



UNITED STATES DEPARTMENT OF COMMERCE  
National Oceanic and Atmospheric Administration  
NATIONAL MARINE FISHERIES SERVICE  
Silver Spring, Maryland 20910

MAY 5 1995

MEMORANDUM FOR: Distribution\*

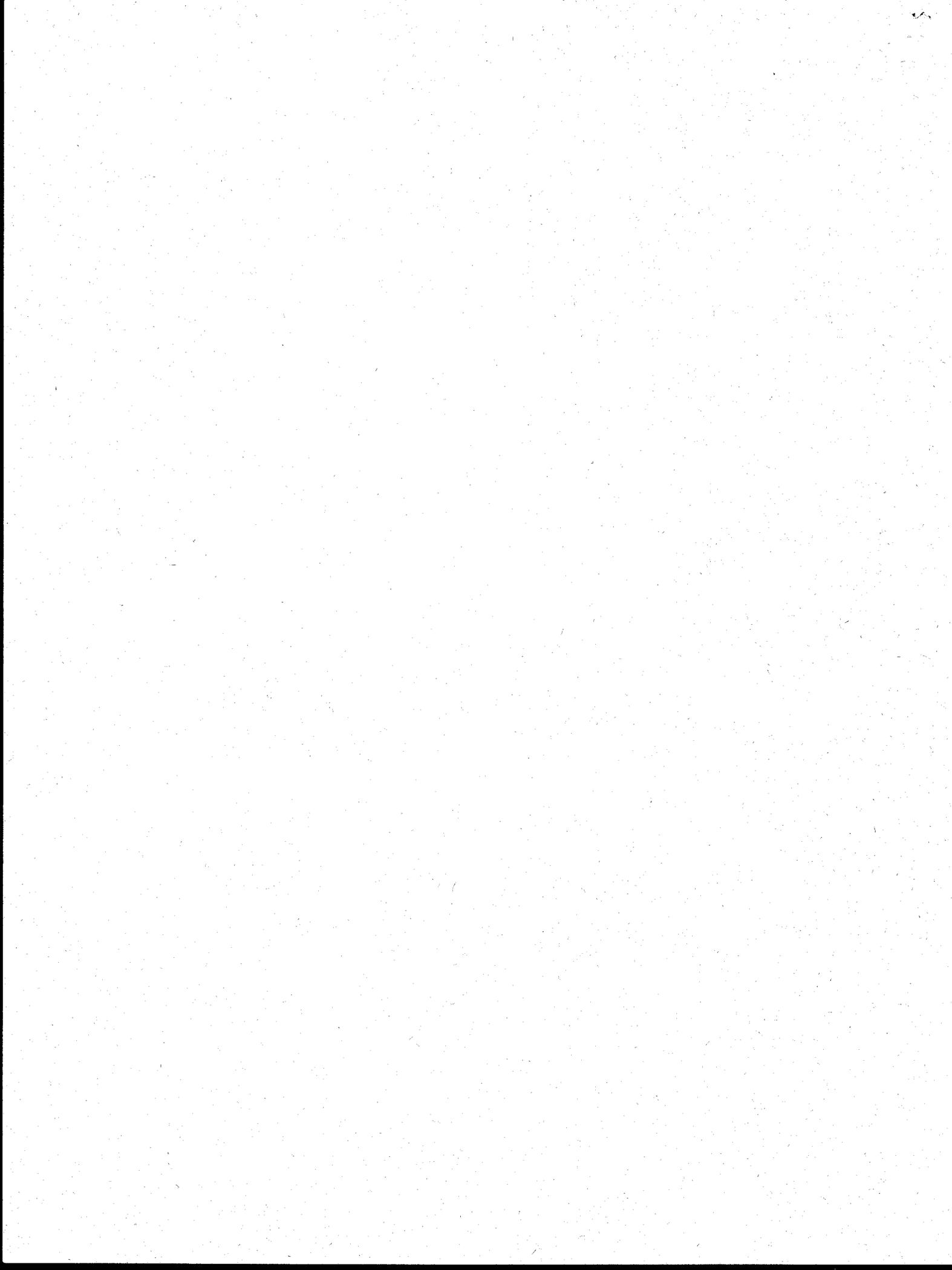
FROM: *for* *Dan A. Nays*  
George H. Darcy  
Chief, Plans and Regulations Division

SUBJECT: Revised Amendment 28 to the Fishery Management Plan for Groundfish of the Gulf of Alaska, Revised Amendment 23 to the Fishery Management Plan for the Groundfish Fishery of the Bering Sea and Aleutian Islands Management Area, and Revised Amendment 4 to the Fishery Management Plan for the Commercial King and Tanner Crab Fisheries in the Bering Sea and Aleutian Islands Area

Attached are the subject revised amendments and associated documents prepared by the North Pacific Fishery Management Council (Council) for formal review under the Magnuson Fishery Conservation and Management Act (Magnuson Act). The three revised fishery management plan (FMP) amendments would establish a 3-year moratorium on the entry of new vessels into the groundfish fishery of the Gulf of Alaska and the Bering Sea and Aleutian Islands (BSAI) and the king and Tanner crab fishery of the BSAI. The purpose of the moratorium is to curtail increases in harvesting capacity and provide industry stability, while the Council assesses long-term management alternatives for its comprehensive management plan.

The Council's original moratorium proposal was disapproved by the National Marine Fisheries Service on August 5, 1994, because certain provisions would have allowed significantly more vessels to qualify for a moratorium permit than normally participate in any year, thereby undermining the purpose of the moratorium. Section 304(b)(3) of the Magnuson Act provides the Council an opportunity to revise its disapproved moratorium FMP amendment and submit the revised proposal for expedited review. The Council revised its original moratorium proposal by revising the qualifying period, removing the halibut and sablefish longline fisheries from the moratorium, and substituting the appeals procedure developed for the individual fishing quota program for a special moratorium appeals process.





Please provide your comments (including "no comment") by June 2, 1995. If you have any questions, please call Cathey Belli at (301) 713-2344.

Attachments

\* Distribution

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**SUPPLEMENTAL ANALYSIS FOR RESUBMITTAL**

**of the**

**PROPOSED MORATORIUM ON THE ENTRY OF NEW VESSELS INTO THE  
GROUND FISH AND CRAB FISHERIES**

**FOR**

**AMENDMENT 28 TO THE FMP FOR THE GROUND FISH FISHERY  
OF THE GULF OF ALASKA**

**AMENDMENT 23 TO THE FMP FOR THE GROUND FISH FISHERY  
OF THE BERING SEA AND ALEUTIAN ISLANDS**

**AMENDMENT 4 TO THE FMP FOR THE COMMERCIAL KING AND TANNER CRAB  
FISHERIES IN THE BERING SEA AND ALEUTIAN ISLANDS AREA**

**Prepared by  
the Staff of the North Pacific Fishery Management Council**

**Anchorage, Alaska**

**February 13, 1995**

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## SUPPLEMENTAL ANALYSIS FOR RESUBMITTAL

of

### VESSEL MORATORIUM

by

North Pacific Fishery Management Council

February 13, 1995

#### EXECUTIVE SUMMARY

1. The Council approved revisions to its proposed moratorium in response to concerns raised by the Secretary of Commerce. As requested by the Secretary, the Council (1) shortened the qualifying period from the original January 1, 1980 to February 9, 1992, to the revised January 1, 1988 to February 9, 1992; (2) eliminated halibut and sablefish fixed gear fisheries because they will be managed with IFQs beginning in 1995; (3) considered current participation in 1992-1994, but did not extend the February 9, 1992 cutoff date for basic moratorium qualification; (4) restricted crossover ability between fisheries during the moratorium and (5) revised the appeals process to be the same as for the sablefish and halibut IFQ program. As originally proposed, the moratorium will sunset three years from the effective date.

2. The Council's revisions reduce the potential fleet size from 13,350 vessels under the original moratorium to 4,144 vessels under the revised moratorium. Of the 4,144 qualified vessels, 255 qualified based on crab landings only, 231 based on crab and groundfish, and 3,658 based on groundfish only. Limits on upgrades in vessel size were retained from the original moratorium. The number of qualifying vessels is about 180% of the average number of vessels, 2,308 unique vessels, which operated each year 1988 through 1991 in the groundfish and crab fisheries.

3. By not extending the February 9, 1992 cutoff date to 1994, the Council eliminated 973 vessels, 494 of which were new to the fisheries. The remaining 479 vessels were not new to the fisheries, but were disqualified on the basis of the Secretary's requested revisions to the moratorium: the shortening of the qualification period and the elimination of halibut and sablefish fixed gear landings as qualifying criteria. The 973 vessels that were eliminated by not extending the cutoff date could have added substantial new capacity to the moratorium fisheries.

4. Crossovers between groundfish and crab fisheries are limited by the Council's revisions. Halibut and sablefish crossovers into groundfish and crab were eliminated, thus significantly reducing the problem. Crossovers between groundfish and crab fisheries, and vice-versa, were limited based on gear type or activity of the vessel during the secondary period of February 10, 1992 to December 11, 1994. Instead of 3,340 groundfish vessels having the opportunity to cross over into crab fisheries, there are now a maximum of 284 which could do so. The number of crab vessels which could cross over into groundfish has not changed, but is limited to only pot gear, unless the vessel also made groundfish landings with other gear types. The maximum number of crab vessels which could cross over, which have not already done so, is 179. The Council is comfortable with creating these limited crossover allowances. First, because crab abundance has declined recently and lucrative fisheries such as Bristol Bay red king crab have been closed, there will be little economic sense for groundfish vessels to invest in crab gear, especially in light of the fact that June 24, 1992 still is a prominent cutoff date for fishing histories for future limited entry (license limitation or IFQs). Second, though the more likely scenario is that some of the 179 crab vessels might gear up for groundfish, the June 24, 1992 cutoff date still serves as a deterrent to any major new investment. None of the options currently being considered by the Council for license limitation would recognize crossovers which occur during the moratorium years of 1995-1997.

5. Those crabbers that have crossed over were primarily in pot fisheries for Pacific cod. As such, the main impacts of increased capacity will be felt by the fixed gear portion of the Bering Sea cod fishery, or in the inshore cod fisheries in the Gulf of Alaska. Two mitigating factors of these focused crossovers are that (1) pot fisheries have been shown to be relatively clean fisheries in terms of bycatch, and (2) the Pacific cod resource is very abundant and 1995 quotas are higher than 1994.

6. The impacts of the Secretary disapproving the Council's revised moratorium could be devastating and certainly would not be risk averse. The analysis shows that about 245,000 vessels potentially could enter the groundfish and crab fisheries off Alaska. The impacts of the 1800-vessel difference between the moratorium fleet and the current participant fleet, and the minor number of crab vessels that may crossover into the cod fisheries, pale in significance compared to the impacts that would result from a pulse influx of vessels from distressed areas and fisheries elsewhere in the United States if no moratorium is in place.

7. Written and verbal policy statements by representatives of the Secretary identify risk-prone management and overcapitalization as priority concerns in fisheries around the nation. If by disapproving the Council's revised moratorium, the Secretary chooses open access to North Pacific fisheries over a limitation on potential capitalization, that decision could lead to pulse influxes of effort and a heightened potential for overfishing. Such a decision would run counter to the Secretary's stated goals of risk-averse management and reduced effort. Such a decision would show that little has been learned from the current emergency need to expend almost \$50,000,000 on aid to New England and the Pacific Coast now because of resource failures.

8. The Council believes the moratorium will achieve its short term goal of stemming the flow of outside capacity into North Pacific crab and groundfish fisheries, thus keeping the situation from worsening while a longer term comprehensive rationalization plan is developed. The Secretary also has accepted that goal for the moratorium. The Council believes the moratorium comports with its comprehensive fishery management goals and those in the fishery management plans.

9. The Council believes the moratorium is consistent with all the national standards including numbers 1, 4, and 5 which were the basis for the Secretary's earlier disapproval. The moratorium will in no way degrade the ability to achieve OY, it does not discriminate between residents of different states, it is fair and equitable and will promote conservation, and it will not allow efficiency to be degraded by a large influx of new capacity. A decision to not implement a moratorium would act in the reverse direction: It could lead to exceeding OY and overfishing, it does not promote conservation, and it will degrade efficiency as new effort enters the fisheries. That choice clearly is not consistent with the national standards.

## I. INTRODUCTION AND BACKGROUND

On June 24, 1992 the North Pacific Fishery Management Council (Council) approved for Secretarial review a moratorium on vessel entry into the groundfish, halibut, and crab fisheries in the North Pacific under Council jurisdiction. A proposed rule was published in the FEDERAL REGISTER by the Secretary of Commerce (Secretary) on June 3, 1994, nearly two years after the Council's action. The moratorium was disapproved by the Secretary on August 5, 1994, citing the following primary reasons:

1. **Qualification period** - The original qualification period approved by the Council was from January 1, 1980 to February 9, 1992. The Secretary notes in his disapproval letter that this lengthy period for moratorium qualification would allow potentially more vessels to participate in the fisheries than have done so recently. Many of these vessels participated during the early stages of the fisheries, are no longer active today, and could re-enter the already overcapitalized fisheries.
2. **Halibut and sablefish qualification** - The originally-proposed moratorium would have qualified vessels for entry into the groundfish and crab fisheries on the basis of landings of halibut or sablefish (fixed gear) during the qualification period. Because these two fisheries will be under the IFQ program in 1995, the Secretary felt that inclusion of these fisheries was unwarranted. It would allow significantly more vessels to qualify for the moratorium and to enter into the groundfish and crab fisheries than if such qualification were excluded.
3. **Consideration of current participation** - The Secretary's letter also requested that the Council at least consider current participation (vessels which entered the fisheries after the February 9, 1992 moratorium cutoff date) and provide a rationale for exclusion of these vessels. The disapproval letter noted that the Council should consider participation in 1992 and 1993, a period which partially covers that which has elapsed between Council action and Secretarial disapproval.
4. **Crossovers between groundfish and crab fisheries** - A primary concern noted in the Secretary's disapproval letter was the issue of crossovers; i.e., once qualified on the basis of any fishery, a vessel could move to any of the other fisheries covered by the moratorium. The Secretary's letter noted two problems with this: (1) allowing crossovers runs counter to the need to cap capacity in fisheries which already have been identified as overcapitalized by the Council, and (2) there is an equity concern in that a vessel which participated in one fishery, but never in the other, could cross over into the other during the moratorium, but a vessel with a steady participation history since 1992 would not be allowed to participate in that fishery.
5. **Appeals process under the moratorium** - Finally, the Secretary's disapproval letter noted that the moratorium as submitted by the Council contains a separate appeals procedure to resolve disputes regarding moratorium eligibility. The letter states that such an appeals procedure is not necessary, due to the appeals process already in place in conjunction with the sablefish/halibut IFQ program.

## II. SUMMARY OF COUNCIL'S REVISED MORATORIUM

At their September 1994 meeting, the Council considered the Secretary's disapproval of the moratorium, point by point, and developed a revised moratorium. This was revisited again in December 1994 and further revisions were made, specific to the crossover issue. The Council's revised vessel moratorium, submitted for Secretarial consideration, contains the following key elements (detailed rationale and supplemental analysis for the revised moratorium are contained in Section III):

1. The eligibility period for the moratorium will be January 1, 1988 through February 9, 1992 (as opposed to the original qualification period of January 1, 1980 through February 9, 1992).
2. Remove halibut and sablefish (fixed gear) from the moratorium when both species come under the IFQ program (i.e., landings of halibut or fixed gear sablefish will not qualify a vessel to participate in groundfish and crab fisheries).
3. Crossovers between groundfish and crab fisheries are restricted subject to the following rules: (a) a vessel which made qualifying landings in both fisheries (January 1, 1988 to February 9, 1992) may continue to fish in both fisheries; (b) a vessel which made qualifying landings in one fishery (groundfish or crab) may participate in the other using the same gear with which it made the qualifying landing, and (c) a vessel which made qualifying landings in one fishery, and then made a legal landing in period two (February 10, 1992 to December 11, 1994) in the other fishery, may continue in the other fishery but only with the gear used in that fishery in period two. (PLEASE REFER TO SECTION III OF THIS DOCUMENT FOR THE ACTUAL MOTION LANGUAGE).
4. The appeals process for the moratorium will be the same as for the sablefish and halibut IFQ program.
5. As originally proposed, the moratorium will sunset three years from the effective date.

Revised Plan Amendment language for each of the affected plans is included in Attachment 1.

#### Fleet Size Under the Revised Moratorium

Under the revised moratorium, 4,144 vessels will qualify based on landings from January 1, 1988 through February 9, 1992: 255 based on crab landings only; 231 based on crab and groundfish; and 3,658 based on groundfish only (Table 1). This is a very significant reduction from the potential fleet size of 13,507 vessels established in the original moratorium (13,350 vessels if revised data are used). As discussed in the original analysis, measures of capacity are extremely difficult to develop and implement. Realizing this, the Council chose to use vessel numbers as a surrogate for capacity and to limit changes in length by a "20% rule." This rule allows moratorium vessels less than 125' length overall (LOA) to be lengthened by 20% of the original qualifying length of the vessel, up to 125' LOA. Vessels 125' LOA or longer cannot be lengthened. Table 1 also presents length information for qualifying vessels.

Table 1: Moratorium qualified vessels by length and activity from 1/1/1988 - 2/9/1992.

	<35'	36-60'	61-90'	91-125'	126-190'	191'+	Total
Crab	22	22	52	99	50	10	255
Crab/ Groundfish	6	51	71	64	30	9	231
Groundfish	1,571	1,738	206	56	56	31	3,658
Total	1,599	1,811	329	219	136	50	4,144

### III. SUPPLEMENTARY INFORMATION FOR SPECIFIC PROVISIONS

The Council's response to the Secretary's disapproval partially depended on the information available to it at the September 1994 and December 1994 meetings. That information consisted of the April 28, 1994 Secretarial Review Draft of the EA/RIR/IRFA (EA) for the Proposed Moratorium on the Entry of New Vessels into the Groundfish, Crab, and Halibut Fisheries, and interpretations of the EA presented to the Council by its staff. Following the September 1994 Council meeting, additional data were requested and added into the original EA database. The results from the "new" data<sup>1</sup> were not available at the September 1994 Council meeting, but are included here when relevant. The data presented in the following section will be marked as "EA Data" or "New Data" to denote differences. Both data sets are included to show the information used by the Council and to provide the best information to the Secretary and the public during the review of the revised moratorium.

#### 1. **Qualification Period**

The Secretary indicated that the qualifying period chosen by the Council in the original moratorium "would have allowed fishing capacity, in terms of numbers of vessels, to increase significantly instead of being held roughly constant with that experienced in recent years." Recognizing this concern, the Council chose to tighten the moratorium qualifying period to January 1, 1988-February 9, 1992. The EA Data in Table 2, used by the Council in September, estimate that the number of participating vessels decreases to 8,016 from the 13,507 which would have qualified under the original January 1, 1980-February 9, 1992 qualifying period. Participating vessels include all vessels which made a landing of groundfish, crab and/or halibut.

Table 2: Effects of shortening the qualifying period.

Source	EA Data		New Data	
	1/1/80-2/9/92	1/1/88-2/9/92	1/1/80-2/9/92	1/1/88-2/9/92
Qualifying Period				
Participating Vessels	13,507	8,016	13,350	7,745

The New Data in Table 2 indicate that 13,350 vessels qualified using the earlier period and that 7,745 vessels participated during the new qualifying period, 271 fewer than shown by the EA Data. Thus the direct effect of shortening the qualification period alone is a reduction of about 5,500-5,600 vessels.

#### 2. **Halibut and Sablefish Fisheries**

The Secretary "... recommended no further Council effort to revise the moratorium with respect to including halibut . . . . The halibut fishery will be managed under the IFQ program approved last year." The Council concurred, noting that the halibut fishery was originally included in the moratorium because the Secretary had

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<sup>1</sup>Since early 1992, data available from ADF&G and NMFS have been updated and checked for accuracy. The original data contained some mis-identified vessels. Most of these have been corrected, which results in smaller but more accurate estimates of the number of qualifying vessels than in the original EA.

yet to approve the IFQ program. Because halibut will be managed with IFQs beginning in 1995<sup>2</sup>, the Council removed the halibut fishery from the moratorium at the September 1994 meeting. By doing so, all vessels which qualified strictly because of their participation in the halibut fishery no longer will qualify for the groundfish and crab fisheries. Using the same rationale as for halibut, the Council also removed the fixed gear sablefish fishery as a qualifying fishery. Trawl landings of sablefish in the new qualifying period still would qualify a vessel for the Council's revised moratorium.

Table 3 shows the effect of eliminating halibut and fixed gear sablefish. Of the 8,016 vessels shown by the EA Data to have fished in the groundfish, crab and halibut fisheries during the new qualifying period, 3,768 landed only halibut during that period. These vessels would not qualify under the Council's revised moratorium. Therefore, eliminating the halibut and sablefish fisheries from the moratorium would result in a pool of 4,248 qualifying vessels based on EA Data. A more precise estimate was unattainable in the EA because sablefish was treated as groundfish and no data were presented on the number of vessels which landed only sablefish.

The New Data show that a total of 3,601 fewer vessels will qualify in the revised moratorium if sablefish and halibut are dropped as qualifying fisheries. Of these, 3,508 vessels fished only in the halibut fishery, while 93 vessels fished for sablefish or sablefish and halibut, but did not make other groundfish or crab landings during the revised qualifying period. The result is that eliminating halibut and fixed gear sablefish, coupled with the shortened qualifying period, reduces the pool of eligible vessels to 4,144. This number is about 180% of the average number of vessels, 2,308 unique vessels, which operated each year 1988 through 1991 in the groundfish and crab fisheries.

Table 3: Effects of removing halibut/sablefish fisheries (in addition to shortening the qualifying period).

Source	EA Data	New Data
Qualifying Period	1/1/88-2/9/92	1/1/88-2/9/92
Total Including Hlbt & Sabl.	8,016	7,745
Halibut Only	3,768	3,508
Halibut and/or Sablefish Only	NA	93
Total Groundfish and /or Crab	4,248 <sup>†</sup>	4,144

<sup>†</sup>Includes vessels fixed gear sablefish vessels which in the original EA were included in the data as groundfish.

### 3. Current Participation

The Secretary asked the Council to consider participation in 1992 and 1993, to determine if all current participants should be included. The Council's general opinion is that it already considered "current participation" when making its final decision in June 1992. "Current" then was defined as up to February 9, 1992. Vessels entering the fisheries later were well noticed that their participation was highly speculative. The two years beyond February 9, 1992 constitute, in the Council's view, future participation relative to their original decision. Any perceived deficiency in the Council consideration of "current" participation is viewed as an artifact of the Secretary's delay in reviewing the moratorium. The Council therefore retained its original cutoff date of February 9, 1992. Nonetheless, the following is an analysis of the consequences of that decision.

<sup>2</sup>The IFQ program was recently upheld in Federal Court in which the plaintiffs were asking that the IFQ program be overturned. That decision is likely to be appealed.

Data available in September 1994 showed that 394 vessels had entered the fisheries for the first time after February 9, 1992. Of these, 343 fished halibut and 51 fished groundfish and/or crab. Of the 51 groundfish/crab vessels, at least 16 were under 26' and would have been able to fish during the moratorium under the small boat exemption. This leaves 35 'relevant' vessels that were thought to have newly entered the groundfish/crab fisheries. This was considered a minimum estimate because some of the "halibut only" vessels may have participated in groundfish and/or crab fisheries.

Data developed since September provide a better picture of current participation and the ramifications of Council revisions to the moratorium. For this discussion, "current participation" is defined as participation during February 10, 1992 through mid-June 1994, further abbreviated for convenience to 1992-1994.

Table 4 and Figure 1 show that 3,380 unique vessels participated in the crab and groundfish fisheries in 1992-1994 (excluding fixed gear sablefish). This number is less than, but not a simple subset of, the 4,144 vessels that would be moratorium-qualified under the Council's revised criteria. Of the 3,380 current participants, only 2,407 vessels are moratorium qualified. The other 973 vessels would not qualify if the February 9, 1992 cutoff is retained for the reasons discussed below, some having to do with shortening the qualifying period and deletion of halibut and sablefish landings.

Of the 973 non-qualifiers, 494 vessels appear to be new entrants with no prior history in the groundfish, crab, fixed-gear sablefish or halibut fisheries<sup>3</sup>. The remaining 479 vessels were disqualified as follows: 150 vessels fished groundfish and crab only in 1980-1987, and therefore were disqualified by the Council's decision to shorten the qualifying period to 1988-1992; 285 vessels were disqualified by the Council's decision to remove sablefish and halibut based landings; and the final 44 vessels fished only halibut in 1980-1987. Allowing those vessels into the fisheries could significantly increase capacity, as shown by their size composition.

Table 4: Current participation and the revised moratorium.

All revised moratorium eligible vessels	4,144
All current participants in crab and groundfish: 1992-1994 (halibut and sablefish vessels not included)	3,380
All revised moratorium eligible vessels which are also current participants	2,407
All current participants which are not qualified under revised moratorium	973
New entrants since February 10, 1992, i.e. would not qualify under the original or revised moratorium	494
Non-qualified current participants which fished crab or groundfish under original qualifying period (i.e. 80-87)	150
Non-qualified current participants which fished only halibut or sablefish under revised qualifying period	285
Non-qualified current participants which fished only halibut under original qualifying period (i.e. 80-87)	44

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<sup>3</sup>Some of these "new entrants" may be replacements of vessels which are qualified for the moratorium. The extent of moratorium vessel replacement cannot be estimated until the implementation of the program.

Figure 1 Summary of Moratorium Vessels and Current Participants

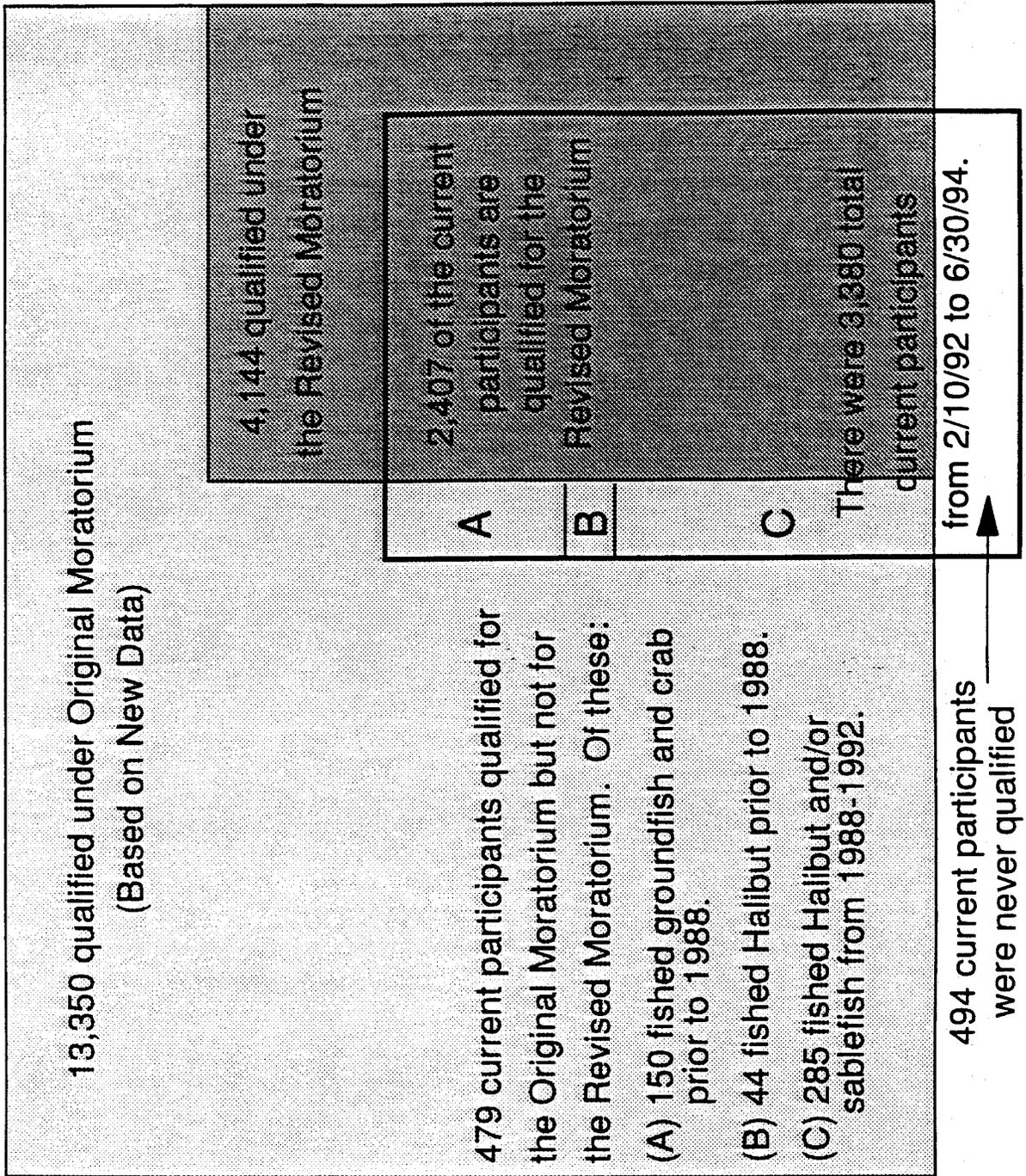


Table 5 shows the vessel lengths for the 973 vessels. Though many are less than 35' and may have been exempted in the BSAI, GOA, or both areas by the small boat exemption, a considerable number of larger vessels would be allowed to fish, including 11 over 126' LOA. Table 6 breaks out the 973 vessels in terms of the fisheries activities in 1992-1994. An important finding is that 936 of the otherwise unqualified vessels only made groundfish landings in 1992-1994. Many of these vessels could become full time participants in the fisheries even though they may have qualified by virtue of 'accidental/incidental' landings, for example, a few pounds of rockfish by a sablefish or halibut vessel, or a few pounds of Pacific cod by a salmon or herring fisherman. Many of the vessels in the 36-60' category may have been limit seiners with limited groundfish landings. These types of vessels could play a larger role in the already overcapitalized groundfish and crab fisheries if the cutoff date were extended to June 30, 1994.

Table 5: Length composition of current participants that do not qualify for the proposed moratorium.

	Vessel Lengths								Total
	0-26'	27-32'	33-35'	36-60'	61-90'	91-125'	126-190'	>190'	
Never Fished in Other Periods	241	81	10	122	18	11	8	3	494
Fished G'fish /Crab 1980 -87	10	37	18	69	12	4	0	0	150
Fished Halibut/Sable' 1988-92	57	49	14	149	14	2	0	0	285
Fished Halibut 1980-87	16	8	2	17	1	0	0	0	44
<b>Total</b>	<b>324</b>	<b>175</b>	<b>44</b>	<b>357</b>	<b>45</b>	<b>17</b>	<b>8</b>	<b>3</b>	<b>973</b>

Note: The activities are listed in hierarchical order (no duplicates are included).

Table 6. Fisheries of non-qualified current participants during 1992-94.

	0'-26'	27'-32'	33'-35'	36'-60'	61'-90'	91'-125'	126'-190'	191' +	Total
Groundfish and Crab	1	3	0	0	3	1	2	0	10
Groundfish Only	313	162	44	357	39	15	3	3	936
Crab Only	10	10	0	0	3	1	3	0	27
<b>Total</b>	<b>324</b>	<b>175</b>	<b>44</b>	<b>357</b>	<b>45</b>	<b>17</b>	<b>8</b>	<b>3</b>	<b>973</b>

#### 4. Crossovers

Another aspect of 'current participation' to be considered has to do with the issue of crossovers; i.e., the ability of qualifying vessels to enter into fisheries other than those in which they qualified, such as groundfish to crab or vice-versa, and between gear types within the groundfish fisheries. The Council's original moratorium allowed unrestricted crossovers for moratorium qualifying vessels. The Council stated in its original analysis that it was aware that unrestricted crossovers could lead to increased capitalization. The Council felt, however, that a crossover restriction would be highly allocative in its own right and was more appropriately addressed in the long term Comprehensive Rationalization Plan (CRP) to which they had committed. In evaluating the differential impacts of the various moratorium alternatives under consideration, the Council stated outright that the moratorium would not, in and of itself, solve the problem of excess capacity in the fisheries. Their primary goal was to cap the number of vessels, not determine which fisheries they could operate in nor restrict their flexibility to move between fisheries. In fact, considerable sentiment has been expressed in all limited entry discussions that fishermen should retain a "portfolio" of species so that they would have fishing opportunities even if one species

cycled downward. This turned out to be particularly prescient in light of the recent downturn in the Bering Sea crab stocks.

The Council recognized that vessels would be allowed to "crossover" from groundfish to crab fisheries, or vice-versa, as well as "crossover" between individual species within both the crab and groundfish fisheries. Again, the Council felt that the crossover issue was more appropriately dealt with in a more comprehensive fashion, where they might deal with it even on a species level. This is in fact the direction the Council is heading with development of a license limitation program which includes alternatives for very specific area/species licenses, perhaps based on participation prior to June 24, 1992.

Notwithstanding these arguments, the Council revisited the crossover issue at the December 1994 meeting with the intent of submitting a moratorium to the Secretary of Commerce which more fully addressed the concerns outlined in the August disapproval letter. That action by the Council, now forwarded as an integral part of the overall proposed moratorium, is summarized as follows:

1. A vessel that made a qualifying landing in the BSAI or GOA groundfish fisheries would be eligible to participate in the BSAI/GOA groundfish fisheries under the moratorium.
2. A vessel that made a qualifying landing in the BSAI crab fisheries would be eligible to participate in the BSAI crab fisheries under the moratorium.
3. A vessel that made a qualifying landing in the BSAI or GOA groundfish fisheries would be eligible to participate in the BSAI/GOA groundfish fisheries AND the BSAI crab fisheries under the moratorium providing:
  - (a) it uses only the same fishing gear in the BSAI crab fisheries that it used in the groundfish fisheries to qualify for the moratorium, and
  - (b) it does not use any fishing gear prohibited in the BSAI crab fisheries.
4. A vessel that made a qualifying landing in the BSAI crab fisheries would be eligible to participate in the BSAI crab fisheries AND the BSAI/GOA groundfish fisheries under the moratorium providing:
  - (a) it uses only the same fishing gear in the groundfish fisheries that it used in the BSAI crab fisheries to qualify for the moratorium, and
  - (b) it does not use any fishing gear prohibited in the BSAI or GOA groundfish fisheries.
5. A vessel that made a qualifying landing in the BSAI or GOA groundfish fisheries, and during the period February 10, 1992, through December 11, 1994, made a landing in the BSAI crab fisheries, would be eligible to continue to participate in the BSAI crab fisheries under the moratorium using the gear with which the crab landing was made.
6. A vessel that made a qualifying landing in the BSAI crab fisheries, and during the period February 10, 1992, through December 11, 1994, made a landing in the BSAI or GOA groundfish fisheries, would be eligible to continue to participate in the BSAI/GOA groundfish fisheries under the moratorium using the gear with which the groundfish landing was made.

## Purpose

This action still requires that a vessel had to have made a landing of either groundfish or crab in the basic qualifying period January 1, 1988 to February 9, 1992. This change in the revised vessel moratorium would allow limited crossovers of BSAI crab fishing vessels into the groundfish fisheries under the moratorium without those vessels having made qualifying landings in the groundfish fisheries. It also would allow limited crossovers of BSAI/GOA groundfish vessels into the BSAI crab fisheries without those vessels having made qualifying landings in those crab fisheries. For example, a vessel that made a qualifying landing in the BSAI crab fisheries using pot gear would be limited to using pot gear to harvest groundfish. Likewise, a vessel that qualified under the moratorium for a groundfish permit would be limited to using the same gear type it used in the groundfish fisheries to harvest crab as long as the gear was not prohibited in the BSAI crab fisheries. This limited crossover provision recognizes the similarity of the groundfish and crab fisheries in terms of pot fishing gear. It also would prevent a vessel from dramatically changing its configuration while the Council develops a comprehensive rationalization management program for groundfish and crab fisheries.

The primary intent of the Council's proposed crossover provisions is to limit the ability of groundfish vessels to cross over into already over-capitalized crab fisheries and vice-versa, and to limit the ability of groundfish vessels to cross over to different gear types within the groundfish fisheries. The Council feels that the most appropriate way to accomplish this within the proposed moratorium is with restrictions based on gear type. For example, only those groundfish vessels which qualified with pot gear for groundfish would be eligible to enter the crab fisheries (if not already qualified for crab). Conversely, the only groundfish fishery that a crab qualified vessel can enter is the pot fishery for groundfish, primarily the Pacific cod fisheries. However, the Council wished to recognize those vessels which have already crossed over into other fisheries as of the date of their action - December 11, 1994. For example, if a vessel qualifies for crab, it would be allowed to fish for groundfish with pot gear, and whatever other gear type it used between February 10, 1992 and December 11, 1994.

In terms of item number 6 above, the different gear types to be defined for purposes of the moratorium will be: (1) pot gear for crab, (2) pot gear for groundfish, (3) trawl gear for groundfish, and (4) hook and line gear for groundfish, which includes longline, jig gear, and troll gear. This will result in the following categories of moratorium permits:

- Permit #1: Crab pot/groundfish pot
- Permit #2: Crab pot/groundfish pot/groundfish trawl
- Permit #3: Crab pot/groundfish pot/groundfish hook
- Permit #4: Crab pot/groundfish pot/groundfish trawl/groundfish hook
- Permit #5: Groundfish pot/groundfish trawl/groundfish hook

There are various ways in which a vessel can qualify for the different moratorium permits. For example, Permit #1 would be given to any vessel which made only crab landings during the qualifying period (January 1, 1988 to February 9, 1992), though they have also made landings of groundfish with pot gear during the secondary period. The vessel would also receive the groundfish pot 'endorsement' which would enable it to cross over into the groundfish fisheries, but only with pot gear. Permit #2 could result from the same example as in #1, but

where the vessel also fished groundfish with trawl gear during the secondary period, from February 10, 1992 to December 11, 1994. Similarly, Permit #3 would result from the same situation, but where the vessel made only hook gear landings for groundfish during the secondary period.

Permit #4 could result in a few different ways: (1) a vessel made both crab and groundfish landings during the qualification period, in which case that vessel is free to use any legal gear type for groundfish under the moratorium, (2) a vessel landed only groundfish during the qualification period (so it gets all gear endorsements), but did so with pot gear which also gives it the crab endorsement, (3) a vessel made only crab landings during the moratorium qualification period (which also gives it the groundfish pot endorsement), but also made landings of groundfish with trawl and hook gear during the secondary period.

Permit #5 is the only one which does not include a crab endorsement and would result from a vessel which landed only groundfish during the qualification period with other than pot gear. This would entitle the vessel to all gear endorsements for groundfish, but no endorsement for crab. If that vessel landed crab during the secondary period, then it would receive the crab endorsement and would receive Permit #4. As is apparent, all moratorium qualified vessels will have the ability to fish groundfish with pot gear. The actual numbers of vessels in each of the aforementioned permit categories is shown in Table 7 below:

Table 7: Numbers of Moratorium Qualified Vessels by Permit Type and Length

Permit Type	0-35 ft.	35-60 ft.	61-90 ft.	91-125 ft.	126-190 ft.	191+ ft.	Total
1-Crab & Groundfish (Pots)	20	12	34	69	38	6	179
2-Crab & Groundfish (Pots and Trawl)	0	2	0	0	3	1	6
3-Crab & Groundfish (Pots and Hook)	0	1	4	10	0	0	15
4-Crab & Groundfish (Pots, Trawl and Hook)	70	248	129	92	48	17	604
5-Groundfish (Pots, Trawl and Hook)	1,509	1,548	162	48	49	24	3,340
<b>Total</b>	<b>1,599</b>	<b>1,811</b>	<b>329</b>	<b>219</b>	<b>138</b>	<b>48</b>	<b>4,144</b>

Table 7 shows the 4,144 qualified participants by Permit type. The vast majority of the vessels (3,340) will receive Permit #5 because they qualified by virtue of groundfish landings with other than pot gear, and did not participate in the crab fisheries in either the moratorium qualifying period or the secondary period. As such they will be limited to participation in only the groundfish fisheries under the moratorium and cannot crossover into crab fisheries.

Permit #s 1 through 4 are issued to the remaining 804 vessels. Of these, 604 will be Permit # 4 which will allow the recipient to participate in both crab and groundfish fisheries with all legal gear types. As seen in the Table there are several participation patterns which could result in Permit #4. Two hundred and thirty one (231) receive Permit #4 because they fished in both groundfish and crab during the moratorium qualification period. Fifty-five

(55) vessels receive Permit #4 because they participated in the crab fisheries during the qualification period, and then used both hook and trawl gear for groundfish during the secondary period (these vessels may also have used pot gear during the secondary period, but their crab landings would qualify them for groundfish pot gear anyway). Thirty-four (34) vessels receive Permit #4 because they crossed over into crab in the secondary period after qualifying for groundfish. Finally, 284 vessels have never made a landing in the crab fisheries but will receive Permit #4 because they used pot gear to land groundfish during the basic moratorium qualification period. Therefore, 284 is the number of vessels which could go into crab fishing which have never landed crab before; i.e., the number of potential crossovers from groundfish to crab. Under the original moratorium that number would have been 3,340.

The ability to crossover from crab fisheries to groundfish fisheries, or to crossover from one groundfish gear type to another, is more liberal under the proposed moratorium. Any vessel which qualifies by virtue of crab landings will be able to also fish groundfish, but only with pot gear. Any vessel which qualifies for groundfish, by virtue of a groundfish landing with any gear type, is entitled to fish for groundfish with any gear type under the moratorium. A groundfish landing with pot gear during the moratorium qualification period offers the vessel the greatest potential flexibility under the moratorium - they may fish any moratorium species, including crab, with any legal gear type. In terms of potential crossovers of crab vessels into groundfish fisheries, it is true that any crab qualified vessel may also fish groundfish with pot gear. They may also fish groundfish with other gear if they used that other gear type to land groundfish during the secondary period.

The remaining 200 vessels receiving Permit #s 1 through 3 did not participate in the groundfish fisheries during the moratorium qualification period. These vessels will be allowed to fish in the crab fisheries, and in the groundfish fisheries with gear restrictions. The 179 vessels receiving Permit #1 will be allowed to use only pot gear, and represent those vessels which may cross over from crab to groundfish under the moratorium. Permit #2 will allow the 6 vessels to fish for crab and to use pots and trawls for groundfish. Similarly, Permit #3 will allow the 15 vessels to fish for crab and to use pots and hook gear in groundfish fisheries. The Council wished to recognize the investment made by these vessels in the spirit of the original moratorium proposal which would have allowed these crossovers anyway.

In summary then, it is the 179 vessels in row 1 of Table 7 which represent the maximum potential future crossovers of crab vessels into the groundfish fisheries, and this is allowed only with the same gear type - pot gear. It is a maximum because some of those 179 vessels may have already used pot gear for groundfish in the secondary period. Again, vessels which have already crossed over in the secondary period will be limited to the gear type used during that time. The Council feels that the crossover provisions as proposed strike an appropriate balance between limiting further capacity increases by fishery and recognizing investments already made during the two and a half years since Council approval of the original moratorium. The moratorium as now proposed limits future crossovers between groundfish and crab fisheries, and limits crossovers between gear types for groundfish relative to endorsements earned during the secondary period. The Council believes that this moratorium preserves much of the flexibility for fishermen which was originally intended under the moratorium while also addressing the concerns of the Secretary relative to future crossovers and overall capacity in the fisheries. Finally, it also addresses the equity issue raised by the Secretary regarding vessels which would receive crab endorsements, for example, but have never fished crab, while other vessels which are currently fishing crab would not receive the same. The revised moratorium addresses that perceived inequity without compromising the basic moratorium eligibility period.

This action by the Council is quite restrictive to crossovers relative to the original moratorium proposal. It reduces the number of groundfish vessels which may potentially cross over into crab fisheries (from 3,340 down to 284) and limits the number of crab vessels which might cross over into groundfish to 179. The net effect is to significantly reduce the number of groundfish vessels which might enter depressed crab fisheries, while allowing fishermen in the depressed crab fisheries to diversify into groundfish. Many of the Bering Sea and

Aleutian crab stocks have declined recently. For example, the Bristol Bay commercial red king crab fishery will not open in 1994/1995, and *C. bairdi* Tanner crab will not open east of 163° W. Additionally, NMFS surveys have shown continued low abundance of marketable size *C. opilio*. Even during the past two years when crab stocks were more abundant, only 30 groundfish vessels crossed over into crab. All in all it seems unlikely that there would be much pressure for groundfish vessels to crossover into crab anyway.

Up to 179 crabbers could crossover into groundfish, but only with pot gear, and that would appear to be more likely than the reverse. It may make economic sense to convert crabbers into pot boats for groundfish, which will be allowed. Groundfish pot fisheries, however, are limited mainly to Pacific cod in the Gulf of Alaska or the Bering Sea and Aleutians. In the Gulf of Alaska, 90% of the cod quota is allocated to inshore fisheries, so that is where most crabbers would have to participate. Fortunately, the cod TAC in the Gulf of Alaska is much higher in 1995 than it was in 1994. Therefore, any increased capacity in the Gulf that results from a crab-to-cod crossover can be absorbed by a larger resource base.

In the Bering Sea and Aleutian Islands, the cod harvest level also has increased, from 191,000 mt in 1994 to 250,000 mt in 1995. If crab vessels crossover into the cod fishery in the Bering Sea, their main impact would be on that portion of the cod TAC that is assigned to the fixed gear fishery, 44% of the TAC. Because of this gear allocation, the impact of a crossover, at this time unknown in extent, at least would be confined to only one portion of the overall cod fishery, and would not impact the overall BSAI groundfish fishery. Again, it is unknown how many vessels would choose to invest in cod pot gear considering the likelihood of limited entry based on participation before June 24, 1992. Those that do would at least have a net increase in cod resource base Alaska-wide on which to fish in 1995 and perhaps beyond.

In summary, the crossover issue has been identified as a very critical issue by the Secretary of Commerce in considering whether to approve a revised moratorium. The proposed revisions to the crossover issue offered by the Council at this time appear to fully address the Secretary's concerns, while also accommodating the Council's desire to allow for some flexibilities for fishermen during development of a comprehensive management program.

In December 1994 the Council also considered, and rejected, the idea of applying the crossover provisions retroactively; i.e., to the period from January 1, 1980 to January 1, 1988, which was deleted as part of the basic moratorium eligibility period. For example, a vessel which fished crab during that period, then qualifies for the new moratorium by virtue of groundfish landings other than pot gear, would also receive the crab endorsement, much like the allowance of crossovers in the secondary period - February 10, 1992 to December 11, 1994. The Council received information that such a provision would allow an additional 71 vessels to qualify for the crab fisheries, 24 of which are greater than 90 feet in length. This would have also allowed an additional 17 vessels to qualify for groundfish. The additional capacity which would have been generated by this action, particularly for the crab fisheries, was contrary to the Council's moratorium goals and they rejected this action.

#### Transferability and Separability Considerations

Under the Council's original moratorium there would have been only one type of moratorium permit created, and it would have applied to both crab and groundfish fisheries, and to all gear types for groundfish. Transfers of these moratorium rights were intended to be allowed, subject to the upgrade restrictions, as long as the original vessel is retired from the fisheries. Under the revised moratorium proposed by the Council, the intent is to still allow such transfers; however, the creation of different 'endorsements' (such as groundfish, crab, or gear type) adds a complicating factor to the issue of transfers. For example, can a vessel which qualifies for various endorsements transfer one or more of those endorsements to another vessel? Because the overriding intent of the moratorium is to freeze the total number of vessels operating in the fisheries, such an allowance would be contrary to the moratorium goals as it would allow the potential for additional vessels, beyond the 4,144 which qualify, to enter the fisheries. Therefore, the intent of the Council is that a moratorium permit, regardless of the

endorsements it carries, may be transferable, but only as a whole, with the original vessel retiring from the fisheries upon transfer.

#### 5. Appeals Process Under the Moratorium

The Council agrees with the Secretary's finding that such a program would result in unnecessary duplication of costs, and perhaps result in violation of National Standard 7. The Council's revised moratorium proposes using the existing appeals procedure.

