXPANDED RESEARCH INTO THE RESOLUTION OF THE CONFLICT. WE HAVE ALSO LOBBIED FOR MORE MONEY TO GO INTO EFFECTIVE ENFORCEMENT PROGRAMS REGARDING THIS AND OTHER FISHERY/MARINE MAMMAL CONFLICTS. AT PRESENT, NO NEW FUNDING FOR EXPANDED RESEARCH INTO THIS PROBLEM HAS COME FORTH FROM ANY AGENCY.

AGAIN, NMFS IS VIRTUALLY INEFFECTIVE IN ENFORCING ILLEGAL HARRASSMENT OF KILLER WHALES. I MADE REFERENCE IN MY PROPOSAL OF A WITNESS WHO INFORMED ME DURING THIS PAST SUMMER'S BLACK COD FISHING SEASON OF A SKIPPER SHOOTING AND KILLING A KILLER WHALE. WHILE THE WITNESS WAS COOPERATIVE AT FIRST AND WANTED US TO INFORM NMFS OF THE INCIDENT, THE PERSON LATER DECIDED NOT TO SUBMIT A REPORT ON THE KILLING OF THE WHALE. WITHOUT AN EFFECTIVE ENFORCEMENT PROGRAM OR RELIABLE WITNESSES, NMFS CANNOT

ENFORCE THE REGULATIONS THEY ARE ENTRUSTED TO IMPLEMENT. WHILE THE MODIFICATION OF THE CERTIFICATE OF INCLUSION PERMIT WAS CERTAINLY A STEP IN THE RIGHT DIRECTION, OUR CONCERN IS THE FACT THAT IT IS UNENFORCEABLE. THEREFORE, WE ARE ASKING FOR A ONE YEAR CLOSURE.

THE FISHING INDUSTRY AND THE CONSTITUENCY GREENPEACE REPRESENTS BOTH DESIRE THAT A RESOLUTION TO THIS PROBLEM BE FOUND. THIS PROBLEM HAS CAUSED NEGATIVE PUBLICITY FOR THE FISHERY AS A WHOLE AND A PUBLIC IMAGE PROBLEM THAT COULD EVENTUALLY LEAD TO A SIGNIFICANT CUTBACK IN THE FISHERY IF IT IS NOT RESOLVED. CLEARLY, BOTH WHALES AND FISHERMEN ARE BEING ADVERSELY AFFECTED. A MANAGEMENT SOLUTION SEEMS TO BE THE ONLY VALID RECOURSE TO BE UNDERTAKEN AT THIS TIME.

IN THE MEANTIME, RESEARCH INTO POSSIBLE NON-HARMFUL DETERRENTS NEEDS TO BE GREATLY EXPANDED IN A MULTI-DISCIPLINARY FASHION. GREENPEACE HAS EXPRESSED OUR WILLINGNESS TO PARTICIPATE IN A FORUM DIRECTED TOWARDS FINDING A SOLUTION TO THE PROBLEM WITH FISHERMEN, RESEARCHERS, AND AGENCY MANAGERS. WE FEEL THAT IN THE LONG TERM, THIS PROPOSAL WILL BENEFIT THE FISHING INDUSTRY, THE GENERAL PUBLIC, AND ABOVE ALL, THE KILLER WHALE POPULATION.