#### 6. Potential Effects of Having No Moratorium

The 4,144 vessels allowed under the revised moratorium still exceed the annual average of 2,308 vessels that participated in the fisheries in the past three years. This may seem large, but it really is not when compared with the number of vessels that would be allowed to participate in the absence of a moratorium. How many more vessels might enter the fisheries if there is no moratorium? The EA Data indicated that 15,709 unique vessels have participated in the groundfish, crab, and halibut fisheries since 1978. An additional 20,000+ vessels participated in salmon, herring, and other shellfish fisheries managed by the State of Alaska. In all, over 35,000 vessels have participated in the fisheries off the coast of Alaska since 1978.

Potential future entrants into Council-managed fisheries, however, are not limited just to those vessels which have fished previously in Alaska. Under the status quo open access, any vessel with 50% U.S. ownership may enter the fisheries. U.S. Coast Guard vessel documentation files show that over 232,000 vessels are currently documented.<sup>4</sup> USCG documentation is required for any vessel greater than 5 net tons (roughly 35' LOA). Approximately 50% of these are documented as recreational vessels. The remaining 100,000+ vessels are documented either for coast-wise trade or as fishing vessels and are potential entrants into the fisheries. Additionally, there are over 11 million vessels less than 5 net tons documented as "Motor Boats." If only 1% of these are considered fishing vessels (in Alaska 15% of "motor boats" are fishing vessels), then 110,000 more vessels are potential entrants in the North Pacific groundfish and crab fisheries.

In summary, the revised moratorium would result in a potential fleet of 4,144 vessels, about 1,800 more than the current participant fleet. This 1,800 vessel difference and the effects of the minor number of crab vessels that may move into the cod fisheries, pale in significance to the estimated 245,000 existing U.S. vessels which could potentially enter the fisheries from elsewhere if no moratorium is approved. Finally, as industry has testified repeatedly, the Council's action on the moratorium has essentially frozen investments in the construction of new fishing vessels. Eliminating the moratorium now could lead to a renewed surge of investment in fishing vessels, all of which could enter the groundfish and crab fisheries of the North Pacific.

#### 7. National Goals and Policies on Need to Address Overcapitalization

The Secretary's disapproval of the Council's moratorium appears to run counter to the Administration's own professed goals and objectives concerning the need to address overcapitalization in United States fisheries. These goals and objectives can be pieced together from various budget and policy statements, and from presentations made by representatives of the Department of Commerce.

NMFS has developed a "Strategic Plan for the Conservation and Wise Use of America's Living Marine Resources." Overcapitalization is identified as a key issue of national concern by NMFS in their report, "Our Living Oceans, Report of the Status of U.S. Living Marine Resources, 1992." The report states: "Many of our

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<sup>4</sup>Millilo, S., U.S.C.G. Personal Communication. 10/1994

fisheries, including both overutilized and fully utilized stocks, are overcapitalized. . . . Such overcapitalization is a major factor contributing to overutilization of a resource. Where fisheries are overcapitalized and performing poorly economically, short-term economic concerns tend to be given undue weight relative to the steps necessary to achieve the long-term biological and economic potential. The excess capital may maintain pressure to increase catch limits beyond potential yield levels, depleting the resource, and once depleted, preventing its recovery. Many of the other issues discussed in this report are aggravated by overcapitalization. For example, when there is an excess number of boats, fish allocation problems are exacerbated."<sup>5</sup>

NMFS' Strategic Plan calls for, among other things, ". . . risk-averse decisions in the face of uncertainty (i.e., decisions erring on the side of conservation, not resource depletion); . . . [and] controlled access to fisheries to reduce the tendency toward excess fishing capacity, economic waste, conflicts between user groups, and industry pressure to make 'risk-prone' decisions. . . ."<sup>6</sup> Many of these same themes are emphasized again in the 1993 edition of "Our Living Resources" from NOAA.<sup>7</sup>

NOAA's budget documents for FY 1995 describe its Strategic Plan and organizes NOAA's program responsibilities into two broad program portfolios -- Environmental Stewardship and Environmental Assessment and Prediction, and two other portfolios -- Cross-Cut Programs and Infrastructure. Building sustainable fisheries is a major goal under the Environmental Stewardship Portfolio. NOAA states that it ". . . envisions United States coastal areas with healthy ecosystems, wise human development, and safe and efficient maritime commerce. Investments in living marine resources management are critical aspects of this portfolio. Significant benefits will accrue from wise management and use of fishery resources. . . . In FY 1995, NOAA will emphasize meeting Administration commitments to implement conservation and management laws. In FY 1995, \$544.3 million are required to meet these commitments. This is comprised of \$258.8 million to Build Sustainable Fisheries . . . ." NOAA then states that in FY 1995, its ". . . efforts to **build sustainable fisheries** (original emphasis) will emphasize developing and implementing ambitious fishery management plans to address such problems as **uncontrolled access in fisheries, overcapitalization** (emphasis added), overfishing, controversial allocation decisions between various fishing groups, and wasteful incidental catch."<sup>8</sup> These same themes are re-emphasized in NMFS/NOAA budget requests for FY1996.

In a keynote address before the National Coalition for Marine Conservation's National Symposium on the Magnuson Act, March 8-10, 1993, Dr. William Fox, ex-Director of NMFS, stated that ". . . we must deal with Garrett Hardin's 'Tragedy of the Commons.' The way to do this is through controlling access to fisheries. The Councils are increasingly utilizing this important tool to rebuild fisheries and expand economic benefits. Where appropriate, we have urged the fishing industry and Councils to consider access-control programs to conserve the resources and reduce excess investment capital. Reducing excess capital generally improves the profitability of a fishery, creates jobs in the economy, and defuses the forces that lead to overfishing."<sup>9</sup>

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<sup>5</sup>NOAA, "Our Living Oceans: Report on the Status of U.S. Living Marine Resources," December 1992, NOAA Tech. Memo, NMFS-F/SPO-2, p. 17.

<sup>6</sup>Ibid, p. 23.

<sup>7</sup>NOAA. "Our Living Oceans: Report on the Status of U.S. Living Marine Resources," December 1993, NOAA Tech. Memo, NMFS-F/SPO-15.

<sup>8</sup>NOAA, Summary of the President's Budget, Fiscal Year 1995, February 7, 1994, p. 9.

<sup>9</sup>National Coalition for Marine Conservation, Inc., "Conserving America's Fisheries: Proceedings of a National Symposium on the Magnuson Act," New Orleans, Louisiana, March 8-10, 1993, Richard H. Stroud,

At a June 1994 conference on Fisheries Management - Global Trends, Rolland Schmitt, Director of NMFS, stated in his opening remarks that "The U.S. is fortunate to have large and diverse fishery resources throughout its EEZ of over 2 million square miles. But these valuable assets come with responsibility for conservation and wise use. As a nation, the U.S. can do better in fulfilling these responsibilities. Three specific problems that require attention are overfishing and **over-capitalization** (emphasis added), bycatch that results in wasteful discarding of fish, and habitat loss and environmental degradation that threatens the persistence of fisheries."<sup>10</sup>

Dr. Michael Sissenwine, Chief Scientist for NMFS, at the same conference, said that "... the legacy of open access, risk prone decisions and limitations in available scientific information is over-utilization and stock depletion for many fisheries (about 40%) . . . . Crude estimates indicate that U.S. harvesting capacity is more than twice the amount needed to fully utilize U.S. fishery resources. The economic performance of some fisheries is so poor that the Government is being called on to provide financial assistance . . . ." (Note: On March 30, 1994, the President designated \$30,000,000 from the earthquake supplemental unanticipated needs account for emergency assistance for the New England fishing industry and on May 26, \$12,000,000 was designated under Section 9135 of Public Law 102-396 to provide assistance to fishermen in the States of Washington, Oregon, and California.)<sup>11</sup>

Steve Pennoyer, NMFS Regional Director for Alaska, at the same conference went on to state that "The current open access management of the Alaska groundfish fisheries contributes to bycatch amounts that are greater than what is minimally needed to conduct the groundfish fisheries. Similarly, efforts to control bycatch are hampered by the intense competition for Alaska groundfish resources that result from over capitalization of the domestic groundfish fleet and increasingly short fishing seasons."

At a more recent symposium, October 27-28, 1994, Rolland Schmitt, Director, NMFS, stated that NOAA will strive for sustainable development of marine fisheries.<sup>12</sup> He noted that recent FAO reports show that worldwide costs of fishing exceed the returns and concluded that there were few if any other fisheries in world for overcapitalized fleets to turn to. Building sustainable fisheries, risk-averse management, and addressing overcapitalization were high on his list of priorities in the next few years.

These policy statements and goals indicate that NMFS and NOAA recognize a strong need to address overcapitalization and to bring fisheries under control before the government needs to spend millions of dollars on emergency economic aid to devastated areas. As will be discussed below, the moratorium is the first of a progression of steps to address overcapitalization in North Pacific groundfish and crab fisheries and thus comprehensively rationalize those fisheries for the benefit of the nation.

## 8. **Moratorium Goal**

The original analysis on which the Council based its decision in June 1992 states very clearly that "Under

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Editor, 1994.

<sup>10</sup>University of Washington, Seattle, Conference on Fisheries Management - Global Trends, June 14-16, 1994.

<sup>11</sup>Departments of Commerce, Justice, and State, the Judiciary, and Related Agencies Appropriations Bill, FY 1995 and Supplemental Appropriations Bill, FY 1994, Report 103-552, June 21, 1994.

<sup>12</sup>University of Washington, Conference accompanying the 75th Anniversary of the School of Fisheries, Seattle, October 27-18, 1994.

conditions of continued open access, it is anticipated that the industry and management problems will continue to build, threatening the ability of the Council to achieve optimum yield (OY) in the affected fisheries, from economic, biological and social perspectives. Thus, the Council is faced with a two-fold dilemma: (1) stemming the flow of additional, unneeded vessels and capital investment into the North Pacific EEZ fisheries; and (2) addressing the existent and emerging problems resulting from an overcapitalized fishing industry. The proposed moratorium is intended to address the first issue, stemming the flow of additional vessels and capitalization into Council-managed fisheries."<sup>13</sup>

The Council explained how the proposed moratorium relates to its comprehensive goals adopted in 1984, particularly goals 2, 3, 4, 5, and 7. It goes on to state on p. 1-13, that "... the Council's objective in this proposed amendment is to freeze the size of the current fleet and prevent speculative increases in capacity during the period that comprehensive limited access alternatives are being considered. While recognizing that overcapitalization and excess capacity are the underlying problems, the Council's near term actions are not expected to resolve these issues, so much as prevent a worsening of the situation." As summed up in Chairman Lauber's moratorium transmittal letter to the Secretary of Commerce, dated May 23, 1994: "The Council recognizes that the moratorium is only a holding action in a larger effort to stabilize and then reduce the flow of capacity into the fisheries off Alaska. The next steps toward full rationalization could include a license or individual fishing quota system, or a progression from licenses to IFQs over several years. ... Regardless of which system is ultimately chosen to rationalize the fisheries, the Council believes that the moratorium and its associated control dates must be implemented as soon as possible."

The Secretarial disapproval letter agreed with this objective, stating that "... there is a need to provide an interim freezing of the number of vessels currently involved in the groundfish and crab fisheries. Any other management regime that will effectively resolve overcapacity problems in the fishing industry, if approved, is still years away from implementation."

This direction is completely in line with the Administration's stated need to address overcapitalization. North Pacific fisheries have been managed very prudently and are still abundant compared to fisheries in other parts of the United States. Large scale fisheries are now defunct off New England and the Pacific Coast, and others already are under limited entry. Many vessel owners will be searching for other opportunities, particularly the abundant fisheries off Alaska. Earlier in this analysis, it was shown that potentially 245,000 existing vessels could take the opportunity to fish for the first time on groundfish and crab if there is no moratorium. Not placing a moratorium on new entrants, and thus risking extreme overcapitalization and pulse fishing of Alaska groundfish and crab fisheries, seem to fly in the face of the risk-averse policies espoused by the current Administration and its stated goals and objectives. The moratorium as now proposed by the Council, with the revisions made based on the Secretary's advice, appears to be consistent with the Nation Goals and Policies of the Administration as well as the short term goals of the Council.

## 9. National Standards

**National Standard 1.** The Secretary's disapproval letter states that it is unclear how crossovers and the longer qualifying period in the Council's earlier proposed moratorium would enhance the achievement of optimum yield from the groundfish and crab fisheries. Nor is it apparent, the Secretary opines, how the OY from the groundfish and crab fisheries would be achieved better under the proposed moratorium, as compared to the status quo alternative. Therefore, he found the proposed moratorium inconsistent with National Standard 1.

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<sup>13</sup>North Pacific Fishery Management Council, Environmental Impact Statement/Regulatory Impact Review/Initial Regulatory Flexibility Analysis for the proposed moratorium on the entry of New Vessels into the Groundfish, Crab, and Halibut Fisheries of the Gulf of Alaska and Bering Sea/Aleutian Islands, April 28, 1994.

The Magnuson Act in Section 301(a) requires any fishery management plan to be consistent with the national standards. National Standard 1 states that conservation and management measures shall prevent overfishing while achieving, on a continuing basis, the OY from each fishery for the U.S. fishing industry. OY is defined in the Council's groundfish plans as a range of harvest from the stocks. In setting that range, the Council (and the Secretary) has taken into account biological, economic, and social considerations. The moratorium will neither improve nor degrade achievement of OY or the harvest of that range. It will, however, allow the OY to be harvested. Therefore, the Council believes it is consistent with National Standard 1.

NOAA/NMFS's own guidelines describe National Standard 1 as more of a conservation standard, not one that emphasizes allocational issues.<sup>14</sup> The conservation aspect of National Standard 1 are emphasized not only in the 1989 revisions to the guidelines, but also in earlier guidelines described in Appendix A to Subpart B - Explanatory Material, which says that "NOAA believes it important to keep the distinction clear between the two separate parts of Standard 1: To prevent overfishing, and to achieve OY. The guidelines are written such that overfishing is an intrinsic limitation on OY; it is built into the OY determination, yet maintains a separate identity as a constraint." With regard to achieving OY, the guidelines state that "... National Standard 1 is violated whenever the level of harvest is consistently and significantly different from OY, irrespective of whether that harvest level is above or below OY. While recognizing that OY might not be achieved every year in practice, NOAA believes that Councils must make every reasonable attempt to see that it is."

Nothing in the guidelines speaks to "how well" the OY is achieved other than whether it was exceeded or not fully harvested. Once the OY is determined, the Council believes that any change to a plan is consistent as long as OY can be achieved. As stated above, the Council's moratorium does not detract from the ability to achieve OY in the groundfish or crab fisheries. On the other hand, not approving the moratorium would provide for an increased probability of pulse increases in effort that could cause overfishing. The Council has maintained harvest levels within the OY range through the use of TACs. The Council also has overfishing definitions in each plan and maintains harvest levels so that overfishing does not occur. It is very difficult to see how the moratorium could be construed to violate National Standard 1. Further, such a determination does not comport with any of the guidelines offered by the Secretary concerning that national standard. While the Council believes that the originally proposed moratorium was consistent with National Standard 1, the revised moratorium submitted herein should certainly alleviate any concerns regarding that consistency.

**National Standard 4.** The Secretary concludes that the moratorium violates National Standard 4. That standard requires any allocation of fishing privileges under an FMP to not discriminate between residents of different states, to be fair and equitable, reasonably calculated to promote conservation, and carried out in such manner that no particular entity acquires an excessive share of such privileges. The Secretary states that the moratorium violates National Standard 4 because it is not rationally connected with the achievement of OY, and indeed would frustrate the achievement of OY, and that it does not further a legitimate FMP objective. As argued above, the Council believes that the OY as defined in the FMPs will be achieved whether or not there is a moratorium. If there is a potential not to achieve OY, it results more from the Secretary's decision not to cap effort in the fishery and thus risk overfishing. The Council's decision to at least bound effort and not open the fishery to an as yet unknown pulse intrusion from other areas of the U.S. comports well with the tenets of risk-averse management embraced by the Administration. A Secretarial decision to leave the fisheries open, and thus vulnerable to all comers, does not.

Concerning furtherance of plan objectives, the original analysis of the moratorium found that the moratorium does further the objectives and the Council's comprehensive goals, particularly 2-5, and 7 which deal with the well being of the fisheries and industry. All these goals help guide Council management. The goals and objectives

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<sup>14</sup>NOAA/NMFS Guidelines for Fishery Management Plans; Final Rule, 50 CFR Part 602, July 24, 1989.

from the Gulf of Alaska groundfish plan are illustrative. The first goal is to conform to the National Standards and to the NPFMC Comprehensive Fishery Management Goals. A key objective, very germane to this discussion, is that the Council will develop measures to control effort in a fishery, including systems to convert the common property resource to private property, but only when requested to do so by industry. The Council is moving toward attainment of that goal, with the moratorium as the first step, with the full support of the industry.

And finally, the Secretary's own guidelines appear not to address limited entry measures such as the proposed moratorium under National Standard 4. The Secretary states clearly in his pre-1989 guidelines that "NOAA chose to address the questions surrounding "limited access" in the context of Standard 5 rather than in Standard 4 (emphasis added), even though limited access, by its nature, is an allocative measure. . . . [T]he guidelines caution that any limited access system must be consistent with section 303(b)(6) of the Act and the Standard 4 guidelines [,but] NOAA believes that placement within Standard 5 puts the emphasis more appropriately on concepts of economic efficiency in achieving OY rather than on the contentious issues of right of entry, or limit on effort, per se. The placing of limited access within the Standard 5 context does not imply, however, that efficiency is always attained by limited access, nor that limited access is the most desirable method of attaining efficiency, nor that efficiency is the only purpose for limited access, nor that limited entry has always resulted in the benefits listed in the guidelines."

Even the 1989 guidelines treat limited entry more in context of National Standard 5, and suggest that the moratorium should be judged on the basis of whether it is consistent with Standard 5 rather than with Standard 4. There is, however, no reason to believe that it is not consistent with Standard 4. From its very makeup, it does not exclude anyone from one state in particular, no one gets an excessive share, it does more to promote conservation than no moratorium, and because it is based on a minimum of one landing during a prescribed period, it is fair and equitable to all such fishermen who meet that qualification. If the Secretary accepts that all other elements of the revised moratorium are consistent with the various dimensions of National Standard 4 as identified above, it is very difficult to see how the crossover provision alone would lead to a determination of inconsistency. Nevertheless, the Council's revised moratorium submitted herein deals directly with the crossover issue in question in a manner which responds directly to the concerns expressed by the Secretary.

**National Standard 5.** The Secretary states that allowing an increase in capacity in any one of the over-subscribed fisheries does not promote efficiency mainly due to the crossover provision and the long qualifying period. The Council responded by shortening the qualifying period, eliminating fixed gear sablefish and halibut as qualifying fisheries, and by substantially restricting crossover potential under the moratorium. As noted in the Secretary's own guidelines, limited access does not necessarily have to increase efficiency, nor does efficiency have to be the only purpose addressed by limited access. As the Council clearly stated, the moratorium was not meant to clear up all the problems in the fisheries. It is a holding action while the Council addresses the very complex and numerous issues attendant to developing a longer term comprehensive solution to overcapitalization. As noted above, the Secretary agreed with this aim.

It certainly cannot be argued that having no moratorium will provide for a more efficient fishery. When the NMFS disapproved the halibut moratorium in 1983, it clearly did not lead to a more efficient fishery. It led to massive overcapitalization, seasons reduced to 24-hour derbies, and considerable dollars spent in addressing the issue over 12 years later. Another Secretarial disapproval of the Council's moratorium would seem to head the groundfish and crab fisheries in the same direction as the halibut fisheries, and that is not in the direction of more efficient fisheries as espoused in National Standard 5.

## 10. Summary and Conclusions

1. The Council approved revisions to its proposed moratorium in response to concerns raised by the

Secretary of Commerce. As requested by the Secretary, the Council (1) shortened the qualifying period from the original January 1, 1980 to February 9, 1992, to the revised January 1, 1988 to February 9, 1992; (2) eliminated halibut and sablefish fixed gear fisheries because they will be managed with IFQs beginning in 1995; (3) restricted crossovers from groundfish to crab fisheries and vice-versa, as well as restricted crossovers between groundfish gear types, (4) considered current participation in 1992-1994, but did not extend the February 9, 1992 cutoff date; and (5) revised the appeals process to be the same as for the sablefish and halibut IFQ program. As originally proposed, the moratorium will sunset three years from the effective date.

2. The Council's revisions reduce the potential fleet size from 13,350 vessels under the original moratorium to 4,144 vessels under the revised moratorium. Of the 4,144 qualified vessels, 255 qualified based on crab landings only, 231 based on crab and groundfish, and 3,658 based on groundfish only. Recognition of crossovers will be limited to those which have occurred in the two and one-half years which have passed since Council approval of the original moratorium. Limits on upgrades in vessel size were retained from the original moratorium. The number of qualifying vessels is about 180% of the average number of vessels, 2,308 unique vessels, which operated each year 1988 through 1991 in the groundfish and crab fisheries.

3. By not extending the February 9, 1992 cutoff date to 1994, the Council eliminated 494 vessels which entered the fisheries for the first time, since February 9, 1992. Another 479 vessels were not new to the fisheries, but were disqualified on the basis of the Secretary's other requested revisions to the moratorium: the shortening of the qualification period and the elimination of halibut and sablefish fixed gear landings as qualifying criteria. The 973 vessels that were eliminated by these combined actions could have added substantial new capacity to the moratorium fisheries.

4. Crossovers between groundfish and crab fisheries are limited by the Council's revisions. Halibut and sablefish crossovers into groundfish and crab were eliminated, thus significantly reducing the problem. Crossovers between groundfish and crab fisheries, and vice-versa, were limited based on gear type or activity of the vessel during the secondary period of February 10, 1992 to December 11, 1994. Instead of 3,340 groundfish vessels having the opportunity to cross over into crab fisheries, there are now a maximum of 284 which could do so. The number of crab vessels which could cross over into groundfish has not changed, but is limited to only pot gear, unless the vessel also made groundfish landings with other gear types. The maximum number of crab vessels which could cross over, which have not already done so, is 179. The Council is comfortable with creating these limited crossover allowances. First, because crab abundance has declined recently and lucrative fisheries such as Bristol Bay red king crab have been closed, there will be little economic sense for groundfish vessels to invest in crab gear, especially in light of the fact that June 24, 1992 still is a prominent cutoff date for fishing histories for future limited entry (license limitation or IFQs). Second, though the more likely scenario is that some of the 179 crab vessels might gear up for groundfish, the June 24, 1992 cutoff date still serves as a deterrent to any major new investment. None of the options currently being considered by the Council for license limitation would recognize crossovers which occur during the moratorium years of 1995-1997.

5. Those crabbers that do crossover most likely will participate in pot fisheries for Pacific cod. In doing so, the main impacts of increased capacity will be felt by the fixed gear portion of the Bering Sea cod fishery, or in the inshore cod fisheries in the Gulf of Alaska. Two mitigating factors of these focused crossovers are that (1) pot fisheries have been shown to be relatively clean fisheries in terms of bycatch, and (2) the Pacific cod resource is very abundant and 1995 quotas are higher than 1994.

6. The impacts of the Secretary disapproving the Council's revised moratorium could be devastating and certainly would not be risk averse. The analysis shows that about 245,000 vessels potentially could enter the groundfish and crab fisheries off Alaska. The impacts of the 1800-vessel difference between the moratorium fleet and the current participant fleet, and the minor number of crab vessels that may crossover into the cod fisheries, pale in significance compared to the impacts that would result from a pulse influx of vessels from distressed areas

and fisheries elsewhere in the United States if no moratorium is in place.

7. Written and verbal policy statements by representatives of the Secretary identify risk-prone management and overcapitalization as priority concerns in fisheries around the nation. If by disapproving the Council's revised moratorium, the Secretary chooses open access to North Pacific fisheries over a limitation on potential capitalization, that decision could lead to pulse influxes of effort and a heightened potential for overfishing. Such a decision would run counter to the Secretary's stated goals of risk-averse management and reduced effort. Such a decision would show that little has been learned from the current emergency need to expend almost \$50,000,000 on aid to New England and the Pacific Coast now because of resource failures.

8. The Council believes the moratorium will achieve its short term goal of stemming the flow of outside capacity into North Pacific crab and groundfish fisheries, thus keeping the situation from worsening while a longer term comprehensive rationalization plan is developed. The Secretary also has accepted that goal for the moratorium. The Council believes the moratorium comports with its comprehensive fishery management goals and those in the fishery management plans.

9. The Council believes the moratorium is consistent with all the national standards including numbers 1, 4, and 5 which were the basis for the Secretary's earlier disapproval. The moratorium will in no way degrade the ability to achieve OY, it does not discriminate between residents of different states, it is fair and equitable and will promote conservation, and it will not allow efficiency to be degraded by a large influx of new capacity. A decision to not implement a moratorium would act in the reverse direction: It could lead to exceeding OY and overfishing, it does not promote conservation, and it will degrade efficiency as new effort enters the fisheries. That choice clearly is not consistent with the National Standards.

## Proposed Plan Amendment Language for the Moratorium of Vessels Entering The Groundfish Fisheries in the Bering Sea/Aleutian Islands

To be added at end of Chapter 2.0.

Amendment 23, effective (*insert the effective date of the moratorium*):

Created a moratorium on harvesting vessels entering the BSAI groundfish fisheries other than fixed gear sablefish after (*insert the effective date of the moratorium*). The vessel moratorium will last until the Council replaces or rescinds the action, but in any case will end on (*insert date three years after the effective date of the moratorium*). The Council may however extend the moratorium up to 2 additional years, if a permanent limited access program is imminent.

A new Section 14.4.7.2 titled "Moratorium on Vessels Entering the Fisheries" would be added and would read as follows:

### 14.4.7.2 Moratorium on Vessels Entering the Fisheries

Beginning on (*insert the effective date of the moratorium*) a moratorium on new harvesting vessels (including harvester/processors) entering the BSAI groundfish fisheries, other than fixed gear sablefish, is in effect. Vessels fishing in State waters will be exempt. The vessel moratorium will last until the Council replaces or rescinds the action, but in any case will end on (*insert date three years after the effective date of the moratorium*). The Council may however extend the moratorium up to 2 additional years, if a permanent limited access program is imminent.

#### 14.4.7.2.1 Elements of the Moratorium

1. Qualifying Period. In order to qualify, a harvesting vessel must have made a reported landing in one of the designated moratorium fisheries during the period beginning January 1, 1988, and ending February 9, 1992, including landings of moratorium species from State waters. Moratorium species are those managed under Council FMPs and include groundfish (other than fixed gear sablefish) in the BSAI and GOA and BSAI king and Tanner crab.
2. Eligible Fisheries. If a vessel qualifies based on Item 1 above, the following provisions apply:
  - a. A vessel that made a qualifying landing in the BSAI or GOA groundfish fisheries would be eligible to participate in the BSAI groundfish fisheries under the moratorium.
  - b. A vessel that made a qualifying landing in the BSAI crab fisheries would be eligible to participate in the BSAI crab fisheries **AND** the BSAI groundfish fisheries under the moratorium providing:
    - (1) it uses only the same fishing gear in the groundfish fisheries that it used in the BSAI crab fisheries to qualify for the moratorium, and
    - (2) it does not use any fishing gear prohibited in the BSAI or GOA groundfish fisheries.
  - c. A vessel that made a qualifying landing in the BSAI crab fisheries, and during the period February 9, 1992, through December 11, 1994, made a landing in the BSAI or GOA groundfish fisheries would be eligible to continue to participate in the BSAI groundfish fisheries under the moratorium using the gear with which the groundfish landing was made.



3. Length Increases During the Moratorium: The 20% Rule. Moratorium qualified vessels will be limited to a 20% increase in length overall (LOA) as long as the increase does not result in a vessel greater than 125 ft LOA. The 20% increase will be based on the LOA of the original qualified vessel, even in cases of multiple transfers/replacements. Vessels over 125 ft LOA may not be lengthened under any circumstance.
4. Reconstruction of Vessels During the Moratorium. An eligible vessel that is reconstructed during the moratorium retains its privilege to participate in all fisheries under the Council's jurisdiction subject to the following provisions: (1) If reconstruction is completed prior to June 24, 1992, the new size is unrestricted and length increases subject to the 20% Rule discussed above are allowed between June 24, 1992 and the end of the moratorium. (2) If reconstruction began prior to June 24, 1992 but was not completed until after that date, the new size would be unrestricted but no more length increases would be allowed. (3) If reconstruction commences on or after June 24, 1992, increases in length may not exceed the 20% Rule. (4) Other types of vessel reconstructions or upgrades may occur as long as they do not result in the lengthening of a vessel.
5. Replacement of Vessels During the Moratorium. During the moratorium, qualifying vessels can be replaced with non-qualifying vessels so long as the replaced vessel leaves the fishery. Though multiple or sequential replacements are allowed, vessel length can only be increased subject to the 20% Rule. In the case of existing qualified vessels over 125 ft LOA, the replacement vessel cannot exceed the length of the original vessel. In the event of a combined replacement/reconstruction, increases in LOA may not exceed the 20% Rule.
6. Replacement of Vessels Lost or Destroyed On or After January 1, 1989 But Before *(insert the effective date of the moratorium)*. Vessels lost or destroyed on or after January 1, 1989 may be replaced provided the following conditions are met. (1) The LOA of the replacement vessel does not exceed the 20% rule. (2) The replacement vessel must make a landing in a moratorium fishery prior to *(insert a date two years after the effective date of the moratorium)* to remain a qualified vessel. The replaced vessel would no longer be a moratorium qualified vessel.
7. Replacement of Vessels Lost or Destroyed After *(insert the effective date of the moratorium)*. Vessels lost or destroyed after *(insert the effective date of the moratorium)* may be replaced subject to the 20% Rule and the replaced vessel would no longer be a moratorium qualified vessel.
8. Salvage of Vessels Lost or Destroyed On or After January 1, 1989. A moratorium qualified vessel lost or destroyed between January 1, 1989 and the end of the moratorium may be salvaged and will be considered a moratorium qualified vessel, as long as it has not already been replaced, as per item 5 above.
9. Salvage of Vessels Lost or Destroyed Before January 1, 1989. A moratorium qualified vessel lost or destroyed before January 1, 1989 may not be replaced. The lost or destroyed vessel may be salvaged and become moratorium qualified if it meets the following two conditions: (1) Salvage operations must have been ongoing as of June 24, 1992. (2) The salvaged vessel must make a landing in a moratorium fishery prior to *(insert a date two years after the effective date of the moratorium)*.



10. Small Vessel Exemptions. Vessels 32 ft or less LOA would be exempted from the moratorium in the Bering Sea and Aleutian Islands.
11. Disadvantaged Communities. New vessels constructed after implementation of Community Development Quota (CDQ) programs, pursuant to an approved CDQ project, will be exempt from the moratorium. In order to qualify for such exemption the vessel must: (1) be constructed solely for the purpose of furthering the goals of a community CDQ project, and (2) be a specialized vessel designed and equipped to meet the needs of a community or group of communities that have specific and unique operating requirements. Such exemptions would be limited to vessels 125 ft LOA and under. These vessels may fish in both CDQ and non-CDQ fisheries. Vessels built pursuant to a CDQ project under this exemption that are transferred to a non-CDQ entity during the life of the moratorium may not be considered eligible under the moratorium.
12. Halibut and Sablefish Fixed Gear Vessels. Halibut and sablefish fixed gear vessels operating under the provisions of the proposed IFQ Amendment will be exempted from the vessel moratorium as it affects directed halibut and sablefish operations. Such an exemption becomes effective at the time of implementation of the IFQ program. Non-qualifying vessels entering the halibut and sablefish fisheries under this exemption may not participate in any other directed fisheries under the Council's authority. If the total retained catch of species other than halibut and sablefish exceeds 20% of the total weight of all species of fish on board, then the vessel must be a moratorium-qualified vessel.
13. Transfer of Moratorium Rights. It shall be assumed that any transfer of vessel ownership includes a transfer of moratorium fishing rights. Moratorium rights may however be transferred without a transfer of ownership of the original qualifying vessel or any subsequently qualified vessel. The recipient of such transfers of rights will bear the burden of proof for moratorium qualification. Transfers of moratorium rights may not be used to circumvent the 20% Rule. Moratorium permits may be transferred only in their entirety; i.e., species or gear endorsements may not be separated and transferred independently.



## Proposed Plan Amendment Language for the Moratorium of Vessels Entering The Groundfish Fisheries in the Gulf of Alaska

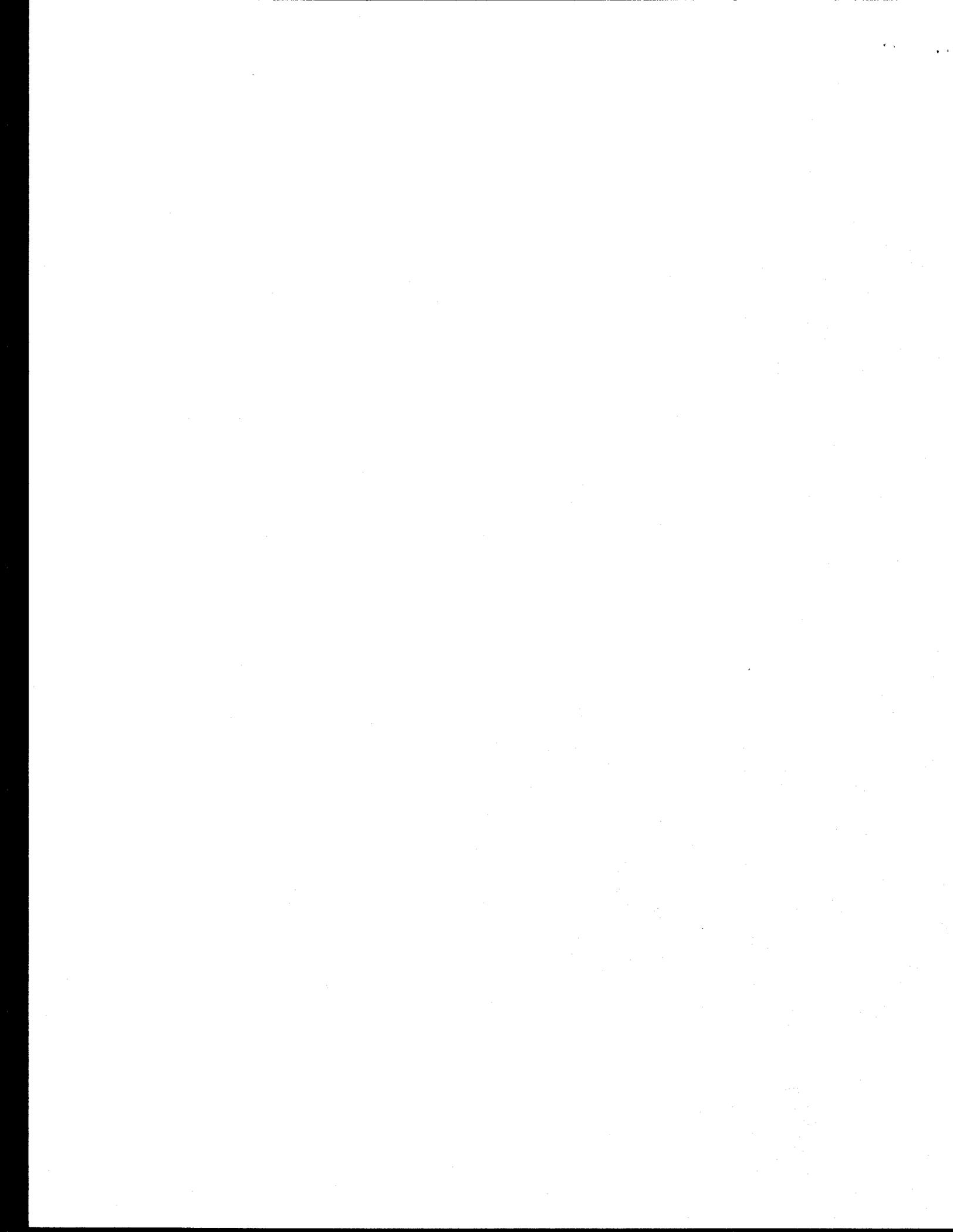
A new Section 4.4.1.2 titled "Moratorium on Vessels Entering the Fisheries" would be added and would read as follows:

### 4.4.1.2 Moratorium on Vessels Entering the Fisheries

Beginning on (*insert the effective date of the moratorium*) a moratorium on harvesting vessels (including harvester/processors) entering the GOA groundfish fisheries, other than fixed gear sablefish, is in effect. Vessels fishing in State waters will be exempt. The vessel moratorium will last until the Council replaces or rescinds the action, but in any case will end on (*insert date three years after the effective date of the moratorium*). The Council may however extend the moratorium up to 2 additional years, if a permanent limited access program is imminent.

#### 4.4.1.2.1 Elements of the Moratorium

1. Qualifying Period. In order to qualify, a harvesting vessel must have made a reported landing in one of the designated moratorium fisheries during the period beginning January 1, 1988, and ending February 9, 1992, including landings of moratorium species from State waters. Moratorium species are those managed under Council FMPs and include groundfish (other than fixed gear sablefish) in the BSAI and GOA and BSAI king and Tanner crab.
2. Eligible Fisheries. If a vessel qualifies based on Item 1 above, the following provisions apply:
  - a. A vessel that made a qualifying landing in the BSAI or GOA groundfish fisheries would be eligible to participate in the GOA groundfish fisheries under the moratorium.
  - b. A vessel that made a qualifying landing in the BSAI crab fisheries would be eligible to participate in the BSAI crab fisheries AND the GOA groundfish fisheries under the moratorium providing:
    - (1) it uses only the same fishing gear in the groundfish fisheries that it used in the BSAI crab fisheries to qualify for the moratorium, and
    - (2) it does not use any fishing gear prohibited in the BSAI or GOA groundfish fisheries.
  - c. A vessel that made a qualifying landing in the BSAI crab fisheries, and during the period February 9, 1992, through December 11, 1994, made a landing in the BSAI or GOA groundfish fisheries would be eligible to continue to participate in the GOA groundfish fisheries under the moratorium using the gear with which the groundfish landing was made.
3. Length Increases During the Moratorium: The 20% Rule. Moratorium qualified vessels will be limited to a 20% increase in length overall (LOA) as long as the increase does not result in a vessel greater than 125 ft LOA. The 20% increase will be based on the LOA of the original qualified vessel. Vessels over 125 ft LOA may not be lengthened under any circumstance.
4. Reconstruction of Vessels During the Moratorium. An eligible vessel that is reconstructed during the moratorium retains its privilege to participate in all fisheries under the Council's jurisdiction subject to the following provisions: (1) If reconstruction is completed prior to June 24, 1992, the new size is unrestricted and length increases subject to the 20% Rule discussed above are allowed



between June 24, 1992 and the end of the moratorium. (2) If reconstruction began prior to June 24, 1992 but was not completed until after that date, the new size would be unrestricted but no more length increases would be allowed. (3) If reconstruction commences on or after June 24, 1992, increases in length may not exceed the 20% Rule. (4) Other types of vessel reconstructions or upgrades may occur as long as they do not result in the lengthening of a vessel.

5. Replacement of Vessels During the Moratorium. During the moratorium, qualifying vessels can be replaced with non-qualifying vessels so long as the replaced vessel leaves the fishery. Though multiple or sequential replacements are allowed, vessel length can only be increased subject to the 20% Rule. In the case of existing qualified vessels over 125 ft LOA, the replacement vessel cannot exceed the length of the original vessel. In the event of a combined replacement/reconstruction, increases in LOA may not exceed the 20% Rule.
6. Replacement of Vessels Lost or Destroyed On or After January 1, 1989 But Before *(insert the effective date of the moratorium)*. Vessels lost or destroyed on or after January 1, 1989 may be replaced provided the following conditions are met. (1) The LOA of the replacement vessel does not exceed the 20% Rule. (2) The replacement vessel must make a landing in a moratorium fishery prior to *(insert a date two years after the effective date of the moratorium)* to remain a qualified vessel. The replaced vessel would no longer be a moratorium qualified vessel.
7. Replacement of Vessels Lost or Destroyed After *(insert the effective date of the moratorium)*. Vessels lost or destroyed after *(insert the effective date of the moratorium)* may be replaced subject to the 20% Rule and the replaced vessel would no longer be a moratorium qualified vessel.
8. Salvage of Vessels Lost or Destroyed On or After January 1, 1989. A moratorium qualified vessel lost or destroyed between January 1, 1989 and the end of the moratorium may be salvaged and will be considered a moratorium qualified vessel, as long as it has not already been replaced, as per item 5 above.
9. Salvage of Vessels Lost or Destroyed Before January 1, 1989. A moratorium qualified vessel lost or destroyed before January 1, 1989 may not be replaced. The lost or destroyed vessel may be salvaged and become moratorium qualified if it meets the following two conditions: (1) Salvage operations must have been ongoing as of June 24, 1992. (2) The salvaged vessel must make a landing in a moratorium fishery prior to *(insert a date two years after the effective date of the moratorium)*.
10. Small Vessel Exemptions. Vessels 26 ft or less LOA would be exempted from the moratorium in the Gulf of Alaska.
11. Disadvantaged Communities. New vessels constructed after implementation of Community Development Quota (CDQ) programs, pursuant to an approved CDQ project, will be exempt from the moratorium. In order to qualify for such exemption the vessel must: (1) be constructed solely for the purpose of furthering the goals of a community CDQ project, and (2) be a specialized vessel designed and equipped to meet the needs of a community or group of communities that have specific and unique operating requirements. Such exemptions would be limited to vessels 125 ft LOA and under. These vessels may fish in both CDQ and non-CDQ fisheries. Vessels built pursuant to a CDQ project under this exemption that are transferred to a non-CDQ entity during the life of the moratorium may not be considered eligible under the moratorium.
12. Halibut and Sablefish Fixed Gear Vessels. Halibut and sablefish fixed gear vessels operating



under the provisions of the proposed IFQ Amendment will be exempted from the vessel moratorium as it affects directed halibut and sablefish operations. Such an exemption becomes effective at the time of implementation of the IFQ program. Non-qualifying vessels entering the halibut and sablefish fisheries under this exemption may not participate in any other directed fisheries under the Council's authority. If the total retained catch of species other than halibut and sablefish exceeds 20% of the total weight of sablefish and halibut on board, then the vessel must be a moratorium-qualified vessel.

13. Transfer of Moratorium Rights. It shall be assumed that any transfer of vessel ownership includes a transfer of moratorium fishing rights. Moratorium rights may however be transferred without a transfer of ownership of the original qualifying vessel or any subsequently qualified vessel. The recipient of such transfers of rights will bear the burden of proof for moratorium qualification. Transfers of moratorium rights may not be used to circumvent the 20% Rule. Moratorium permits may be transferred only in their entirety; i.e, species or gear endorsements may not be separated and transferred independently.



## Proposed Plan Amendment Language for the Moratorium on Vessels Entering The Commercial King and Tanner Crab Fisheries in the Bering Sea/Aleutian Islands

*The first sentence in Section 8.1.2 would read:*

No Federal fishing permits are required for harvesting vessels, except as required by the Moratorium on new vessels entering the fishery as described in Section 8.1.4. and regulated by 50 CFR (insert part #).

*The paragraph contained in Section 8.1.4 would be deleted.*

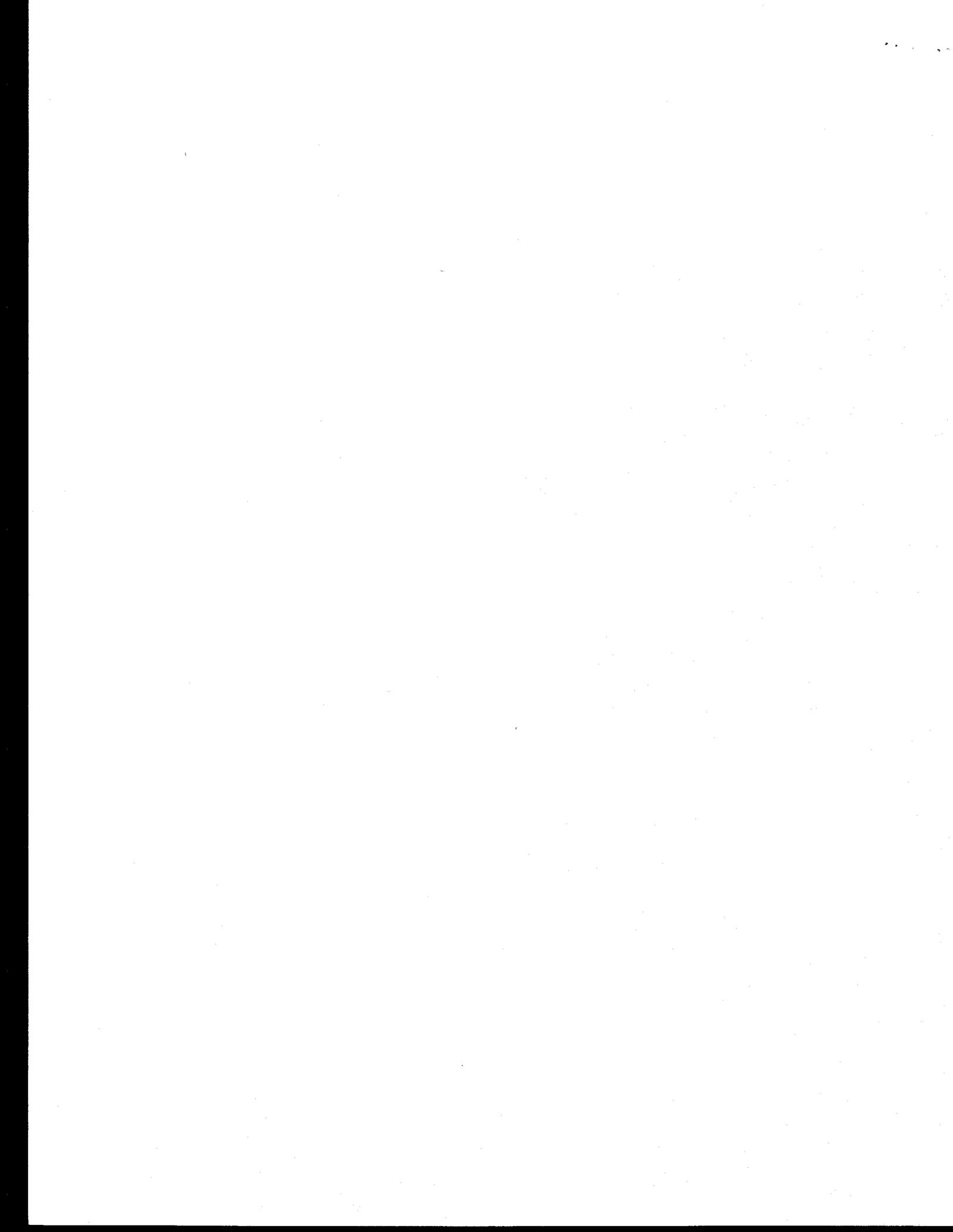
*A new section 8.1.4.1 titled "Moratorium on Vessels Entering the Fisheries" would be added. and would read as follows:*

### 8.1.4.1 Moratorium on Vessels Entering the Fisheries

Beginning on (insert the effective date of the moratorium) a moratorium on harvesting vessels (including harvester/processors) entering the BSAI King and Tanner Crab fisheries is in effect. Vessels fishing in State waters will be exempt. The vessel moratorium will last until the Council replaces or rescinds the action, but in any case will end on (insert date three years after the effective date of the moratorium). The Council may however extend the moratorium up to 2 additional years, if a permanent limited access program is imminent.

#### 8.1.4.1.1 Elements of the Moratorium

1. Qualifying Period. In order to qualify, a harvesting vessel must have made a reported landing in one of the designated moratorium fisheries during the period beginning January 1, 1988, and ending February 9, 1992, including landings of moratorium species from State waters. Moratorium species are those managed under Council FMPs and include groundfish (other than fixed gear sablefish) in the BSAI and GOA and BSAI king and Tanner crab.
2. Eligible Fisheries. If a vessel qualifies based on Item 1 above, the following provisions apply:
  - a. A vessel that made a qualifying landing in the BSAI crab fisheries would be eligible to participate in the BSAI crab fisheries under the moratorium.
  - b. A vessel that made a qualifying landing in the BSAI or GOA groundfish fisheries would be eligible to participate in the BSAI/GOA groundfish fisheries **AND** the BSAI crab fisheries under the moratorium providing:
    - (1) it uses only the same fishing gear in the BSAI crab fisheries that it used in the groundfish fisheries to qualify for the moratorium, and
    - (2) it does not use any fishing gear prohibited in the BSAI crab fisheries.
  - c. A vessel that made a qualifying landing in the BSAI or GOA groundfish fisheries, and during the period February 9, 1992, through December 11, 1994, made a landing in the BSAI crab fisheries would be eligible to continue to participate in the BSAI crab fisheries under the moratorium using the gear with which the crab landing was made.
3. Length Increases During the Moratorium: The 20% Rule. Moratorium qualified vessels will be limited to a 20% increase in length overall (LOA) as long as the increase does not result in a



## Proposed Plan Amendment Language for the Moratorium on Vessels Entering The Commercial King and Tanner Crab Fisheries in the Bering Sea/Aleutian Islands

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No Federal fishing permits are required for harvesting vessels, except as required by the Moratorium on new vessels entering the fishery as described in Section 8.1.4. and regulated by 50 CFR (insert part #).

*The paragraph contained in Section 8.1.4 would be deleted.*

*A new section 8.1.4.1 titled "Moratorium on Vessels Entering the Fisheries" would be added. and would read as follows:*

### 8.1.4.1 Moratorium on Vessels Entering the Fisheries

Beginning on (*insert the effective date of the moratorium*) a moratorium on harvesting vessels (including harvester/processors) entering the BSAI King and Tanner Crab fisheries is in effect. Vessels fishing in State waters will be exempt. The vessel moratorium will last until the Council replaces or rescinds the action, but in any case will end on (*insert date three years after the effective date of the moratorium*). The Council may however extend the moratorium up to 2 additional years, if a permanent limited access program is imminent.

#### 8.1.4.1.1 Elements of the Moratorium

1. Qualifying Period. In order to qualify, a harvesting vessel must have made a reported landing in one of the designated moratorium fisheries during the period beginning January 1, 1988, and ending February 9, 1992, including landings of moratorium species from State waters. Moratorium species are those managed under Council FMPs and include groundfish (other than fixed gear sablefish) in the BSAI and GOA and BSAI king and Tanner crab.
2. Eligible Fisheries. If a vessel qualifies based on Item 1 above, the following provisions apply:
  - a. A vessel that made a qualifying landing in the BSAI crab fisheries would be eligible to participate in the BSAI crab fisheries under the moratorium.
  - b. A vessel that made a qualifying landing in the BSAI or GOA groundfish fisheries would be eligible to participate in the BSAI/GOA groundfish fisheries AND the BSAI crab fisheries under the moratorium providing:
    - (1) it uses only the same fishing gear in the BSAI crab fisheries that it used in the groundfish fisheries to qualify for the moratorium, and
    - (2) it does not use any fishing gear prohibited in the BSAI crab fisheries.
  - c. A vessel that made a qualifying landing in the BSAI or GOA groundfish fisheries, and during the period February 9, 1992, through December 11, 1994, made a landing in the BSAI crab fisheries would be eligible to continue to participate in the BSAI crab fisheries under the moratorium using the gear with which the crab landing was made.
3. Length Increases During the Moratorium: The 20% Rule. Moratorium qualified vessels will be limited to a 20% increase in length overall (LOA) as long as the increase does not result in a vessel greater than 125 ft LOA. The 20% increase will be based on the LOA of the original



vessel greater than 125 ft LOA. The 20% increase will be based on the LOA of the original qualified vessel. Vessels over 125 ft LOA may not be lengthened under any circumstance.

4. Reconstruction of Vessels During the Moratorium. An eligible vessel that is reconstructed during the moratorium retains its privilege to participate in all fisheries under the Council's jurisdiction subject to the following provisions: (1) If reconstruction is completed prior to June 24, 1992, the new size is unrestricted and length increases subject to the 20% Rule discussed above are allowed between June 24, 1992 and the end of the moratorium. (2) If reconstruction began prior to June 24, 1992 but was not completed until after that date, the new size would be unrestricted but no more length increases would be allowed. (3) If reconstruction commences on or after June 24, 1992, increases in length may not exceed the 20% Rule. (4) Other types of vessel reconstructions or upgrades may occur as long as they do not result in the lengthening of a vessel.
5. Replacement of Vessels During the Moratorium. During the moratorium, qualifying vessels can be replaced with non-qualifying vessels so long as the replaced vessel leaves the fishery. Though multiple or sequential replacements are allowed, vessel length can only be increased subject to the 20% Rule. In the case of existing qualified vessels over 125 ft LOA, the replacement vessel cannot exceed the length of the original vessel. In the event of a combined replacement/reconstruction, increases in LOA may not exceed the 20% Rule.
6. Replacement of Vessels Lost or Destroyed On or After January 1, 1989 But Before *(insert the effective date of the moratorium)*. Vessels lost or destroyed on or after January 1, 1989 may be replaced provided the following conditions are met. (1) The LOA of the replacement vessel does not exceed the 20% rule. (2) The replacement vessel must make a landing in a moratorium fishery prior to *(insert a date two years after the effective date of the moratorium)* to remain a qualified vessel. The replaced vessel would no longer be a moratorium qualified vessel.
7. Replacement of Vessels Lost or Destroyed After *(insert the effective date of the moratorium)*. Vessels lost or destroyed after *(insert the effective date of the moratorium)* may be replaced subject to the 20% Rule and the replaced vessel would no longer be a moratorium qualified vessel.
8. Salvage of Vessels Lost or Destroyed On or After January 1, 1989. A moratorium qualified vessel lost or destroyed between January 1, 1989 and the end of the moratorium may be salvaged and will be considered a moratorium qualified vessel, as long as it has not already been replaced, as per item 5 above.
9. Salvage of Vessels Lost or Destroyed Before January 1, 1989. A moratorium qualified vessel lost or destroyed before January 1, 1989 may not be replaced. The lost or destroyed vessel may be salvaged and become moratorium qualified if it meets the following two conditions: (1) Salvage operations must have been ongoing as of June 24, 1992. (2) The salvaged vessel must make a landing in a moratorium fishery prior to *(insert a date two years after the effective date of the moratorium)*.
10. Small Vessel Exemptions. Vessels 32 ft or less LOA would be exempted from the moratorium in the Bering Sea and Aleutian Islands.



11. Disadvantaged Communities. New vessels constructed after implementation of Community Development Quota (CDQ) programs, pursuant to an approved CDQ project, will be exempt from the moratorium. In order to qualify for such exemption the vessel must: (1) be constructed solely for the purpose of furthering the goals of a community CDQ project, and (2) be a specialized vessel designed and equipped to meet the needs of a community or group of communities that have specific and unique operating requirements. Such exemptions would be limited to vessels 125 ft LOA and under. These vessels may fish in both CDQ and non-CDQ fisheries. Vessels built pursuant to a CDQ project under this exemption that are transferred to a non-CDQ entity during the life of the moratorium may not be considered eligible under the moratorium.
  
12. Halibut and Sablefish Fixed Gear Vessels. Halibut and sablefish fixed gear vessels operating under the provisions of the proposed IFQ Amendment will be exempted from the vessel moratorium as it affects directed halibut and sablefish operations. Such an exemption becomes effective at the time of implementation of the IFQ program. Non-qualifying vessels entering the halibut and sablefish fisheries under this exemption may not participate in any other directed fisheries under the Council's authority. If the total retained catch of species other than halibut and sablefish exceeds 20% of the total weight of all species of fish on board, then the vessel must be a moratorium-qualified vessel.
  
13. Transfer of Moratorium Rights. It shall be assumed that any transfer of vessel ownership includes a transfer of moratorium fishing rights. Moratorium rights may however be transferred without a transfer of ownership of the original qualifying vessel or any subsequently qualified vessel. The recipient of such transfers of rights will bear the burden of proof for moratorium qualification. Transfers of moratorium rights may not be used to circumvent the 20% Rule. Moratorium permits may be transferred only in their entirety; i.e., species or gear endorsements may not be separated and transferred independently.



**DRAFT FOR SECRETARIAL REVIEW**

**ENVIRONMENTAL ASSESSMENT/REGULATORY IMPACT REVIEW/  
INITIAL REGULATORY FLEXIBILITY ANALYSIS**

**FOR THE**

**PROPOSED MORATORIUM ON THE ENTRY OF NEW VESSELS INTO THE  
GROUND FISH, CRAB, AND HALIBUT FISHERIES**

**FOR**

**AMENDMENT 28 TO THE FMP FOR THE GROUND FISH FISHERY  
OF THE GULF OF ALASKA**

**AMENDMENT 23 TO THE FMP FOR THE GROUND FISH FISHERY  
OF THE BERING SEA AND ALEUTIAN ISLANDS**

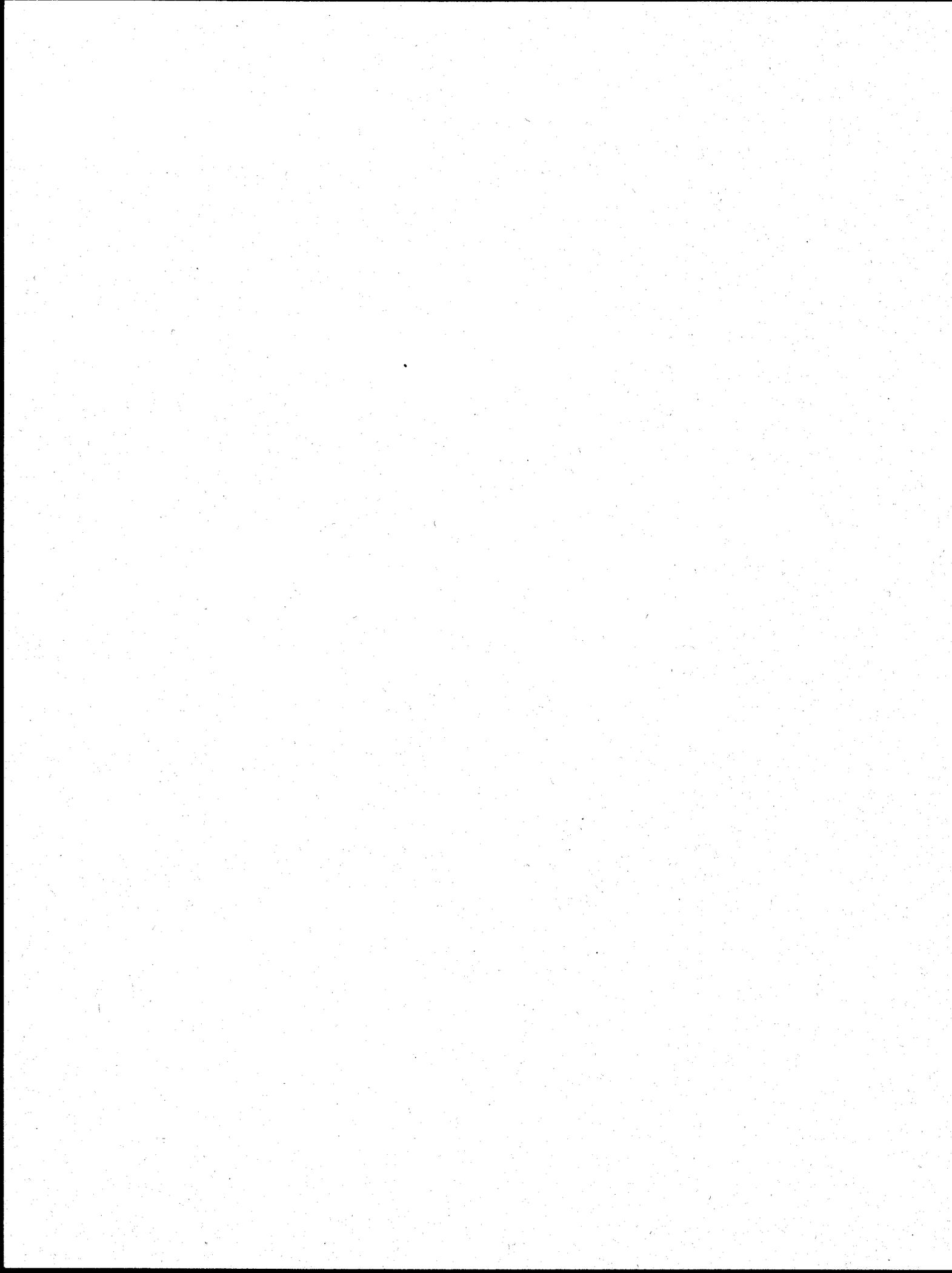
**AMENDMENT 4 TO THE FMP FOR THE COMMERCIAL KING AND TANNER CRAB  
FISHERIES IN THE BERING SEA AND ALEUTIAN ISLANDS AREA**

**REGULATORY AMENDMENT TO THE PACIFIC HALIBUT FISHERY REGULATIONS**

Prepared by  
the Staff of the North Pacific Fishery Management Council

Anchorage, Alaska

April 28, 1994



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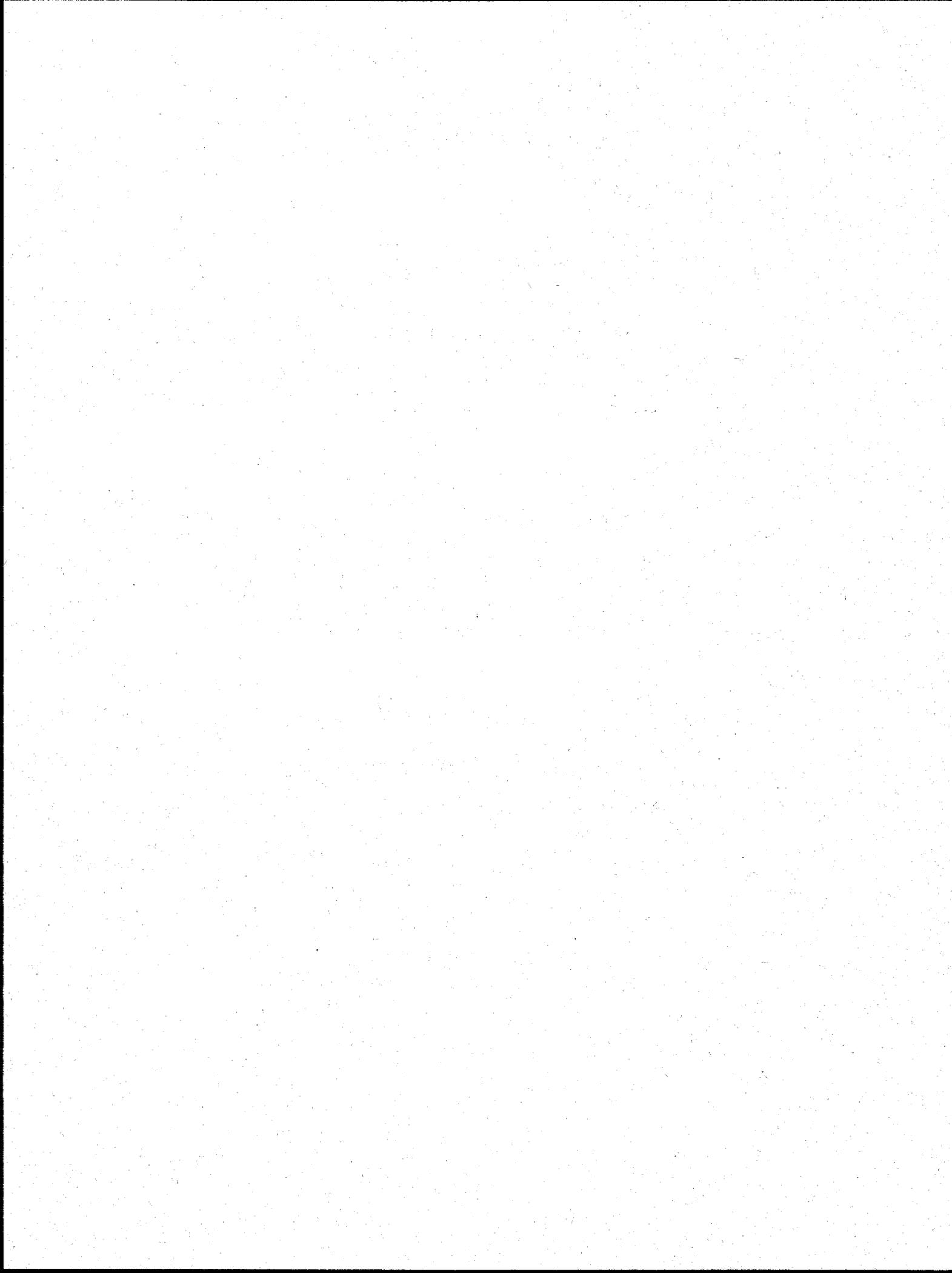
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# MORATORIUM EA/RIR ANALYSIS

## 1.0 INTRODUCTION

### 1.1 Overview of Council Management Process

The Magnuson Fishery Conservation and Management Act (MFCMA) established management authority over all living resources within the Exclusive Economic Zone (EEZ) from 3 to 200 nautical miles (nm) offshore around the coast of the United States. The MFCMA created eight Regional Fishery Management Councils, one of which is the North Pacific Fishery Management Council (Council), to provide local and regional input into fisheries management. The Council has authority over the fisheries of the EEZ of the Arctic Ocean, Bering and Chukchi Seas, and the Pacific Ocean seaward of Alaska.

The major function of the Council is the development and maintenance of fishery management plans (FMPs) for those fisheries under its authority in need of conservation and management. There are nearly 50 important marine species in the waters off Alaska, although not all require Council attention either because they are managed by the State of Alaska or an international convention, or industry interest is insufficient to warrant a management plan. The Council has developed FMPs for Bering Sea/Aleutian Islands (BSAI) Groundfish, Gulf of Alaska (GOA) Groundfish, BSAI king and Tanner Crab, and Southeast Alaska Troll Salmon. The Council also has authority under the 1982 North Pacific Halibut Act to develop regulations, including limiting access, for participants in the Alaska halibut fisheries. Council actions affecting halibut may augment, but cannot conflict with regulations adopted by the International Pacific Halibut Commission.

A thorough analysis of proposed actions, covering the environmental, social, and economic aspects of the resource and the fishery participants is required of all FMPs. Fisheries regulations developed by the Council are required to meet numerous regulatory standards, and must be approved by the Secretary of Commerce (Secretary). Changes to existing FMPs may require formal amendments to the affected plans, including appropriate regulatory analysis.

The action analyzed in this proposed amendment is the implementation of a vessel moratorium covering vessels in the designated crab, groundfish, and halibut fisheries under the Council's authority. Such action will require an amendment to the BSAI king and Tanner Crab FMP, the GOA Groundfish FMP, and the BSAI Groundfish FMP. The moratorium regulations can also be applied to the halibut fisheries by virtue of the Council's geographical authority under the MFCMA, and the North Pacific Halibut Act of 1982.

### 1.2 Purpose of and Need for the Proposed Action

#### 1.2.1 Situation

Council concern over open access fisheries and their relationship to excess harvesting capacity has been a recurring theme dating back to the early 1980s. The Council first considered limited entry into the halibut fisheries in 1980. Three years later, a vessel moratorium was proposed for this fishery, though the action was rejected subsequently by the Secretary. Amid growing indications of excess capacity, the Council in 1987 focused on its concerns regarding open access in the adoption of a "statement of commitment" as follows:

Expansion of the domestic fleet harvesting fish within the EEZ off Alaska has made compliance with the MFCMA's National Standards and achievement of the Council's comprehensive goals more difficult under current management regimes. The Council therefore is committed to pursue alternate management methods that will support the Comprehensive Goals adopted by the Council and achieve more productive and rational effort and harvest levels in the groundfish fishery.

At that time, the Council identified three initial steps towards this commitment: 1) develop strategies for license limitation or ITQs in the sablefish longline fishery; 2) develop a management strategy for groundfish fisheries of the GOA and BSAI by 1990, including an assessment of alternative management techniques; and 3) consider effort management in the halibut and crab fisheries.

Comprehensive planning efforts continued during 1987 with the formation of the Future of Groundfish (FOG) committee. The FOG Committee undertook a comprehensive industry examination of the state of the groundfish, crab, and halibut fisheries off Alaska, concluding that excess harvesting capacity was the central issue spawning numerous industry problems and concerns. The FOG findings were summarized in a June 1988 report to the Council that identified five major problems facing the current system: 1) biological conservation; 2) declining data on which to base Council decisions; 3) excess capacity in the harvesting sector; 4) increased allocation conflicts; and 5) bycatch waste. The committee concluded that problems of excess capacity and allocation conflicts would worsen under open access conditions, and recommended limited access management approaches for all components of the Alaska EEZ fisheries. The majority of FOG members also proposed a June 30, 1988, "blanket cut-off" date as a basis for earning credit towards any eventual limited access system.

At its January 1989 meeting, the Council began consideration of limited access for all fisheries under its jurisdiction. Allocation conflicts in early 1989 between inshore and offshore components of the Alaska groundfish industry drew further attention to the overcapitalization and excess effort being expended in the pollock fishery. In 1989 and again in 1990, the Council considered procedures to implement a moratorium on new entry into the fishery. Concurrently, the Council developed limited access programs, and approached final action in late 1991 on specific limited entry management plans for the fixed gear halibut and sablefish fisheries.

The groundfish, crab, and halibut fisheries in the region have evolved along different developmental paths over time according to resource availability and economic incentives. While the efforts within these major fisheries are linked by common industry variables, the factors contributing to the current state of overcapitalization can also be traced to specific developments within each major fishery management group. Factors influencing entry and harvesting/processing capacity for the groundfish, crab, and halibut fisheries are briefly reviewed in the following sections.

#### 1.2.1.1 Groundfish

The groundfish fisheries under the jurisdiction of the Council have evolved to their current status largely under conditions of open access to all domestic fishing and processing interests. Granted lenient entry conditions, preferential access to American firms, a variety of capital investment sources, and a perception of significant economic opportunities, the Alaska groundfish industry has witnessed dramatic growth of domestic fishing and processing since its tentative beginnings in the early 1980s. The rapid rate of domestic expansion in the Alaska groundfish industry has been accompanied by a proportional decline of the foreign fleets who once fished these waters, and later operated as at-sea processors in transitional "joint ventures" with the developing U.S. catcher fleet. The era of foreign presence in the EEZ fisheries off

Alaska ended in 1990; in 1991 the total allowable catch (TAC) for the combined GOA and BSAI fishery management areas was for the first time, harvested and processed entirely by domestic users.

The displacement of foreign fleets has been accomplished through the intensive capitalization of a new or reconfigured American groundfish fleet operating in the Alaska EEZ. The rapid capitalization has been in response to perceived economic opportunities. Through the late 1980s, the "first-come, first-served" dictates of these fisheries created a great rush to catch and process the resources in the most expedient manner, with little regard for the consequences of parallel actions by others following the same course. By the 1990s, problems associated with excess catching and processing capacity in the groundfish industry were multiplying. The increase in capacity has been accompanied by greater pressure on the fishery resources. The BSAI pollock season has been reduced from a year-around fishery in 1988, down to 286 days in 1990, and 150 days over a split season in 1991. Increased fishing effort during the 1992 pollock fishery in the Bering Sea took just 47 days to harvest the 442,000 mt "A" season quota, of which eight percent was discarded and not utilized. An estimated 1,140 tons of halibut were also caught and discarded incidental to this pollock fishery, subsequently resulting in the closure of the trawl Pacific cod fishery (NMFS, 1992). The 1992 pollock "B" season is expected to last only about 90 days to harvest the remaining 663,000 mt. Serious allocation conflicts have developed over various target species, prohibited species catch (PSC) bycatch apportionments, and preferential rights to the fishery resources.

#### 1.2.1.2 BSAI King and Tanner Crab

The Council has developed a FMP for joint management of the BSAI or Westward Region king and Tanner crab fisheries. Council direct jurisdiction of these fisheries is limited to the EEZ as well as state and territorial waters. The crab fisheries in the GOA are not presently managed by the Council under an FMP, and are not considered under the proposed moratorium. The king and Tanner crab fisheries in the Alaska EEZ have evolved under a somewhat different set of circumstances than halibut or groundfish. The crab fisheries were heavily exploited during the late 1970s, resulting in a rapid increase in vessel numbers and harvest. The crab resource base plummeted in the early 1980s in the face of harvest pressure and cyclical resource availability, leading to severe reductions in the harvest quota. The sudden decline left a fleet of crab vessels without a resource base, and some of these crab boats ultimately entered the fledgling Alaska groundfish industry as harvest vessels operating in joint ventures with foreign mothership processors. For many Alaska fishermen, this experience served as a lesson that flexibility and diversity of operations were crucial elements in their business plans.

Rebuilding of BSAI king and Tanner crab resources in the late 1980s lead to a resurgence in crab operations by the early 1990s. Both new and existing crabbers have converged on the Bristol Bay king crab fishery, resulting in a doubling of crab vessels, and near tripling the number of pots in this fishery since 1986. Under this harvest pressure of 300 vessels and nearly 90,000 pots, the Bristol Bay red king crab season was open for a mere seven days in 1991. The bairdi and opilio Tanner crab fisheries have experienced similar increases in vessel numbers, since many crabbers operate in both the fisheries. The Tanner crab fisheries have been able to absorb the escalating effort due to large and increasing catch quotas, yet it appears inevitable that continued open access conditions will lead to overcapitalization and shortened seasons, based on past experiences.

#### 1.2.1.3 Halibut

Catch and effort in the Alaska halibut fishery can be traced over a long history, covering much of the 20th century. Halibut management off Canada and the United States is conducted by the International Pacific Halibut Commission (IPHC), an entity established by a convention between the two nations in 1923. Because the IPHC has no regulatory power over the size of the fleet, its primary means of controlling

effort is in establishing catch quotas and seasons. When the quota has been taken, the season closes. Over time, the season has ranged from over 250 days in the 1930s, down to around 50 days in the 1950s, back up to 150 days in the early 1970s, followed by a steady erosion in season length to only two days in the popular GOA management area 3A during 1991. Season length reflects both effort and the available catch, and cyclical patterns in halibut biomass partially explain the shorter seasons during the early 1950s and mid 1970s. However, the major factor affecting season length has been fleet size (NPFMC, 1983).

The halibut industry initiated voluntary lay up and trip-limit programs during the 1930s and 1950s to limit the tendency toward short seasons. Both voluntary attempts were eventually abandoned, the first during World War II, and the second in 1977 after many new, smaller halibut fishermen refused to participate. From the mid-1970s, the annual season length declined rapidly, leading to direct Council action in 1983 designed to limit entry into the halibut fishery off Alaska through a vessel moratorium. This action was prompted by a combination of concerns over depressed halibut stocks, inefficient harvesting, low incomes, and poor marketing to consumers. The halibut moratorium was ultimately turned down by the Secretary on the basis that "...the moratorium would have interfered with some fundamental social and economic freedoms, especially those that relate to fishing traditions off Alaska...", and that it "...failed to solve economic problems of the industry and created economic inefficiencies." Underlying this determination was the fact that the Council did not have specific management objectives to be achieved by the moratorium. By 1991, in the face of mounting pressure to resolve the overcapitalization and allocation issues confronting the halibut fishery, the Council developed an individual fishery quota (IFQ) limited entry scheme to better manage this resource. An IFQ program for sablefish and halibut was approved by the Secretary on January 29, 1993.

### 1.2.2 Problem

In each of these cases, the signs of increasing capitalization by the Alaska groundfish, halibut, and crab fleets have become apparent as the fisheries approach full development. Allocation conflicts among various sectors, as well as shorter seasons are signaling that the catching and processing capacity of the domestic industry have met, or are fast approaching, the availability of fishery resources in this region. Moreover, even though there have been ample signs that the industry was approaching full capacity, the backlog of capital expansion plans fueled in the mid-1980s continued to add still more harvest and processing capability to the fleet in the early 1990s. Existing fishermen and processors find that rebuilding and expansion of their vessels may be warranted in order to take advantage of current technology, or to keep pace with new entrants, further adding to capacity. Still other entrepreneurs, believing that the end of open access fisheries in the North Pacific is approaching, may bring even more capacity on line in a speculative venture to establish participation in these fisheries before new entry is restricted.

The consequences of such rapid capitalization and growth in this industry now confront fishermen and processors alike with the prospect of an expanding race for fish and intensifying competition for access to the resources. The Council must deal increasingly with difficult management issues such as roe stripping, bycatch, shortened seasons, and preemption. These situations often are accompanied by allocation dilemmas regarding who is rightfully entitled to the fishery resource, when there is not enough to satisfy all participants. Domestic harvesting and processing capacity in the groundfish, crab, and halibut fisheries off Alaska is perceived to exceed the amount necessary to efficiently harvest the annual TAC of most species of groundfish, halibut, and crabs under Council jurisdiction. Further, the Council has determined that continued entry of fishing effort into these fisheries will add to harvesting and processing capacity, and that open access conditions aggravate current fishery management difficulties.

The Council and fishery managers believe that open access conditions leading to excess capacity create several interrelated problems: These identified problem areas include allocation conflicts, excessive bycatch of non-target species, high grading or discard of lower valued but potentially useful fish products, poor handling of catch, insufficient attention to safety, economic instability, and reduced earnings by affected catcher and processor firms. In recent years, the Council has experienced these problems in most of the fisheries under its authority.

Under conditions of continued open access, it is anticipated that the industry and management problems will continue to build, threatening the ability of the Council to achieve optimum yield (OY) in the affected fisheries, from economic, biological and social perspectives. Thus, the Council is faced with a two-fold dilemma: 1) stemming the flow of additional, unneeded vessels and capital investment into the North Pacific EEZ fisheries; and 2) addressing the existent and emerging problems resulting from an overcapitalized fishing industry. The proposed moratorium is intended to address the first issue, stemming the flow of additional vessels and capitalization into Council-managed fisheries.

### 1.3 Management Objectives

In 1990, the Council initiated a three step approach for establishing a moratorium on entry into all fisheries under its authority, except salmon. The first step was to publish a notice of the Council's intent to consider a moratorium, and specify a control date after which new entrants will not be assured future access to the fisheries if a moratorium is ultimately approved and implemented based on that control date.

This step was completed by the Council at its August 7-9, 1990, meeting. Notices were published in the Federal Register in September 1990, wherein the Council informed the public of its intent to develop measures to limit access to the groundfish, crab, and halibut fisheries off Alaska, and to establish a control date of September 15, 1990, for entry into the fisheries. Vessels that entered the fisheries after September 15, 1990, are not assured of future access to the fisheries if a moratorium is imposed. However, "due consideration" will be given to vessels that harvest or process fish before January 15, 1992, if either:

1. they were under construction, reconstruction, or under contract for construction, reconstruction or purchase as of September 15, 1990, for purposes of participating in the fisheries; or
2. they were under written option or contract for purchase, or written contract for construction or reconstruction before September 15, 1990, but that option or contract was canceled because of the previously proposed January 19, 1990, control date, provided these vessels were placed again under written contract for such activities by January 1, 1991.

At their September 1991 meeting, the Council extended the January 15, 1992, deadline for trawl operations to 20 days after the trawl groundfish seasons begin in the GOA, and BSAI for 1992. This extension was in recognition of the Council's request for emergency action by NMFS to delay the trawl season opening to January 20, 1992.

#### 1.3.1 Council Goals and Objectives

As the control date notice indicates, the Council is considering a change in the open-access nature of the industry as part of a comprehensive long-term solution to many of the problems confronting the fisheries. In response to problems associated with overcapitalization and excess industry capacity, the Council is

appraising a management regime that restricts new entrants into the groundfish, crab, and halibut fisheries currently under the Council's authority. This proposed moratorium on new entry into the fisheries may be necessary for an interim period to curtail the increase in fishing capacity, provide temporary industry stability, and permit the Council time to develop and assess the potential impacts of alternative long term solutions to several management problems.

The Council is aware that a moratorium on new entrants will not resolve the fundamental problems associated with excess capacity in the fisheries. Instead, the purpose of the moratorium would be to control continued growth in fishing capacity while the Council assesses alternative management proposals including, but not confined to, limited and open access measures to address the overcapacity problem, and to achieve the OY from the fisheries. In January 1992, the Council clarified its intent with the following statement: In an effort to help achieve OY, the objective of the proposed moratorium is to freeze the number of vessels in the groundfish, crab, and halibut fisheries under the Council's jurisdiction, with appropriate restrictions on allowable changes to those vessels which are permitted in these fisheries. The Council intended, in establishing the control date for entry into the fisheries, to discourage speculative entry into the groundfish, crab, and halibut fisheries off Alaska while potential access control management regimes are developed and analyzed by the Council. This sequenced approach to the resolution of overcapitalization has been recognized by other regional Councils and fishery managers, as well (Crutchfield, 1979 p749; Gulf of Mexico Fishery Management Council, 1991 p17)

The consideration of an overall comprehensive rationalization program for the fisheries under the Council's authority, as well as the specific examination of a vessel moratorium fall within the Comprehensive Fishery Management Goals adopted by the Council in 1984. These nine goals are intended to convey targets for future Council action, consistent with the national standards prescribed in the MFCMA. While the Council Goals are considered to be an integrated set of directives, five of these nine goals can be applied directly to the excess capacity/overcapitalization problem as well as the proposed moratorium. These five criteria are listed below, as cited in the Council's Comprehensive Fishery Management Goals, along with specific qualifying issues and concerns listed in the Comprehensive Goals document relating to the proposed moratorium.

**GOAL 2: Ensure that the people of the United States benefit from optimum utilization of the Nation's publicly-owned resources.**

1. Production of high quality fish products over the maximum season at acceptable prices;
2. generation of reasonable economic rent from utilization of publicly-owned resources;
3. positive benefit-cost ratio for public management operations.

**GOAL 3: Promote economic stability, growth and self-sufficiency in maritime communities.**

1. Stabilizing the flow of fishery-related revenues through a community so that revenues occur during longer and more regular periods of time throughout the year. This is more beneficial than short, intermittent bursts of activity;
2. extending, within biological limits, the availability of fishery resources to the industry over the longest feasible season. This strategy recognizes that maximum benefits from a fishery may be generated by rationalizing harvest effort and product flow to market which will tend to: a) discourage overcapitalization; b) minimize waste; c) minimize gear conflicts; and d) prevent overfishing.

**GOAL 4:** Achieve optimum utilization by the U.S. fishing industry of fishery resources in the fishery conservation zone off Alaska.

**GOAL 5:** Minimize the catch, mortality, and waste of non-target species, and reduce the adverse impacts of one fishery on another.

1. Bycatch waste of fish with negative impact on other fisheries;
2. gear conflicts;
3. competition for fishery grounds;
4. timing of seasons;
5. conflict for harvesting, processing or support capabilities.

**GOAL 7:** To the extent consistent with other comprehensive goals promote the economic health of the domestic fishing industry; encourage the profitable development of underutilized resources; discourage unneeded investment in fisheries with excess harvesting capacity.

1. Fishery management strategies shall consider harvesting and processing capacities and market demands;
2. tax incentives and subsidy programs should be examined and coordinated to guard against overcapitalization but, at the same time, to provide assistance to developing fisheries and for competing with heavily subsidized foreign fishing activity;
3. evaluation and employment of appropriate management strategies, such as reduction of regulated inefficiencies, control of investment incentives, and limited entry as a means of effort management.

### 1.3.2 Specific Criteria in the Magnuson Act

The goals adopted and actions taken by the Council must be framed within the general scope of the Magnuson Act. Under the Magnuson Act, a moratorium is considered to be a form of limited access management. Section 303(b)(6) of the Magnuson Act provides authority to limit access to a fishery " . . . to achieve optimum yield if, in developing such a system, the Council and Secretary 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,
- 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."

Other considerations bearing on the development of access control programs include the distribution of economic and social benefits, transferability of fishing privileges, enforcement and monitoring costs, and simplicity of the program which can enhance public understanding and compliance.

The Magnuson Act (Section 3(21)) further defines ". . . The term 'optimum' with respect to the yield from a fishery, means the amount of fish--(A) which will provide the greatest overall benefit to the Nation, with particular reference to food production and recreational opportunities; and (B) which is prescribed as such on the basis of the maximum sustainable yield from such fishery, as modified by any relevant economic, social, or ecological factor."

## 1.4 Management Alternatives

The primary consideration by the Council is whether or not a moratorium will be effective or necessary in curtailing increases in capitalization and capacity by the fishing industry during the period when the Council is considering a comprehensive limited entry scheme. This decision requires the analysis of at least two alternatives; the proposed moratorium, and the status quo. In arriving at the moratorium proposal, other approaches to the underlying problem were also analyzed, but subsequently rejected. The scope of the two primary alternatives, and the rationale for rejecting other approaches, are summarized below.

### 1.4.1 Status Quo

The first alternative represents the status quo, an option the Council legally must consider. This alternative also serves as the base or reference against which directed action to limit entry--as proposed in the moratorium--can be assessed. Given the dynamic nature of the fisheries under the Council's authority, it is likely that other regulatory and management actions may be undertaken that impact fishing effort and capacity outside the moratorium proposal. Thus, the "status quo" may change in the near future independent of directed action towards a moratorium. For example, the Council's consideration of sablefish and halibut fixed gear management plans may lead to regulatory changes that directly or indirectly influence entry into these fisheries. For purposes of this analysis, the primary feature of the status quo alternative is that a vessel moratorium would not be adopted, even though other developments affecting entry and capitalization may be occurring within the industry.

### 1.4.2 Vessel Moratorium

The vessel moratorium proposal consists of several elements and options, rather than a defined set of alternatives. Based on information received from the moratorium scoping sessions conducted in mid-1990, Fishery Planning Committee review, and industry input, the Council's Advisory Panel (AP) outlined in April 1991 a set of key elements and options to be considered in the analysis of the proposed moratorium. These key elements are summarized as follows: 1) the qualifying period, as defined by the earliest and latest dates during the time a vessel must have made landings; 2) exemptions for small vessels; 3) exemptions for disadvantaged communities; 4) exemptions for lost or destroyed vessels; 5) the duration of the moratorium; 6) fishery crossovers during the moratorium; 7) replacement or reconstruction of vessels during the moratorium; and 8) an appeals procedure. Under several of these elements, the AP identified different options to be evaluated. The AP's recommendations were adopted by the Council during their September 1991 meeting.

Subsequent Council discussion of the moratorium proposal led to some clarification and additions to the AP's original recommendations, resulting in the following moratorium proposal adopted at the January 1992 Council meeting. The proposal consists of 12 numbered elements, the lettered provisions under each element are options to be considered under that element.

The moratorium applies to vessels, rather than owners or operators. Procedures for granting access to the fishery would require that the vessel designated on the relevant fishing permit qualify under the moratorium criteria. Permits would not be issued to applicants who designate a non-qualifying vessel. Newcomers would be able to enter the fishery, but only by acquiring an existing, qualifying moratorium vessel.

#### 1.4.2.1 Moratorium Elements and Options:

##### 1. **Qualifying Period**

**Beginning date:**

- a. January 1, 1976
- b. January 1, 1980
- c. January 1, 1988

**Ending date:**

- d. The September 15, 1990, control date, with qualified extensions to January 15, 1992 (fixed gear), and February 9, 1992 (trawl) for vessels under construction, reconstruction, or under contract for construction, reconstruction, or purchase as of September 15, 1990 (see Section 1.3).
- e. February 9, 1992
- f. Upon adoption of the moratorium by the Council, presumably during the week of June 21, 1992.

These options define alternative periods of eligibility that would qualify vessels under the moratorium. The control date is that defined in the September 5, 1990, Federal Register notice, as modified by the Council. For purposes of analysis, any vessel making a landing by the extension of the control dates, as referenced in d, above, will be assumed as a valid, eligible entrant, although it is recognized that this will likely overstate the bona fide qualifiers under the extension criteria. Alternatively, the February 9, 1992, ending date (option e), covers essentially the same participation as option d, but all vessels making a landing by this date would qualify, regardless of prior contractual arrangements stipulated in option d.

##### 2. **Length of Moratorium**

- a. Until Council rescinds or replaces; not to exceed 3 years from date of implementation, but Council may extend for 2 years if a permanent limited access program is imminent
- b. Until Council rescinds or replaces; not to exceed 4 years from date of implementation, but Council may extend for 2 years if a permanent limited access program is imminent
- c. Until Council rescinds or replaces; not to exceed 4 years from date of implementation

##### 3. **Crossovers During Moratorium**

- a. No further restrictions are specified regarding the ability of a vessel to cross over from one fishery to another (groundfish, crab, or halibut) during the moratorium, regardless of past participation.

##### 4. **Replacement or Reconstruction of Vessels During the Moratorium**

- a. A vessel may be replaced with a vessel of similar capacity, but the replaced vessel must leave the fishery. Reconstruction of vessels is allowed to upgrade safety, stability, or processing equipment, but not to increase fishing capacity. The intent of the Council is to freeze the number of vessels participating in the designated groundfish, crab, and halibut fisheries, and to allow for no increase in the capacity of existing vessels. The analysis will examine the alternative procedures for measuring and managing vessel capacity, and how appropriate restrictions might be implemented.

**5. Replacement of Vessels Lost or Destroyed During the Moratorium**

- a. Can be replaced with vessels of similar capacity. Replaced vessels cannot be salvaged and come back into the fishery.

**6. Replacement of Vessels Lost or Destroyed Before the Moratorium**

- a. Vessels lost since January 1, 1990, can be replaced with vessels of similar capacity. Replaced vessels cannot be salvaged and come back into the fishery
- b. Vessels lost since January 1, 1989, can be replaced with vessels of similar capacity. Replaced vessels cannot be salvaged and come back into the fishery

Eligible lost or destroyed vessels replaced under either criteria would have to make a landing in one of the Council-managed fisheries within two years of implementation of the moratorium in order to qualify.

**7. Small Vessel Exemption**

- a. No specific provisions are made that would exempt categorically small vessels from the moratorium. The analysis will assess the impacts of a moratorium on small vessel operators and their fishing activities.

**8. Disadvantaged Communities**

- a. There will be no exemption for disadvantaged communities from the vessel moratorium.
- b. Vessels used by disadvantaged communities would be exempt from the vessel moratorium only with respect to those fisheries designated by an applicable community development quota (CDQ).
- c. All vessels approved for CDQs would be exempt from the moratorium.

For purposes of analysis, the Council considers disadvantaged communities to include those communities receiving CDQs under the BSAI Amendment 18 Inshore/Offshore pollock allocation, and/or the halibut and sablefish fixed gear IFQ Amendments. ???

**9. Minimum Qualifying Poundage**

- a. No minimum qualifying poundage, all that is required is a legal landing or processing from one of the applicable groundfish, crab, or halibut fisheries in any qualifying year.

**10. Applicable Sectors of the Industry**

- a. The moratorium will be applied to the harvesting sector only, including catcher vessels and catcher-processor vessels in the designated groundfish, crab, and halibut fisheries

**11. Appeals**

- a. The appeals procedure will consist of an adjudication board of government persons and non-voting industry representatives

**12. Halibut and Sablefish Fixed Gear Vessels**

- a. There will be no exemption for halibut and sablefish fixed gear vessels
- b. Halibut and sablefish fixed gear operators that would come under the provisions of the proposed IFQ Amendment will be exempted from the vessel moratorium as it affects halibut and sablefish operations

**1.4.2.2 Fisheries Included in the Moratorium**

The moratorium will encompass all fisheries for which there exists a North Pacific Council FMP (excluding Salmon), and for Halibut in the North Pacific. Currently, the Council maintains four management plans; 1) GOA groundfish, 2) BSAI groundfish, 3) BSAI king and Tanner Crab, 4) Salmon Fisheries in the EEZ off the Coast of Alaska. The Council also has authority under the Northern Pacific Halibut Act of 1982 to allocate halibut off the coast of Alaska among U.S. fishermen. Vessels fishing under the Salmon plan were explicitly excluded from consideration under the moratorium, as well as all other fisheries not managed by a FMP. Examples of excluded fisheries include all crab fisheries east of South Cap Light (164°47'30"), all other shellfish in the GOA, all salmon and herring fisheries, groundfish fisheries harvested in state waters, and sablefish fisheries managed by the State of Alaska. Table 1.1 lists the species and areas covered by the vessel moratorium.

**Table 1.1 Fisheries Included in the Proposed Moratorium**

Management Plan	Area Covered	Species Category	Species
GOA Groundfish	The plan encompasses that portion of the GOA within the 3 to 200 mile EEZ between 132°40'W and 170°W.	Pollock	Pollock
		Pacific Cod	Pacific Cod
		Flounders	Deepwater Flathead sole Shallow water Arrowtooth
		Rockfish	Pacific Ocean Perch Other Slope Demersal Shelf Pelagic Shelf Thornyheads
		Sablefish	Sablefish
		Other Species	Atka Mackerel Squid Sculpins Sharks Skates Eulachon Smelts Capelin Octopus
		Non-specified Species	All finfish not listed above, except species noted below.

Note: The GOA groundfish plan covers all foreign and domestic fisheries for all finfish except salmon, steelhead, halibut, herring and tuna.

**Table 1.1 Fisheries Included in the Proposed Moratorium**

Management Plan	Area Covered	Species Category	Species
BSAI Groundfish	The plan encompasses the EEZ in that portion of the North Pacific Ocean adjacent to the AI which is between 170°W and the U.S.-Russian Convention Line of 1867, and the Eastern BS.	Pollock	Pollock
		Pacific Cod	Pacific Cod
		Flatfish	Yellowfin sole Greenland Turbot Arrowtooth Flounder Rock Sole Other Flatfish
		Sablefish	Sablefish
		Rockfish	POP Complex Other Rockfish
		Atka Mackerel	Atka Mackerel
		Squid	Squid
		Other Species	Sculpin Eulchon Capelin Shark Skates Smelt Octopus
		Non Specified Species	all species not listed above or exempted below.
<p>Notes: The BSAI groundfish plan covers all domestic and foreign fisheries for all finfish and marine invertebrates except salmonids, shrimps, scallops, snails, king crab, Tanner crab, Dungeness crab, corals, surf clams, Horsehair crab, Lyre crab, Pacific halibut, and Pacific Herring.</p> <p>The POP complex includes true Pacific ocean perch, Rougheye rockfish, Shortracker rockfish, Sharpchin rockfish, and Northern rockfish.</p>			
BSAI King and Tanner Crab	The plan applies only to the BSAI area defined as those waters south of the Bering Strait, east of the U.S.-U.S.S.R. convention line, and extending south of the Aleutian Islands for 200 miles from South Cap Light (164°47'30").	Tanner Crab (genus Chionoecetes)	C. bairdi C. opilio C. angustatus C. tanneri C. japonicos
		King Crab	red king crab blue king crab brown king crab or (golden king crab)
Northern Pacific Halibut Act of 1982	All maritime waters off the coast of Alaska, extending from 0 to 200 miles, bounded by the U.S.-U.S.S.R. Convention line on west.	Pacific Halibut	Pacific Halibut

### 1.4.2.3 Implementation

The implementation of a moratorium is essentially a matter of issuing licenses for qualified vessels and tracking the vessel configuration to verify adherence to capacity restrictions. However, there are, several levels of possible enforcement and vessel qualification checks which could occur.

The most basic level of qualification checking would occur when a vessel owner applies for a permit to harvest fish in moratorium fisheries. The vessel identification would be checked against landings data going back through the applicable qualification dates. If the vessel was found to have made a landing in a moratorium fishery then the owner would be issued a license and a boat decal verifying that the vessel was qualified to fish in any of the moratorium fisheries.

A second level of qualification checking would require the maintenance of a vessel database containing all vessels which qualify to participate in the moratorium regardless of whether licensing applications had been submitted. This would be a "master" database which would be the baseline for determining all vessel qualifications. NMF3 would make this database accessible to the public to assist persons wishing to verify moratorium eligibility in sales agreements.

Implementation and enforcement would also involve a system of verification or inspections of relevant capacity measures, such as vessel length. In this case, enforcement of the moratorium may have to include inspection of vessels to verify no changes in length.

Special implementation and enforcement considerations will have to be made for vessels being replaced with new vessels. This could occur in four steps: 1) verification that the owner of the replacing vessel has the authority to replace the exiting vessel. 2) verification that the capacity of replacing vessel does not exceed that of the replaced vessel; 3) removal of the replaced vessel from the qualified list of vessels and revoke any existing moratorium fish harvesting rights; and 4) issuance of a moratorium permit to the replacing vessel.

### 1.4.3 Other Management Alternatives Considered

The Council's objective in this proposed amendment is to freeze the size of the current fleet and prevent speculative increases in capacity during the period that comprehensive limited access alternatives are being considered. While recognizing that overcapitalization and excess capacity are the underlying problems, the Council's near term actions are not expected to resolve these issues, so much as prevent a worsening of the situation. A moratorium on new vessels entering the fishery has been proposed as a direct means of accomplishing this objective. Other Council management alternatives have been considered in the discussions leading up to the moratorium proposal, and subsequently rejected. These alternatives are briefly summarized here, along with the reasons for rejection.

Traditional, broad-based effort limitation schemes including trip limits, exclusive registration zones, shortened seasons, or capital input constraints have been applied in various dimensions of fishery management. Certain of these, particularly season management, are central features of the Council's present fishery management policy. A shortcoming of these solutions in the context of the problem statement is that so long as open access is maintained, they are largely ineffective in limiting additional entrants or effort. Nor do these alternatives deter those entrants seeking to establish speculative rights to future allocation of the resource. Thus, the harvesting and processing capacity of the fleet may continue to grow legitimately, accompanied by a decline in catch per unit effort (CPUE). While such measures may prove effective in pursuing certain conservation goals, these approaches do not adequately address

the Council's objectives regarding a moratorium, and may even contribute to inefficient operations and further overcapitalization of effort.

In the realm of limited access alternatives, measures such as license limitations or individual quotas appear to more directly address overcapacity problems. As such, these alternatives also must resolve the underlying allocation conflicts accompanying the overcapitalization dilemma. That is, these are solutions to the overall problem, extending beyond the near term objective of the Council. This does not presume that limited access measures offer an automatic solution to problems of overcapitalization and excess effort; these determinations must be made by the Council in developing a long term solution to these problems. Neither license limitation nor individual quota schemes are likely to be implemented in the near term because of the in-depth analysis necessary to resolve the interrelated problems and implement a solution. During the time the Council is considering limited access alternatives, it is likely that new vessels will continue to enter the fishery, further aggravating excess capacity problems and allocation conflicts. Thus, a moratorium may enhance the development of limited entry alternatives, but measures such as license limitations or individual quotas are not reasonable alternatives to a moratorium in the short term.

The moratorium elements and options discussed above place limits on the scope of the proposed alternative consistent with the problem statement and management objectives. These features stop short of certain provisions that are considered to be more allocative in nature. For example, options such as restricting cross-overs or establishing quota base periods have been excluded as options, reasoning that such determinations are more appropriate in the design of the long term comprehensive plan.

## 1.5 Purpose and Organization of the Analysis

This document provides background information and assessments necessary for the Secretary to determine if the amendment is consistent with the Magnuson Act and other applicable laws. It also provides the public with information to assess the alternatives that are being considered and to comment on the alternatives. These comments will enable the Council and Secretary to make more informed decisions concerning the resolution of the management problems being addressed.

### 1.5.1 Environmental Assessment

One part of the analysis is an environmental assessment (EA) that is required for compliance with the National Environmental Policy Act of 1969 (NEPA). The purpose of the EA is to analyze the impacts of major federal actions on the quality of the human environment. The EA serves as a means of determining if significant environmental impacts could result from a proposed action. If the action is determined not to be significant, the EA and resulting finding of no significant impact (FONSI) would be the final environmental documents required by NEPA. The determination of "significant" requires consideration of both context and intensity. Context means that significance of an action must be analyzed with respect to society as a whole, the affected region and interests, and the locality. Both short- and long-term effects are relevant. Intensity refers to the severity of the impact. The following factors should be considered in evaluating intensity:

1. Impacts may be both beneficial and adverse.
2. Degree to which public health or safety is affected.
3. Unique characteristics of the geographic area.

4. Degree to which effects are likely to be highly controversial.
5. Degree to which effects are highly uncertain or involve unique or unknown risks.
6. Degree to which the action establishes a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
7. Individually insignificant but cumulatively significant impacts.
8. Degree to which the action adversely affects entities listed in or eligible for listing in the National Register of Historic Places, or may cause loss or destruction of significant scientific, cultural, or historic resources.
9. Degree to which endangered or threatened species, or their habitat, are adversely affected.
10. Whether a violation of Federal, State, or local law for environmental protection is threatened.

"Affecting" means will or may have an effect. "Effects" include direct, indirect, or cumulative effects of an ecological, aesthetic, historic, cultural, economic, social, or health nature.

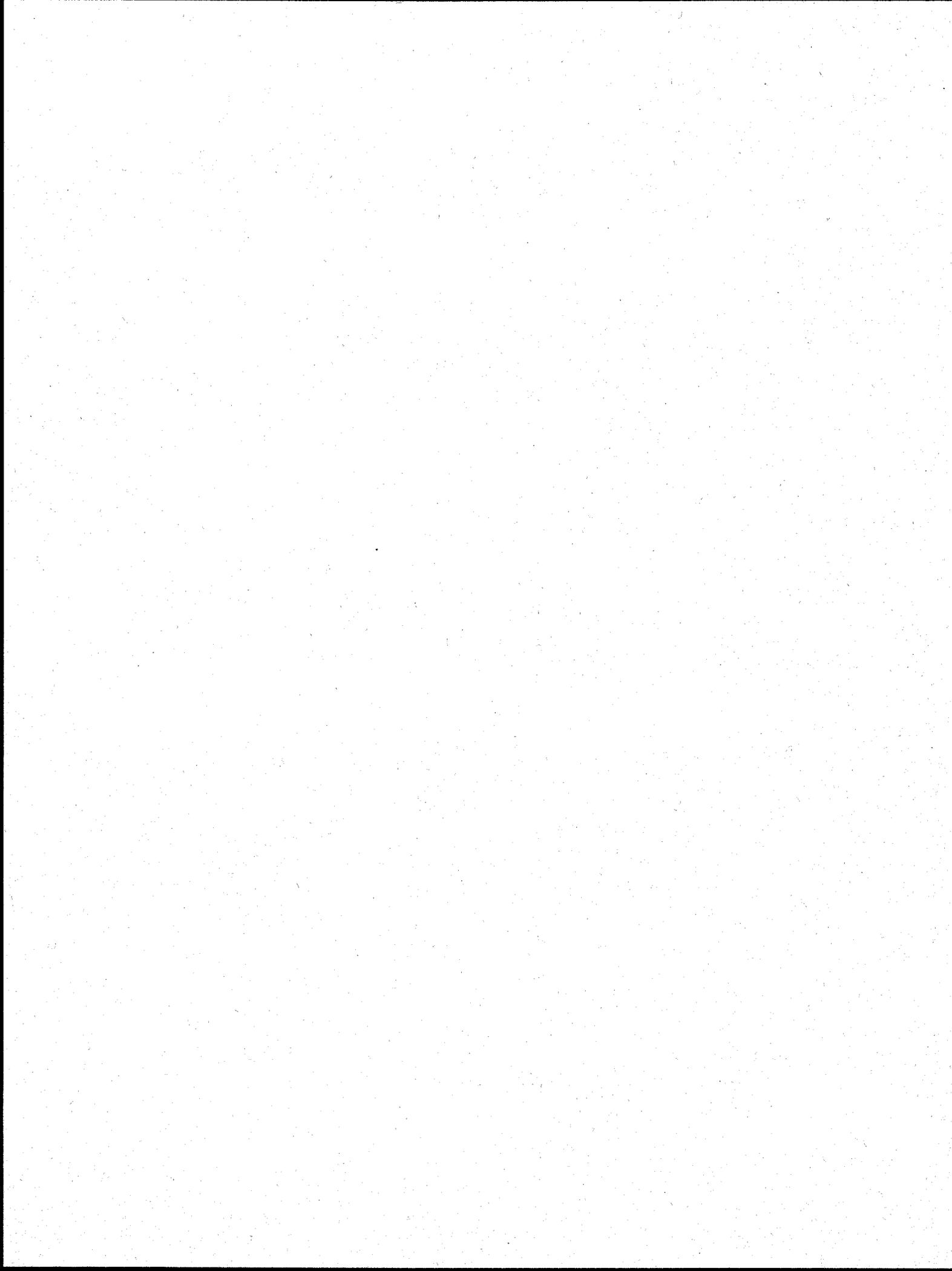
#### 1.5.2 Regulatory Impact Review

Another part of the analytical document is the Regulatory Impact Review (RIR) that is required by the National Marine Fisheries Service (NMFS) for all regulatory actions. The purpose of the RIR is to: 1) provide a comprehensive review of the level and incidence of impacts associated with a proposed or final regulatory action; 2) provide a review of the problems and policy objectives prompting the regulatory proposals and an evaluation of the major alternatives that could be used to solve the problems; and 3) ensure that the regulatory agency systematically and comprehensively considers all available alternatives so that the public welfare can be enhanced in the most efficient and cost effective way.

The RIR also serves as the basis for determining if any proposed regulations are deemed "major" under criteria provided in Executive Order (E.O.) 12291, and whether or not proposed regulations will have a significant economic impact on a substantial number of small entities in compliance with the Regulatory Flexibility Act (P.L. 96-354, RFA). The primary purpose of the RFA is to relieve small businesses, small organizations, and small governmental jurisdictions (collectively, "small entities") of burdensome regulatory and record-keeping requirements. This Act requires that the head of an agency must certify that the regulatory and record-keeping requirements, if promulgated, will not have a significant effect on a substantial number of small entities or provide sufficient justification to receive a waiver.

#### 1.5.3 Organization of the Document

Chapter 1 provides an overview of the situation, problem, and objectives leading to the vessel moratorium amendment proposed by the Council. The EA is contained in Chapter 2, followed by the RIR in Chapter 3. The RIR includes an analysis of the status quo and moratorium alternatives, as well as an overview of the affected fisheries. Chapter 4 summarizes the findings, including the fishery impact statement, net national economic impacts, and impacts on small entities. Chapter 5 contains the references cited in the analysis, chapter 6 lists the preparers, and chapter 7 lists the agencies and organizations consulted in preparing the EA/RIR. Lastly, chapter 8 presents its preferred alternative adopted as the proposed moratorium amendment by the Council during June 21-28, 1992 meeting.



## 2.0 ENVIRONMENTAL ASSESSMENT

As described in Section 1.5.1 of this document, an integral part of this analysis consists of an EA to analyze the potential effects of a proposed action on the quality of the human environment. The EA serves as the means of determining whether if significant environmental impacts could result from the proposed action. Under a finding of no significant impacts (FONSI), this EA would be the final document required for NEPA purposes. Alternately, an environmental impact study (EIS) must be prepared if the proposed action may be reasonably expected to: (1) jeopardize the productive capability of the target resource species or any related stocks that may be affected by the action; (2) to allow substantial damage to the ocean and coastal habitats; (3) to have a substantial adverse impact on public health or safety; (4) to affect adversely an endangered or threatened species or a marine mammal population; or, (5) to result in cumulative effects that could have a substantial adverse effect on the target resource species or any related stocks that may be affected by this action.

A discussion of the background, need for proposed action, and alternatives has been presented in Chapter 1. This discussion includes a description of the problems facing the fishery which the proposed action is intended to alleviate. The excess harvesting capacity and overcapitalization of the fishing fleet off Alaska has threatened the ability of the Council to achieve OY from the fisheries from biological, economic, and social perspectives. Chapter 1 includes a discussion of the council's goals and objectives in considering the management alternatives contained herein.

The EA is arranged in two major sections: (1) Section 2.1 provides a description of the biological and physical environment in the areas which would be affected by the proposed action, and (2) Section 2.2 discusses the potential affects on the quality of the human environment and on the affected resources of the proposed action as well as alternatives within the proposed action.

### 2.1 Description of the Physical and Biological Environment

#### 2.1.1 The Physical Environment

The physical environment consists of waters off Alaska: The BSAI region and the GOA. The BS has a broad continental shelf in the east, a distinct narrow continental slope, and a deep central Basin. Northern portions of the BS area are seasonally covered by sea ice. The GOA has a narrow continental shelf which drops off rapidly into the continental slope and the deep Basin.

The area of the BS is about 2.3 million square kilometers. On the south, the Aleutian/Commander Islands Arc forms a partial barrier between the BS and the Pacific Ocean. This chain consists of more than 150 islands, and is about 2,260 kilometers long. The continental shelf of the Aleutians is narrow and discontinuous, with a breadth ranging between 4 and 46 kilometers. The broader parts of this shelf are in the eastern Aleutians. The Aleutian Trench, a large canyon stretching from the central GOA to the Kamchatka Peninsula, adjoins the Aleutian/Commander chain on the south.

Aside from the Aleutians and Commanders, the BS has relatively few islands. The small Pribilof and St. Matthew Island groups lie adjacent to the continental slope of the northeastern BS. Nunivak Island lies just off the Alaska mainland between the Yukon and Kuskokwim deltas. St. Lawrence Island lies in the northern part of the BS, between Norton Sound and the Chukchi Peninsula.

## 2.1.2 Living Marine Resources

The biological environment consists of various trophic levels that translate energy from producers to consumers. Major groups of living marine resources include lower trophic levels consisting of phytoplankton and zooplankton, commercially important groundfish species, other finfish and shellfish, and apex consumers such as seabirds, marine mammals and man. This EA will stress the component and impact of fishing on the resources that are of commercial importance: groundfish, salmon, crabs, marine mammals, and seabirds. A brief description of these resources and their status follows:

### 2.1.2.1 Groundfish

Large-scale commercial fisheries for groundfish in Alaska waters were developed and dominated by foreign fleets from the early 1950's until the MFCMA was passed in 1976. This act produced one of the great success stories for development of a U.S. groundfish industry.

Though foreign fisheries dominated through 1983 (and were important through 1986) joint ventures between U.S. fishermen and foreign companies eventually replaced them as experience was gained. Later, even the joint ventures were superseded by domestic fishermen and processors. With the exception of Greenland turbot, the groundfish off Alaska have generally been in good to excellent condition. A brief summary of the condition of groundfish stocks is provided here. A detailed assessment of the status of each of the groundfish species can be found in the 1993 Stock Assessment and Fishery Evaluation (SAFE) documents for the BSAI and the GOA [NPFMC, 1991b,e].

### **SPECIES AND STATUS**

**Pacific Halibut:** Halibut is found from the BS to Oregon, though the center of abundance is in the GOA. The resource is considered as one large interrelated stock but is regulated by subareas with catch quotas and time-area closures. It has been fished commercially since the late 1800's; it is now fished only with longline gear, though other gear types catch some halibut incidentally. There is an active recreational fishery as well, and about 3,700 mt are landed by anglers.

The Pacific halibut is managed under treaty between the U.S. and Canada, and primary assessment and management recommendations are provided by the International Pacific Halibut Commission.

In 1990, nearly 37,000 mt of Pacific halibut were landed commercially (31,900 mt in the U.S. and 5,100 mt in Canada). About 2,000 mt were wasted owing to fishing by lost gear and discard, and 10,000 mt were lost to incidental catches by fishermen targeting other species. Over 6,500 U.S. vessels were licensed for the commercial halibut fishery, as were 435 Canadian vessels.

Halibut stocks are assessed annually, and the fishable population apparently peaked at 166,000 mt in 1986-87 after a rebuilding period. The population has since declined at about 5%/year. Some decline is still expected, but halibut numbers remain fairly high by historical standards. The species is fully utilized.

### **Bering Sea-Aleutian Islands Groundfish**

The average eastern BSAI groundfish catch during 1988-90 was about 1.8 million t, valued at about \$352 million in 1990. The dominant groups harvested were walleye pollock (75%), flatfishes (15%), Pacific cod (7%), Atka mackerel (1.4%), rockfishes (0.4%), and sablefish (0.3%).

Groundfish populations have been maintained at high levels under the MFCMA. Their long-term potential yield (LTPY) is about 2.71 million mt. The current potential yield (CPY) of 2.93 million mt for 1991 is above LTPY. This potential has not been fully utilized because catch quotas cannot exceed the OY. The OY is conservatively set below CPY, at 2.0 million mt out of consideration for both socioeconomic factors and biological yield potential.

**Walleye Pollock:** Pollock produce the largest single-species catch for the United States. The three main stocks, in decreasing order of abundance, are: Eastern BS (EBS) stock, Aleutian Basin (AB) stock, and the AI stock. The EBS and AI stocks are moderately high and are now fully utilized.

Another large pollock fishery lies outside the U.S. and Russian EEZ's in the "donut hole" of the central BS. The fishery is dominated by Japan, Russia, Poland, China, and the Republic of Korea. The fishery targets the AB pollock stock during its migration through the donut hole area. Catches from this stock appear far too high. The stock has declined substantially from the 1986 peak abundance: the 1991 biomass was only 17-36% of peak.

**Pacific Cod:** Pacific cod abundance remained high and stable throughout the 1980's. However, the 1990 survey showed a 26% drop from 1989. This decline and poor production over the past 2 years may be due to changing environmental conditions or ecological relationships. The cod stock is fully utilized.

**Flatfishes:** Yellowfin sole is the most abundant of the flatfishes. During the 1950's, the sole was the major trawling target, but it now ranks second to pollock. Yellowfin sole is fully utilized. Greenland turbot, the only depressed flatfish stock, is expected to decline further during the mid-1990's owing to poor spawning success in the 1980's. It is considered fully utilized.

All other flatfish species are in good-to-excellent condition. Populations continue to be high and increasing for arrowtooth flounder and high and stable for rock sole, flathead sole, Alaska plaice, and other flatfishes. The rock sole is now the second-most abundant of the flatfishes, increasing substantially from 1980. It is underutilized, as are other flatfishes.

**Sablefish:** Sablefish or black cod is a valuable species caught mostly with longline and pot gear. The resource is considered to be a single stock from the BSAI region to the GOA. The BSAI population declined substantially in 1990, partly due to migration into the GOA. Current abundance is relatively high, though recruitment has not been strong. The sablefish is fully utilized.

**Rockfishes:** Rockfishes are assessed and managed as two major groups: Pacific ocean perch (POP) and "other rockfish." The POP group consists of the true Pacific ocean perch and four other red rockfish species. POP abundance dropped sharply owing to intensive foreign fisheries in the 1960's and remained low into the early 1980's. In recent years, catch levels have been set well below ABC to help rebuild the stocks. The POP group is now recovering and is considered fully utilized.

The "other rockfish" group includes two thornyhead species and about 30 other rockfish species not included in the POP group. Little is known about them, but they are considered fully utilized.

**Atka Mackerel:** Atka mackerel stocks, mainly in the Aleutian region, are hard to survey. Thus, population trends cannot be easily inferred from survey and catch data. The ABC of Atka mackerel was previously estimated as the average catch levels; but the stock synthesis model has been applied to estimate the value in 1991. The model estimates indicate that the stock biomass was higher than previously estimated and this species may be in average levels of abundance, though average levels of abundance are difficult to quantify. The resource is considered fully utilized.

**Other Species:** In recent years, "other species" catches have represented 1% or less of the total groundfish catch. Sculpins and skates probably constitute most of this resource, but the abundance of pelagic squids, smelts, and sharks is largely unknown. Owing to insufficient data, the ABC has been set at the average catch levels.

### **Gulf of Alaska Groundfish**

GOA groundfish catches have ranged from a low of 135,400 mt in 1978 to a high of 352,800 mt in 1984 with pollock dominant, followed by Pacific cod and sablefish. Groundfish abundance has been relatively stable, rising slowly from 1984 to 1990. Arrowtooth flounder is most abundant, followed by pollock and Pacific cod. In 1990, arrowtooth flounder composed 2 million mt of the Gulf groundfish biomass (5.3 million t); pollock, 1.4 million mt; and Pacific cod, 0.5 million mt. The estimated LTPY for GOA groundfish is 493,600 mt.

**Pollock and Pacific Cod:** Pollock appear to be at an average population level, but it is difficult to determine current biomass and an appropriate fishing mortality rate. The pollock are fully utilized. Pacific cod are abundant and fully utilized, but are expected to decline. Reproduction has not kept pace with natural and fishing losses.

**Flatfish, Sablefish, and Rockfish:** Flatfish are in general very abundant, largely owing to great increases in arrowtooth flounder. Flatfish are managed as deep-water and shallow-water groups, while flathead sole and arrowtooth flounder are managed as separate categories. Sablefish are numerous and are in good condition, though they are projected to decline owing to low recruitment. They are fully utilized.

"Slope" rockfish, those found on the continental slope from the outer edge of the continental shelf down to the abyssal plain, are at low levels and are fully utilized. They grow slowly, are long-lived, have not rebounded from the heavy foreign fishing in the 1960's, and are considered fully utilized. The principal species in this group, Pacific ocean perch, shortraker rockfish, and rougheye rockfish, are highly valued. They are in a separate management category. Thornyhead rockfishes are also believed to be at a low level and decreasing. The population of continental shelf rockfishes (pelagic and demersal) is uncertain and needs further research. Managers try to set the fishing mortality rate equal to the natural mortality rate.

#### 2.1.2.2 Pelagic Fish

Pacific herring range throughout Alaska waters and is the major pelagic species of commercial importance of Alaska. Major concentrations in the GOA occur in southeastern Alaska, Prince William Sound, and Kodiak Island-Cook Inlet. Northern Bristol Bay and Norton Sound are major centers of abundance in the BS. Fewer herrings are found in the Chukchi Sea and Arctic Ocean; fishable concentrations have only been found in Kotzebue Sound.

Herrings are fished in state waters, and they are managed by the Alaska Department of Fish and Game (ADF&G). Since the early 1970's, fishermen have concentrated on harvesting roe-herring, though a small amount is taken for bait. Herrings were harvested in the EBS EEZ by foreign fisheries from 1959 to 1980 when allocations ended, prohibiting herring harvests in Federal waters.

The ADF&G regulates and monitors 20 separate herring fisheries, in which 40,700 mt were harvested in 1990. Most were roe-herring (34,500 t), and the rest went for food and bait (6,200 t) and roe-on-kelp (400 t).

GOA harvests have averaged 18,000 mt since 1977. BS catches rose from 14,000 mt in 1977 to peak at nearly 37,000 mt in 1985. Since 1985, that catch has been declining. Herrings taken in the BS groundfish fishery cannot be retained, but are counted as part of the catch. The herring bycatch averaged 2,000-4,000 mt in the foreign and joint-venture fisheries, but may have been higher in the domestic trawl fishery.

Overall herring abundance in the GOA is at moderate to high levels, though some stocks are depressed or declining. A strong 1984 year-class is reported in most fisheries. Also, the very strong 1988 year-class reported in southeastern Alaska and Prince William Sound waters is expected to further boost GOA herring abundance in 1992.

Herrings have declined in the southeastern BS, but are stable-to-increasing in the northeastern BS. The 1977-78 year-classes were very strong and have sustained the fisheries through the 1980's. Historically, a strong year-class has occurred at 5- to 6-year intervals, but none occurred in the 1980's. Unless recruitment improves soon, declines are expected to continue in spawning areas south of Norton Sound.

### 2.1.2.3 Salmon

Alaska's Pacific salmon fisheries contribute to the world's food supply, the economy and health of the Nation, and rank as the state's largest nongovernmental employer. They also provide recreational opportunities and are an integral part of Alaska's native culture and heritage.

Pacific salmon spend a portion of their life (1-7 years) at sea and return to freshwater streams to spawn and die. From their freshwater spawning grounds, the young salmon may migrate thousands of miles out to sea and into international waters outside of the EEZ.

The U.S. Alaska salmon industry began with purchase of the territory from Russia in 1867. Catch levels have varied widely since then. By 1896, the Alaska salmon catch reached 11.5 million fish and increased to 126 million by 1936. Catches declined after 1941 to a low of 22 million in 1974. In the 1980's, catches increased, hitting an all-time high in 1989 of 155 million salmon. Sport catches of salmon in 1988 totaled about 908,000 fish in all waters. The 1990 state-wide catch (305,123 t) was slightly lower than the 322,528 mt taken in 1989.

Alaska's 34,000-mile coast is nearly two-thirds the length of the coastline of the "lower 48" states. Salmon management in such a vast area requires a complex mixture of domestic and international bodies, treaties, regulations, and agreements. Federal and state agencies participate in the Council. Salmon management is also negotiated with Canada in the Pacific Salmon Commission, with Canada and Japan in the International North Pacific Fisheries Commission (INPFC), and via bilateral and multilateral talks and negotiations with Taiwan and the Republic of Korea.

Management in the EEZ is the responsibility of the NMFS and the Council. The Council leaves to the INPFC the management of foreign salmon fisheries in the EEZ west of long. 175°E. The Alaska Department of Fish and Game (ADF&G) manages all fisheries in state waters.

## SPECIES AND STATUS

Alaska's five salmon species (chinook, coho, chum, sockeye, and pink) are fully utilized, and stocks generally have rebuilt to or beyond previous high levels. Some stocks, like chinook and coho, may be harmed by foreign high-seas catches. High-seas catch data are incomplete and more research is needed so salmon of American and Asian origin can be identified and protected.

Some salmon may be regionally overutilized. In Bristol Bay, chinook catches are far below recent averages—the 1990 catch was the second smallest of the 1950-90 period. In the lower Yukon area, chinook catches are about 21% below par. Meanwhile pink salmon in Bristol Bay are far below 1970-89 harvests, and wild sockeye and chum salmon in Prince William Sound have declined.

#### 2.1.2.4 Crab and Other Shellfish Resources

Exploratory crab and shrimp fishing began off Alaska during the 1940's and 1950's. The first major domestic king crab fishery began in the 1960's off Kodiak Island, later expanding to the AI and BS. Domestic tanner crab fisheries became important during the 1970's, as did the shrimp fisheries of the GOA. A Japanese snail fishery developed in the BS during the 1970's but ended in 1987. Shellfish fisheries in Alaska waters have shown large fluctuations in landings, owing to extremely variable population size.

### **SPECIES AND STATUS**

**Crab:** Three species of king crabs (red, blue, and golden or brown) and two species of tanner crabs (bairdi and opilio) are harvested commercially off Alaska. About 250 vessels, mostly large and modern and each fishing an average of 300-350 pots, make up the BSAI crab fleet. Over 400 vessels harvest crabs in the GOA, although there is considerable vessel overlap between the areas.

Catches are restricted by quotas, seasons, and size and sex limits. Fishing seasons are set at times which avoid molting, mating, and softshell periods, both to protect crab resources and to improve product quality. Limits on the number of pots per vessel are in effect in most areas of the Gulf. Vessels are also restricted by the number of management areas they may fish in any given year. Vessels which both catch and process crabs are required to have observers throughout the season to monitor the catch and compliance with regulations.

Catch and abundance trends for king crabs fluctuated greatly during 1960-90. After a 1964-66 peak, declines were evident. Until 1967, Japanese and Soviet fisheries dominated BS landings, but those fisheries were phased out during bilateral negotiations until foreign fishing ceased in 1974. During the late 1970's, domestic catches built to record levels in the BS, peaking at 74,000 mt in 1980. Gulf catches varied at a relatively low level for a decade before dropping lower yet in 1983. Almost all GOA king crab fisheries have been closed since 1983. In the BS, catches dropped precipitously in 1981, followed by further declines to a low in 1983. Since then, there has been a gradual increase in the catch.

BSAI tanner crab catches are largest in the eastern BS. The 1965-75 period was a developmental phase. During 1975-85, the catch peaked at about 49,000 mt in 1979 and then declined. Since 1984, the catch has increased, reaching about 85,000 mt in 1990. Abundance trends for the eastern BS stocks indicate that the bairdi stock declined from a relatively high level in the late 1970's to a low in 1985. Since then, the BS bairdi stock has recovered and is currently approaching its former level. From a low in 1985, the opilio stock has rebounded sharply and is approaching an all-time high level. The catch in the GOA, composed exclusively of bairdi, reached peak levels during the 1970's, following a developmental phase in the late 1960's. Since 1979, the GOA catch has declined.

**Shrimp and Sea Snail** -- The U.S. fishery for shrimp in Alaska waters is at a low level. The western GOA has been the main area of operation. During the 1970's, when the fishery was more productive, 50-100 vessels trawled for shrimp at Kodiak and along the Alaska Peninsula. Five species of shrimp contribute substantially to Alaskan landings, of which the northern pink shrimp is most important.

Shrimp landings in the GOA during 1960-90 show that catches rose steadily to about 58,000 mt in 1976 and then declined precipitously. Since 1988, negligible amounts of shrimp have been landed from western Alaska waters.

As with crabs, the potential yields of Alaska shrimp stocks are not well understood, and have been equated to recent catches. Shrimp are managed by regulating the catch levels according to the level of the stocks. In addition, spring "egg hatch" closures are used to protect breeding stocks.

The Japanese fishery for snails, conducted from about 1971 until ending in 1987, reached a peak of some 13,000 mt in 1974. Catches averaged about 4,800 mt during 1971-87. The snail stocks of the BS are underutilized because they are currently not fished.

#### 2.1.2.5 Marine Mammals

Substantial populations of eight pinniped species as well as the sea otter and polar bear occupy a variety of BS habitats on either an annual or seasonal basis. Northern fur seals are highly migratory, seasonally occupying the southern BS. Northern sea lion, harbor seal, and sea otter populations are concentrated in the southern BS and are relatively sedentary, although seasonal dispersals commonly occur. Some sea lion haulouts also exist further north. Walrus and some seals (spotted or largha, bearded, ribbon and ringed seals) are ice-associated for much of the year, depending on this substrate for critical phases of their annual cycle including birth, mating and molting, and their more northerly distribution reflects this habitat preference. Polar bears occupy ice habitats in the northern BS. For this species, as well as ice-associated pinnipeds, ice provides a substrate for resting and other activities near their food supply. Abundance of these latter species in the central and northern BS varies seasonally and is tied closely to the extent, physical characteristics and timing of formation or disintegration of sea ice.

**Northern Fur Seal:** The world population of the northern fur seal is estimated to be about 1.2 million. Of these, between 800,000 and 830,000 comprise the Pribilof Islands population. From 1975 to 1981 the Pribilof population is estimated to have declined at a rate of about 4-8% per year. Entanglement in nets, net fragments and other debris may be an important contributing factor in this decline. Since 1981, the estimated rate of decline in pup numbers on St. Paul Island is about 1.8% per year (bases on data through 1991); the number of adult males has declined significantly on both islands.

Fur seals are highly migratory and lead a pelagic existence in the nonbreeding season from November to May or June. During this period, they are widely dispersed in offshore waters of the North Pacific (70-130 km offshore), from the southern BS south to the California/Mexico border. Females of all ages (and young males 1-4 yr old) are found in the GOA and the eastern North Pacific Ocean during winter and spring. Only the younger immature males (ages 1-5 yr) migrate south of Alaskan waters with few exceptions. Nearly all of the older males winter in Alaskan waters primarily in the GOA, north and south of the EAI and the BS. Breeding fur seals typically arrive at the Pribilof Islands in late April/May. Most fur seals begin their southward migration in late October-early November and the majority or all have departed the Pribilof Islands by mid-December.

Fur seals typically forage over the outer shelf and shelfbreak as far as 400 km away. This range incorporates the eastern Aleutian passes (Fox Islands) and also extends northwestward along the shelfbreak to at least 175° W. Long. Fur seals forage mainly at night and early morning on various schooling fishes which congregate in areas of nutrient upwelling.

BS habitats of major importance to fur seals include: (1) rookeries and haulout areas on the Pribilof Islands, (2) outer shelf and shelf break areas where fur seals forage, (3) a broad corridor including the

shelf break between the Pribilofs and eastern Aleutian passes, (4) eastern Aleutian passes, primarily Unimak Pass, utilized as migratory routes in spring and fall.

Extensive studies of the diet of northern fur seals indicate variation by season and location, however dominant prey consist of pollock, capelin, squid, and other pelagic fishes. Much of the pollock eaten by fur seals is from younger age classes.

Steller Sea Lion: Sea lions occur over the continental shelf throughout the BS, though haulouts are less numerous north of the Pribilof Islands than in the south. A breeding rookery occurs in the Pribilof Islands (Walrus Island) and numerous rookeries occur in the AI and elsewhere in Alaska. The sea lion population in most of Alaska, and particularly the eastern AI and BS, has exhibited a steady decline of about 2.7% per year since the 1950s. This has resulted in a marked decline of adult sea lions in eastern AI rookeries from about 50,000 in the 1960s to about 10,000 in 1985. Surveys in other areas indicate that this decline is not simply a result of dispersal from the eastern Aleutians.

Sea lions do not migrate; however, there is a definite dispersal from rookeries following the breeding season. Several hundred nonreproductive sea lions occur infrequently at St. Matthew and Hall Islands in summer. Movement of males from the Aleutians (and possibly the Pribilofs) to the ice edge apparently occurs in winter. In spring (March-April) some sea lions utilize the ice front prior to the disintegration of ice in the central BS, especially in the vicinity of the shelfbreak.

At least 25 rookeries have been identified in the AI; in addition, one is found in the Pribilof Islands, and one near Amak Island near the Alaska Peninsula. Males and subadults of both sexes haul out at many locations not used as rookeries, and many rookeries are occupied year-round. Mature animals arrive at the rookeries for breeding in early May. By mid-July most breeding activity has ceased. The molting period lasts through October.

Sea lions usually forage from the continental slope shoreward within 24 kilometers of shore; however, they have been observed in excess of 150 km offshore. Many of the individuals that have been reported as migrating probably were just foraging at sea. Diet of northern sea lions includes squid and pelagic and demersal fishes, most importantly capelin, sand lance, pollock, and Pacific cod. Size of pollock consumed by sea lions ranges from age 1 fish to adults greater than age 10, however most of the pollock consumed are ages 1 to 3.

Pacific Walrus: The Pacific walrus ranges from the Chukchi Sea to the southeastern BS and northern Kamchatka Peninsula. In 1985, the Pacific walrus population was estimated to number about 234,000. Most of the animals migrate north in summer and south in winter in association with seasonal movements of the pack ice. Herds of migrant walrus moving south from the Chukchi Sea appear in the St. Lawrence-Punuk Islands area in fall (October-December). During winter months (January - March) walrus may be found wherever openings are numerous in the drifting pack ice; most animals occur in the relatively thin ice west and as much as 300 kilometers southwest of St. Lawrence Island (including St. Matthew Island), and in the Bristol Bay area. A minimum of 2,000 were observed in the vicinity of St. Matthew Island in February of 1983. Smaller concentrations occur east of the Pribilof Islands and southwest of Cape Navarin. Mating occurs during this period, primarily in the St. Lawrence Island and Bristol Bay areas.

As the seasonal pack ice melts and the ice edge recedes northward in spring, usually beginning in April, pregnant females and those with young move north with it, leaving behind many adult and subadult males which move to coastal haulouts mostly in Bristol Bay and Bering Strait. In early spring, densities of 13.0 individuals/nm<sup>2</sup> between St. Lawrence and St. Matthew Islands and 4.2/nm<sup>2</sup> west of this area have been recorded. Calves are born on the ice in the northern BS from April to June (peak in early May) during

the northward migration. Some haulouts along the Chukchi peninsula and on St. Lawrence Island are used primarily during the full migration. Recent trends in several population parameters which have preceded declines in other wildlife populations suggest that the Pacific walrus population may experience a downward trend in the foreseeable future. Walrus are bottom feeders, feeding mainly on bivalve mollusks at depths of 80 meters or less. Other prey include gastropods, polychaetes, echinuroids and other benthic invertebrates.

Detailed descriptions of these and other marine mammals occurring off Alaska are contained in other documents. The Status of Living Marine Resources off Alaska as Assessed in 1991 (NOAA Technical Memorandum) contains descriptions of the status of various species of seals and whales.

#### 2.1.2.6 Seabirds

Seabirds are an integral part of the marine ecosystem of the North Pacific Ocean. They are particularly important from the standpoint of being top-level predators and because of their role in recycling nutrients throughout the entire Pacific basin.

Most seabirds in Alaska spend about 80% of their lives at sea where they feed. Seabirds, therefore, consume the commercial groundfish fishery for the same target species categories. Interactions between fishing operations, including fishery removals and gear conflicts, therefore, potentially can affect seabirds. During the breeding season when seabirds come on land, they depend on abundant prey in the immediate area. For many seabirds, these prey are composed of one or two species, which are, therefore, critical to the success of seabirds.

The U.S. Fish and Wildlife Service has management responsibility for seabirds in Alaska. It has prepared a draft Alaska Seabird Management Plan (U.S. FWS, 1991) for purposes of developing seabird management strategies. The status and trends of seabird populations in Alaska are detailed in that plan.

The most numerous seabirds in Alaska are northern fulmars, storm petrels, kittiwakes, murrelets, auklets, and puffins. These groups, and others, represent 38 species of seabirds that breed in Alaska. Eight species of Alaska seabirds breed only in Alaska and in Siberia. Populations of five other species are concentrated in Alaska but range through the North Pacific region. Marine waters off Alaska provide critical feeding grounds for these species as well as others that do not breed in Alaska but migrate to Alaska during summer, and for other species that breed in Canada or Eurasia and over winter in Alaska.

## 2.2 Physical and Biological Impacts on the Quality of the Human Environment

The following section addresses the potential environmental impacts of the two alternatives under consideration: (1) status quo and (2) a moratorium on new vessel entry into the groundfish, halibut, and crab fisheries under management authority of the Council. Options within Alternative 2 are also discussed where those options have relevancy to the issue of environmental impacts. Much of the detailed analysis concerning numbers and types of potential fishing vessels under each alternative (or option) is contained in Chapter 3. This includes a detailed description of the current, open access situation and the anticipated growth under this alternative as well as potential entry under the moratorium options in terms of both vessel numbers and overall fishing capacity. The EA will reference the analyses from Chapter 3 in the context of assessing the potential environmental impacts of the proposed actions. A summary of the alternatives, and options within the alternatives, which are relevant to this environmental assessment is as follows:

Alternative 1: Status Quo

Alternative 2: Moratorium on new vessel entry for a period of up to 6 years.

Option 1 (M1): All vessels which have fished since January 1, 1976, through the applicable control date would qualify.

Option 2 (M2): All vessels which have fished since January 1, 1980, through the applicable control date, would qualify.

Option 3 (M3): All vessels which have fished since January 1, 1988, through the applicable control date, would qualify.

Suboption: Exemption for small vessels.

The major areas of the proposed action, in terms of environmental effects, lies in the difference between (1) status quo vs a moratorium and (2) the options for the eligibility dates for the moratorium which directly affect the potential fleet size. The option for a small boat exemption is important in that it may drastically effect the overall number of potential vessels operating in the affected waters. Because the major differences in the alternatives/options revolve around the potential numbers of vessel under each option, the numbers of vessels corresponding to each option are provided below. These show the potential numbers of vessels, by size category, for each option:

Moratorium Options

<u>Vessel Size</u>	<u>M1</u>	<u>M2</u>	<u>M3</u>
<36'	10,981	9,150	4,474
36-60'	3,633	3,349	2,730
61-90'	597	537	396
91-125'	301	280	237
126-190'	152	151	139
>191'	<u>44</u>	<u>41</u>	<u>41</u>
TOTALS	15,709	13,507	8,016

As these numbers clearly show, the potential number of vessels decreases substantially as the qualifying period decreases. This is particularly true when looking at the difference between M2 and M3. In all cases, the overwhelming majority of the difference between any of the options lies in the numbers of small vessels, particularly the <36' vessels. Figure 3.3 provides a graphic illustration of the dominance of small vessels, in terms of numbers of vessels, under the range of qualification options before the Council.<sup>1</sup> Based on a qualification period from 1976-1992, the <36' vessel category comprises 70% of the potential number of vessels in the fisheries. The 36-60' category comprises another 23% of the potential vessels while the rest of the fleet (>60') would account for only 7% of the total number of vessels that could potentially participate in the fisheries off Alaska.

<sup>1</sup>Figures referenced here are contained in Chapter 3.

A graphic representation of the data in the table above is shown in Figure 3.7; again, the difference between the moratorium options lies primarily in the potential number of vessels in the <36' category. All three of the moratorium options provide the potential for more vessels than fished in the 1991 fisheries.

Figure 3.6 illustrates the differences between the moratorium options in terms of capacity as opposed to vessel numbers. The variation between the options is not nearly as severe as when looking strictly at vessel numbers. This is because very little of the overall fleet harvesting capacity is contained within the <36' vessel category. The vast majority of the harvesting capacity lies within the larger vessel categories, whose numbers do not vary considerably under any of the moratorium options. As is discussed in more detail in Chapter 3, the decision between the moratorium options can then be evaluated in terms of whether the objective is to limit the overall harvesting capacity or the numbers of vessels in the fisheries.

Figure 3.1 provides one more significant indication of fleet composition under the various alternatives. This Figure depicts the numbers of potential vessels, based on 1976-1992 participation, by primary fishery in which they participated (crab, groundfish, or halibut). While the numbers of crab vessels have remained relatively stable over this time period, the numbers of groundfish vessels has been generally increasing and shows more variability. The most variability, and the greatest increase in vessel numbers, however, has occurred in the vessels which fish halibut. As is shown in Figure 3.1, the number of halibut vessels tracks very closely with the total number of vessels and accounts for the greatest overall number of vessels.

### 2.2.1 Impacts on Target Species

From a biological perspective, the differences between the alternatives can be addressed in terms of the potential effects of each alternative on attainment of OY. Regardless of the alternative chosen, the management process and TACs of each species managed by the Council are likely to remain unchanged. Annual catch levels of each species will be set based on the best scientific information available and will be managed based on that quota, or under relevant bycatch restrictions, regardless of the alternative.

#### 2.2.1.1 Alternative 1: Status Quo

Under status quo the numbers of participating vessels may vary around current levels or increase in the future. Chapter 3 (Section 3.1.3.1) provides a detailed discussion of the potential fleet under continued open access. Annual participation over time is strongly correlated with observable economic variables, such as halibut prices in the previous year. Much of the new entry over time is thus associated with halibut vessels entering and exiting based on expected profits from the fishery. Much of the potential increase in small vessels under open access may be mitigated under an IFQ program for the fixed gear halibut fisheries. However, measures of total fleet size based simple on the number of vessels may be misleading as they may not provide an accurate measure of actual harvesting capacity. Much of the experience in limited access has shown that simply limiting the numbers of vessels does not prevent the existing vessels from increasing their capacity to harvest the resource. In this regard, it should be noted that the entry into the fishery of even one or two large factory trawlers could dramatically increase the harvesting capacity of the fleet.

Based on the analysis contained in Chapter 3, it is projected that the capacity, if not vessel numbers, of the fleet is likely to expand over its present size under continued open access. As discussion of limited access continues at the Council level, this could help fuel this increase by speculative entrants. The quotas of all species managed by the Council are capable of being harvested by the present fleet operating off Alaska. In fact, current harvesting capacity already exceeds that necessary to take the allowable catches

of all species. Any foregone harvests which currently occur are due to bycatch or other fishery closures which are largely unrelated to the fleets' ability to capture the total amount of fish available.

Under continued open access, the probability of mounting problems facing the fishery will likely be exacerbated. These include shorter seasons and an accelerated race for the available fish which may result in increased highgrading, increased discarding, decreased product quality, and potential increases of bycatch of other species and prohibited species.

#### 2.2.1.2 Alternative 2: Moratorium on New Vessel Entry

Under the moratorium alternative, the entry of new vessels into the fisheries would be curtailed. However, the potential number of vessels under any of the moratorium options is greater than the number currently in the fishery (1991). All of the moratorium options would allow for a greater number of vessels to re-enter the fisheries than is currently necessary to harvest the existing TAC of all groundfish and crab. In terms of the overall catching capacity of the fleet, the differences between the moratorium options are minimal. Most of those vessels which account for over 90% of the total landings (currently) will qualify under any of the options being considered. Any of the moratorium options would cap the potential for new entry of the larger, high capacity vessels as compared to continued open access. The numbers of high capacity vessels is more affected by the ending control date than the beginning eligibility date. Compared to the status quo, any of the moratorium options has the potential to cap most of the harvesting capacity at its current level, assuming no increases in harvesting capacity of those vessels. However, overall ability to harvest the TACs is not likely to be any different between any of the options.

The difference between the moratorium options lies primarily in the number of potential small vessels which may be able to re-enter the fisheries based on the different qualification options. For example, under M1, the most liberal option, the number of vessels <36' which qualify is 10,981 as compared to 4,474 under M3, the most restrictive option. For the 36-60' category, nearly 1,000 additional vessels qualify when comparing M1 to M3. For comparison, when looking at vessels >191', the number of qualifying vessels is 44 for M1 compared to 41 for both M2 and M3.

When compared to one another, the moratorium options will likely not have much effect on the overall capacity of the fleet or the fleet's ability to achieve OY, at least from a biological perspective. However, this is not necessarily true if considering the differences between the options in terms of specific fisheries. For example, the difference in the numbers of vessels <60' between M1 and M3 is approximately 7,000 vessels. It is not expected that all of these vessels would necessarily participate, but the potential is quite large. While these small vessels would likely not have a direct impact on the attainment of the pollock quota, or on trawl fisheries in general, they could have a considerable impact on longline fisheries. If most of these vessels were primarily halibut vessels, then the impact on an already stressed halibut fishery could be severely compounded. This situation could be mitigated under an IFQ program, but, at this time would not include the Pacific cod, rockfish, or other fixed gear fisheries. The increased number of potential vessels under M1, as compared to either M2 or M3, could lead to increased crowding on the grounds, increased gear conflicts, more lost gear, higher bycatch of prohibited species, and a higher probability of problems in managing the quotas of the target species.

In short, the differences between the moratorium option apply primarily to the small boat fleet. Though not representing a large difference in the overall capacity across all species and all fisheries, the differences between the moratorium options could have impacts to certain segments of the fisheries, though likely not significant in terms of attainment of target quotas.

## Small Vessel Exemption

The option for a moratorium exemption for small vessels contains many of the ramifications discussed in the previous section. The difference here is that this option would allow for continued open entry by small vessels. This would consist of small vessels which have previously been in the fishery and are re-entering, as well as new entrants into the fisheries. An unrestricted allowance could affect the overall capacity of the fishing fleet as well as the sheer numbers of vessels operating in the waters off Alaska. While an option for exempting vessels <36' would affect primarily near shore, longline fisheries, the option for an exemption of vessels <60' could have significantly more impacts in terms of capacity increase in both the longline and trawl fisheries. However, any small boat exemption would not likely have a direct impact on attainment of target species quotas, other than affecting fisheries managers' ability to adequately monitor quota attainment on an in-season basis. Reduced fishing seasons and faster attainment of the quotas are a possibility for some fisheries under a small boat exemption option. In terms of numbers of vessels in the fisheries, a moratorium with a small boat exemption may not be much different than the status quo alternative.

### 2.2.2 Impacts on Non-Target Species

#### 2.2.2.1 Alternative 1: Status Quo

Any additional increases in fleet size or fleet capacity would have effects on non-target species or bycatch species similar to those for target species. The potential for faster attainment of quotas of bycatch caps increases with additional harvesting capacity. With bycatch caps in place to limit the amount of prohibited species catch (PSC), the impacts to the fishery can basically be described in an overall economic context. From a biological perspective, continued open access might lead to an increase in the race for fish that will cause a more rapid attainment of bycatch limits or quotas of non-target species. The likely impacts of this may be more pressures on the Council in the area of allocational issues.

#### 2.2.2.2 Alternative 2: Moratorium on New Vessel Entry

Any of the moratorium options under consideration would result in potentially fewer vessels than would be the case under Alternative 1, open access. Depending on the moratorium options chosen, the effects on non-target and bycatch species would vary by fishery. Primarily it would effect the rate of bycatch cap attainment on those fisheries which are prosecuted by the small vessel fleet. No significant impacts are expected under any of the moratorium options when compared to the status quo.

### Small vessel exemption

While the primary difference between the moratorium options lies in the potential numbers of smaller vessels, each of these options would cap the potential small boat fleet at some level. A small vessel exemption would remove this cap and, in effect, would create an open access fishery for a certain segment of the fleet. Effects of such an exemption would be similar to those expected under Alternative 1, continued open access. The degree and direction of these effects is dependent upon what, if any, size class of vessels is exempted. An exemption for vessels <36' would likely effect non-target species and bycatch species encountered in longline fisheries, particularly the halibut fishery. An exemption for vessels <60' may have more of an impact on these fisheries and on trawl fisheries as well. Again, faster attainment of quotas for, those species with small quotas, and bycatch limits of PSC species could occur under such an exemption. The extent to which bycatch rates differ for these smaller vessels, compared to the larger vessel classes, would determine the ultimate effect of such an exemption. If bycatch rates are relatively low for these smaller vessels, then the effects would be minimized. However, with an

increased pace to the overall fisheries affected, it is more likely that bycatch rates in these fisheries would be higher than they are currently.

### 2.2.3 Impacts to the Ecosystem and the Physical Environment

#### 2.2.3.1 Alternative 1: Status Quo

Continued open access, while not directly affecting the overall fisheries resources, has the potential to allow some additional impacts to the physical environment itself. As more vessels are operating in the waters of the oceans, employing more gear on the fishing grounds, the potential for physical impacts to the environment are increased. For example, increased effects on the benthic environment could result as more bottom trawl gear is employed. More vessels fishing faster than before in the longline fisheries will result in more gear entanglements and more lost gear littering the ocean floor. Continued ghost fishing by lost gear could have more direct impacts on the fisheries resources themselves. As more vessels are present on the water, the potential for an increase in marine debris and pollution becomes apparent. Increased numbers of vessels of all sizes could result in an accelerated fishery and increase safety problems for the participants in these fisheries.

#### 2.2.3.2 Alternative 2: Moratorium on New Vessel Entry

Any of the moratorium options under consideration would tend to lessen the effects of the commercial fisheries on the physical environment. The differences between the moratorium options, including the option for small vessel exemption, primarily effect the numbers of small vessels which might be participating in the fisheries. Impacts of these options within a moratorium would depend on the types of gear employed by these particular vessels and the areas in which these vessels operate. It is likely that most of these vessels would be operating in near-shore areas; therefore, any increases in marine debris or pollution resulting from these additional vessels is more likely to have measurable physical impacts, as compared to the more restrictive moratorium options.

### 2.2.4 Impacts to Endangered Species, Marine Mammals, and Seabirds

#### 2.2.4.1 Alternative 1: Status Quo

Interactions between commercial fisheries and endangered species, marine mammals, and seabirds has become a primary driving force in how we manage our fisheries. Above and beyond direct interactions such as gear entanglement and other fishery induced mortalities, there is concern over the indirect effects of fishing on the food sources of these species. However, even under continued open access, these interactions are taken into consideration when setting fishery quotas and in the in-season management of the fisheries. Provisions of the Endangered Species Act (ESA) provide an overriding influence on the management of the fisheries. Marine mammal protection measures have been recently enacted which provide additional protection for these species from the effects of commercial fishing operations. Protective zones around sea lion rookery sites, and no-trawl zones around walrus haul-out sites, are two recent examples. Such measures were implemented under current open access fishery regulations. The effects of continued open access are difficult to quantify, but would be expected to be minimized by overriding authority. The types of gear and areas in which this gear is employed are variables which would determine the potential effects, but these variables are difficult to estimate.

The potential adverse effects to marine mammals in the groundfish fisheries include: (1) reduction of food availability (quantity and/or quality) due to harvest, (2) unintentional entanglement in fishing gear, (3) intentional harassment of animals by fishermen, and (4) disturbance by vessels and fishing operations.

The first possible effect, reduction of food availability should not be a factor under continued open access (vs a moratorium) because the TAC for a given species is set and monitored regardless of fleet size. The only caveat to this observation is that, in an expanded fleet, the potential may exist for a larger amount of undersized fish (pollock, for example) to be taken and subsequently discarded. The reason for this is that with more vessels on the grounds fishing for a fixed quota, it is possible that some vessels may be unable to target effectively on concentrations of larger fish. The undersized fish discarded by the fishermen may be fish that are relied on by marine mammals as their primary food source. However, it should be noted that there exists no quantifiable relationship between gear selectivity and crowding on the fishing grounds. The amount of undersized fish taken in a fishery may be a function of the relative biomass of this particular size class of fish, and not be related to the numbers of vessels on the grounds.

The only three possible effects listed above could be expected to increase in likelihood under conditions of open access which allow for additional numbers of vessels to enter the fisheries. Unintentional gear entanglements, intentional harassment, and indirect disturbance by fishing operations could possibly increase as more vessels operate on the fishing grounds.

Interactions between commercial fishing operations and seabirds is an area of more recent concern. Due to the limited information available regarding interactions with commercial fishing operations, a more detailed discussion of seabirds is contained here. Seabirds are an integral part of the marine ecosystem of the North Pacific Ocean. They are particularly important from the standpoint of being top-level predators and because of their role in recycling nutrients throughout the entire Pacific basin.

Interactions between commercial fisheries and seabirds take many forms. Fishing gear catches seabirds incidentally during operations; fisheries take the same organisms preyed on by seabirds; fisheries eliminate organisms that compete with seabirds for prey; and fisheries produce abundant and easily obtained new food for seabirds in the form of discarded organisms or their parts from commercial operations. The impact of these interactions on seabird populations of the North Pacific is poorly known, but studies from high seas driftnet fisheries show that such impacts can be severe. Thus any impact of groundfish, halibut, and crab fisheries on the economic, aesthetic, and cultural value on seabirds should be considered in this EA.

Impacts on seabirds could occur through competition with the commercial fishery for the same groundfish species and also through entanglements with trawl gear, being caught baited hooks of hook-and-line gear. Amounts of groundfish TACs, will influence the degree of interactions on seabirds. To generalize, it may be stated that any impact on seabirds by fisheries for groundfish, halibut, and crabs cannot be presently assessed in any definitive terms, let alone impact differences due to moratorium options covered by this EA. However, there is a general perception by the scientists and the fishing industry that any such impact should be minimal and perhaps, negligible because direct mortality on seabirds caused by these fisheries is negligible. The question of competition with the seabirds for their food by the fisheries is difficult to assess at this time. Any such impact from the proposed moratorium, however, should be minimal because the fisheries are regulated by catch quotas that have been determined to be "acceptable biological catches" from an overall stock status and ecosystem point of view. Trawl fishing activity inflicts mortality on seabirds that are caught in trawl nets. Therefore, fewer seabirds, might be killed as a result of alternatives with fewer boats.

Many seabirds consume juvenile pollock, herring, capelin, and sandlance, and other commercially important species. Seabirds and commercial fishermen compete directly with each other, although they take different age classes of fish. Most of the commercial fisheries, harvest adult-sized groundfish. Larger harvests of groundfish species such as pollock actually may result in lesser predation on smaller pollock

and prey species such as sandlance and capelin. Larger amounts of juveniles of these species may remain in the ecosystem as prey for seabirds.

Populations of other species of seabirds are of concern. These include the Spectacle and Steller eider, red-legged kittiwake, black-legged kittiwake, thick-billed murre, common murre, whiskered auklet, and marbled murrelet. The status of populations of spectacle and steller eiders populations is uncertain and believed to be depressed. The occurrence of the spectacle eider is rare. Wintering locations are unknown. The steller eider occurs occasionally in Alaska. Red-legged kittiwakes have declined substantially on the Pribilof Islands but populations are believed to be stable and abundant elsewhere. The black-legged kittiwake, thick-billed murre, and common murre have declined recently over large parts of the BS and AI. Reasons for the declines are not understood. Except for the spectacle and steller eiders, the seabird populations elsewhere appear to be abundant.

High seas driftnet fisheries have been documented to impact sea bird populations with as many as 327,000 birds killed annually in this fishery. However, it is not anticipated that any of the proposed alternatives, including continued open access, is likely to significantly impact sea bird populations.

#### 2.2.4.2 Alternative 2: Moratorium on New Vessel Entry

As with Alternative 1, the effects of a vessel moratorium on endangered species, marine mammals, and seabirds is difficult to assess. Any moratorium option which increases the potential number of small vessels, including an exemption for small vessels, could increase the interactions between fishing operations and these species. Depending on gear types and areas of gear deployment, these effects would likely range from none to minimal, given overriding authority to manage the fisheries under provisions of the ESA and the Marine Mammal Protection Act.

#### 2.2.5 Coastal Zone Management Act

None of the Alternatives contained in this proposed amendment is expected to be inconsistent with provisions of the Coastal Zone Management act of 1972.

#### 2.2.6 Finding of No Significant Impact

For the reasons discussed above, neither implementation of the status quo nor any of the alternatives would significantly affect the quality of the human environment, and the preparation of an environmental impact statement on the final action is not required by Section 102(2)(c) of the National Environmental Policy Act or its implementing regulations. Any of the proposed moratorium alternatives contained in this amendment would likely lessen the effects of the commercial fisheries off Alaska on the quality of the human environment, as compared to the status quo alternative.

\_\_\_\_\_  
Assistant Administrator for Fisheries

\_\_\_\_\_  
Date

#### 2.2.7 Coordination with Others

The preparers consulted with representatives of the North Pacific Fishery Management Council, National Marine Fisheries Service, Alaska Fisheries Science Center, and members of the fishing community.

### 3.0 ANALYSIS OF THE ALTERNATIVES

The moratorium amendment proposal would restrict the entry of new vessels and capacity into the groundfish, crab, and halibut fisheries under the Council's authority. This action is intended to provide some stability to the fleet during the time the Council is considering a comprehensive limited entry program for the fishery. The analysis of the moratorium alternative is designed to show the effectiveness of this proposal, including the various options under consideration, in meeting this objective. In addition, the analysis establishes the current status and likely developments in the fishery under the status quo. Each of these alternatives--the status quo and the moratorium--are examined in the context of the problem statement and Council objectives.

#### 3.1 Status Quo

Under conditions of open access, the groundfish, crab, and halibut fisheries under the authority of the Council all have experienced mounting problems associated with overcapitalized fishing effort. While the factors that lead to overcapitalization in open access fisheries have been widely recognized and studied (Gordon; Christie; Bell), fishery managers have been less successful at finding workable solutions to the problems created by open access. Fisheries that are open to everyone, yet owned by the public, are subject to excessive depletion since individuals have little incentive to conserve the resource. Traditionally, the open access fisheries under the Council's authority have been managed by adjusting season length to prevent overharvesting. To a lesser extent, the Council has attempted to limit effort through restrictions on inputs.

##### 3.1.1 Status Quo Measures to Manage Overcapacity

###### 3.1.1.1 Season Length

Adjusting season length provides a means of conserving the fishery resource, without changing open access rules. Fishermen are free to enter the fishery, but once a predetermined amount of the resource has been harvested the fishery is closed. Seasons may also be closed in recognition of reproductive cycles, critical habitat use, or other instrumental variables that influence stocks. Open season management is an integral part of the Council's resource conservation policy affecting all fisheries under its authority.

Season length is a central feature of the status quo regime for dealing with overcapitalization problem. While limiting the number of fishing days offers a means of regulating total catch, reductions in season length may tend to aggravate overcapitalization problems. The general trend towards reduced season lengths noted in Section 1.2.1 has concentrated fishing effort into shorter periods, apparently without reducing the capacity or capitalization of the fleet. In an effort to maintain catch levels given reduced seasons, some fishermen may elect to increase the harvest capacity of their vessels, further adding to excess capacity. In extreme cases, restricted seasons can become "derbies", such as in the 24-hour halibut opening, or the 7-day Bristol Bay king crab fishery. The resulting race for the fish can lead to excessive discard of lower-valued fish (highgrading), unnecessary bycatch, reduced product quality, over investment in harvesting and processing capacity, and increased safety risks to operators and crew members.

The open access/overcapitalization dilemma in these fisheries does not appear to have a self-correcting incentive to adjust industry capacity to an efficient level consistent with available resources. This is due to the divergence between the private costs to individual fishermen, and the collective costs to society. In the extreme, a combination of vessel crowding on the fishing grounds, inefficient utilization of vessels, and ultimately, negative economic returns, will limit the amount of investment in a fishery. This limit,

however, represents an already-overcapitalized level of effort, and one at which the economic rent (profit) has been eroded by excess effort.

### 3.1.1.2 Restrictions on Effort or Inputs

Restrictions on fishing effort or inputs include regulations such as trip limits, vessel length constraints, mesh size, and gear limitations. These types of regulations have been widely used by other regional councils for managing excess effort in fisheries operating under open access. As noted in Section 1.4.3, an inherent shortcoming with effort limitation schemes under open access is the tendency for the capitalization problem merely to shift from the restricted input to an unrestricted one so long as entry is allowed in the fishery. Limiting vessel length leads to increases in vessel width, trip limits leads to more vessels making individual trips, and so forth.

Certain problems arising from excess capacity and overcapitalization are addressed in existing Council management actions that rely in part on restricting fishing inputs or effort. For example, concern over unnecessary discard of bycatch has led to a variety of measures, such as gear and area restrictions, designed to reduce this waste. Bycatch problems are not caused solely by overcapitalization, so it is unrealistic to expect that these problems might be solved entirely by addressing overcapitalization, though excess effort certainly contributes to the bycatch dilemma. So long as open access is maintained, effort limitation regulations such as gear and area restriction have been of questionable effectiveness in reducing either the overcapitalization or bycatch problem, since capital continues to flow into the unrestricted inputs--additional vessel capacity--and effort has continued to expand.

### 3.1.2 Overview of the Fishery

Open access is the underlying paradigm of the status quo in the Alaska EEZ fisheries. Early in the development of the various fisheries, the abundance of resources and economic opportunities favored an open access regime, and most of the Alaska groundfish, crab, and halibut fisheries have developed under these conditions, referred to here as the status quo. Section 303(b)(6) of the Magnuson Act provides authority to limit access to a fishery to achieve OY if, in developing such a system, the Council and Secretary take into account several key features of the industry and economy likely to be impacted by such action. The following sections examine these dimensions as they relate to the past and present status quo environment of the affected fisheries.

Data for this analysis were gathered from many sources and compiled by Council staff to show the number of vessels that participated in the various fisheries managed by the Council. Because there are no minimum catch or processing requirements for qualification in the moratorium, a single landing of any quantity of any Council-managed species from any qualified water, qualifies the vessel as a moratorium vessel for the purposes of this analysis. Vessels were considered to have qualified under the moratorium if they met one of the following:

1. Harvested any groundfish species in the EEZ including Joint Venture harvest vessels.
2. Harvested any halibut in any water off the coast of Alaska, including State, Territorial, and EEZ waters.
3. Harvested any king or Tanner crab from the BSAI, including State, territorial, and EEZ waters.

These provisions were adopted primarily for purposes of analyzing the vessel data base, and may vary from the criteria ultimately adopted by the Council. Vessels were categorized as non-qualifying if they did not participate in any of the above fisheries. Boats from the vessel data base that did not qualify under the moratorium criteria participated exclusively in fisheries including:

1. Salmon, herring, shrimp, and other non-crab shellfish in any waters including the EEZ.
2. Any crab species, including king and Tanner crab, from waters other than those managed by the BSAI king and Tanner FMP.<sup>1</sup>
3. Groundfish species managed explicitly and solely by the State of Alaska.
4. Groundfish species harvested exclusively in State waters.

The main source of vessel participation data was the Condensed Gross Earnings (CGE) database which is a compilation of all ADF&G fish tickets for a given vessel for a given year. This data set includes catch and earnings information derived from all commercial fishing activity that requires fish-tickets be submitted, including all domestically processed groundfish caught in state waters and in the EEZ, all halibut, crab, salmon, herring, etc. The CGE file does not contain complete information on catcher-processors, or JV vessels, and has not been updated to include 1991 or 1992 data. The CGE file also does not contain vessel characteristics such as size information, tonnage, hold capacity, etc.

Information on domestic at-sea groundfish catcher-processors was obtained from NMFS weekly processor reports from 1986-1992. Prior to 1986, these reports were not required and harvest vessels would have been required to submit fish-tickets to ADF&G.

Information of joint venture vessels was obtained from the NMFS foreign observer data base for the years 1986-1990 and was supplemented by vessel lists maintained by NMFS from 1980-1985. Any vessels which were indicated to have been harvesting groundfish in a joint-venture mode were included as moratorium qualified vessels.

Westward Region crab catcher-processor information was obtained from tables compiled by ADF&G for their annual Westward Region Shellfish Report [ADF&G 1980-1990]. Tables in these documents listed by name, all mothership and catcher-processors operating in the king and Tanner Crab fisheries in the BSAI.

The Council control date language from the September 5, 1990, Federal Register notice prescribes that special considerations be given to harvesting data in 1990 and in 1992. Specifically, the date of the first activity must be noted. Catch date activity is not included in the CGE files so additional checks of unprocessed fish-ticket data were required. For 1992, lists of vessels participating in the groundfish and crab fisheries prior to the January 15, 1992/February 9, 1992 control dates were obtained from NMFS and ADF&G westward regional offices.

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<sup>1</sup>From 1978 to 1987, the Council managed tanner crab off the coast of Alaska in a separate FMP. The tanner crab FMP was repealed in 1987, and replaced in 1989 with the current BSAI king and tanner crab FMP. Under the scope of the proposed moratorium, only those fisheries currently covered under an FMP would be subject to the moratorium, in this case BSAI king and tanner crab. Accordingly, GOA tanner crab is not subject to the moratorium, nor is moratorium eligibility assigned to vessels based solely on past participation in the GOA tanner crab fishery.

Information for 1991 was for the most part gathered from different sources than for previous years. At the time of this report the ADF&G had not yet processed its 1991 fish tickets. Therefore, groundfish harvesting vessel information was obtained from groundfish fish tickets processed by NMFS<sup>2</sup>. Halibut vessel participation for 1991 was obtained from the IPHC, which compiles and processes the Alaskan halibut fish tickets before forwarding them to ADF&G. Westward region crab 1991 participation was obtained from tank inspection lists compiled by ADF&G. Crab fish tickets from 1991 just became available at the end of this exercise and were used to supplement and cross check data from the vessel list.

Length and other physical vessel characteristics, along with vessel owner information was obtained through the ADF&G vessel registration files. Of over 35,094 vessels included in the compiled moratorium data set (including over 20,000 non-qualifying vessels), 5,409 vessels were not found in the vessel registration files. Of these, 1,172 are vessels which would qualify for the moratorium. Examination of applicable information on these vessels indicated that participation patterns mirrored those of vessels with corresponding vessel registration data, leading to the conclusion that these vessels did exist, and were not merely typographical or data entry errors. Statistics on vessel length or other physical characteristics have been adjusted for these missing vessels based on population distributions obtained from the vessel registration file data.

Additional information concerning catch, value, and operating characteristics of the fleet were obtained from the NMFS publication "Economic Status of the Groundfish Fisheries Off Alaska, 1991."

#### 3.1.2.1 Present Participation in the Fishery

In 1991, the most recent year for which annual operational data are reasonably complete, an estimated 4,963 fishing vessels participated in the affected BSAI and GOA groundfish, BSAI king and Tanner crab, and all Alaska halibut fisheries. The number of vessels participating in the 1991 Council fisheries was a record high. As illustrated in Figure 3.1, 88 percent of these vessels made halibut landings, 45 percent were involved in the groundfish fishery, and about 6.5 percent participated in the BSAI king and Tanner crab fisheries. As the respective percentages indicate, these three sectors are not mutually exclusive; over 25 percent fished for both halibut and groundfish. A small group (1.5 percent of the total) were active in all three fisheries. The brief open season for halibut likely encourages these vessels to participate in other fisheries over the course of the year. Nonetheless, nearly 50 percent of the total vessels operated in Council-managed fisheries participated only in the halibut fishery.<sup>3</sup>

Of the vessels participating in the designated groundfish, crab, and halibut fisheries in 1991, about 82 percent reported Alaska as the residence of the owner, 14 percent listed Washington as residence, and the remaining 4 percent represented other states, primarily Oregon and California. Generally, the larger groundfish and crab vessels are Washington-based, while the smaller but more numerous halibut boats are based in Alaska. Less than 10 percent of the small vessels under 35 feet have non-Alaskan owners, and less than 10 percent of the large vessels over 125 feet are home-based in Alaska.

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<sup>2</sup>Groundfish fish tickets processed by ADF&G and NMFS use the same source data except that they are processed in a slightly different fashion. ADF&G will eventually combine the groundfish fish tickets with salmon, halibut, crab, and other fish tickets to compile the CGE file. NMFS does not compile any information on these other fisheries in their database.

<sup>3</sup>It is likely that these vessels also participated in state-managed fisheries such as salmon, herring, GOA crab, and groundfish.

Figure 3.1 Alaska EEZ Vessels by Council-Managed Fishery; 1976-91

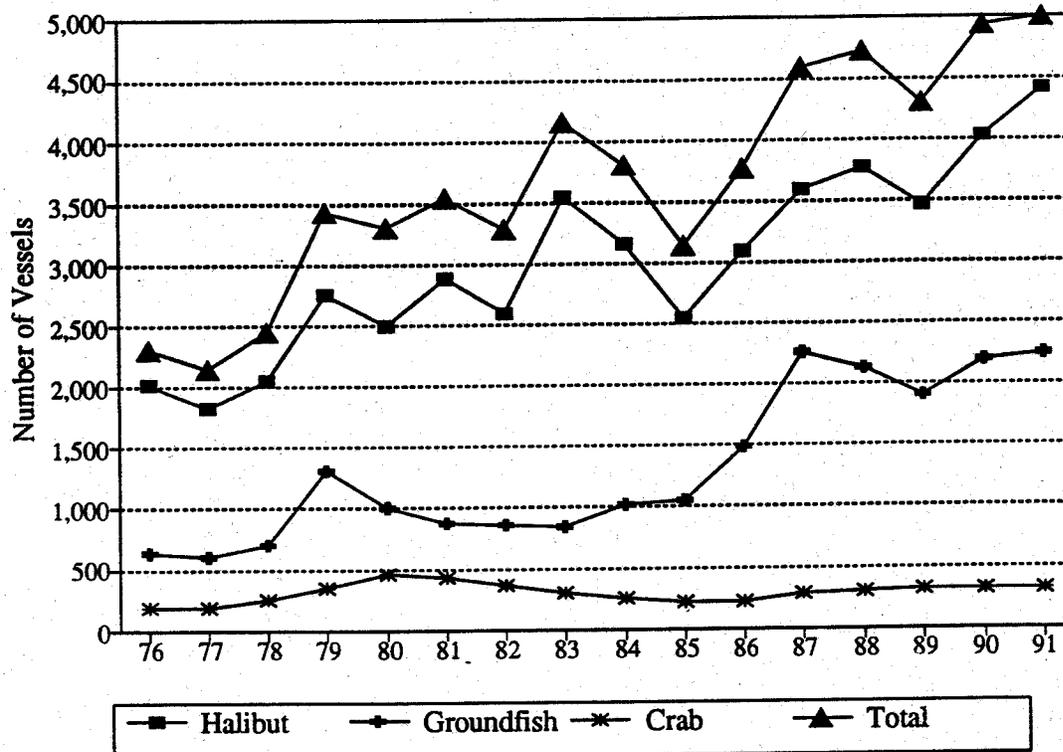


Figure 3.1 Alaska EEZ Vessels by Council-Managed Fishery; 1976-1991

From the perspective of gear categories, the predominance of halibut vessels indicates that fixed gear--primarily longline--is the most prevalent in terms of participating vessels. In addition, a small (less than 50 vessels) but significant class of larger longline vessels with on-board processing capability (freezer longliners) has developed in recent years targeting sablefish, Pacific cod, and other high valued groundfish. Trawl gear accounts for approximately 250 vessels, 5 percent of the total fleet, including approximately 60 catcher-processors (factory trawlers). Fixed gear crabbers comprised a fleet of about 300 vessels, 6 percent of the 1991 fleet. Roughly one half of these crab vessels participate in groundfish and/or halibut fisheries, as well. Some vessels are capable of operating both fixed and trawl gear, though these boats are estimated to comprise a relatively minor part (about 1 percent) of the overall fleet.

The substantial participation in the halibut fishery is also reflected in the composition of the fleet by vessel length. As shown in Figure 3.2, about 86 percent of the affected fleet consisted of vessels 60 feet or less in overall length, and 44 percent were less than 35 feet. The larger vessels comprise a relatively small portion of the fleet; boats over 90 feet in length of all gear types accounted for only 7 percent of all vessels in 1991.

The total number of participating vessels provides one view of the fleet. Figure 3.3 illustrates a second important dimension; vessel catch. Aggregated vessel catch statistics reveal that the relative few large vessels accounted for the bulk of total catch tonnage in 1991. Vessels over 90 feet in length harvested an estimated 87 percent of the combined groundfish, crab and halibut catch tonnage. The concentration of total catch in the large vessel classes is due largely to harvest levels in the pollock fishery, while the

Figure 3.2 Annual Fleet Size by Length  
1976 - 1991

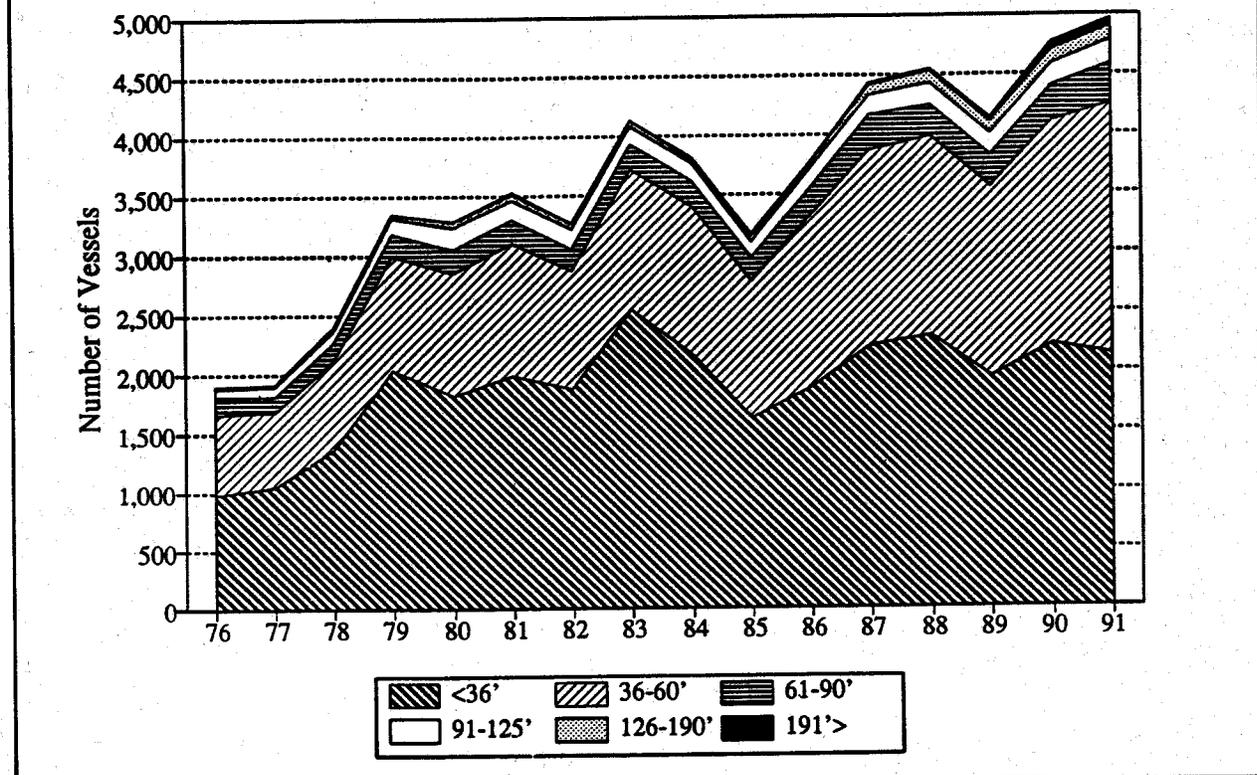


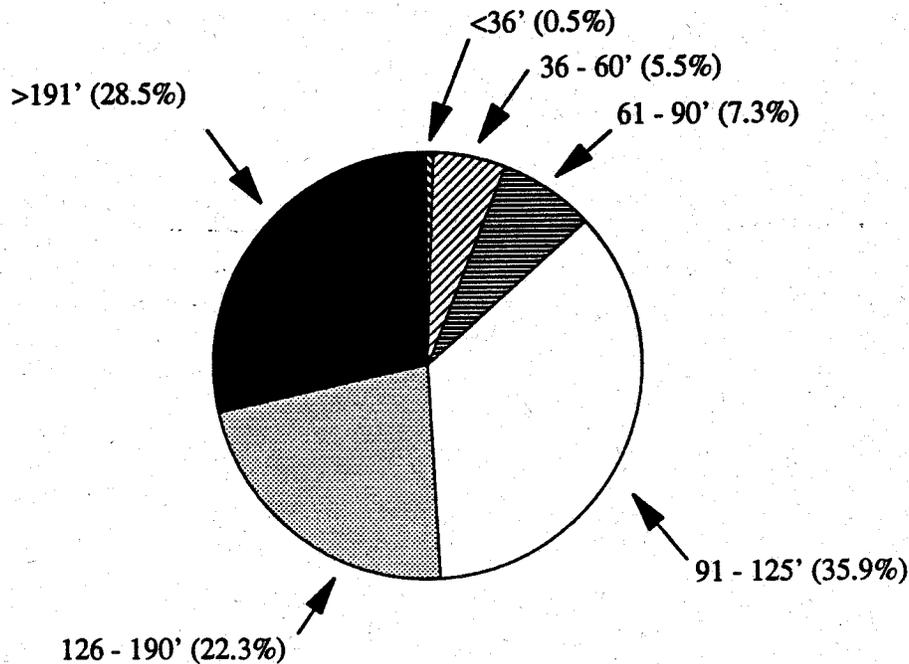
Figure 3.2 Annual Fleet Size by Length; 1976-91

concentration of total vessel numbers in smaller vessel classes reflects the nature of the halibut fishery. This polarization of the fleet in terms of length and catch precludes the designation of an "average" vessel representative of the entire fleet. There are several distinct components in this industry, including the longline halibut and sablefish fleet, the groundfish trawl fleet, the freezer longliner fleet, and the crab fleet. Although some vessels have multi-gear and multi-species capability, there is no single vessel or fishery that adequately portrays the industry.

The vessel performance statistics shown in Figure 3.3 reflect actual catch levels. Evaluating catch potential or capacity is a more complex matter, since there are differing interpretations and standards for measuring capacity [Prochaska, Smith, and Hanna]. As a simple procedure for estimating vessel capacity, catch levels of the higher-performing vessels within a given size class can be applied as a proven catch potential to all vessels in the group. The distribution of catch within a category tends to be skewed towards the higher catch levels--a relative few vessels account for a disproportionate share of total catch. Catch of the 50th percentile, for example, is only about 40 percent of the average catch.<sup>4</sup> Applying the catch level achieved by the 70th and 75th percentile of all vessels in a given length category to the total

<sup>4</sup>Percentiles in this case refer to the relative ranking of catch performance by individual vessels within a given vessel size group. For a group of 100 vessels, the poorest performing vessel would comprise the 1st percentile, and the top performing vessel would be the 100th percentile, and so forth. The catch of the 50th percentile is not necessarily the average catch, since actual catch levels are unlikely to be distributed proportionately over the entire 100 vessels.

**Figure 3.3 Estimated Catch by Vessel Length Class; Percent of 1991 Total**



**Figure 3.3 Estimated Catch by Vessel Length Class; Percent of 1991 Total**

population of vessels in each category results in estimated catch capacities of from 120 to 140 percent of total actual catch by the fleet in 1991. If the catch performance of top producing highliners in each size category were applied to all vessels of similar length, potential capacity of the overall fleet would be over 5 times the actual catch in 1991. The comparison between actual 1991 catch and vessel capacity under the assumptions noted above indicates that the fleet has the capability to harvest from 20 to 40 percent more than the current catch, even within the existing seasons and operating constraints. This aggregate capacity measure must be qualified as an unweighted combination of crab, halibut, and groundfish tonnage that may not adequately represent catch capacity of relatively low tonnage fisheries. Nonetheless, the conservative estimates based on "proven" catch capacity point to overcapitalization under conditions of constrained catch. If the purely technical capability of these vessels were considered, each fishing all year with a full crew under ideal conditions, the theoretical technical capacity is likely to be many times greater than the levels achieved by even the most productive boats in the current environment.

An alternative measure of capacity has been developed for the groundfish trawl fleet by Wiese and Burden. In this approach, aggregate vessel capacity is estimated based on the calculated fleet size that would break-even in terms of total revenues just covering total costs. For 1989, Wiese and Burden projected a break-even trawl fleet of 138 vessels, compared to an actual fleet of 165 vessels, implying excess capacity of 27 vessels; roughly 20 catcher vessels and 7 factory trawlers. The break-even approach explicitly recognizes the influence of raw product prices, cost levels, and catch in assessing capacity. Using the same framework developed for the 1989 estimates, but adjusting the cost and revenues to 1991 conditions results in a projected 1991 break-even fleet of 175 to 200 vessels, compared to an actual fleet

of approximately 250 vessels. The expansion in the calculated break-even fleet size between 1989 and 1991 is due to an increase in the domestic pollock quota available to the fleet, as well as higher pollock prices. While there are some possible differences in the mix of trawl vessels in the fleet between 1989 and 1991, the conclusions are similar; there are 20 to 25 percent more trawl vessels in the groundfish fishery than can be justified based on financial break-even criteria.

### 3.1.2.2 Historical Fishing Practices in, and Dependence on the Fishery

Since passage of the Magnuson Act in 1976, annual participation under open access in the affected fisheries has about doubled, from an estimated 2,300 boats in 1976, to the record high 4,963 vessels in 1991 (Figure 3.1). At the time the Magnuson Act was passed, the Alaska EEZ fisheries were predominately fixed gear longline and crab pot fisheries. The development of the groundfish industries in the early 1980s was accompanied by the emergence of a trawl fleet, as well. Although the groundfish fishery accounts for a smaller total number of participating vessels, the tonnage represented is significantly larger than all other fisheries combined. Approximately 2,000,000 tons of groundfish were harvested in 1991, compared to about 25,000 tons of halibut, and 175,000 tons of BSAI king and Tanner crab.

Over the past 15 years, total harvest in the halibut, groundfish, and crab fisheries has increased dramatically, but for different reasons. Halibut catch has expanded by roughly 17,000 tons (227 percent) over this time period due primarily to improved health of the stocks; there has been ample fishing effort to harvest the available halibut quota for several decades. Domestic groundfish harvest has increased from less than 2,000 tons in 1976 to its current level of 2 million tons. This dramatic expansion has been accomplished by the parallel growth of a domestic groundfish trawl fleet that displaced foreign fishing in the EEZ. Since 1976, the crab industry cycled up to a high of 93,500 tons harvested in 1980, then declines to less than 15,000 tons in 1984, and has since recovered to a new high of 175,000 tons in 1991. During this time the majority composition of crab harvest has shifted from higher valued king crab to lower priced opilio and bairdi Tanner crab.

In each of these instances, the harvest and value of the fisheries have increased significantly as the fleet has grown and shifted effort over time. Although practices in some fisheries may remain fairly constant, the relative dependence of the fleet on these fisheries has changed since 1976. The ability of fishermen and communities to shift among fisheries over time--including the state managed fisheries--has been an important historical characteristic of the industry.

In addition to the roughly 5,000 vessels directly active in the affected fisheries, there were approximately 9,500 commercial vessels active in Alaska waters during 1991. These vessels are involved in a variety of other Alaska state-managed fisheries, including salmon, herring, crab, and groundfish. Elements of these state-managed crab fisheries likely participate in the Council-managed fisheries on an intermittent basis. A relatively poor economic year for the salmon industry is likely to lead many fishermen to subsequently participate in available halibut, groundfish, and crab fisheries. Because many of the state-managed fisheries operate under a limited entry program, reciprocal open access by EEZ halibut, groundfish, or crab fishermen into state fisheries is restricted. Of the estimated 35,000 total fishing vessels making commercial landings in Alaska over the past 15 years, roughly one-half (15,709) have harvested one of the affected Council fisheries. Recognizing that between 4,000 and 5,000 vessels are active in the Council-managed fisheries in a given year, it is clear that many vessels participate in the fishery on an intermittent annual basis. Of vessels active in Council fisheries during 1990, 57 percent has participated a total of five years or less over the past 14 years.

### 3.1.2.3 The Economics of the Fishery

The gross exvessel value of the fisheries managed by the Council is estimated to have been around \$750 million in 1991; roughly \$450 million for groundfish, \$210 million for crab, and \$90 million for halibut. A simple division of these revenues by the number of participating vessels indicates that the groundfish and crab fisheries generate much larger gross returns per vessel than does the halibut fishery. However, vessel size and value in the groundfish and crab fisheries is much larger, as well. Moreover, the economics of the respective fisheries varies, recognizing differences in fish and product prices, costs, capital investment requirements, market, competition, and the available supply of the fishery resources.

Generally, halibut is a popular fishery owing to the relatively high price (\$1.50 to \$2.00 per pound exvessel dressed weight in 1991), and the potential for high catches over a brief fishery. Even a 24-hour season can result in large pay-offs to fishermen, requiring only modest gear and investment. Costs of entering the halibut fishery are relatively low, competition among vessels is strong, and participation remains high given the potential for large payoffs to successful fishermen. The consequences of open access and overcapacity in the halibut fishery have been analyzed thoroughly as a part of the individual fishery quota (IFQ) scheme approved by the Council [North Pacific Fishery Management Council, 1992]. Relevant economic conclusions of the IFQ analysis note that overcapacity in the halibut fishery is eroding the economic efficiency of participants, and may lead to reduced product quality in the marketplace.

It is more difficult to generalize about the economics and exvessel values in the groundfish fishery, since the resource is comprised of a variety of both high and low valued species. The majority of the groundfish harvest is pollock (about 70 percent in 1991), and although the tonnage is large, the per unit exvessel value is relatively low, at \$0.09 to \$0.15 per pound. This fishery is conducted by the domestic trawl fleet, and has evolved rapidly since 1986 when the American fleet began to grow and displace foreign catchers and processors. Pollock requires substantial processing in manufacturing the finished surimi or fillet product, and this activity can be the source of significant value added in the manufacturing process. As a result, the pollock fishery has become linked to processing activity, whether on-board processing in a factory trawler, or the separate shore-based processing plant. The majority of the pollock quota is harvested by large, specialized catcher-processors. Both the catch performance and capital investment of these vessels are impressive; a representative surimi factory-trawler valued at around \$25 million harvests over 40,000 tons of pollock per year. A typical shore-based trawler valued at \$2.5 to \$3 million is capable of delivering 10,000 to 20,000 tons of pollock per year to processors in ports such as Dutch Harbor.

Despite the large capital investment requirements, there has been significant growth in this fleet between 1986 and 1991. Overcapitalization of the pollock fishery has led to intense competition between the inshore and offshore components for access to available pollock stocks, heightening concerns over relative profitability, community economic impacts, product recovery, and resource conservation. The Council has endeavored to provide an interim resolution of this conflict by prescribing separate allocations to the inshore and offshore components of the pollock fishery, as well as Pacific cod stocks in the GOA. The long term effectiveness of this approach is questionable, however, given continued open access into both the inshore and offshore sectors. Further growth in catching and processing capacity by the inshore component could lead to intensified competition and instability within the inshore sector, despite the preferential allocation of pollock and Pacific cod made to this sector. The economics of the pollock and Pacific cod fishery are presented in the Council's analysis of the inshore-offshore allocation, Amendment 18/23 [North Pacific Fishery Management Council, 1991a].

Higher valued groundfish species such as sablefish and rockfish represent relatively small harvest quotas compared to pollock, but are also more accessible to traditional longline fishermen as well as the trawl

fleet. Due to their higher exvessel prices (around \$2 per pound dressed weight in 1991) and ease of entry, the sablefish and rockfish fisheries have been targeted by components of the Alaska fleet since before passage of the Magnuson Act. Over time, open access has led to excess capacity and overcapitalization in some of these fisheries. Attempting to rectify overfishing of Pacific ocean perch that occurred in the 1960s was one of the Council's early experiences with excess effort in a fishery. The sablefish fishery has been recommended as a candidate for limited entry since the mid 1980s.

Still other groundfish fisheries, such as Pacific cod in the BS, or various flatfish resources, are not yet considered to suffer from overcapitalization. A combination of low price, weak markets, and bycatch problems has slowed development of these fisheries. There is evidence within the past year, however, that BSAI Pacific cod and yellowfin sole, among others, are experiencing significant increases in fishing effort and capitalization. This increase in effort is partially the result of improved market demand, growth in the longline fishery for Pacific cod, and the spill-over of effort from overcapitalized fisheries such as pollock, halibut, and sablefish.

BSAI king and Tanner crab has a high per unit value, and since it requires only moderate processing, much of the market value is captured by the fisherman. Exvessel prices for red king crab ranged from \$5 to \$3 per pound during the 1990 and 1991 seasons, though prices are much lower (\$.50 per pound) in the more abundant opilio Tanner crab fishery. Over the past 15 years, the crab industry has experienced a dramatic expansion, followed by economic decline, and more recently, a subsequent economic boom. As crab stocks have recovered in recent years, fishing effort has been quick to increase. The king crab fishery is again considered to be overcapitalized with excessive effort, but the more numerous Tanner crab, especially opilio, have as yet been able to accommodate the increased harvest effort. Concern by the crab industry and fishery managers (the BSAI king and Tanner crab fisheries are managed under an FMP that defers considerable regulatory authority to the ADF&G, recently has led the industry to recommend a pot limit on crab vessels, in an effort to slow the pace of expansion in the fishery. As with other input restraints, the pot limit is likely to offer only temporary relief so long as open access in the fishery is maintained.

For most of the fishery outputs produced in the Council-managed fisheries, the markets are largely outside of Alaska. International buyers, Japan especially, compete with domestic U.S. markets for Alaskan seafood. This exposes the Alaska market price to a complex array of uncontrollable events such as exchange rates, international politics, and world supplies of seafood. Given the inherent uncertainty in market conditions and product prices, both total revenue and net returns can be highly variable. This market risk, coupled with operational risk in fishing success, can combine to create a highly unstable economic environment, especially for long-term decisions. Under conditions of open access, these risk conditions tend to favor ventures with a short term payback, flexibility, and diversity of action. Generally, open access conditions can lead to an unnecessarily large fleet, detracting from the potential economic efficiency of the industry, and reducing net returns to individual operators [Huppert and Squires]. As total rents available from the resource are distributed over more vessels, returns to individual operators are lowered, exposing the owners to greater financial risk.

#### 3.1.2.4 The Capability of Fishing Vessels Used in the Fishery to Engage in Other Fisheries

An assessment of vessel capabilities entails the examination of alternative fishing opportunities. In the past, expansion and growth in Council-managed fisheries have been made possible by prudent management of the resource, displacing existing foreign fleets, and by the development of new or underutilized fisheries. Foreign fleets in the Alaska EEZ have now been completely replaced with American counterparts. Enhanced fishery management through scientific and operational advancements offers the potential for making more productive use of existing fisheries, though it is questionable whether improved

management will create entirely new opportunities so much as increase the efficiency of the existing fleet. It is possible that additional fisheries may emerge in the North Pacific that would provide new or alternative opportunities for the existing vessels. The biomass of certain flatfish species such as arrowtooth flounder, for example, may offer the potential for increased commercial development resulting in a significant new fishery. The growth of a new fishery does not occur automatically, however, and normally requires the careful nurturing of product development, consumer acceptance, markets, logistics, and fishing technology. In the case of arrowtooth flounder, both product development and fishing technology pose difficult challenges. While new fisheries may emerge from the existing resource base in the North Pacific, the existing Council-managed fisheries are approaching full utilization within the scope of existing harvesting techniques. In the near term, overcoming bycatch and discard problems may be a prerequisite for opening additional fisheries.

Beyond existing fisheries under Council management, the opportunities and capabilities of this fleet to engage in other fisheries imply a shift to one of several alternatives: (1) state-managed fisheries within Alaska; (2) state or federally managed fisheries in the U.S. outside Alaska; or (3) high-seas or foreign fisheries elsewhere in the world.

Opportunities for new entrants in Alaska state-managed fisheries are restricted by the state's limited entry program that covers most of the important commercial fisheries, including salmon, sablefish, herring, and crab. In order to access most of these fisheries, new entrants from EEZ fisheries would have to purchase a permit, as well as adopt necessary vessel and gear modifications. In the case of salmon, asking prices for permits vary from around \$50,000 up to over \$250,000 for the most desirable areas. Salmon vessels in some areas have been developed to operate in specific regulatory and oceanographic conditions, such that halibut or groundfish boats may prove inadequate without modifications. The Alaska state fisheries are managed under a limited entry permit system because of existing concerns over excess capacity, such that the entry of vessels from Council-managed fisheries would require the exit of an existing vessel. In general, there appear to be few, if any, unexploited opportunities in existing state-managed fisheries that are capable of absorbing an influx of new entrants from the EEZ fisheries.

As a consequence of the same overcapitalization that now characterizes the Alaska EEZ fleet, commercial fisheries throughout U.S. state and Federal waters suffer from excess capacity. Many fisheries in the Pacific Council waters off Washington, Oregon, and California are already governed by trip limits, and the Secretary has approved a license limitation program to restrict further unneeded fishing effort (Pacific Fishery Management Council, 1992). In the Western Pacific waters off Hawaii, a moratorium on entry into certain longline fisheries has already been adopted. While the fleet operating in the Alaska EEZ may have the technical capability to operate in these and other domestic fisheries, the real constraint is obtaining access to these already overcapitalized fisheries.

Outside domestic waters, fishing opportunities are less certain, although it is recognized that excess harvesting capacity exists for many of the world's developed fisheries. Following the extension of fisheries jurisdiction in the mid-1970s, most coastal nations--led by the U.S.--endeavored to claim the economic benefits associated with the marine resources in their exclusive economic zones, greatly reducing the opportunities for distant water fleets of some countries. As a result, access to the coastal waters of foreign nations must be arranged through joint venture arrangements, in competition with the distant water fleets of many other nations, such as Japan and Korea. Evidently, elements of the catcher-processor fleet have been successful in securing entry into certain foreign-managed fisheries. U.S. vessels are operating off the eastern coast of Russia under joint venture arrangements, apparently adopting the same harvesting technology employed in the Alaska EEZ pollock fishery. There are other reports of American entrepreneurs having made apparently successful inroads in fisheries off the coast of South America. In such cases, however, the shift to foreign fisheries requires both logistical and diplomatic arrangements that

may be beyond the scope of many small boat operators. Also, opportunities for the Alaska fleet in foreign fisheries likely favor technologically advanced, higher valued vessels not readily available in the host country.

In summary, the problems associated with excess capacity and overcapitalization cannot be easily overcome by shifting unneeded vessels to other fisheries. This is not so much because of an incompatibility of technology, as the dilemma of widespread overcapitalization. Efficient, adaptable vessels are capable of shifting to other fisheries, and may well enter different fisheries in response to economic efficiency criteria. Entrepreneurs may also be capable of finding and competing in a variety of world-wide fisheries. Overall, however, there is no simple means of shifting excess Alaska EEZ vessels into other fisheries in the current environment, primarily because already there appears to be more than adequate capacity throughout the Alaskan, U.S. and world fishing industry.

### 3.1.2.5 The Cultural and Social Framework Relevant to the Fishery

An important feature of the Alaska EEZ fisheries is the role of numerous remote coastal communities, and the accompanying logistical network that has evolved to support commercial fishing activities in Alaska. Since 1976, an estimated 15,756 different vessels have participated in one or more of the Council-managed fisheries. About 85 percent of the participating vessels listed Alaska as the residence of the owner<sup>5</sup>. Approximately 38 percent of the total participating vessels represented Southeastern Alaska communities (Haines to Ketchikan), 30 percent represented GOA communities (Kodiak to Cordova), 10 percent represented the Anchorage/Matsu area, 7 percent represented Bristol Bay and Aleutian chain communities, and 1 percent represented Northern and Interior communities. Washington residents accounted for 11 percent of all vessel owners, Oregon 2 percent, California 0.5 percent, and all other locations about 0.5 percent. As noted in Section 3.1.2.1 on page 3-xxxviii, Washington State accounts for most of the large vessels, and most of the small vessels are based in Alaskan communities. Within any given year, participation in the Alaska EEZ fisheries is much less than the 15,709 vessels covered over the entire 15 year period, but a similar proportional mix in owner's residency is borne out in individual years. During the 1988 - 92 period, for example, Alaska accounted for an estimated 82 percent of the total 8,016 participating vessels, Washington residents represented about 14 percent, and all others 4 percent. The relatively high representation of Alaska communities and fishermen, and the implied large number of Alaska vessel owners relative to the state's population emphasize the importance of the EEZ fishing industry in the state.

Coastal communities in Pacific northwest, such as Seattle or Newport, also have important economic links to Alaskan fisheries; most of the corporate organizations representing the Alaska commercial fishing industry are based in Seattle. The geographical separation between Alaska-based fishing activity, and West coast-based capital investors dates back at least a century. Key components of the industry, including the pollock and crab fleet, as well as the traditional schooner halibut fleet are based out of Washington. The Pacific northwest offers a more diverse economic and social infrastructure, and the economic base in these states extends beyond natural resources. There are greater employment opportunities, and the economies are more stable.

Commercial fisheries in Alaska have existed for over 100, and many of the coastal communities in the state have been built around catching and processing activities. Communities such as Kodiak and Dutch Harbor are among the most important fishing ports in the nation, and they rely almost entirely on the commercial fishing industry. There are no other resources available capable of sustaining these

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<sup>5</sup>Of the estimated 15,709 vessels participating in the Council-managed fisheries since 1976, data from vessel registration files were available for 14,550 vessels concerning residence of owner.

economies; without a fishery resource, there would be little reason for these communities to exist. For most coastal communities in Alaska, the economies have developed around marine resources, along with other available natural resources such as timber, oil, and minerals. Rarely do these natural resources incur more than primary processing in Alaska; raw or unfinished fishery products are routinely transported out of state for most of the value-added processing. As a result, Alaska's economy must depend upon the value of raw products, such as fishery resources, to sustain much of the private sector.

The dependence of Alaskan coastal economies upon marine resources from the EEZ directly influences the way these communities view the fishery. Access to the fishery is the primary, if not sole means of access to economic survival, as well as the protection of one's investment in fishing. The status quo because it is open to any who wish, may represent a more secure expectation of future access to the fishery than the prospect of limited entry or a moratorium, particularly for those planning the future for their family. Such fishermen often accept the trade-off between higher income from a job elsewhere, and the more desirable quality of life represented by fishing. Regardless of whether this is the most efficient or profitable harvest of the resource, residents of remote coastal communities will likely remain protective of their primary rights to the fishery, and resist changes that threaten access to the resource when it is the sole or primary means of economic livelihood.

A parallel cultural value associated with a fishing heritage is maintained by fishing families and communities in general. Those fishermen who pioneered the industry, as well as their descendants, likely assume for themselves a greater right to the resource than those with no prior commitment. This perspective may be based on protection of the human and capital investment required to develop the fishery, as well as the a more general conviction in the doctrine of prior use, which ascribes senior rights to those who first use the resource. From the perspective of a moratorium that limits the entry of new vessels, existing participants would be expected to support such a policy to the extent that it reinforces their right to the resource by virtue of prior use, so long as a moratorium on new entrants does not unduly interfere with their planned access to the fishery. The willingness of owners of the existing fleet to impose further restrictions upon their right to operate in the fishery will likely reflect their perception of the problem, how they will benefit, and the equity of the solution.

#### 3.1.2.6 Additional Considerations

It is generally recognized that overcapitalization of the fleet operating in Council-managed fisheries has been motivated by a combination of factors including profit expectations, open access, a publicly-owned resource, the lack of conservation incentives, and investment incentives. While management approaches to the problem have focused on remedying the market failure problems associated with the first four, it is important to recognize the magnitude and influence of investment incentives, as well.

Investment incentives include the financial assistance or subsidies that can be used by vessel owners or investors to offset construction and financing costs associated with boat building. In the open financial market, all capital investments prospects are ranked according to their expected risk and returns, and financing or interest costs are assessed accordingly. If an industry is already overcapitalized, has a high risk, and has expectations of low returns, investors will be unwilling to supply capital unless there is high premium, or interest rate attached to the investment. Theoretically, these market considerations will restrict investment in overcapitalized industries relative to more lucrative undercapitalized industries.

For fishermen participating in the Alaska EEZ fisheries, there have been at least three sources of investment incentives available that affect the construction or reconstruction of vessels outside of competitive market forces. These include the Capital Construction Fund (CCF), the Fisheries Obligation Guarantee Program (FOG), and subsidies offered by foreign shipyards. In each case, the effect of the

incentive can be to lower the capital investment costs relative to competitive market rates, thereby encouraging capital investment in the fishery. The CCF allows fishermen to place earnings in tax exempt accounts for the purpose of construction or reconstruction of vessels. The FOG program provides government loan guarantees on approved vessels. Subsidies by foreign shipyards take a variety of forms from loan guarantees to cost rebates. The relative merits and justification for these measures vary. In the case of the Federal CCF and FOG programs, the underlying policy originally was to encourage the development and competitiveness of a domestic fishing fleet in an era when many of these fisheries were underdeveloped and undercapitalized. Incentives offered by foreign shipyards in the form of loan guarantees or direct subsidies evidently are designed to promote the shipbuilding industries in those countries, and vessel owners may be incidental beneficiaries.

The influence of investment incentive programs on capitalization in the Alaska EEZ is difficult to quantify, although some general statistics can be used to establish the scope of influence. According to information available from the program, approximately 615 vessels held CCF accounts in 1989 listing specific Council-managed fisheries as the primary fishery.<sup>6</sup> These include catchers, processors, and catcher processor vessels. Of this total, 268 were crab vessels, 179 halibut, and 168 groundfish. Many of these vessels participated in multiple fisheries. Total CCF deposits of fishing income and interest earned between 1985 and 1989 summed to \$138 million [Bostic]. Information available on the FOG program reports that 109 vessels operating in the BSAI and GOA are covered by the program, representing loan guarantees on financing of approximately \$190,000,000 [Barry]. Although several U.S. oil supply vessels were converted to groundfish catcher processors in foreign shipyards during the mid 1980s, the existence or magnitude of foreign subsidization is conjectural. Subsequently, the Commercial Fishing Industry Vessel Anti-Reflagging Act of 1987 prohibited building or rebuilding of any U.S. fishing vessel in foreign shipyards.

From the perspective of the Alaska EEZ fishing fleet, the net effect of investment incentives on the total number of new vessels entering or participating in the fishery is only modest; perhaps 700 to 800 vessels were affected by these programs since the mid-1980s. However, the combined impact of these programs may have been a contributing factor in increasing the harvesting and processing capacity of the fleet, and total capital investment, during the critical period of the late 1980s. The overall capacity of the fleet was increased dramatically with the development of the domestic pollock industry between 1986 and 1990.

### 3.1.3 Consequences of Continued Open Access under the Status Quo

The Council's objective in considering a vessel moratorium is to stabilize the present fleet, and prevent unneeded investment in additional capacity during the period that the Council is considering limited access alternatives as part of a comprehensive management plan. As an alternative to a vessel moratorium, the status quo--continued open access--must be evaluated in terms of its ability to achieve this same near-term objective.

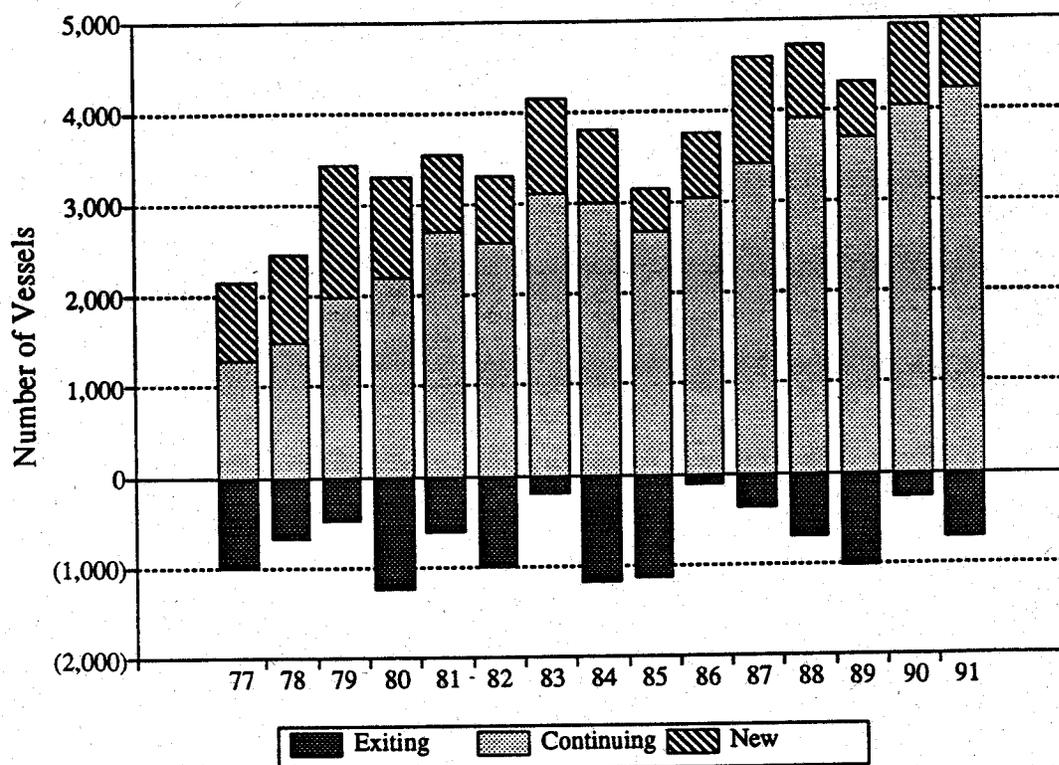
#### 3.1.3.1 Projected Fleet Size and Capacity

An important consideration in analyzing the likely level of further capital investment and fleet size under the status quo is the rationale that explains past entry into the Council-managed fisheries. Over the past 15 years, vessels have entered, exited, and continued in these fisheries in response to a variety of economic, financial, and personal reasons. The extent to which these variables have consistently impacted participation in the fishery may serve as a basis for projecting future participation.

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<sup>6</sup>Due to a backlog of entries, specific data relating to Council-managed fisheries are available only up to 1989.

**Figure 3.4 Alaska EEZ Vessels by Status  
Annual Participation Rates; 1977-91**



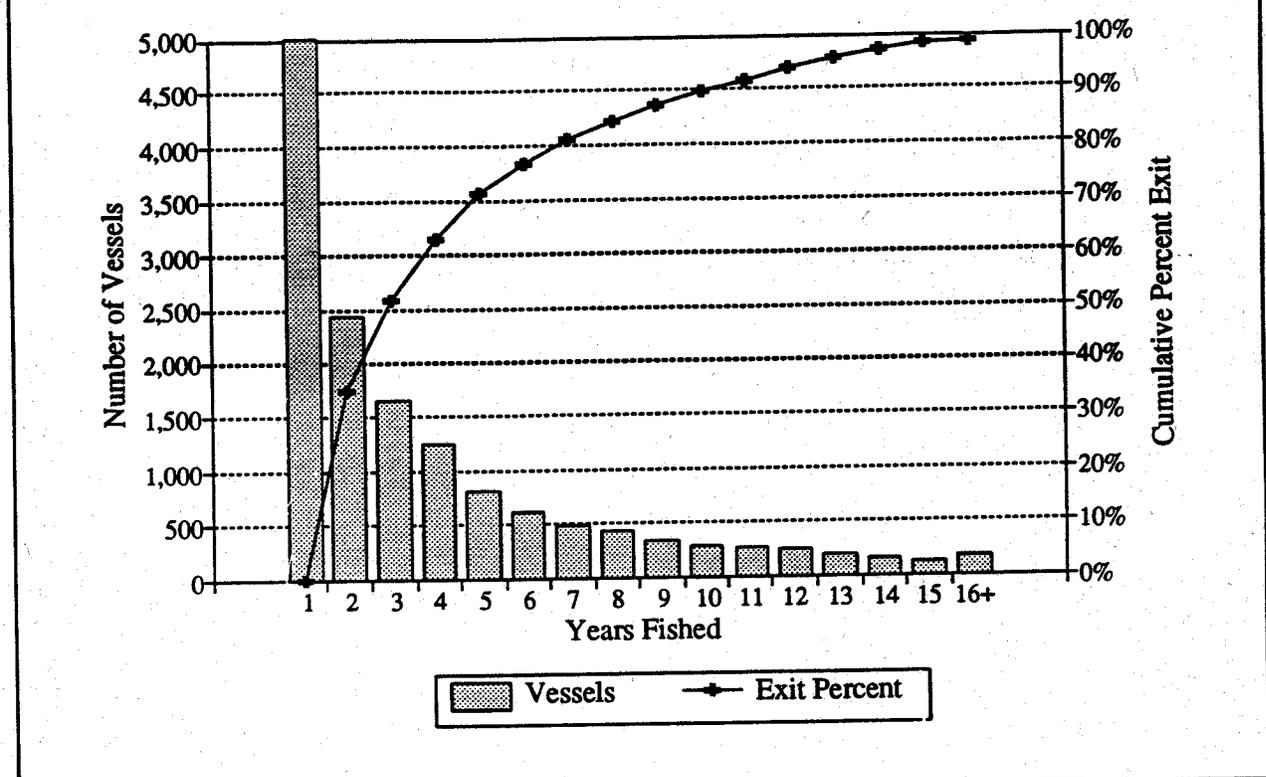
**Figure 3.4 Alaska EEZ Vessels by Status; Annual Participation Rates 1977-91**

Figure 3.4 portrays the annual participation in the combined groundfish, crab, and halibut fisheries since 1977. The number of new entering vessels with no previous record of participation in the fishery is shown, along with the number of continuing vessels (those with some prior participation), as well as those previously participating vessels who left the fishery in that year.<sup>7</sup> Exiting vessels frequently return to the fishery in subsequent years, in which case they appear as continuing vessels, rather than new entrants.

The distinction among new, continuing, and exiting vessels in Figure 3.4 illustrates that total participation in a given year is influenced nearly as much by exit rates as by new entrants. The exit of 500 to 1,000 vessels annually over this period also helps explain why total participation increased an average of only 180 vessels per year, despite new entrance averaging nearly 900 vessels annually. The aggregate exit of vessels from the fishery over time is represented in Figure 3.5, which compares the number of vessels, and cumulative exit rate of these vessels relative to the total number of years fished. For the 15,709 vessels that participated in the Council-managed fisheries since 1976, just over 5,000 fished for only a single year, as of 1991. Over 50 percent of the total vessels active in Council-managed fisheries participated a total of 3 years or less.

<sup>7</sup>The earliest year in the data series used to estimate annual participation rates is 1976. As a result, 1976 participants all show up as new entrants, with no exit. Calculating new entrants as those with no prior participation record likely overstates new entrants in the earlier years, since these vessels may have fished prior to 1976. This does not, however, affect the calculation of total annual participation.

**Figure 3.5 Total Years Fished and Cumulative Exit Over Time**



**Figure 3.5 Total Years Fished and Cumulative Exit Over Time**

Although trends in annual participation rates can be deduced from Figures 3.4 and 3.5, it also is evident that there is significant year-to-year variability in vessel entry and exit. This variability can be examined over time to determine if participation levels are consistently linked to other factors. A statistical analysis of participation rates over time using ordinary least squares regression over the 1977 - 1989 time period reveals that from 90 to 95 percent of the variation in participation is correlated with corresponding changes in specified economic variables. Considering the combined groundfish, crab, and halibut fisheries, changes in total vessel participation on an annual basis are positively correlated with crab and halibut prices, and the availability of groundfish. Total participation is inversely correlated with average per capita income, and the price of salmon. An otherwise unexplainable increase in vessel numbers in 1983 is attributed to the Council's announced intention to implement a halibut moratorium in that year, evidently creating a one-time increase in vessel numbers as fishermen sought to establish participation prior to the cut-off.

The results of this statistical analysis can be used to generalize about changes in total vessel participation. Total participation is likely to increase as a result of higher crab and halibut prices, since these are economic inducements to draw both new and prior participants into the fishery. A significant increase in the availability of groundfish is also likely to increase the number of total participating vessels. Alternatively, higher average per capita incomes in the general economy are associated with reduced participation, presumably because this is a proxy for economic alternatives to fishing; the greater the economic opportunities in the economy, the lower the participation in the fishery. Higher salmon prices also tend to reduce participation in the Council-managed fisheries, indicative of the intermittent participation by salmon fishermen in EEZ fisheries based on how profitable the salmon season has been.

Lastly, the one-time-only proposal for a halibut vessel moratorium in 1983 appears to have increased participation by nearly 1,000 vessels in that year. The increase in that year appears unrelated to other economic or financial factors.

Separate statistical analyses were performed on the various components of participation in EEZ fisheries under the status quo conditions. For example, participation by new entrants was examined, and found to be highly correlated with halibut prices in the previous year, suggesting that new entrants are directly influenced by the success of the previous year's halibut fishermen. In aggregate, much of the new entry is thus associated with halibut vessels entering and exiting based on expected profits from the fishery. Continuing and exiting vessels exhibited much of the same intuitive behavior in terms of changes in participation over time. Vessels exit the industry in response to high salmon revenues, or increased average income levels in the general economy. Vessels continue to participate based on participation in the prior year, resource availability, and price levels.

The analyses of participation rates over time revealed a strong correlation with observable economic variables. These associations provide a reference for projecting future participation of vessels under the status quo in the affected fisheries. The ability to explain past participation is much easier than accurately forecasting future performance, however, since future projections also require the accurate estimation of the associated price, income, stock level, and policy variables contained in the explanatory relationship. That is, in order to project participation rates in 1992 and beyond, it is necessary to develop estimates of salmon prices, national income, groundfish stocks, and so forth.

The forecast of future participation reveals that under the status quo, total annual participants in the fishery likely peaked in 1991 at approximately 5,000 vessels, after which annual participation is expected to decline during the next few years, falling to a level of around 4,000 vessels by 1993 based on current economic relationships. These assumption include weakness in crab prices, no further increases in groundfish stocks, a general strengthening of the national economy, and some recovery in salmon prices relative to halibut prices. Coincidentally, all of the assumed directional changes in these explanatory variables have been associated with reductions in past participation. Total status quo participation was not projected beyond 1993 given a lack of projections about economic conditions in the future.

A decline in total participation does not imply that new entry would cease. As shown in Figure 3.4, new vessels continue to enter these fisheries even during period of falling total annual participation. Thus, further capitalization of the fishery due to the entry of new vessels is likely, despite a decline in total annual participation.

Projecting a decline in total vessel numbers contradicts the general upward trend experienced since 1985 (Figure 3.4), but may be defensible given both economic and policy developments since 1991. Apart from price and income levels, the significant increase in vessel numbers since 1989 may well represent a replay of the larger-than-expected participation of vessels in 1983. It appears that vessel numbers may have been inflated during 1990 and 1991 by the same factor that encouraged entry in 1983; that is, the prospect of a moratorium. Participation in 1990/91 was roughly 1,000 vessels greater than can be explained based on economic variables alone. Higher-than-normal exit rates in 1984 and 1985 following the 1983 moratorium announcement far exceed the declines attributable to the crab fishery during that time. As a result, it is anticipated that total participation during 1992 and 1993 may experience a similar higher-than-normal exit rate, in the absence of further compelling economic incentives to continue. Even with higher exit rates, new vessels will continue to enter the fishery.

This projection of a moderate decrease in participation of perhaps 500 vessels per year over the next two years under the status quo does not consider gear type, vessel size, or fishery. Assuming a generally proportional exit rate based on the current composition of the fleet, 80 to 90 percent of those who exit are likely to be smaller longline vessels active in the halibut and groundfish fisheries. So long as stock levels and prices remain near current levels, the trawl groundfish fleet may undergo only minor reductions in fleet size. The entry of even a single factory trawler into the pollock fleet, however, would have a proportionately greater impact on total industry harvesting capacity than would the exit of 1,000 of the smallest marginal participants in the longline halibut/groundfish fleet. Thus, measures of total fleet size based on the number of participating vessels do not provide an accurate indication of fleet capitalization or harvesting capacity. In this regard, total participants in the fleet may decline under the scenario described above, but it is likely that total fleet harvest capacity, as well as capitalization, will be unchanged or increase. Moreover, even a minor upturn in the economic variables influencing participation would likely result in an increase in vessel numbers and capitalization. This scenario is even more probable considering a five year period in the future.

If the prospective developments in the future are enlarged to include likely changes in Council policy, projections of future participation become more complex. The fixed gear halibut and sablefish IFQ programs approved by the Council have the potential to significantly alter the size of these fleets in the future, to the extent open access is denied, and owners adapt to the most efficient combination of vessels necessary to harvest the quota. A significant reduction in the total number of smaller fixed gear vessels is likely under the IFQ program, and would parallel an anticipated increase in efficiency of the fleet. The path of adjustment in participation rates of various components of the fleet is uncertain, but vessels in the largest length categories, particularly trawl and crab vessels, are likely to be unaffected by the halibut and sablefish IFQ action, and may continue to add capacity to the fleet, despite the exit of hundreds or thousands of small longline vessels. If the remaining groundfish and crab industries perceive that limited entry or quota management programs are likely to be developed for their fisheries, it is anticipated that vessel owners will increase fishing effort in the near term in order to establish as large a catch history as possible. Such behavior will doubtless lead to even greater emphasis on capitalization and capacity increases, further aggravating management of the fisheries during the period in which limited entry programs are being developed.

In summary, past participation in the EEZ fisheries is highly correlated with economic variables relating to exvessel prices, income, and stock availability. Estimates of these explanatory variables can be used to forecast vessel participation in the near future, and such projections suggest that annual participation is likely to decline during the next two years, based on expected changes in the underlying economic parameters. The analysis also reveals the impact of policy changes as they affect fishermen's participation in these fisheries. The recommendation of a halibut moratorium in 1983, as well as the current consideration of a fishery-wide moratorium, appears to have increased significantly the participation by both new and existing vessels. Under the status quo, it is assumed that a vessel moratorium is not applied to the Council-managed fisheries, in which case annual participation might decline moderately over the next few years. However, under the status quo, it is also recognized that the Council will continue to pursue long term fishery management alternatives including limited entry, and this discussion of limited entry is likely to encourage speculative entry and fishing effort in order that individuals can establish larger catch histories. Based on the limited observations of past behavior in 1983 and 1989-91, vessel participation is expected to increase during the period when limited access is being discussed, likely offsetting any reduction in fleet size attributable to purely economic variables. Even if the status quo results in a fishery with steady or declining total numbers of vessels in the near term, there is a high probability that capitalization and capacity of this fleet will continue to expand as the Council considers limited entry alternatives.

### 3.1.3.2 Impacts on Optimum Yield

The status quo is a continuation of the economic and regulatory factors that have created the overcapitalized fishery. Under the status quo, it is projected that effort and capitalization will continue to build in the Council-managed fisheries, particularly if the industry perceives that catch histories will be based on participation during this time. The excess harvest capacity and fishing effort that have evolved under the status quo are adversely impacting the Council's management of the affected fisheries and attainment of OY from the fishery resource. The problems created by excessive fishing effort detract from both conservation and economic objectives.

Reducing season length has been the primary means of managing fishery stocks under the pressure of open access conditions. Increased effort has led to progressively shorter seasons for a majority of the groundfish, crab, and halibut fisheries affected. Shorter seasons place greater demands on fishermen to harvest the desired species as quickly as possible, and this increases the probability of waste due to bycatch, discard, highgrading, and reduced product quality. While the factors influencing bycatch are more complex than just season length, it is recognized that bycatch and discard are aggravated by a race for fish, so long as individual fishermen do not bear the cost of the waste. This behavior is the result of the economic and competitive forces created by overcapitalization and excess effort, rather than indifference or intentional negligence on the part of fishermen. A slower-paced fishery provides vessels more time to avoid or utilize bycatch, allowing for better overall achievement of OY in terms of improved utilization of the fishery resource. However, the status quo perpetuates the adverse impacts of overcapitalization by fostering increased fishing effort.

In terms of economic components of OY, overcapitalization and excess effort mean that too much capital is being invested in the fishery relative to the fleet size necessary to efficiently conduct the fishery. From the perspective of the individual fisherman, net returns decline as the vessel's share of the quota decreases due to increased fishing pressure and shorter seasons. In an effort to maintain catch levels under increased competition, some individuals may elect to increase the catch capacity of their vessels, further contributing to overcapitalization. Capitalization of the fishery continues beyond an efficient level because fishermen do not bear the entire social cost of the fishery resource. The resource is owned by the public, and although it has some value, the fisherman is allowed to take the fish for free. This encourages capitalization beyond the level of operation that would exist if fishermen had to incur the cost or value society places on the fish. Effort continues to increase in the fishery beyond an efficient or profitable fleet size until average net returns reach or fall below zero. The cumulative effect is a fleet that dissipates net economic value and perpetuates low incomes in the fishery. The overcapitalized fleet also represents an unnecessarily large and unproductive share of the economy's capital investment base. This condition of overcapitalization prevents achievement of OY from the fishery to the extent that economic rents are lower than those achievable, and overall capital costs in the fishery are higher than required. The status quo will perpetuate these inefficiencies.

## 3.2 The Vessel Moratorium

### 3.2.1 Analysis of Designated Elements and Options

#### 3.2.1.1 Qualifying Period

The Council has specified a range of moratorium qualifying periods based on alternative beginning and ending dates of eligibility. These are:

**Beginning date:**

- a. January 1, 1976
- b. January 1, 1980
- c. January 1, 1988

**Ending date:**

- d. The September 15, 1990 control date, with qualified extensions to January 15, 1992 (fixed gear), and February 9, 1992 (trawl) for vessel under construction, reconstruction, or under contract for construction, reconstruction, or purchase as of September 15, 1992 (see Section 1.3).
- e. February 9, 1992
- f. Upon adoption of the moratorium by the Council, presumably during the week of June 21, 1992.

These options define alternative periods of eligibility that would qualify vessels under the moratorium. The control date is that defined in the September 5, 1990, Federal Register notice, as modified by the Council. For purposes of analysis, any vessel making a landing by the extension of the control dates, as referenced in d, above, will be assumed as a valid, eligible entrant, although it is recognized that this will likely overstate the bona fide qualifiers under the extension criteria. Alternatively, the February 9, 1992, ending date (option e), covers the same participation as the "control date" option d, except that all vessels making a landing by this date would qualify, regardless of prior contractual arrangements stipulated in option d.

Based on these criteria, four basic periods of eligibility can be identified; (1) 1976 through the control date (M1); (2) 1980 through the control date (M2); (3) 1988 through the control date (M3); and (4) each of these three beginning dates through the date of adoption (presumably June 1992). Determining vessel numbers under the fourth eligibility period--participation up to the point of adoption by the Council--introduces further uncertainty into the analysis, since it is unknown how many vessels may elect to qualify in the potential open access window available (February through June 1992). For this reason, the analysis of this option will be treated separately as the incremental, or additional vessels that might qualify for the moratorium over and above the participation numbers estimated for alternatives M1, M2, and M3.

For purposes of this analysis, ending dates d) and e) above, result in the same level of participation. However, the minimum and maximum number of vessels eligible based on the option d) specification of the control date can be estimated. Table 3.1 compares the number of eligible vessels under the alternative periods represented by M1, M2, and M3, indicating the count up through the September 15, 1990, control date (vessel minimum), and the count through the January/February 1992 extension of the control date (vessel maximum). The "due consideration" count in Table 3.1 accounts for those vessels making a landing between September 15, 1990, and the January/February 1992 extension. According to the original control date language, vessels qualifying during this extension would be given "due consideration" in determining future access to the fisheries. The difference between the vessel minimum and maximum eventually must be addressed in the event that ending date d) is adopted, perhaps requiring the verification of contractual arrangements stipulated in the control date. Alternatively, the vessel maximum in Table 3.1 applies unambiguously to option e.

The number of vessels which will be given "due consideration" is shown in the right column of Table 3.1. The number of vessels in this category grows as the qualifying period shortens because of the number of vessels that have re-entered the fishery after a hiatus, but are not actually "new" vessels. For example, 831 vessels fished in the period between control dates during the longest qualifying period (M1) which had not fished previously. The number of vessels under "due consideration" rises to 863 during M2. This means that 32 vessels fished prior to 1980 and re-entered the fishery after the September 15, 1990, control date. The number of vessels to be given "due consideration" rises to 1,146 during M3 (the shortest

Table 3.1 Number of Vessels Under Each Moratorium Qualifying Period

Moratorium Qualifying Period	Vessel Minimum	Vessel Maximum	"due consideration"
M1 Jan. 1, 1976 to control date	14,878	15,709	831
M2 Jan. 1, 1980 to control date	12,644	13,507	863
M3 Jan. 1, 1988 to control date	6,870	8,016	1,146

moratorium qualifying period), indicating that 315 vessels re-entered the fishery after leaving prior to 1988.

Table 3.2a describes the lengths of vessels in the different moratorium periods. (Note that the number of vessels represented in Tables 3.2 and in the remainder of the tables and figures in this chapter are the maximum number of vessels under M1 as defined above.) The vessel length categories were chosen for descriptive reasons depicting the regulatory environment and apparent fishing capacity, and do not imply that any such vessel classification scheme is imbedded in the moratorium. Clearly the majority of vessels which would be included in any of the three moratorium periods are less than 36 feet. Comparing the three periods shows that much of the gain in vessels that comes about by including more years in the qualifying period is from the smallest vessels. This is seen in Table 3. Note that the number of qualifying vessels greater than 36 feet increases by 1,194 from the shortest period M3, to the longest period M1, while the number of smaller vessels increases 6,507 over the same period. The change in the number of small vessels accounts for 85% of the increase in the number of vessels overall.

This distribution of vessels by length influences much of the analysis, namely that the moratorium fleet is dominated by small vessels as far as the number of hulls is concerned. Choosing one period over another comes down essentially to choosing the number of small vessels to be allowed to participate during the moratorium. This is not to say that the different periods have no effect on the larger vessels; but choosing the M3 over M1 reduces the number of vessels over 125 feet by only 16, from 196 to 180. It should be noted, however, that 25 of these larger vessels entered the fishery after the September 15, 1990 control date. Thus, the number of large vessels in the fishery is affected more by the ending eligibility date, rather than the beginning date.

Table 3.2a Vessels By Length For Each Qualifying Period.

Vessel Length	M1	M2	M3
<36'	10,981	9,150	4,474
36-60'	3,633	3,349	2,730
61-90'	597	537	396
91-125'	301	280	237
126-190'	152	151	139
>191'	44	41	41
total	15,709	13,507	8,016

Table 3.2b Comparison of Small Vessels and All Other Vessels.

Vessel Length	M1	M2	M3
less than 36'	10,981	9,018	4,474
36' or larger	4,728	4,289	3,542

Rationale for the alternative eligibility periods reflects different interpretations of the appropriate base period for establishing equitable access to the fishery. The longest period of eligibility, M1, would set the qualifying period equal to the period during which the fishery has been managed under the Magnuson Act. While some vessels who last fished prior to 1976 might conceivably be excluded, it is unlikely that such vessels intended to re-enter the fishery. The M1 period is the most liberal in terms of qualifying vessels, but is the least effective in terms of restricting the size and further growth of capacity.

The 1980-92 M2 eligibility period reflects the Alaska EEZ fleet during the period when the full impact of Council management had become effective. The first significant increases in fleet size had occurred by the early 1980s (see Figure 3.1), and during this time, the domestic Alaska groundfish industry developed and matured. The M2 option eliminates early vessels that have subsequently stayed out of the affected fisheries for at least 10 years.

In contrast to M1 and M2, the 1988-92 M3 option focusses on present participation, and eliminates those vessels that have not been active in Council-managed fishing in recent years. Selection of 1988 as the beginning year, rather than 1990 or 1992, recognizes that a large portion of the fleet participates intermittently based on annual economic and operational variables. Designation of a single qualifying year might inequitably eliminate many vessels that are legitimately part of the active fleet.

Eligibility under the above three options ends at the point of the control date, September 15, 1990, or the extensions through February 9, 1992. These dates were chosen by the Council given its intent to initiate a moratorium as soon as possible following the August 1990 Council meeting. This action was based on lengthy consideration of overcapitalization problems in the industry, dating back to the mid-1980s. Mounting fishery management problems relating to overcapitalization prompted the Council to expedite action to prevent a worsening of the problem. Publishing the September 15, 1990, control date was the first step towards a comprehensive solution.

Subsequent entry by new vessels into the fishery after the initial September 15, 1990 control date may create difficulties in implementing the moratorium, to the extent that the qualifying criteria contains some uncertainties, or that compliance with the criteria would have to be verified. In the 18-month interval since the announcement of the control date, vessels have entered Council-managed fisheries that may prove to be ineligible for future participation, because the owners did not understand, or comply with the control date provisions. The pool of affected vessels based on the control date (options d) is from 831 to 1,146 boats, sufficiently large to raise concerns over litigation, appeals, and enforcement costs associated with verification. Option e (ending eligibility date would be February 9, 1992) effectively qualifies all of these vessels under the moratorium. This option extends the participation period up to the point in time (after the January 1992 Council meeting) where the Council had established the specific elements and options to be included in the moratorium analysis.

Alternatively, the closing eligibility date might be applied as the actual date the moratorium is adopted by the Council, during its June 22-27, 1992 meeting (option f). While such an extension would include even the most recent participants in the fishery, as well as eliminate the need for an exclusive screening of vessels to verify eligibility status, it might be contrary to the Council's objective of preventing further growth in capacity and capitalization of the fishery. Based on the entry rate of new vessels projected in Section 3.1.2.1, as many as 1,000 additional vessels might have entered the fishery during 1992 under the status quo in an effort to establish participation. Although new entry has doubtless been slowed by the announced control date, a subsequent liberalization of eligibility criteria creating an open window for qualification would be expected to encourage new entrants by those familiar with the Alaska EEZ fisheries. As a result, extending the closing eligibility date up to the point of moratorium implementation would create a 2 month open access period between the April 1992 and June 1992 Council meeting, as

well as add those vessels which have entered the fishery since February 1992. This is expected to increase fleet size by perhaps 100 to 500 vessels. In addition, such an extension would likely to be judged inequitable by those vessel owners who made decisions based on the published control date.

A 2 month open access interval is probably insufficient time to plan and complete construction of a medium or large-size vessel. The new entrants likely to gain moratorium eligibility through option f would include existing vessels with the flexibility to quickly enter Council-managed fisheries without incurring significant costs. Most prominent in this regard are any new halibut vessels participating in the scheduled June 8-9, 1992 halibut season. In addition, vessels owners familiar with the proposed moratorium may take advantage of the potential open access period to make landings with existing but non-qualifying vessels in speculative efforts to gain future access to Council-managed fisheries.

### 3.2.1.2 Length of Moratorium

The basic intent of the moratorium on the entry of new vessels into a fishery is to limit the expansion of fishing capacity while the Council formulates an acceptable program for balancing fishing capacity with TAC. Generally, this is likely to involve management measures that control access to the fishery resources. In effect, the moratorium is a temporary limited access program used until a permanent limited access program can be developed, approved, and implemented. The policy decision on this aspect of the moratorium is based on projecting a reasonable period of time to achieve implementation of a permanent limited access program.

Three alternatives have been established regarding the possible length of the moratorium.

- (a) Until the Council rescinds or replaces; not to exceed 3 years from the date of implementation, but the Council may extend the moratorium for 2 years if a permanent limited access program is imminent.
- (b) Until the Council rescinds or replaces; not to exceed 4 years from the date of implementation, but the Council may extend the moratorium for 2 years if a permanent limited access program is imminent.
- (c) Until the Council rescinds or replaces; not to exceed 4 years from the date of implementation.

All three alternatives under consideration would provide for rescinding or replacing the moratorium at any time except that the moratorium would expire automatically in three years (alternative (a)) or four years (alternatives (b) and (c)). Under alternatives (a) and (b), the Council could extend the moratorium for an additional two years if a permanent limited access program were imminent. These alternatives effectively provide maximum durations of the moratorium for five and six years, respectively. Alternative (c) provides for a 4 year moratorium without a 2-year extension. Hence, the range of potential durations of the moratorium is from 4 to 6 years.

These potential limitations on the duration of the moratorium should provide sufficient time to develop, approve and implement a permanent limited access program for the affected fisheries, or to decide to abandon limited access in favor of open access management measures. The most time consuming aspect of developing limited access programs is often the difficult process of reaching political consensus. The more technical aspect of performing analyses, receiving and incorporating public comment, and satisfying administrative requirements also can be lengthy, but experience indicates that successful limited access programs require majority support from affected industry participants. Achieving this support often

requires difficult social/political interaction (and ultimately, agreement) between principal representatives of various industry sectors.

For example, a moratorium on entry into the mid-Atlantic surf clam fishery continued for 12 years before being replaced with an individual quota program. Achieving agreement within the Mid-Atlantic Fishery Management Council on the form of a substitute limited access program was a major impediment to replacing what was intended to be a temporary three-year moratorium. The North Pacific Council also has experienced this difficulty. Its limited access program for the fixed gear sablefish fishery was approved January 1993 and the Council's intent to develop a moratorium for groundfish, halibut and crab fisheries was announced in 1990. Analytical work on the moratorium was delayed until early 1992 because the priority of a moratorium was not as high as other issues that the Council wished to resolve.

The collective "will" of the Council may be the principal determinant of the length of the moratorium. Various factors will affect the Council's decision-making process to substitute either a permanent limited access program or continue open access management before the end of the moratorium. One factor will be the inherent value in owning a vessel with fishing rights under the moratorium. The only way to enter a moratorium fishery will be to purchase a vessel that is allowed to fish under the moratorium. This may inflate the value of such vessels, and generate support from vessel owners to continue the moratorium as long as possible. Strong arguments to extend the length of the moratorium are likely regardless of the alternative chosen by the Council now. On the other hand, continued congestion in the fisheries from excess fishing capacity will not be resolved by the moratorium. This congestion, may provide an incentive to replace the moratorium with some other forum of management. Another factor will be the inability of crew members to "buy into" a moratorium with a relatively low investment as they would be able to do under open access, or an individual quota type of limited access program.

These and other factors probably will influence the actual length of the moratorium regardless of the duration alternative chosen by the Council when recommending the moratorium to the Secretary. The reason for this is that future plan amendments could extend the moratorium for another term or indefinitely if this is the only policy choice acceptable to the Council.

### 3.2.1.3 Crossovers During Moratorium

The moratorium proposal does not restrict vessels from crossing over among fisheries, regardless of their prior participation in these fisheries. Participation in any Council-managed fishery is sufficient to gain access to any other fishery. While recognizing that unrestricted crossovers may lead to increased capitalization of effort, the Council reasoned that a restriction on crossovers is highly allocative in its own right, and is more appropriately addressed in the long-term comprehensive plan.

Vessels were classified as being halibut, crab, or groundfish vessels. Many vessels were classified as belonging to more than one category. Table 3.3 shows the number of vessels which qualified through harvesting or processing activity in each of the three fishery categories under each moratorium period. Notice that the size of the fleet is dominated by the number of halibut vessels, ranging between 86% and 89% of the total fleet under any of the qualifying periods. The number of vessels which participated in the Westward king and Tanner Crab fisheries is comparatively small, amounting to 6% of the overall fleet under M3, and 5% under M1. The number of vessels which participated in groundfish fisheries ranges from 44% of the total vessels under M1 to 50% under M3.

Table 3.4 shows the numbers of vessels that participated in one fishery, two of the three, or all three fisheries, for each moratorium period. Again the table shows that the halibut fleet constitutes the largest part of the combined fleet. Vessels which only participated in the halibut fishery ranged from 47% of the

qualifying vessels for shortest period (M3), to 58% to the longest period (M1). The number of groundfish and Halibut combination vessels were also quite large ranging from 27% in M1 to 37% during M3. The third leading activity is groundfish alone. The number of "crab only" vessels, and vessels that fished crab in combination with other resources is by far the smallest segment of the fleet.

The examination of vessel activities can be summarized as follows in the following three observations:

(1) The number of qualifying vessels in any moratorium period will be dominated by vessels which at some time fished for halibut. Nearly 50% of the vessels in any qualifying period fished only for halibut. Given that the Council has approved an IFQ system for the halibut fishery<sup>8</sup> there are logical grounds to eliminate halibut vessels from consideration in the overall moratorium. In fact it is a possibility that vessels in the IFQ fisheries will be exempted from the moratorium. This will be discussed in more detail in section 3.2.1.11.

Halibut vessels are generally under 60 feet but vessels less than 60 feet also participate in the groundfish and crab fisheries, as seen in Table 3.5. About 62% of the "groundfish only" vessels were less than 35 feet, and an additional 20% were between 36 feet and 60 feet. The same can be said for halibut and groundfish combination vessels; 94% of the 4,311 vessels are less than 60'. Even in the "crab only" fleet, 24% of the vessels are less than 60 feet. Of all of the groundfish vessels under 60 feet, over 1,000 of these participated in the Sablefish fishery during the years 1988 - 1990 and would receive Sablefish IFQs [NPFMC, 1992]. That leaves over 4,000 other vessels which participated in the groundfish fisheries which will not be issued initial sablefish IFQs. These small vessels have participated in the Council-managed fisheries other than halibut and sablefish, and presumably will participate in these fisheries in the future if a moratorium is implemented, regardless of the implementation of an IFQ program.

(2) The groundfish fishery could be protected from further entry of newly constructed large vessels under a moratorium, but would not be protected from the crossover of up to 9,208 moratorium qualified vessels that fish halibut but not groundfish, nor from the 388 vessels fished only in the crab fishery. As

Table 3.3 Moratorium Vessels by Activity Categories

Fishery Category	M1	M2	M3
Groundfish Activity	6,879	6,003	3,971
Crab Activity	863	764	484
Halibut Activity	14,045	11,921	6,915
Any Qualified Activity	15,709	13,507	8,016

Table 3.4 Moratorium Vessel by Activity Combinations

Activities	M1	M2	M3
Halibut only	9,126	7,547	3,768
Groundfish only	1,539	1,344	769
Crab only	388	360	223
Halibut & Groundfish	4,311	3,919	2,972
Halibut and Crab	82	78	53
Groundfish and Crab	127	125	109
Halibut, Groundfish, & Crab	136	134	122

<sup>8</sup>The Council approved IFQ management plans for the halibut and sablefish longline fisheries in December 1991, but has delayed final action on these amendments until April 1992.

Table 3.5 Vessel Activities by Vessel Length for Moratorium Period 1 (M1)

Activities	≤ 35'	36'-60'	61'-90'	91'-125'	126'-190'	191' +	Total
Halibut only	7,778	1,264	74	9	1	0	9,126
Groundfish only	971	310	124	56	54	24	1,539
Crab only	53	40	92	127	62	14	388
Halibut & Groundfish	2,151	1,943	193	19	5	0	4,311
Halibut & Crab	19	21	23	19	0	0	82
Groundfish & Crab	0	3	34	57	29	6	127
Halibut, Crab, & Groundfish	10	52	57	16	1	0	136
Total	10,982	3,633	591	301	152	44	15,756

shown in Table 3.5, 203 of the "crab only" fleet were longer than 90 feet. These crab vessels which have not participated previously in the groundfish fishery might enter and add to the already over capitalized groundfish fleet. These larger vessels could add significant capacity, particularly in the Pacific cod pot fisheries which employ essentially the same gear and vessel configurations.

(3) The Crab fishery also appears to be vulnerable to increased capitalization due to shifts in participation by the moratorium fleet. Currently, the Tanner crab fleets are participating in long seasons with relatively high valued products. The moratorium would not prevent qualifying vessels which have not yet fished crab from entering that fishery. As seen in Table 5, vessels which have participated in the westward crab fisheries have a more normal distribution across all vessel length categories. The biggest impacts could come from the crossover of larger non-crab vessels of which 168 are over 90 feet.

#### 3.2.1.4 Replacement or Reconstruction of Vessels During the Moratorium

A vessel may be replaced with a vessel of similar capacity, but if replaced with a new or previously ineligible boat, the replaced vessel is no longer eligible under the moratorium. Reconstruction of vessels is allowed to upgrade safety, stability or processing equipment, but not to increase fishing capacity. The intent of the Council is to freeze the number of vessels participating in the designated groundfish, crab, and halibut fisheries, with appropriate restrictions on allowable changes to those vessels that are permitted in these fisheries.

A critical component of this provision is the analysis of alternative procedures for measuring and managing vessel capacity, and how appropriate restrictions might be implemented. Sections 3.2.1.5, 3.2.1.6, and 3.2.1.9 also address the replacement or reconstruction of vessels with vessels of "similar capacity". The following discussion of capacity measures and their implementation under a moratorium applies to those sections as well.

The intent of the Council is to prevent further unnecessary capitalization of the fleet, but this raises questions in terms of the verbal replacement provision. Several issues are involved:

- (1) What are the criteria appropriate to define "similar capacity?"
- (2) If a vessel is upgraded for safety or stability, and this upgrade consequently increases the amount of product it can carry or increases the number of trips it can safely make in a year, is this an increase in capacity?"
- (3) To what extent can a vessel upgrade its processing capacity? The wording of the alternative states that harvesting capacity may not be increased, but processing equipment may be upgraded. Does this allow harvest only vessels to convert to catcher-processors, if the actual "harvesting capacity" is not increased?
- (4) Are the rights to replace or reconstruct a vessel transferrable? That is, can the right to replace an eligible vessel be sold separately from the vessel?

#### 3.2.1.4.1 A Discussion of Alternative Measures of Capacity

Both the analysis and implementation of a moratorium for groundfish, halibut, and crab fishing vessels rely to some extent upon documenting fleet or vessel harvesting capacity. The need for capacity information in the analytical portion of the process (the RIR) may be different and may draw upon different types of information than those that are used during the implementational phase. The analysis has two major uses for capacity information. The first arises from the need to document that excess capacity exists, as a basis or need for Council action. This type of capacity measure is used to describe the status quo in sections 3.2.1.4.1. The second stems from the need to provide a comparison of the fleet capacity that would be eligible to participate in these fisheries under the various alternatives being considered. This type of capacity measure that is considered here in this section.

Various approaches might be used to develop sophisticated vessel-based measures of capacity. They generally fall into two major categories: those that rely primarily upon physical parameters of the boat--which may be termed volumetric or engineering approaches--and those that rely upon deducing capacity from observed fishery performance. For a variety of reasons, the technique which may be best-suited for estimating vessel/fleet capacity for the analytical purposes of this document may not be the best approach for evaluating potential changes in capacity that might accompany vessel modification or replacement, following implementation of a moratorium.

Within the first category of methods, the estimation of vessel capacity would begin with an identification of the physical dimensions of the fish storage hold of each vessel. Conclusions would then be drawn regarding the vessel's catch rate and trip length, based upon additional parameters such as horsepower, and also upon fishery information about trip length. Having calculated an average trip length, the number of possible trips per year would be derived from an estimate of season length for a vessel of that size. Determination of a vessel's season length would be based primarily on the number of weeks, annually, in which expected weather conditions would not constitute a hazard to vessel safety. Additionally, factors such as seasonal closures for some species would be considered. Finally, the volumetric estimate of trip capacity would be expanded into an annual harvest capacity, using the calculated number of possible trips per year.

The other category of methods involves examination of landings records for vessels. The many approaches that are possible within this category differ primarily with regard to the unit of time over which capacity is initially measured, and whether the capacity observed for a class of boats is used to

represent all individual vessels within that class. A vessel's landings might be summarized over periods of time ranging from an entire year to a single trip.

Each of these approaches has its strengths and weaknesses. The volumetric approach has the advantage of not being influenced by periods in which a vessel, by the choice of the operator, did not happen to be fished at or near its capability. The issue is merely one of how much the vessel can safely carry and how long it takes to catch and deliver this amount of fish. In cases where several different target species are available, each with different rates of capture, a decision must be made regarding the mix of species that would be caught by each vessel. The simplest approach to dealing with this problem would be to concentrate only on the species which the fleet harvests most efficiently. Thus, in the trawl fishery, one might look at the catch rate for pollock, and extrapolate an annual catch amount based on the rate at which a vessel could deliver this species. This approach may yield realistic conclusions for some segments of the fleet, but it may not yield realistic predictions of the fleet's capacity for delivering the full range of species which have been landed.

An alternative would be to assume that every vessel's annual species composition is proportionate to the composition of the TAC. Although this method may produce estimates for individual vessels that are inaccurate, depending on the actual species mix of the vessel, the capacity of the fleet would be more accurately portrayed, given the existing availability of species. More complexity might be added by exploring relationships between vessel characteristics, such as size, and target species. For instance, 200-foot vessels may, on average, target a different mix of species than do 60-foot vessels. By stratifying vessels into different classes, the capacity predictions for individual vessels could be improved.

The volumetric approach is not without its shortcomings, however. From an analytical standpoint, the parameters necessary to calculate hold capacity are not always available. Within the data base compiled for this analysis several important components are not present for a significant percentage of vessels. Less than half of the vessels in the Alaska fish ticket records, dating back to 1976, have identifiable values for gross or net vessel tonnage. Horsepower, an important determinant of how quickly a given trawl net can be filled, as well as the amount of time required to deliver a load from the fishing grounds, was available in nearly 95% of cases. Vessel length is the most commonly available vessel characteristic, being present in more than 99% of the cases examined.

Another problem is that this approach requires an accurate determination of how many times a vessel's hold can be filled during one year. A vessel's rate of capture may vary considerably from one target species/assemblage to another, and from one trip to another while targeting the same species. Vessels that can act as delivery vessels for at-sea or shoreside processors may have drastically different amounts of fish that they can deliver in each of those modes. Because fishticket data does not include an indication of the start or duration of a trip, it provides only limited assistance in determining the length of time required to fill the hold. Moreover, in order to preserve product quality, processors may require that some species, such as Pacific cod, be delivered within a shorter interval, after first bringing fish onboard, than is necessary to completely fill a vessel's hold. In addition to the amount of time required for filling the hold and transiting to and from the fishing grounds, different types of vessels may have varying needs for repair or maintenance during the season that will reduce the time available for fishing. They will also have different available safe weather fishing periods. Small errors in calculating these per-trip time requirements and available season length may result in annual estimates of landings that are totally unrealistic, as well as being biased among groups of vessels. Therefore, even if complete vessel characteristic information were available, this method might not always yield the most reliable measure of vessel or fleet capacity.

It should be noted that a board, reviewing applications for vessel modification during a moratorium, might have access to more complete vessel information, on a case by case basis, than is present during this stage of the analysis. Therefore, it is not inconsistent that a volumetric approach might be selected for use in the vessel review process and a different measure of capacity used for the purposes of estimating the potential impacts of various moratorium alternatives within this document. However, it would still be important for such a board to recognize that the physical dimensions of a vessel, by themselves, are not an adequate representation of its effective harvesting capacity.

The alternatives to the volumetric approach rely more heavily upon actual fishery records in determining the harvesting capabilities of vessels. Given that many vessels do not have complete characteristic information, one of the most obvious advantages of these approaches is that capacities can be estimated for many vessels which would otherwise remain question marks. Another advantage is that the estimated capacity measures have a greater chance of falling within the feasible range. As noted above, inaccurately accounting for harvesting time and unproductive periods throughout the year--whether caused by weather, transit, or maintenance--may lead to the conclusion that significantly more time during the year could be spent fishing than ever happens to be the case in the real world. Selecting an annual value from actual performance assures that the value is attainable.

However, if one selects the actual annual performance of each boat in the Alaskan groundfish, halibut, and crab fisheries, then one arrives at the conclusion that their capacity is equivalent to their actual performance in those fisheries. This is usually not the case. Many vessels participated in additional fisheries, such as salmon. Many did not fish up to the capacity of their vessels because of restrictive quotas or other factors. Thus, to use an annual form of this method, it is necessary to estimate a value for a class of boats that represents a level of performance based on full participation in the included fisheries.

Two approaches may be used to refine values generated from annual data. First, analysis may focus on vessels that did not have activity outside of the fisheries of interest. Second, the analysis may focus on the higher producing vessels within the class. This representative approach assumes that all vessels have the capability of performing at a level equivalent to the best producers in their class. But, how are the classes used in this type of analysis to be determined? As noted above, few characteristic variables are present for a high percentage of vessels. Since vessel length is the most commonly present and intuitively related to capacity across gear groups, it is a logical choice. Vessel landings for big producers within a specified length class could be used to represent the potential landings of all vessels within that class. This approach automatically incorporates the stratification benefits described above, but does not address inaccuracies that may arise when vessels of a similar size target different species that differ greatly in availability or rate of capture.

Because this representative approach assigns a capacity measure to each vessel on the basis of a single vessel characteristic, such as length, it is not well-suited to the task of assuring that vessel capacity does not increase, after a moratorium has been put in place. Salmon fishery limit-seiners provide an excellent example of the ways in which fishing power can be increased when only one dimension of a boat is held in check. However, for purposes of describing the present capacity of several alternative fleet configurations, this approach can perform reasonably well, provided that the values chosen to represent each class are close to the true average capacity for all of the vessels included in the class.

Another method of eliminating the vagaries of annual data is to use trip-level data. Trip-level data affords a greater opportunity to focus on the relative capacity for particular species, and expands the pool of information by accommodating the trips of vessels which had significant activities outside of the included fisheries. However, this approach shares one of the problems noted for the volumetric approach; namely

that one must expand trip level information into reasonable estimates of annual capacity. Clearly, the use of trip-level data only has advantages in circumstances where the analyst has additional information indicating that the annual figures likely understate actual capacity. If that information is quantifiable, it may be easier and just as reasonable to modify annual totals rather than to construct trip-level estimates and then expand them to annual values.

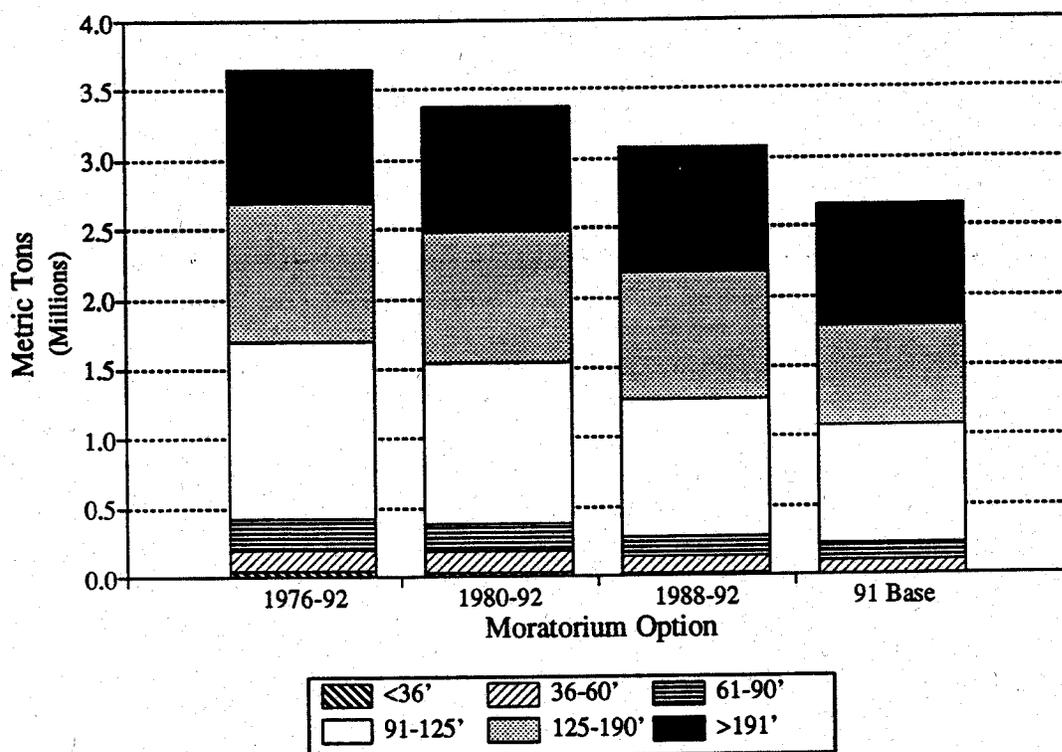
Focusing on trip-level information also provides an avenue for avoiding the representative vessel approach, in that the highest landing of each vessel can be used represent that vessel's trip capacity, rather than relying on the performance of the highest producers to represent all similarly sized vessels. The pitfalls of relying upon each vessel's highest observation are two-fold. First, low operator skill or strategy may mean that a vessel is operated well below what another operator could achieve using it. The object of the analytical exercise, after all, extends beyond estimating what a vessel would produce with the same captain and crew, to the broader question of what the vessel might be capable of producing, if it were sold to an unknown owner with a potentially more effective crew. Secondly, a single trip may reflect unusually fortunate conditions that could not be sustained over an entire season. However, this criticism could be addressed by including additional trips in the analysis.

In addition to the data demands of each of these approaches to estimating fleet harvesting capacity, each requires differing amounts of time to develop a capacity value for every vessel in the potential moratorium fleet. Given the time and data constraints of this analysis, annual landings information from 1989 was relied upon as the primary data source for specifying vessel capacity. The fleet was divided into 6 vessel length classes: 1-35 feet, 36-60 feet, 61-90 feet, 91-125 feet, 126-190 feet, and 191 feet and greater. A subset of vessels was selected which 1) had some landings of groundfish, and 2) landed more than 50% of their poundage in the form of groundfish or halibut. The capacity estimate did not include vessels that had moratorium landings of only halibut during 1989, because it was assumed that if they fished for groundfish, as well, they would have a capacity comparable to similarly sized vessels that fished groundfish (and perhaps also halibut).

From this group, the poundage selected to represent each length class was the amount of landings at the 70th percentile--i.e. the amount of landings which was higher than the worst 70% of vessels and lower than the top 30% of vessels in the class. In the 3 smallest vessel categories, the 70th percentile value was less than the average, while it was higher than the average for the 3 largest classes. These capacities represent an estimate of what the vessels could catch in a fishery roughly the same length as that in 1989. The resulting extrapolation of capacity to the fleet size represented under each of the moratorium eligibility period options is illustrated in Figure 3.6. Although these estimates are restricted by the underlying assumptions they provide a basis for a relative comparison between the alternatives. Significantly, capacity is less effected by the vessel eligibility period than is the number of vessels (Table 3.1).

Because of limitations, the type of gear used by each vessel throughout the moratorium window was not retained in the 30,000-vessel file that was used track participation between 1976 and 1992. As a result, an aggregate measure of capacity for each size-class, based on a weighted average of the longline and trawl vessels in the class was calculated. This generalized class capacity measure was then used to assess the fleet capacity associated with various moratorium options and recent annual fisheries. Because of the large difference in the magnitude of harvesting capacities between trawl and line gear, some additional error will be introduced into the fleet capacity comparisons in cases where the gear composition of particular size classes changes substantially.

**Figure 3.6 Estimated Fleet Tonnage Capacity by Vessel Length Class**



**Figure 3.6 Estimated Fleet Tonnage Capacity by Vessel Length Class**

**3.2.1.5 Replacement of Vessels Lost or Destroyed During the Moratorium**

The Council has stated that qualified vessels lost during the moratorium period, i.e., after the implementation of the moratorium, may be replaced with vessels of similar capacity. If a vessel is replaced, the lost vessel may not be salvaged and re-enter the fishery. In other words, replacing a vessel strips the lost vessel of any moratorium participation rights. This measure would not prevent the lost vessel from being salvaged, but would prevent the salvaged vessel from re-entering the fishery. As with the analysis of replacing existing vessels in the previous section, implementation of this provision will require a more definite criteria for measuring "similar capacity."

**3.2.1.6 Replacement of Vessels Lost or Destroyed Before the Moratorium**

The Council intends to prohibit vessels lost or destroyed before the implementation of a moratorium to be prohibited from re-entering the fishery, with the exception that moratorium qualified vessels lost or destroyed since January 1, 1990, or alternatively, since January 1, 1989 can be replaced with vessels of similar capacity. Any such replacement vessel must make a legal landing no later than two years following the implementation of the moratorium. Several issues need to be discussed. These are: (1) what does re-entry of a lost or destroyed vessel constitute; (2) how many moratorium qualifying vessels have been lost or destroyed; and (3) how many vessels will fall into the exempt category under each alternative, i.e. how many lost vessels will be replaceable. Each of these concerns is addressed below.

(1) No vessel lost prior to January 1, 1989, may re-enter the fishery. Presumably, a vessel which was lost or destroyed would be unable to re-enter the fishery. However, lost or destroyed vessels, or parts thereof, may be salvaged, which could give rise to claims that the refurbished vessels had participated in the fishery and therefore should be eligible to participate in the moratorium. This would be specifically prohibited under the Council's moratorium action. Also prohibited would be the transfer of any rights of participation of vessels lost or destroyed prior to January 1, 1989.

(2) The U.S. Coast Guard maintains a database (CASMAIN) of all vessels lost or destroyed in U.S. waters. A search of this database from 1981 through 1989, with incomplete data for 1990 and 1991, found a total of 379 vessels lost or destroyed which have fished in waters of the coast of Alaska. Of these, 294 vessels would have qualified for the moratorium under M1, 279 under M2, and 96 under M3. It should be noted that all previous references to the number of vessels includes these lost vessels. Vessels which have participated in Alaskan fishery, but which may have sunk in other waters would not show up in our count of lost vessels.

(3) Vessel loss information is incomplete after 1989. However, because the difference between the two alternative dates after which lost vessel may be replaced involves the only qualified vessels lost during 1989, the effects of choosing one date over the other can be analyzed. The CASMAIN lists 32 vessels which were lost after January 1, 1989, and before January 1, 1990; 24 of these vessels would qualify under for the moratorium. Thus, the difference between the two replacement dates affect only 24 vessels. Regardless of which alternative is chosen, at least 19 additional moratorium vessels were lost after January 1, 1990, and these also would be eligible to be replaced by vessels of "similar capacity." The Council intends that all replacements of vessels lost prior to implementation of the moratorium occur no more than two years after the implementation of the moratorium.

#### 3.2.1.7 Small Vessel Exemption

There are two different ways of viewing the question of an exemption for small vessels. One view focusses on the number of available vessels, posing the question: What would be the impact of a comprehensive moratorium on potential users of small vessels; how would the availability and price of small boats for the fishery be affected? The other view focusses on the impact that unchecked entry of new small vessels could have on the overall fishery. Regarding the first point, it is observed that a large number of small vessels will qualify under the moratorium. Moreover, if one considers the number of vessels in each length class that actually fish during a given year, or even a 3-year period, there will be a difference between small-boat and larger boat categories. From the second vantage point, it is apparent that small vessels harvest, individually, at a far lower rate than do large vessels, and therefore represent a less apparent threat to the growing over-capitalization problem (Figure 3.6). The important issue is whether the total entry by small vessels would represent a serious problem. The remainder of this section reviews the size characteristics of the moratorium fleet and harvesting capacity of various sizes of boats as discussed in Section 3.1.2.1.

The relationship between the size of the qualifying fleet and the actual number of boats that have been used in the fishery is shown in Table 3.2a and illustrated in Figure 3.7. Vessels under 61 feet in length account for approximately 90% of the moratorium fleet, under any of the 3 moratorium options being considered. The number of boats less than 61 feet would range from 14,614 (of 15,709 total, under M1) to 7,204 (of 8,016 total, under M3). Over the past three years, the number of boats under 61 feet has ranged from 3,600 (of 4,100 total, in 1989) to 4,200 (of 5,000 total, in 1991). Vessel length data is illustrated for all years in Figure 3.2. Under M3, the option producing the smallest moratorium fleet, there would remain a surplus of 3,000 vessels (more than 40%) in the group smaller than 61 feet, compared to the highest recent participation of those boats in the fishery. Moratorium option M1 would provide a

Figure 3.7 Estimated Number of Vessels by Length Class by Moratorium Option

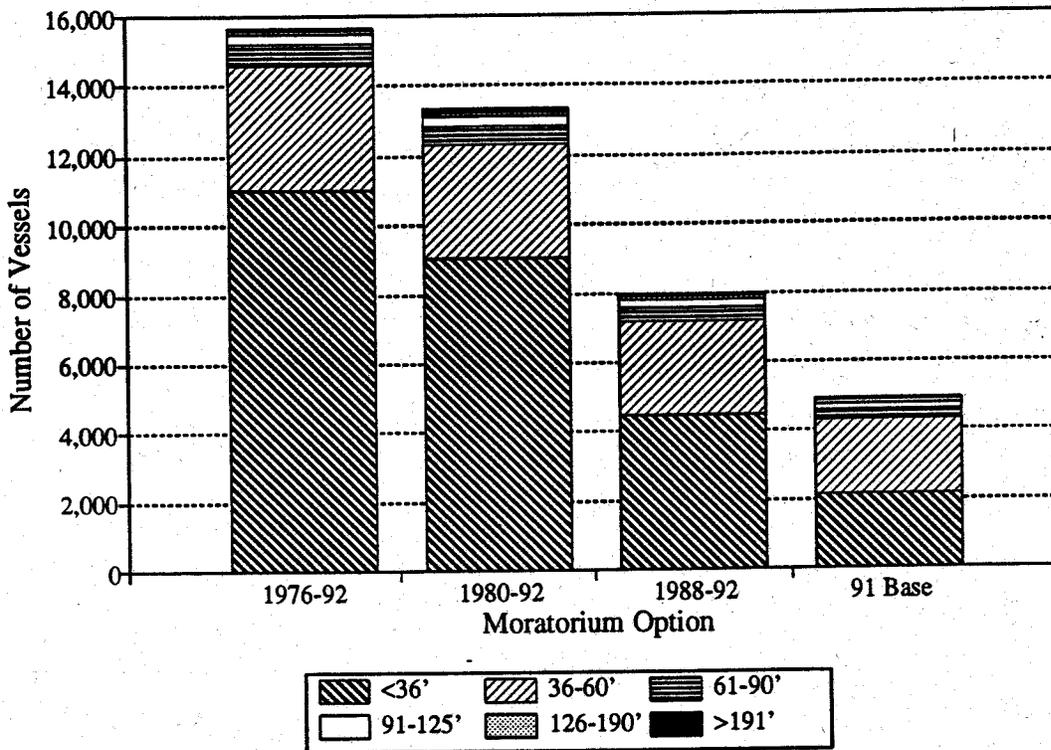


Figure 3.7 Estimated Number of Vessels by Length Class by Moratorium Option

surplus of small boats nearly 3.5 times the size of the largest recent annual fleet.

Even though a large surplus of small qualifying vessels may exist, it is important to consider whether a small-boat exemption would have any effect on the fishery or the usefulness of a moratorium. On an individual boat basis, there is no doubt that small vessels--those under 61 feet--have capacities that are tens or even hundreds of times smaller than the largest boats using the same type of gear. However, it is also relevant to question what the aggregate capacity of these small boats is. In the trawl fishery, small vessels represent an insignificant share of total capacity. In 1989, the trawlers under 61 feet accounted for 18% of the fleet (for which vessel length information was available), but less than 2% of the landings. In the longline fishery, however, 89% of the groundfish/halibut fleet was less than 61 feet, and that segment accounted nearly 56% of the landings. The 49% of longliners less than 36 feet accounted for less than 8% of the longline landings. Thus, an exemption affecting vessels as large as 60 feet has the potential for dramatically different impacts in the longline and trawl fisheries, while an exemption applied to vessels less than 36 feet is relatively unimportant to overall capacity in either gear group.

The argument can be made that the total poundage caught by the smaller longliners is misleading, because it was caught by so many boats--more than 3,400 of the 3,851 longline participants. If 200 boats from the 35- and 60-foot classes entered the fishery, they might add no more capacity than a single longliner in the 126-190 foot group. So, what reasons are there for concern over an exemption for all vessels up to 60 feet in length. First, there is the issue of potential entrants. The large number of "inactive" boats in the smaller size classes that would qualify under some of the alternatives has already been discussed.

In addition to former groundfish boats, there is an even larger pool of salmon and other vessels which have never fished groundfish and these are predominantly less than 60 feet in length. Since 1976 nearly 15,000 vessels under 61 feet have fished for some non-moratorium species off Alaska and would fail to qualify for moratorium fisheries. Adding these 15,000 vessel to the pool of small vessels which do qualify for the moratorium produces a total of more than 29,000 boats small vessel which theoretically could participate in the Council managed fisheries. This is a very large potential fleet, when compared to the annual number of moratorium fishery participants of this vessel size, which has never exceeded 4,300. A reduction in salmon stocks, or other non-moratorium species, could send thousands of these vessels into the groundfish line fisheries looking for alternative sources of income. A similar phenomenon has already occurred along the West coast off Washington, Oregon, and California.

Another cause for concern lies in the lack of constraints on the capacities of existing longline boats under an exemption. Not only would boats without a groundfish history be allowed to enter, but qualifying vessels could be upgraded considerably or replaced by more capable craft. The Alaskan seine fisheries for salmon provide an excellent example of the "capital stuffing" that could take place, given an open opportunity to increase a vessel's capacity up to 35 or 60 feet.

Analysis of the 1989 fishery suggests that there is opportunity for most of the vessels under 60 feet to increase their landings substantially. Across all longline vessels that fished for groundfish or halibut, the average landings in the 35- and 60-foot classes were 4,800 lbs and 38,000 lbs, respectively. More than three quarters of the boats in each of the groups landed fewer fish than these average amounts. Focussing on the group of vessels that had some groundfish landings, and also had more than 50% of their landings composed of groundfish or halibut, the averages increase to 10,000 lbs and 88,000 lbs, respectively. Perhaps more importantly, the maximum amount of groundfish and halibut landed within each class was 129,000 lbs in the 35-foot class and 766,000 lbs in the 60-foot class. Thus even if vessels were not upgraded substantially in size, the capacity of this segment of the fleet might be increased by a factor of 15 to 20, through increased capital expenditures. If all of the boats in the smaller class were converted to highly capitalized 60-footers, the capacity of the group under 61 feet could increase by a factor of 30 to 40. Obviously, such changes would not occur overnight. Even over a 3- to 5-year period, it is difficult to say by how much active fleet capacity would increase, simply as the result of an exemption for vessels under 61 feet. What this example illustrates is the general plausibility that increases in the fishing power of the historical small-boat groundfish fleet, combined with the capacity of new entrants from salmon and other fisheries, could increase overall longline harvest capacity considerably.

By comparison to longline poundage, that landed by small trawl boats is not trivial. More than 30 trawlers in the 60-foot class fished groundfish in 1989. For 22 of those, groundfish accounted for more than half of their total poundage. That group averaged nearly 900,000 lbs. of groundfish, roughly equivalent to a 100 feet longliner. Nevertheless, a 60 feet exemption in the trawl fishery would have a negligible impact, relative to the remainder of the trawl fleet dominated by large trawlers and factory trawlers which contributed about 99% of the gear-group's landings.

Deteriorating conditions in other fisheries could lead to an infusion of small boats into the groundfish fleet. The halibut fishery, for example, already has 4,000 annual participants, a total of 5,500 during 1988-90. And in addition to those recent participants, another 5,000 mostly small boats, which were not active between 1988 and 1990, had previous landings of halibut after 1980. Opening the door to another 15,000 small boats, which would generally operate in already crowded near-shore locations, could magnify conflicts between participants, as well as increasing the management difficulties of keeping total removals of some species within quota limits.

More than 1,500 boats under 60 feet fished for groundfish other than halibut in 1989. Ocean and weather conditions restrict safe opportunities for small boats to fish in open seas, particularly those under 36 feet. These boats are more likely to fish in protected waters or on grounds that are a relatively short distance from safe harbor. Allowing unlimited new entry for vessels up to 60 feet would not only carry the potential for significantly increasing the capacity of the longline groundfish fleet, but could also result in increased congestion of the fishing grounds in the areas best-suited to small-boat fishing.

Allowing an exemption for vessels up to 35 feet in length would have no appreciable impact on the overall capacity of either the longline or trawl fleets. Roughly three quarters of the vessels in this class which fished in 1989 moratorium fisheries fished for halibut only. This suggests that although overall capacity may not be a problem, a 35-foot exemption would still carry some potential for increased crowding on the grounds, depending on implementation of the IFQ program for halibut.

The principle management advantage to an exemption of small vessels is the reduced cost of having to process and monitor changes to a large percentage of the vessels in the moratorium fleet. Roughly 90% of the vessels covered by a moratorium would be smaller than 61 feet. However, a 60-foot exemption carries a somewhat higher risk of growth in capacity and the difficulty of managing some longline fisheries. With a 35-foot exemption, at least two-thirds of the qualifying moratorium fleet would not require active government monitoring, providing a considerable cost savings at very little risk of increased capacity.

#### 3.2.1.8 Disadvantaged Communities

The primary purpose of the moratorium is to limit the number and capitalization of vessels participating in the affected fisheries. Allowing communities to bring additional vessels into the fishery runs counter to this purpose, raising the question of what benefits will accrue to these communities under the exemption, and how many non-qualifying vessels will be drawn into the fishery. Answering either of these questions is made difficult by the current uncertainty regarding both the requirements for possible community development quota (CDQ) programs, and the strategies with which communities will make use of those allocations. The current proposal contains two options regarding the degree to which vessels which entered moratorium fisheries under this exemption would be eligible to those fisheries. In one of those options, such vessels would only be able to fish for species under a community's CDQ. Under the other option, these vessels would be allowed access to all species, and would not be restricted to the amounts of fish specified in their community's CDQ allocation.

For purposes of analysis, the role of a vessel exemption for disadvantaged communities is analyzed based on the Western Alaska Community Development Quota (WACDQ) program developed as a part of the Inshore/Offshore amendment, and Halibut/Sablefish IFQ proposals. The WACDQ program makes a preferential allocation to qualifying coastal communities along the BS, based on set percentages of the TACs for designated fisheries. In the Inshore/Offshore Amendment, the equivalent of 7.5 percent of the BSAI pollock TAC is made available under this program. For the proposed IFQ amendments, 20 percent of BSAI sablefish TAC is designated for the WACDQ, and variously from 20 to 100 percent of the halibut quotas from the affected BSAI management areas. The Governor of the State of Alaska will establish criteria for community eligibility and allocation of CDQs, consistent with state and Council standards for appropriate economic development projects.

The amount of benefit that would accrue to communities participating in the CDQ program is dependent upon the scope of the CDQ fisheries and the nature of the communities' participation in them. The options that will be available to participants in the CDQ program have not yet been fully refined. The potential impacts on the fishery of vessel exemptions for designated communities vary considerably

between the two options being considered. If the vessels may only be used to fish CDQ, then the effects may be minimal, as long as the amounts of quota allocated to these communities remains very small. Some communities might want to secure mid-size trawlers to fish for pollock CDQ. Other might want to lease their pollock CDQ, and then use their earnings to buy longline vessels, allowing them to become more active in local fisheries. By bringing new vessels into the fishery, instead of buying existing vessels, it is likely that some reduction in catch per vessel will occur among those boats continuing to fish outside the CDQ fishery. This requirement could also lead to increased discards, if boats that were ineligible to land many species caught them incidentally with species which they were fishing under CDQs.

If exempted vessels are allowed complete access to the fishery, as in the second option, the impact on the fishery could be substantial. Some communities might choose to buy catcher-processors or other large trawlers and employ many residents as crew members. While such operations may not be profitable fishing only the available CDQ, substantial additions to fleet harvesting capacity might appear reasonable to these communities if faced with the opportunity to fish in any open fishery. While the difference between the number of boats that would enter the fleet under these two options cannot be quantified, it is reasonable to assume that giving exempted boats access to all quotas under protection of the moratorium will encourage the entry of a greater number of vessels that do not qualify for the moratorium.

Whether these vessels would become totally unrestricted participants in the moratorium fisheries is an important issue. Even a group of several neighboring communities is not likely to get a large enough CDQ for pollock to keep a factory trawler working for much of the year. But if a vessel purchased under the program were free to fish on the offshore quota, first, and then fish its own pollock CDQ, it might be profitable. The same could be asked about the access of a smaller, non-processing trawler to species and quantities other than those specified in the community's CDQ allocation. Similarly, would longline vessels purchased with earnings from leased pollock CDQ be full participants in any available longline fishery, or only in ones, and to the extent, that the community also had CDQ for the species that would be targeted by the longliners.

The concept of an exemption for disadvantaged communities is founded on the premise that such communities will not be able to secure a vessel from the eligible pool of moratorium boats. It is useful to consider what additional expense, or premium, would be paid by these communities if they were forced to purchase vessels which meet the moratorium qualifying criteria. Although the amount of a premium cannot be precisely estimated given the uncertainties involved, a good deal can be surmised from comparison of the number of vessels receiving permits, under the various options, and the historical use of vessels in the fishery.

For the fleet as a whole, a surplus fleet pool of at least 40% would exist between the smallest moratorium fleet option and the largest recent fleet on the grounds. The other options, whose qualifying periods begin in 1976 or 1980, would provide 2 or 3 times as many qualifying vessels as have ever been used in a single year in the moratorium fisheries. However, looking at total fleet numbers does not provide a complete picture. Most of the moratorium surplus occurs in the group of vessels smaller than 61 feet, but would provide many fewer surplus vessels in the larger categories. If the end goal for most of these communities is to buy fairly small vessels to participate in local longline fisheries, it seems unlikely that they would pay a premium for qualifying vessels under any of the alternatives.

M1 and M2 would provide a surplus of at least 45% in the number of qualifying 61-90 foot vessels, assuming that these vessels are still available, and therefore would provide the least likelihood of noticeable price premiums for vessels from 61 to 125 feet in length, while M3 would have the highest. It should be noted that above 90 feet, vessel harvesting capacity increases dramatically. During the 1989 fishery, trawlers between 36 and 60 feet in length averaged roughly 900,000 lbs, while those in the 61-90

feet range averaged 2.3 million lbs, and 91-125 foot vessels averaged 10.6 million lbs. If developing communities desired and were allowed to add many vessels greater than 90 feet, the effectiveness of the moratorium in capping effort could suffer.

In summary, recognizing the limited amount of information available regarding how a community development exemption might work, it would not appear to be useful feature of a moratorium based on the Council's objectives. If the affected communities hoped to acquire small vessels to better participate in local fisheries, any of the moratorium options would be expected to provide a large number of qualifying boats available at little or no mark-up. If or the communities were considering the purchase of much larger vessels, this exemption could, in aggregate, jeopardize the ability of the moratorium to effectively restrict capacity.

### 3.2.1.9 Applicable Sectors of the Industry

Excess processing capacity is recognized as a problem in certain fisheries, and the Council has assessed the need for, and feasibility of extending the vessel moratorium to include processing vessels, as well as harvesters. Following preliminary examination of the data, and public comment on the option during the April 1992 meeting, the Council determined that a moratorium on processing vessels would be ineffective given the scope and objectives of the proposed amendment. An increase in at-sea processing may enlarge the harvest capacity of catcher vessels, but the moratorium prevents further growth in the catcher fleet. Moreover, so long as shore-based processing is not restrained, a moratorium on at-sea processors appears inequitable. As a result, the Council narrowed the scope of the proposed moratorium to apply to harvesting vessels only, including catcher-processors. Motherships would not be included in the vessel moratorium.

Table 3.6 compares the number of catcher vessels, catcher-processor vessels and mothership processors in each of the three basic eligibility periods considered in the moratorium alternatives. In terms of total vessel numbers, motherships comprise less than one-half of one percent of the affected vessels. A vessel is defined as a mothership if it had never operated as a harvesting vessel. The processor counts include all

Table 3.6 Moratorium Vessels by Sector

Industry Sector	M1	M2 <sup>†</sup>	M3
Catcher Vessels	15,534	13,332	7,856
Catcher-Processors	175	175	160
Mothership Processor	47	47	39
All Sectors	15,756	13,554	8,055

<sup>†</sup>Numbers of Catcher-Processors and Motherships remain constant for both M1 and M2 as data extends only to 1980.

Table 3.7 Processing Activities

Processing Activities	M1
Groundfish Catcher-Processor	93
Groundfish Mothership	18
Groundfish Catcher-Processor, MS	26
Crab Catcher-Processor	33
Crab Mothership	23
Crab Catcher-Processor, Mothership	2
Groundfish/Crab Catcher-Processor	18
Groundfish/Crab Mothership	6
Other Combinations	3
Total	222

Westward Region crab processors, as well as all moratorium qualified floating processors,<sup>9</sup> regardless of processing location.

Table 3.7 breaks out the components of the processing fleet by fishery and vessel capability, based on the M1 eligibility period. It may be misleading to consider catcher-processors and motherships as completely separable entities, since catcher-processors might operate as motherships. Under the moratorium, however, motherships without a qualifying prior catch history would be precluded from operating as catcher-processor or catcher-only vessels. There is also some overlap between groundfish processors and crab processors. Of the 222 processors 55 (25 percent) have engaged in multiple processing activities, either a combination of groundfish and crab or of operating as both a catcher-processor and as a mothership.

#### 3.2.1.10 Appeals

The initial determination of whether a particular vessel is allowed to fish under the moratorium could be appealed. The purpose for such a procedure is to allow an administrative solution to a contested allocation without the expense of a court proceeding. Vessel owners not satisfied with the result of the appeals process, of course, would be able to proceed further in court.

Several appeals procedures are possible. First, the Council may choose to have no appeals process. If the rules for determining which vessels would be allowed to operate under the moratorium are clear enough, it is possible that few cases of exclusion would be contested. Alternatively, appeals could be heard by a designated hearings officer or by an appeals board composed of government and/or industry representatives. In either case, the determination of eligibility to operate under the moratorium could be made by the appeals board/hearings officer or by an official of National Oceanic & Atmospheric Administration (NOAA) based on a recommendation of the appeals board/hearings officer. The effect of the recommendation procedure is that NOAA would retain final interpretation of the eligibility rule. Otherwise, the appeals board/hearings officer would have authority to interpret eligibility rules.

The cost of operating an appeals board depends on the size of its membership, and the length and location of its meetings. The cost of appealing to a hearings officer would be substantially less expensive unless the number of appeals required many such officers. The least expensive alternative for the administration would be to have no appeal procedure, however, this may be more costly for vessel owners whose only recourse then would be the courts. In any event, the time and money costs of appealing moratorium eligibility decisions would be minimized to the extent that eligibility criteria developed by the Council are clear and not susceptible to different interpretations.

As the moratorium options now stand there should be few grounds for appeals for vessels which have not participated in moratorium fisheries since 1990. Basis for qualification would be documentation of a legal landing or of the processing of any of the moratorium species within the time frame chosen. Legal landings would be any fish ticket. For vessels which would not have been required to submit a fish ticket such as JV vessels or at-sea processors, than other documentation such as Weekly processor reports to NMFS, Annual Processor reports to ADF&G, observer reports, or in the case of the Crab fisheries, tank inspection documents.

Appeals are most likely to come about as a result of the control date language in the September 15, 1990, Federal Register notice. If a vessel had not made a landing or processed fish in the applicable fisheries prior to the control date, then it would presumably have to appeal in order to become eligible to

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<sup>9</sup>Data is not available which would allow for differentiation between vessels which have processed inside state waters only, and those which have processed in the EEZ.

participate. Appellants would presumably have to produce documentation showing a vessel was under contract to be purchased, constructed, reconstructed, etc., as of September 15, 1990, and that the contract was made with the intent of fishing in moratorium fisheries. Administrative rule would have to be developed which would specify which kinds of documents would prove the vessel was under contract. Another likely scenario for appeal would be those vessels which were purchased prior to the control date, but which had not made landings until after.

Of course, any of the above appeals could be eliminated simply by extending the control date to January 15, 1992/February 9, 1992, and allowing all vessels which had made landings prior to the extension dates to qualify for the moratorium. However, this could also result in lawsuits by persons who "believed" the Council's control date language and did not pursue the acquisition of a vessel after.

Finally, it should be noted that the all costs of any appeals procedure as well as the cost of any legal actions, those incurred by NMFS in its administration and all the social costs which arise due to the uncertainty, must be weighed along with all other administrative and implementation costs against the benefits of the moratorium itself. In this regard, the administrative costs may be relatively large for a small vessel, compared to its marginal impact on the Council's objectives under the moratorium.

#### 3.2.1.11 Halibut and Sablefish Fixed Gear Vessels

In December 1991, the Council approved an Individual Fishing Quota Management System (IFQs) for the halibut and sablefish fixed gear fisheries. In light of that action the Council has specified two options regarding the effect of the moratorium on halibut and sablefish fixed gear vessels participating in the IFQ fisheries<sup>10</sup>. These alternatives will only come into effect when the IFQ plan is implemented. Currently it is anticipated that this could occur no sooner than 1995. Specifically the Council's two options regarding these vessels are:

- 1) There will be no exemption for halibut and sablefish fixed gear vessels.
- 2) Halibut and sablefish fixed gear operators that would come under the provisions of the proposed IFQ Amendment will be exempted from the vessel moratorium as it affects those operations.

This option would effect the 5,626 initial IFQ recipients as shown in Table 2.10 of the Supplemental Analysis of the Individual Fishing Quota Management System for Sablefish and Halibut Fisheries [N.P.F.M.C. 1992], as well the vessels they operated which would number slightly more. A major difference in the IFQ system and the moratorium is that the IFQ system applies to vessel owners and the moratorium applies to vessels, regardless of owner.

One of the tenants of the proposed moratorium is that it is a necessary first step on the path towards a more rational system of fisheries management. Once a fishery is "rationalized," the need for a moratorium in that fishery is expected to diminish. However, this may only hold true in a fishery that has no interactions with non-rationalized fisheries. The concern is the potential impact on capitalization that occurs when vessels which fish in the IFQ fisheries also catch and land non-IFQ species as bycatch, or when those same vessels target other fixed gear species such as crab, Pacific cod, and rockfish.

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<sup>10</sup>The halibut and sablefish IFQ management system was approved by the Secretary of Commerce on January 23, 1993.

Under option 1 (no exemptions for IFQ owners) vessels operating in the IFQ fisheries will have to qualify under the moratorium. Any bycatch of non-IFQ species will be legal, as will any other directed fishing activity toward non-IFQ species. There are 2 major concerns with this option:

- 1) It may detract from possible benefits derived from the IFQ system. Requiring IFQ vessels to be qualified for the moratorium may slow the transition to more efficient harvesting vessels by restricting the ability of owners to shift or acquire vessels.
- 2) Option 1 may also lead to concerns over equity. Halibut and sablefish fishermen have undergone years of debate and uncertainty regarding the implementation of IFQs. They have also taken the lead with regard to rationalization of their fisheries. The IFQ system is intended to eliminate much of the regulatory burden of open access management; IFQ operators would be free to fish when and how they choose, using the vessel that best suits their operation. To be saddled with the restrictions of a moratorium may appear inequitable, if not contrary to the intent of the IFQ program.

Alternatively, option 2 (exempting IFQ vessels) creates other problems. Special bycatch allowances would have to be made to assure that non-moratorium vessels would not automatically have to discard all non-IFQ species (which would violate Section 2(L) of the IFQ Management Plan). In addition to bycatch allowances, requirements that no non-moratorium qualifying vessel be allowed to target on non-IFQ species would have to be implemented. This could require directed fishing definitions and would once again might create a regulatory maze for IFQ vessel owners. Conversely, allowing IFQ vessel owners to fish unrestricted in non-IFQ fisheries would give IFQ owners a unlimited access to fisheries, contrary to the intent of a vessel moratorium.

A second effect of an exemption would be to allow possibly thousands of new (non-moratorium) vessels to enter the halibut and sablefish fisheries. The replaced moratorium-qualifying boats that could then be sold by IFQ owners to reenter the remaining groundfish and crab fisheries, further contributing to fishing pressure.

#### 3.2.1.12 Additional Considerations

The mere prospect of a moratorium on the entry of new vessels into Council-managed fisheries can have a significant influence on the operations and plans of vessel owners. Expectations about the potential future impacts of the proposed restrictions on entry are being factored into decisions that fishermen must make in the present. These decisions typically involve matters of vessel purchase, construction, reconstruction, financing, eligibility, and participation rights. In this regard, the moratorium elements and options under consideration have led to numerous industry inquiries regarding the interpretation of provisions or actions that might affect future eligibility of a particular vessel. The proposal analyzed here does not answer all questions and contingencies about possible consequences because there is uncertainty on how the regulations might be implemented by the Secretary.

The following summarization of unresolved concerns relating to the proposed moratorium is provided to illustrate such issues, based on inquiries received from industry.

1. The criteria for judging allowable changes in vessel configuration is vague, particularly the interpretation of what constitutes a "significant increase" in capacity. The Council has appointed an industry moratorium technical advisory committee to assist in these determinations as part of the implementation plan.

2. Also related to the capacity issues, it is unclear how a moratorium will affect the ability to perform reconstruction for purposes of safety and stability. While explicit provisions are made in the moratorium proposal to allow for such modifications, there is concern over what standard can be applied to distinguish between modifications for purposes of safety, versus those undertaken primarily to increase the carrying capacity of the vessel.
3. It is unclear whether changes in processing activities or changes in gear configuration are affected under the moratorium. For example, can a trawl vessel add longline gear, will increases in processing capacity be permitted, or, can a processing vessel add harvesting gear?
4. The language of the control date notice has raised numerous questions about what constitutes a valid contractual arrangement. These concerns include: 1) the provisions, timing, and fulfillment of the contract relative to participation in the fishery; 2) changes in ownership while the vessel was still under construction; 3) whether or not Capital Construction Fund accounts are valid contracts; and 4) what legal documentation is required to establish to existence of a contract.
5. There are differing interpretations regarding the extent of the fisheries that will be covered under the moratorium. Evidently, state waters are not covered the by Council's moratorium action except in the case of halibut. Also, fisheries in the EEZ that are not covered by an FMP will not be included in the moratorium as it is presently configured. Ultimately, a careful delineation of all fisheries and areas covered by the moratorium will be necessary.
6. It is unclear to what extent a vessel, and that vessels' eligibility rights under the moratorium, are separable. If an existing qualifying vessel can be replaced with another previously ineligible vessel of similar capacity, can this right be sold to another fisherman? That is, can the "replacement rights" associated with an eligible vessel be transferred separately from the vessel? It is conceivable that eligibility rights might take on an asset value.

It is unlikely that the above list exhausts the questions raised by the proposed moratorium action. Some of these concerns may be resolved if and when the Council adopts definitive criteria for its preferred alternative. In other cases, such questions may require the subsequent interpretation and judgement of the appellate board. Where feasible, the Council should endeavor to reduce the uncertainty surrounding these issues confronting vessel owners, in order to enhance the decision making process.

### 3.2.2 Effectiveness of a Vessel Moratorium

The moratorium would prohibit new vessels from entering the crab, groundfish, and halibut fisheries. Instead of entrants into the fisheries using capital to build or convert vessels, participants will have to employ existing qualified vessels, thus allowing capital to be used more appropriately in an economic sense. Under any of the moratorium qualifying periods, more vessels would be eligible to participate than have participated in any given year. The estimated capacity of any of these moratorium fleets exceed that of the vessels actually participating in any given, as well as the harvest potential represented by the OY.

The institution of a vessel moratorium will not resolve the existing over-capitalization in the Council-managed fisheries, although it should prevent worsening of the problem. Linking the moratorium to comprehensive changes in the way the fisheries are managed, is required to begin to solve the overcapitalization problem.

While the moratorium may prevent new vessels from entering the fishery, it will not prevent an increase in the annual amount of harvesting and processing capacity on the grounds. Those options or elements

that allow for increases in vessel participation or capacity will reduce the effectiveness of the moratorium in restricting fleet size and capitalization. In the extreme, the most liberal set of options could render the moratorium ineffective in achieving the Council's objectives, relative to the status quo.

## 4.0 CONCLUSIONS

### 4.1 Fishery Impact Statement

The intent of the proposed vessel moratorium is to stabilize the size and capitalization of the fleet operating in Council-managed fisheries during the time that the Council is considering limited entry alternatives for these fisheries. As such, the vessel moratorium does not resolve the underlying problems of existing overcapitalization and excess effort in the fishery, but may prevent these problems from worsening while comprehensive solutions are being developed. The effectiveness of a vessel moratorium and the status quo have been analyzed as management alternatives and their respective abilities to achieve this objective.

#### 4.1.1 Impacts on Participants in Affected Fisheries

The vessel moratorium is a form of limited entry, that would deny access to new vessels, but would not restrict the entry of vessel owners or operators. Provisions of the moratorium would restrict the ability of vessel owners to significantly increase the capacity of their vessels.

The moratorium should reduce, if not stop, the entry of additional vessels into the fishery. Existing owners are allowed to replace or rebuild existing vessels, providing there is no significant increase in capacity. This provision is intended to allow owners to improve safety and efficiency, without unduly contributing to capitalization of effort. Such restrictions will prevent an operator from bringing new capital into the industry, but allow for the purchase of existing vessels. As a result, fishermen are not denied the opportunity to enter the fishery, or to upgrade their vessels, so long as they draw from the existing capitalized fleet of qualifying vessels. Similar provisions would allow for the replacement of lost or damaged vessels. Specific exemptions under the moratorium action are considered for certain elements of the fleet, including small vessels, motherships, disadvantaged communities, and the fixed gear halibut and sablefish fleet, to the extent the latter two are brought under an IFQ program.

TACs of halibut, crab, and groundfish are not affected by the proposed moratorium. The flow of products and total revenues through the marketing network is not expected to change, nor is the regional distribution of vessel ownership. Associated industries and communities that depend upon fishery product flows also are expected to be unaffected, with the exception of ship building and affiliated industries. While qualified building or reconstruction is possible under the moratorium proposal, the intent clearly is to halt further capitalization, which may adversely impact the shipbuilding industries.

As analyzed in Section 3.2.1.7, the composition of the fleet is predominantly small boats. Based on the current fleet of vessels participating in Council-managed fisheries between 1988 and 1991, about 90% of the fleet consists of vessels under 60 ft in length, 5% are between 60 and 90 ft, and about 5% are over 90 ft. Only about 0.75% of the 1988-91 fleet are factory trawlers. Based on projected economic and policy variables thought to influence new entry, it was estimated that 725 additional vessels would enter the Council-managed fisheries under open access in 1993<sup>1</sup>. Applying the existing fleet distribution by vessel size to this potential group of 725 new entrants results in approximately 399 small vessels 35 ft and less, 247 between 36 and 60 ft, 36 between 60 and 90 ft, and 43 vessels over 90 ft. Of the 43 large vessels, about five factory trawler vessels might be added, based on these projections.

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<sup>1</sup>The annual entry of new vessels over the past five years has averaged 864 boats. The forecast of 725 vessels is based on a linear regression forecast of new entrants incorporating economic and policy variables as discussed in Section 3.1.3.1.

The moratorium is designed to freeze the current configuration and capitalization of the fleet, such that capital/labor ratios in fishing activities should remain at present levels. Over the longer term, restricting capitalization of the fleet may lead to some substitution of labor for capital. In the short term, there are no changes anticipated in crew size and wages. Crew members and others who have planned to purchase or build a vessel and enter the affected fisheries will have their alternatives limited to existing boats available from within the eligible fleet. Similarly, fishermen wishing to make significant upgrades in their vessels will be restricted to boats available in the qualifying pool. Depending upon the eligibility period chosen, it is estimated that from one and one-half to three times the number of vessels that participated in 1991 will be available in the pool of moratorium-qualifying boats. This pool closely reflects the 1991 distribution of vessel size categories, although proportionately more of the total number of larger-class boats were active in 1991, compared to the small vessels. That is, of the qualifying but non participating vessels, the vast majority are smaller vessels under 60 ft in length, characterized by halibut/groundfish fixed gear boats.

It is possible that certain vessels of a desired configuration may command a premium in the resale market, given the moratorium-imposed restriction on construction of additional vessels. Also, because the moratorium restricts further capitalization of the fleet, participants in some fisheries may be able to reinforce their position in certain situations if there is reduced pressure from additional competitors. Despite these possibilities, there is unlikely to be a shortage of vessels necessary to harvest the available stocks, in view of the overcapitalization and excess capacity already present in the fleet. While an indefinite moratorium on new capitalization could restrict the long term efficiency of the industry, the interim, three or four year intended duration of the proposal under consideration is unlikely to create significant distortions in competitiveness of the fleet. The trade-off that the industry receives for restricting further increases in capitalization is a stabilized environment during which time the Council and industry can consider long term management solutions without encouraging additional speculative growth in capacity.

Under the status quo, the inherent incentives created by open access and publicly-owned resources will maintain pressure to add capacity and capitalization to the fleet. If only economic variables are considered, it is possible that fleet size will decline from present record-high levels through 1993. However, recognizing that the Council will be considering limited access alternatives for these fisheries, speculative activity to establish or build catch records is expected to result in increased capacity, if not vessel numbers, under continued open access.

The consequences of still further capitalization of the fleet will contribute to existing conditions of instability and financial risk for the industry, and are likely to aggravate allocation problems throughout the fishery. In the face of constant prices and catch quotas over the next few years, additional vessels and effort portend declining average net returns, decreasing efficiency, and further reductions in season length. Associated problems attributed to overcapacity and excess effort including discard and bycatch waste, highgrading, poor product quality, and unsafe operations are perpetuated under the status quo alternative.

#### 4.1.2 Impacts on Participants in Adjacent Fisheries

Because of the moratorium, it is expected that some vessels and their owners who are restricted from participating in Council-managed fisheries will turn elsewhere. The effect could be to increase pressure on a declining number of unrestricted fisheries, aggravating management problems in these areas. The entry rate of first-time participating vessels in the Alaska EEZ fisheries over the past 15 years has averaged nearly 900 vessels per year. Under the proposed moratorium, some of these new entrants may simply redirect their vessel acquisition to the pool of available boats that qualify under the moratorium, particularly in the case of a new participant whose primary motivation is to fish the Alaska EEZ.

Alternatively, new entrants also include fishermen whose motivation is to utilize an existing vessel, and open access fisheries are the solution. If this latter category of vessels is excluded from Council-managed fisheries under the moratorium, they will likely redirect their efforts to other open access fisheries.

Under the last scenario described above, the consequence of limited entry in one fishery is to transfer the overcapitalization problem to another. Potential new entrants denied entry into the Alaska EEZ fisheries have an increasingly small or number of open access alternatives available along the West coast. Within Alaska, many of the commercially important state-managed fisheries such as salmon, sablefish, herring, and GOA crab are already operating under a limited entry program, affording protection from an influx of vessels unable to participate in the EEZ. There are certain niche fisheries that could come under pressure, however, including minor groundfish species in Alaska state waters, or fisheries within the EEZ not presently covered by a Council or state FMP.

Outside Alaska, the availability of open access fisheries is being reduced significantly due to the recent imposition of limited entry in other areas, for example, the adoption of a vessel limited entry program in the Pacific Council groundfish FMP off the coast of Washington, Oregon and California. As a result, it appears unlikely that the moratorium proposed for the Alaska EEZ will lead to an unexpected surge in participation in these fisheries. To the contrary, the moratorium may prevent a surge in unanticipated new entrants displaced from these adjacent fisheries.

The combined impact of the limited entry management programs either in effect or being considered off the West coast may slow the unneeded flow of new capital and catching capacity into these fisheries. Capital investment shifted out of the commercial fishing industry can be redirected to countless other productive ventures in the economy. Less fortunate are those vessel owners who find themselves or their boats denied access to the fisheries. Owners of non-qualifying vessels may have the ability to purchase rights to operate in certain limited entry fisheries, or sell their boats to other fishermen who possess these rights. However, recognizing that the industry is overcapitalized with excess fishing capacity, it is inevitable that owners of some excluded vessels will incur losses on their investment.

#### 4.2 Comparison of Alternatives

Restrictions on the entry of new vessels into Council-managed fisheries are expected to prevent the total size of the qualifying fleet from further increases in the total number of potential participants, in the absence of provisions that exempt certain segments. The size of the qualifying fleet is significantly larger than the number of participants in any given year, such that the moratorium cannot, by itself, insure that the annual participation would not increase. The size of the qualifying fleet is directly proportional to the length of the eligibility period selected, ranging from an estimated 15,709 vessels for the 1976-92 M1 option, to 13,507 for the 1980-92 M2 option, down to 8,016 under the 1988-92 M3 option. By comparison, total participation in 1991 was an estimated 4,963 vessels.

The capability of the moratorium proposals to restrict further growth in capacity is less certain, due to differences in the perception and measurement of capacity. Based on relatively conservative estimates of capacity reflecting actual catch levels, the total capacity of the qualifying fleet under the three eligibility period options ranges from about 165% of current TACs for M1, 150% for M2, and 140% for M3. The absolute levels of the capacities are based on qualified assumptions, but the relative levels should provide a useful reference for comparisons. That is, M2 restricts potential capacity to perhaps 92% of that offered in M1, and M3 restricts capacity to roughly 85% of M1.

An important difference in the moratorium's effect on the number of vessels, and the effect on the capacity of the fleet is reflected in the above statistics. The moratorium options have the potential to reduce fleet size much more than the potential to reduce capacity.

Generally, the analysis of the proposed exemptions to the moratorium indicates that these options offer limited benefits, and risk the overall effectiveness of the moratorium by allowing preferential open access for some components of the fleet. The estimated pool of qualifying vessels under the eligibility options analyzed indicates that there should be an ample supply of vessels available to meet a modest increase in the demand for vessels. Exempting the small vessel class from moratorium provisions may have little impact on overall fleet catch capacity, but the continued entry of vessels of even the smallest size class is expected to contribute to the crowding and excess effort that underlie the management problem confronting the Council.

The ability of the proposed moratorium to prevent further capitalization of the fishery will depend in part on the latitude afforded vessel owners in replacing or rebuilding existing qualifying vessels. Given the large pool of eligible vessels relative to participation in a given year, it is conceivable that presently non-participating vessels might be recapitalized and enter the fishery. Although the conditions that would encourage such recapitalization are conjectural--the announcement of further limited entry fisheries, for example--further increases in capitalization might be forthcoming unless there are relatively stringent constraints placed on rebuilding or reconstruction opportunities.

Ultimately, the effectiveness of a moratorium will depend upon subsequent management actions taken by the Council to remedy the existing overcapitalization of the fleet; the proposed moratorium does not solve the problem of excess effort. The moratorium is likely to be effective in reducing the speculative entry of new vessels that would seek to participate in overcapitalized fisheries primarily to establish a catch record for future allocations. However, in the event that no further action regarding limited entry or resource allocation is undertaken by the Council, the effectiveness and justification for a moratorium are less certain. The pressure to establish or build a harvest record in available fisheries--even under the moratorium--is expected to continue until the Council selects the catch history period(s) used to allocate TAC quotas.

Compared to the proposed moratorium, the status quo offers no viable solution to the problem of increased excess effort in the fishery. The status quo may lead to a decline in the entrance of new vessels over the next year, in the absence of any further development of limited entry schemes. However, the status quo is more likely to be accompanied by ongoing capitalization of effort, especially if Council-managed fisheries persist as one of the few open access fisheries remaining on the West coast. While the proposed moratorium does not represent the guaranteed achievement of a stabilized fleet, the status quo promises to perpetuate the conditions that have led to overcapitalization.

#### 4.3 Net National Benefits

##### 4.3.1 Impacts on Consumers

The moratorium is not expected to have significant impacts on the consumer of affected seafood products, although there may be some implicit benefits gained by stabilizing harvest activities. The moratorium does not impact the TAC available to the market, nor the product form and price to consumers. It is anticipated that a resolution of the underlying excess capacity problems would provide the quality and quantity of seafood products flowing to the market, but the moratorium is intended to prevent the problem from worsening, rather than solving the matter. Similarly, a more efficiently sized fleet might be capable of lower cost harvest, and could pass along these economies to the consumer in terms of reduced price,

but the moratorium by itself does not achieve less costly production. The production and market environment in Council-managed fisheries might be stabilized through the imposition of a vessel moratorium, and consumers would be expected to benefit from these more orderly conditions.

#### 4.3.2 Impacts on Producers

Net benefits could potentially be effected by the imposition of a moratorium in two ways: through preventing investment in unnecessary capital and through preventing deterioration in the operating profitability of the fleet. Considering the latter issue, there would appear to be very few reasons to expect that fleet size under any of the moratorium options would differ significantly from what would prevail under continued open access management. The moratorium options may provide an effective limit for the largest vessels, but for most of the fleet, there would be a considerable pool of currently unused qualifying vessels, which could be brought back into service in the moratorium fisheries. Historically, the largest annual increase in the number of catcher boats was roughly 900 boats, between 1982 and 1983. Even if a similar increase were assumed for both 1992 and 1993--representing an unprecedented 3-year increase--the actual participating fleet would still be smaller than the qualifying fleet under the most restrictive moratorium option, M3. Therefore, the constraint posed by the moratorium would not appear to be binding for most sizes of vessels. Certainly, as growth in the size of the active fleet under a moratorium approached the size of the qualifying fleet, it would become more difficult for a would-be entrant to secure a qualifying vessel. However, the active fleet would have to increase substantially in many size classes in order to reach this point. There are no other apparent reasons why, below the level of the M3 constraint, fleet size would differ between any of the moratorium options and continued open access. Economic forces which would lead to rapid growth of the fleet under a moratorium, would have a similar effect under open access. Therefore, it is not anticipated that any significant change in net national benefits would occur within the operational aspects of the fishery as a result of any of the moratorium options.

Individual and aggregate national impacts arising from overcapitalization can be characterized by considering the effects of one additional entrant into the fleet of representative fisheries. Cost and revenue budgets developed in 1990 for various components of the fleet are available to estimate income statements for specific classes of vessels, based on a representative harvest mix at prevailing market prices. Four representative vessel fleets were selected for this purpose; Southeast (Sitka) salmon/halibut skiffs, Kodiak longliners, GOA combination longline-trawlers, and large BSAI surimi factory trawlers. The impact of one additional vessel added to the existing size fleet in each fishery was simulated in order to estimate the impact on individual vessel net returns, as well as the aggregated net returns for the fleet of vessels participating in that particular fishery. These impacts are shown in Table 4.1.

For example, in a fleet of 80 Kodiak longline vessels targeting halibut, sablefish, and Pacific cod, the addition of one newly capitalized boat is estimated to reduce average per vessel net returns by \$1,340 annually. By itself, the reduction in average returns need not be detrimental to the nation if it is associated with increased efficiency or output of the fleet. Presumably, new entry will stop as net returns fall to zero. The aggregate impact, of additional vessels when the fishery is already overcapitalized is to spread a fixed revenue base over higher and higher costs. The excess capital costs in the industry detract from the potential economic rents available to fishermen. This effect is illustrated in the change in fleet net returns, where the aggregated net revenues of 81 longliners are \$64,333 less than the net returns

**Table 4.1 Estimated Impacts on Individual and Fleet Net Returns Due to the Entry of One Additional Vessel; by Selected Fisheries**

Vessel Class	Fleet Size	Capital Investment Represented	Change in Individual Net Returns	Change in Fleet Net Returns	% Change in Fleet Net Returns
Sitka Halibut Skiff	50	\$35,000	-\$271	-\$5,048	-1.2%
Kodiak Longliner	80	\$375,000	-\$1,340	-\$64,333	-1.8%
Combination Trawler	22	\$600,000	-\$7,940	-\$90,009	-4.4%
BSAI Surimi Factory Trawler	12	\$25,000,000	-\$526,065	-\$3,890,739	-10.9%

obtained from the existing 80 vessel fleet<sup>2</sup>. The addition of one vessel to the designated Kodiak longliner fleet reduces net fleet returns by 1.8%, with no change in output or total revenues, given a fixed TAC or quota.

In many fisheries, the impact of additional vessels will spill over into other vessel categories, as well. The net national impact on producers due to additional vessels added to various fisheries will depend upon the existing level of capitalization, the size and cost structure of the fleet, and the capital costs represented by the additional vessel. From Table 4.1, the estimated impacts on fleet costs from the addition of a very large, capital-intensive vessel such as the surimi factory trawler operating in a relatively small fleet is much greater than the longliner discussed in the example. In addition to increased net costs due to the entry of new vessels, existing boats within the fleet may be compelled to increase effort and capitalization in order to maintain harvest shares. Such action would lead to even greater net losses to the fleet.

The intent of the moratorium is to prevent the entry of additional vessels, and thereby avert these losses associated with further capital expenditures. The aggregate national magnitude of the potential savings cannot be empirically estimated with reliability in the absence of accurate information about how many vessels of a given capital cost will enter a given fleet. The representative cost estimates in Table 4.1 are intended to illustrate the potential cost savings impact of each additional vessel that is restricted from entering the fishery.

There is potential for increased national benefits through discouraging additional investment in either unneeded vessels or capacity enhancements for existing vessels. It is estimated that roughly 700 non-qualifying vessels would enter the fishery each year over the next several years. This number of entrants might be fully or partially offset by vessels exiting the fishery. To the extent that these vessels represent

<sup>2</sup>The addition to capital costs will be proportional to the amount of new capital costs represented by the new entering vessel and the existing fleet. For an existing, twenty year old boat with outdated equipment, capital costs are likely to be much less than for a brand new vessel designed and built specifically to enter the fleet. In overcapitalized fisheries, the entry of additional vessels representing new capital investment will impose a greater cost on the nation than do vessels representing prior capital investment (sunk costs).

new construction that could be discouraged by a moratorium, a national benefit would accrue. In the extreme, if all "new entrants" under open access were previously-built vessels, the only economic benefit of the moratorium would arise from inhibiting investment for capacity expansion of the qualifying fleet. Given the surplus of small vessels in other fisheries such as salmon, and given the historical interaction of these other fleets with the fisheries included in the moratorium proposal, it would seem reasonable to assume that most of the "new entrants" in the small vessel categories would actually be existing vessels from other fisheries. Furthermore, the likelihood of a "new entrant" being newly constructed would appear to increase with vessel size. Since construction of the largest vessels also represents a much greater drain, per vessel, on the net benefits of the fishery, it is apparent that a major source of benefits from any of the moratorium options will depend upon the extent to which new catcher-processors and other large vessels are kept from entering the fishery. Given the current overcapacity in factory-trawler fisheries and the recent inshore-offshore allocation actions by the Council, it is questionable how many of these vessels would be constructed in the near future for use in the fishery. If 3 new large surimi factory trawlers were not built because of the moratorium, the expected annual national benefit would be in the \$12-15 million range. Discouraging the construction of 11 large combination trawlers could save an additional \$1 million.

Because of the lack of information on annual vessel improvement expenditures, it is extremely difficult to estimate the national benefit associated with moratorium provisions restricting the upgrading of capacity of qualifying vessels. Across the entire moratorium fleet, the total could range from nothing to millions of dollars, annually. It should be noted, that the provisions of the moratorium will probably not eliminate all increases in the capacity of qualifying vessels. Individuals are likely to find unregulated ways to increase capacity, or to avoid detection of changes that are prohibited. Unless penalties for violating capacity restrictions create an effective deterrent to such efforts, much of the potential benefit, with regard to the existing fleet, may be lost.

Under provisions of EO 12866, regulatory actions that are estimated to have an annual effect of over \$100 million are considered to be a "significant regulation actions". A rough upper estimate of net national impacts can be developed by applying the number of potential entrants times the changes in the respective fleet net returns. This is accomplished by weighting the representative net national impacts presented in Table 4.1 with general projections concerning the number and capitalization of vessels that might be denied entry under a moratorium. As projected in Section 4.1.1, approximately 725 new entrants might be expected in 1993, 90% of them small vessels less than 60 ft, 36 between 60 and 90 ft, and 43 over 90 ft. Under these broad assumptions, the upper limit of net national impacts are estimated to be in the range from \$15 to \$30 million annually, significantly below the criteria for a major rule. The present discounted value of the lower end of this projected annual net impact (\$15 million annually), discounted at 10% over a 4 year moratorium is approximately \$50 million.

#### 4.4 Impacts on Small Business Entities

The majority of vessels influenced by the moratorium proposal are assumed to be owned by small business entities. The qualifying moratorium fleet under the options considered ranged from 8,055 to 15,756 vessels, of which roughly 90% are vessels less than 60 ft in length. Recognizing that the moratorium affects the entire fleet of vessels operating in the Council-managed fisheries, this indicates that the vast majority of those firms are owned by small business entities. The actual ownership patterns of the existing and new participant vessels almost certainly overstates the number of vessel owners and businesses involved, since a single owner may own more than one vessel, or the new participating vessel may be replacing an existing vessel.

Of the potential new entering vessels each year, the proportion of small vessels--by inference small businesses--is approximately the same as the existing fleet. Thus, the impact on vessels restricted from

entering the fishery is also predominantly on small entities. Assuming that from 500 to 1,000 additional vessels would be affected by the moratorium each year, the effect of the moratorium will fall disproportionately on these small firms, affecting from 450 to 900 small vessel owners.

The principle impact on small fishing enterprises due to the moratorium will be a limitation on the entry of new vessels. This may restrict the ability of new, small entities to enter the fishery, although access is not denied since there is expected to be a large pool of eligible qualifying boats available to new entrants. Premiums may develop for certain types of vessels, owing to shortages of these classes, which would increase the cost to prospective vessel owners. Alternatively, small fishing firms owning non-qualifying vessels may experience a decrease in the value of their investment to the extent that the vessel's opportunities have been limited.

The small vessel category has been documented in the analysis to account for a proportionately small share of the total catch tonnage and revenues generated in the Council-managed fisheries. Nonetheless, the incomes earned by small vessel owners may represent an important part of annual income to the affected fishermen. Five thousand dollars of income from a halibut fishery may be vitally important to these small fishing operations. Access to the fishery is not a trivial concern to many of these small scale fishermen, to the extent that they have few alternative means outside of fishing for earning income. The impact of the moratorium is to restrict the opportunities of some small vessel owners, yet offer a stabilized economic environment for the majority of the affected small businesses. The benefits accrue from preventing a further erosion of per vessel net returns and operating efficiency.

Specific provisions that would exempt small vessel owners or communities from the moratorium were examined in the analysis, concluding that the increased flexibility and opportunities for these smaller operations may come at the expense of some increase in overcapitalization costs for the existing participants.

Compliance costs for small business entities are expected to be minor, since the existing procedures for application and issuance of fishing permits will be used to verify participation. An appellate procedure has been designed for the moratorium, providing some recourse in such disputes short of private litigation.

In summary, the proposed moratorium could be expected to have a significant impact on small business entities. The flexibility of open access will be reduced, possibly limiting economic opportunities for some non-qualifying fishermen, but this could be offset by increased stability and financial security for the existing participants in the Council-managed fisheries.

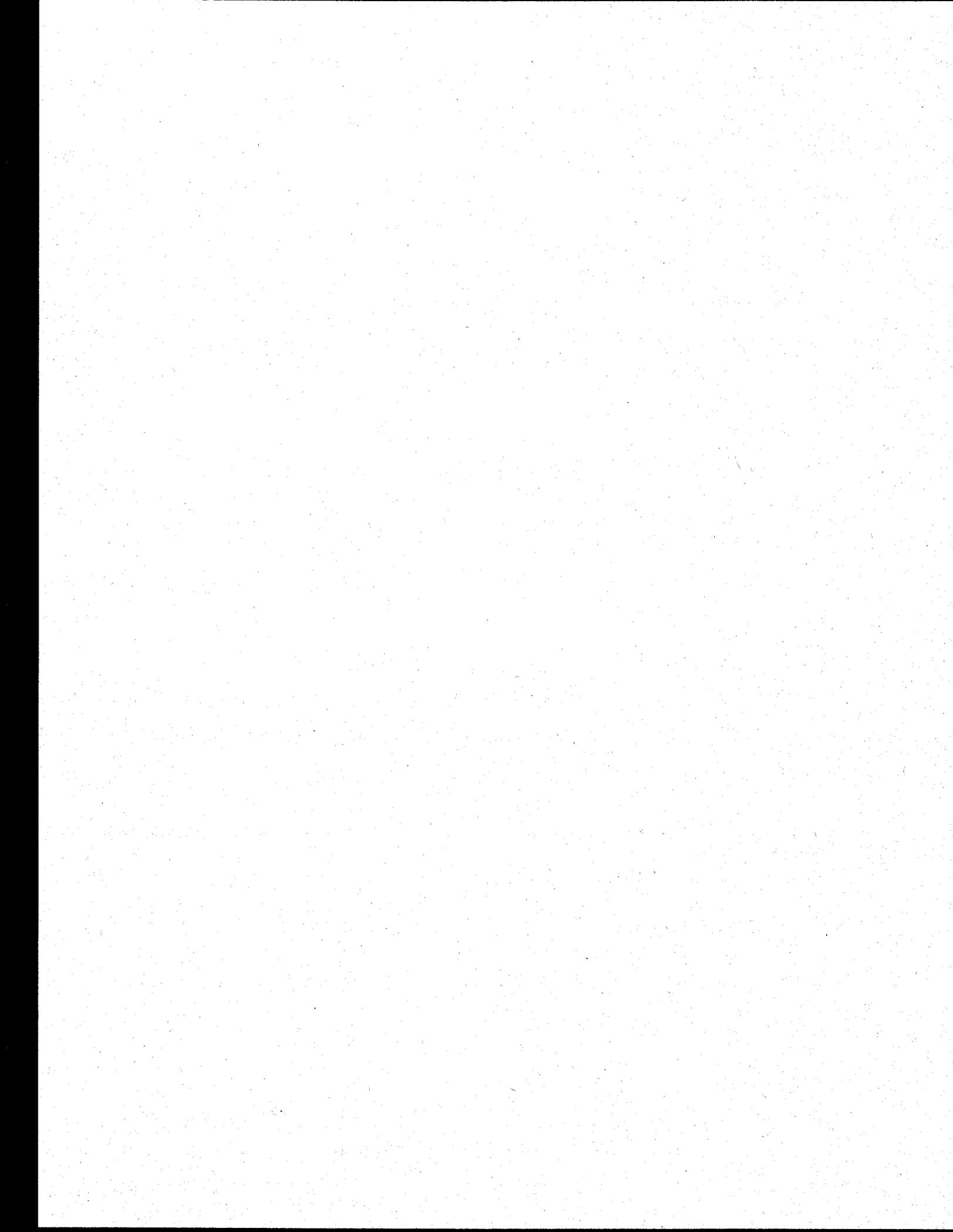
#### 4.5 Administrative Costs

The proposed moratorium poses several issues that will impact administrative costs, including: (1) the determination of eligibility; (2) the appellate procedure; and (3) enforcement. Determining eligibility will require the verification of a vessel's status based on the adopted participation criteria. A vessel master file will need to be merged with the application request to automate the performance of this check. The vessel participation file generated as a part of this analysis may provide a basis for such a standard, but further refinement of the vessel file, and automation of the application process will initially require the work of at least one technical analyst. In addition, determining the eligibility of those vessels entering after the September 15, 1990, control date potentially could be a very time-consuming process, if verifying contractual arrangements becomes a requisite for qualification. In the initial application period, such verification could require a staff of several analyst/enforcement personnel, depending upon the ultimate eligibility criteria adopted by the Council.

The cost of operating an appeals board depends on the size of its membership, and the length and location of its meetings. As discussed in Section 3.2.1.10, the cost and administrative requirements of the appellate procedure will be influenced, in large, by the eligibility criteria employed. Given the size of the fleet involved, and the lack of prior experience with such regulations, the appellate process might easily require the part time services of a two or three person staff during the initial year of the moratorium, and perhaps only one appellate officer in subsequent years.

The procedure for enforcement of the moratorium is presumably no different than the present permit system. The issuance of a permit constitutes the right to operate in the affected fisheries, and vessels without permits operating in these fisheries would be violators. Careful screening of applicants in the initial issuance of permits is thus crucial to an effective enforcement program. However, to the extent the moratorium might lead to greater violations, some change in permit procedures or increased enforcement personnel may be required.

Administrative costs in general will be influenced by the qualification criteria adopted. Highly restrictive eligibility criteria, while supporting the goals of the moratorium, may entail proportionately greater administrative costs. In this regard, the expected benefits to be gained through specific moratorium provisions need to be weighed against the potential differences in administrative costs.



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**Alaska Commercial Fisheries Entry Commission**

**Alaska Department of Fish and Game**

**Alaska Crab Coalition**

**Alaska Groundfish Data Bank**

**American High Seas Fisheries Association**

**American Factory Trawlers Association**

**International Pacific Halibut Commission**

**National Marine Fisheries Service, NOAA, U.S. Dept. of Commerce**

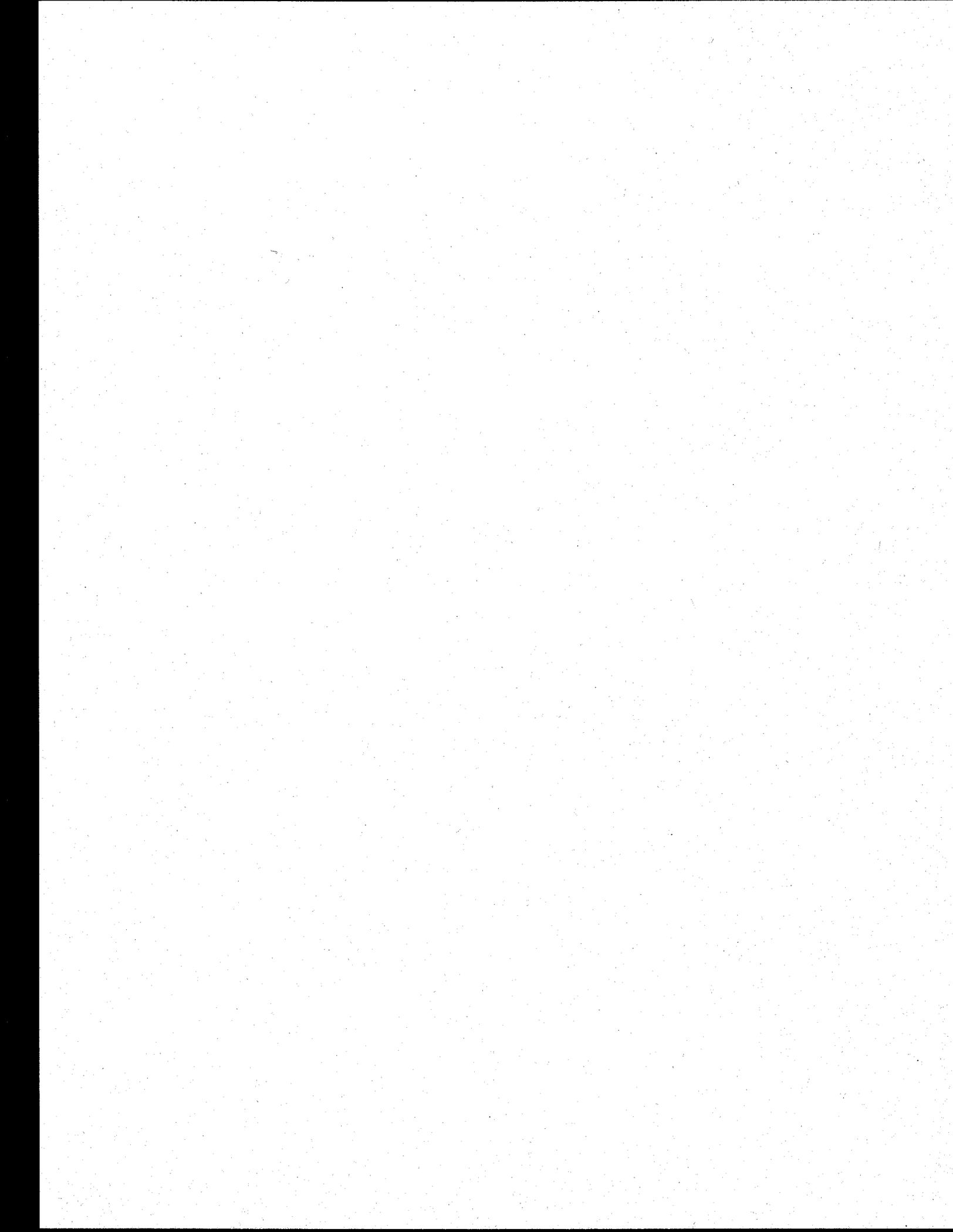
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**Peninsula Marketing Association**

**United Fishermen's Marketing Association**

**University of Alaska, Sea Grant Program**

**Western Pacific Fisheries Management Council**



## 8.0 THE PREFERRED ALTERNATIVE

The Council took final action on the vessel moratorium during their meeting in Sitka, Alaska during the week of June 23-28, 1992. Refinements and clarifications were made in August 1992 and January 1993 regarding salvage, replacement, exemption, and transfer provisions. Reasoning that continuation of the open access status quo will further aggravate current and future management of the fishery, the preferred alternative is a vessel moratorium based on the options and elements contained in the EA/RIR. In selecting the preferred alternative, the Council considered the regulatory analysis, AP and SSC reports, recommendations of a moratorium committee appointed by the Council<sup>1</sup>, and both written and oral testimony submitted by the public. The resulting moratorium plan was adopted unanimously by the Council.

### 8.1 Elements of the Moratorium Plan

The moratorium plan adopted by the Council contains the following elements:

1. Qualifying Period. In order to qualify, a harvesting vessel must have made a reported landing in one of the designated moratorium fisheries during the period beginning January 1, 1980, and ending February 9, 1992.
2. Length Increases During the Moratorium: The 20% Rule. Moratorium qualified vessels will be limited to a 20% increase in length overall (LOA) as long as the increase does not result in a vessel greater than 125 ft LOA. The 20% increase will be based on the LOA of the original qualified vessel, even in cases of multiple transfers/replacement. Vessels over 125 ft LOA may not be lengthened under any circumstance.
3. Reconstruction of Vessels During the Moratorium. An eligible vessel that is reconstructed during the moratorium retains its privilege to participate in all fisheries under the Council's jurisdiction subject to the following provisions: (1) If reconstruction is completed prior to June 24, 1992, the new size is unrestricted and length increases subject to the 20% Rule discussed above are allowed between June 24, 1992, and the end of the moratorium. (2) If reconstruction began prior to June 24, 1992 but was not completed until after that date, the new size would be unrestricted but no more length increases will be allowed. (3) If reconstruction commences on or after June 24, 1992, increases in length may not exceed 20% Rule. (4) Other types of vessel reconstructions or upgrades may occur as long as they do not result in the lengthening of a vessel.
4. Replacement of Vessels During the Moratorium. During the moratorium, qualifying vessels can be replaced with non-qualifying vessels so long as the replaced vessel leaves the fishery. Though multiple or sequential replacements are allowed, vessel length can only be increased subject to the 20% Rule. In the case of existing qualified vessels over 125 ft LOA, the replacement vessel cannot exceed the length of the original vessel. In the event of a combined replacement/reconstruction, increase in LOA may not exceed the 20% Rule.

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<sup>1</sup>The moratorium committee is comprised of seven members representing vessel/fishery categories, marine architects, boat builders, and the U.S. Coast Guard. The role of this committee has been to advise the Council of the practicality and effectiveness of various moratorium features in achieving the Council's objectives.

5. Replacement of Vessels Lost or Destroyed On or After January 1, 1989, but Before (insert the effective data of the moratorium). Vessels lost or destroyed on or after January 1, 1989, may be replaced provided the following conditions are met. (1) The LOA of the replacement vessel does not exceed the 20% Rule. (2) The replacement vessel must make a landing in a moratorium fishery prior to (insert a date two years after the effective data of the moratorium) to remain a qualified vessel. The replaced vessel would no longer be a moratorium qualified vessel.
6. Replacement of Vessels Lost or Destroyed After (insert the effective date of the moratorium). Vessels lost or destroyed after (insert the effective date of the moratorium) may be replaced subject the 20% Rule and the replaced vessel would no longer be a moratorium qualified vessel.
7. Salvage of Vessels Lost or Destroyed On or After January 1, 1989. A moratorium qualified vessel lost or destroyed between January 1, 1989 and the end of the moratorium may be salvaged and will be considered a moratorium qualified vessel, as long as it has not already been replaced, as per item 5 above.
8. Salvage of Vessels Lost or Destroyed Before January 1, 1989. A moratorium qualified vessel lost or destroyed before January 1, 1989, may not be replaced. The lost or destroyed vessel may be salvaged and become moratorium qualified if it meets the following two conditions: (1) Salvage operations must have been ongoing as of June 24, 1992. (2) The salvaged vessel must make a landing in a moratorium fishery prior to (insert a date two years after the effective date of the moratorium).
9. Small Vessel Exemptions. Vessels 32 ft or less LOA would be exempted from the moratorium in the BSAI.
10. Disadvantaged Communities. New vessels constructed after implementation of CDQ programs, pursuant to an approved CDQ project, will be exempt from the moratorium. In order to qualify for such exemption the vessel must: (1) be constructed solely for the purpose of furthering the goals of a community CDQ project, and (2) be a specialized vessel designed and equipped to meet the needs of a community or group of communities that have specific and unique operating requirements. Such exemptions would be limited to vessels 125 ft LOA and under. These vessels may fish in both CDQ and non-CDQ fisheries. Vessels built pursuant to a CDQ project under this exemption that are transferred to a non-CDQ entity during the life of the moratorium may not be considered eligible under the moratorium.
11. Halibut and Sablefish Fixed Gear Vessels. Halibut and sablefish fixed gear vessels operating under the provisions of the proposed IFQ Amendment will be exempted from the vessel moratorium as it affects directed halibut and sablefish operations. Such an exemption becomes effective at the time of implementation of the IFQ program. Non-qualifying vessels entering the halibut and sablefish fisheries under this exemption may not participate in any other directed fisheries under the Council's authority. If the total retained catch of species other than halibut and sablefish exceeds 20% of the total weight of sablefish and halibut on board, then the vessel must be a moratorium-qualified vessel.
12. Transfer of Moratorium Rights. It shall be assumed that any transfer of vessel ownership includes a transfer of moratorium fishing rights. Moratorium rights may be transferred without a transfer of ownership of the original qualifying vessel or any subsequently qualified vessel. The recipient of such transfers of rights will bear the burden of proof for moratorium qualification. Transfers of moratorium rights may not be used to circumvent the 20% Rule.

13. Appeals. Persons who own vessels which are found to be ineligible under the moratorium may appeal this finding to the Regional Director, Alaska Region, NMFS. In making his determination with regard to the appeal, the Regional Director may consult with an Appeals Board consisting of representatives of the fishing industry.

## 8.2 Rationale for the Preferred Alternative

The Council weighed several general criteria in evaluating the moratorium options. A key consideration was the overall objective sought in the proposed moratorium: "In an effort to help achieve Optimum Yield (OY), the objective of the proposed moratorium is to freeze the number of vessels in the groundfish, crab, and halibut fisheries under the Council's jurisdiction, with appropriate restrictions on allowable changes to those vessels which are permitted in these fisheries." The Council is aware that a moratorium on new entrants will not resolve the fundamental problems associated with excess capacity in the fisheries. Instead, the purpose of the moratorium would be to control continued growth in fishing capacity while the Council develops a comprehensive long-term management plan for the fisheries under its jurisdiction.

Simplicity in understanding and implementation was a second feature applied in the evaluation of the plan. Given that the moratorium is intended as an interim measure in management of the fishery, clear, unambiguous provisions that could be quickly and easily implemented were considered to be essential in the plan.

The Council also evaluated several equity considerations in their selection of a preferred alternative. These considerations included past and present participation in the fishery, options available to specific categories of vessel owners, the CDQ quota program, and the halibut/sablefish fixed gear ITQ program.

In combination, the above considerations can pose contradictions regarding the appropriate option for inclusion in the plan. The preferred alternative represents a moderate scheme given the options evaluated, and the plan perceived as having the greatest likelihood of success in achieving Council objectives without imposing inordinate administrative or implementation problems. The consideration applied to each of the major plan elements is discussed below.

### 8.2.1 Qualifying Period

The beginning and ending dates that qualify an existing vessel as eligible under the moratorium play a key role in establishing the population of vessels that will comprise the fishery under the plan. The earlier the beginning date, the greater the recognition given to past participation, and the larger the potential fleet. A 1976 beginning date generally parallels the period corresponding to management of the North Pacific under the Magnuson Act. The 1976 date extends eligibility to vessels that may not have fished for over 15 years. In contrast, the 1988 beginning date option would have restricted eligibility to current or very recent participants only. The preferred alternative adopts a compromise 1980 beginning date, a period corresponding to the domestic development of the Alaska groundfish industry. Establishing a 1980 beginning date does not exclude earlier participants in the crab or halibut sectors, so long as they remained active in one of the Council-managed fisheries at some time over the past 12 years. Including all participating vessels since 1980 in the eligible vessel pool creates a larger fleet than actually has fished in any given year, but does not require or necessarily encourage participation by all the vessels that qualify.

Specification of the qualifying period ending date has a greater impact on current and potential new participants than the beginning date. In August 1990, the Council had sought through a control date notification to establish the ending date at September 15, 1990, with due consideration for vessels under contract for construction, reconstruction, or purchase as of that date that subsequently entered the fishery by January 15, 1992. The September 15, 1990, date was chosen by the Council given their intent to initiate a moratorium as soon as possible following the August 1990 Council meeting. This action was based on lengthy consideration dating back to the mid-1980s of overcapitalization problems in the industry. Mounting fishery management problems in the late 1980s relating to overcapitalization prompted the Council to pursue a vessel moratorium as soon as possible in order to prevent a worsening of the situation until such time that a comprehensive solution could be developed.

In the ensuing 20 months that the Council and industry have worked towards a vessel moratorium plan, the original September 15, 1990, control date notification has complicated the status of new vessels entering the fishery. While some of these new vessels might legitimately qualify under the original control date notification, the elements and options of the proposed moratorium have changed during this interval, leaving many vessel owners uncertain as to their qualification status. The Council's moratorium committee provided the following recommendation concerning the adoption of eligibility dates:

The [moratorium] committee concluded that the verification and equity problems created by basing eligibility on option d (the original control date language) will be very difficult to overcome. As addressed in the comments by NMFS Attorney Jon Pollard, the verification process would need to examine the contractual records on a case-by-case basis, possibly requiring lengthy and potentially expensive quasi-trials. Table 3.1 in the moratorium EA/RIR indicates that between 831 and 1,146 vessels entered the fishery after the September 15, 1990, control date, but before the extension through January or February 1992. Both the legal and process questions surrounding the verification of this many vessels impose a formidable obstacle in implementing a timely, simple vessel moratorium. From the perspective of implementation, the committee recommended that the Council select an unambiguous cut-off date.

The ending date options considered by the Council included the original control date, along with an unconditional February 9, 1992, ending date. The February 9, 1992, option is directly related to the original control date notice in that vessels under contract for construction, reconstruction, or purchase were granted an extension up to January 15, 1992, to complete transactions in progress and enter the fishery. Subsequently, the Council further extended the deadline for trawl vessels only up to February 9, 1992, in view of the delay in the opening of the BSAI trawl season. Thus, February 9, 1992 corresponds to the longest extension granted for vessels to enter the fishery under the original control date notice. Total vessel participation since September 15, 1990 would be virtually the same under either the control date notice, or the unconditional February 9, 1992 ending date.<sup>2</sup> The difference between the two options lies in determining how many of the vessels that participated during this period would qualify under the more stringent terms spelled out in the control date notice. Presumably, the explicit February 9, 1992 ending date captures the upper limit of vessels that would be eligible under the control date language.

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<sup>2</sup>The control date language grants an extension for fixed gear vessels only up through January 15, 1992, rather than the February 9, 1992 date granted trawl vessels. Adopting a uniform February 9 ending date therefore would include an unknown but small number of additional fixed gear vessels, if any such vessels entered the fishery between January 15 and February 9, 1992.

The Council also considered extending eligibility up through the actual date that the moratorium is adopted. This option would grant eligibility to the most recent participants, adding those vessels that entered since February 9, 1992, up through an ending date that would correspond to adoption of the preferred alternative by the Council, presumably during the week of June 21, 1992. While such an option might make it easier for recent entrants to gain eligibility, the impact is contrary to the Council's moratorium objectives. Moreover, recent participants since February have done so under the Council's clearly stated intent to restrict any new vessels from gaining future entry into the fishery. That is, there have been no mixed signals from the Council in 1992 that might have been interpreted as encouragement to enter the fishery. Any vessels entering the fishery since February 9, 1992 have done so despite the Council's well-publicized expression that new entrants were unequivocally at risk in terms of being guaranteed future access to these fisheries.

The preferred alternative incorporates the unambiguous February 9, 1992, ending date. Although there was general support of the more restrictive September 15, 1990, control date, the potential difficulties associated with implementing the control date language were judged to undermine its usefulness, particularly as part of a near term, interim management action. Extending the ending date up through adoption of the preferred alternative was viewed as contrary to the moratorium objectives, and unwarranted given the information and warning available to prospective new entrants in recent months.

The January 1, 1980, through February 9, 1992, qualifying period will create an eligible fleet of about 13,507 vessels. Actual recent participation has ranged between 4,000 and 5,000 vessels annually and was 4,962 vessels in 1991. The table below arrays the proposed moratorium-eligible fleet by length category and compares it with the 1991 fleet:

Length Category (Ft)	1991	Moratorium	Difference
0 - 26	894	5,874	4,980
27 - 32	906	2,523	1,617
33 - 60	2,478	4,102	1,627
61 - 90	331	537	206
91 - 125	204	280	76
126 - 190	111	151	40
191 +	38	40	2
<b>TOTAL</b>	<b>4,962</b>	<b>13,507</b>	<b>8,545</b>

The comparison shows that about 8,500 more vessels would be allowed in under the moratorium than actually fished in 1991. This surplus in vessels seems striking until one considers the small boat exemption (described below in Section 8.2.6) and Figure 3.3 (p. 3-7) which showed that vessels under 60 ft caught only 6% of the harvest in 1991. Vessels between 60 and 90' contributed an additional 7.3% of the catch. So it is in the large vessel fleet over 90 ft where nearly 87% of the catch was taken, and there are only 118 surplus vessels resulting from the Council's preferred alternative qualifying period.

### 8.2.2 Length of the Moratorium

The options considered in the length of the vessel moratorium offer only modest differences; either three or four years, with a possible extension for another two years if a permanent limited access program is imminent at the end of that time. Although the Council may opt to modify or extend the length of the moratorium in the future, the intent is clearly to establish an interim measure for limiting additional overcapitalization in the fishery until a comprehensive management plan can be developed and implemented.

The preferred alternative emphasizes this intent, by prescribing a relatively short three-year moratorium, extendable for an additional two years if a permanent limited access program is pending. This option provides flexibility in the duration of the plan if progress is made on a long term plan, but does not unnecessarily prolong the moratorium in the absence of further progress on the underlying overcapitalization problem. If no further action is taken concerning a limited access plan over the next three years, the moratorium would expire, its justification being no longer valid.

### 8.2.3 Crossovers During the Moratorium

The preferred alternative reiterates an earlier Council determination that the moratorium not impose restrictions on vessels from crossing over among fisheries, regardless of their prior participation in these fisheries. While recognizing that unlimited crossovers may lead to increased capitalization of effort, the Council reasoned that a restriction on crossovers is highly allocative in its own right, and would be more appropriately addressed in the long term comprehensive plan under development. Moreover, the cap on fleet size, combined with limitations on allowable changes to vessels imposes some restrictions on the ability of vessels to undertake major capitalization efforts that might be required in crossovers.

### 8.2.4 The "20% Rule"

The latitude that is afforded owners to reconstruct or replace their vessels under the moratorium is an important consideration affecting changes in the capacity of the fleet. The Council's moratorium objectives speak directly to the need to specify allowable changes to vessels under the moratorium. Holding the number of vessels constant, but allowing for unlimited reconstruction or replacement might result in a significant increase in capitalization and catch capacity if vessels could be routinely rebuilt or replaced as larger units. The rationale supporting limits on vessel reconstruction and replacement is to restrict the increases in capacity and capitalization that can occur under the moratorium.

The Council recognized that reconstruction and replacement of vessels for purposes of safety may also increase potential fishing capacity. Drawing upon recommendations from the moratorium committee, the Council discussed the relative merits of limiting increases of several alternative capacity measures, such as gross and net tonnage, horsepower, hold capacity, crew size, and vessel dimensions. Given the variations that exist in the fleet across the fisheries, gear types, and vessel design, there ambiguity in the interpretation and measurement of vessel capacity. Vessel owners determined to increase capacity will likely find ways around any constraint.

The Council considered the moratorium committee's conclusion that there is no singular measure available that accurately and equitably reflects the catch or processing potential of all vessels within the fleet for purposes of limiting increases in capacity. The consensus of the moratorium committee held that simplicity and equity in implementation of capacity-related restrictions in the moratorium proposal favored a limitation on increases in vessel length, combined with a cap on the overall fleet size. Thus, allowable changes to existing vessels, and the determination of "similar capacity" in allowable reconstruction and replacement should be based on vessel length.

Length restrictions alone still may allow for increases in capacity and further capitalization of the fleet. These concerns are balanced by the practicality of regulating capacity, the objectives and relatively short duration of the moratorium, and allowances for individual discretion in vessel modifications and operations. The length restriction will slow major modifications of existing vessels, but does not penalize past performance or restrict individual ingenuity to improve vessel efficiency.

The preferred alternative regarding reconstruction and replacement is cast in terms of allowable changes in vessel length. For purposes of standardization, LOA is specified as the relevant measure. In order to equitably account for actions taken by vessel owners based on previous Council discussion<sup>3</sup>, restrictions on changes in vessel length are applicable only to changes that occurred after June 24, 1992, the date the Council adopted the preferred alternative.

In developing the moratorium guidelines, the Council developed a "20% Rule" under which construction and replacement of vessels will be allowed for purposes of safety, stability, or installing processing equipment. The "20% Rule" limits moratorium qualified vessels to a 20% increase in length overall (LOA) as long as the increase does not result in a vessel greater than 125 ft LOA. The 20% increase will be based on LOA of the original qualified vessel. Vessels over 125 ft LOA may not be lengthened under any circumstance. A vessel originally 80 ft could be lengthened (via replacement or reconstruction) a maximum of 20%, or 16 ft, resulting in a vessel of a maximum 96 ft. A vessel originally 120 ft, however, could only be increased a maximum of 5 ft (4.2% increase) to the 125 ft upper limit. Vessels over 125 ft may undergo reconstruction or may be replaced, so long as overall length is not increased.

Under the preferred alternative, vessels less than 125 ft are granted some flexibility in reconstructed or replacement length to allow for ongoing modifications in operations by some segments of the fleet, such as at-sea delivery vessels and vessels with inherent design problems. The Council reasoned that allowing marginal increases in length by smaller vessels would be relatively inconsequential in terms of overall catching capacity and capitalization. Such increases were limited to vessels 125 ft and less in recognition that overall catch capacity could be significantly increased if larger vessels were also allowed to increase in length. Based on the analysis presented in the EA/RIR, about 60% of the estimated total fleet catch capacity in 1991 was held by less than 200 vessels that comprised the population of vessels over 125 ft (see Figure 3.6).

The 20% lengthening option for vessels under 125 ft may be exercised through reconstruction of the vessel, replacement of the vessel, or a combination of reconstruction and replacement, so long as the resulting vessel is no more than 20% longer than the original qualifying vessel. This provision restricts successive replacement, reconstruction and lengthening of a vessel that could result in a gradual increase in length of even the smallest boat up to the 125 ft limit. These provisions do not prevent vessel maintenance reconstructions (i.e., 'shave and haircut' or safety modifications) so long as such modifications do not result in vessel length increases.

#### 8.2.5 Reconstruction of Vessels

The moratorium contains several provisions regarding the reconstruction of vessels. These provisions are dependent on the timing of the construction. Three provisions relating to different time period are outlined.

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<sup>3</sup>Previous versions of the Council's proposed moratorium elements included the consideration of options that would permit various allowable increases in vessel length as a result of vessel reconstruction.

1. If a moratorium qualified vessel completed actual reconstruction prior to June 24, 1992, then the new size is unrestricted. Further increases in length will be subject to the 20% Rule, with the LOA of the vessels as of June 24, 1992, serving as the basis for the calculation of the 20% limit. In taking this action the Council recognized that many, perhaps conflicting, signals had been sent to the industry in the control notice and in prior sets of moratorium elements. The Council deemed that length increase limits should apply to the LOA of the vessel at the time of the Council's action.
2. If reconstruction began prior to June 24, 1992, but was not completed until after that date, then the new size of the vessel will be unrestricted, but no further increases of length will be allowed. The Council recognized that while conflicting signals perhaps existed, the Council had notified the industry of their intent to limit increases in vessel length. This provision allows those qualified vessels which began reconstruction prior to the Council's final action to remain qualified, regardless of the new length of the vessel, but does not allow for any further increases in length.
3. If reconstruction of the vessel began after June 24, 1992, the length increase will be subject to the 20% Rule. The justification for the 20% Rule is discussed above.

#### 8.2.6 Replacement of Vessels and Transfer of Moratorium Rights

The preferred alternative allows for the replacement of moratorium-qualified vessels via a transfer of moratorium rights, as long as the replacement vessel meets the requirements of the 20% Rule.

The moratorium plan allows for vessel replacement under two general scenarios, replacement of an existing vessel during the moratorium, and replacement of a lost or damaged vessel either before or during the moratorium. The replacement of an existing vessel is treated the same as the reconstruction of an existing vessel, in terms of restrictions on allowable changes in vessel length. Conceptually, however, the replacement of an existing vessel implies that a new vessel may enter the fleet, either new, reconstructed, or brought in from another fishery. In order to cap the overall moratorium fleet size, the preferred alternative requires that all replaced vessels lose their right to participate in the fisheries under the moratorium, unless that vessel is subsequently used to replace another eligible vessel. An owner of an eligible vessel may replace that vessel with another, or, transfer by private agreement the moratorium rights to a vessel owned by someone else, so long as the new vessel does not exceed the 20% Rule. In the case of vessels greater than 125 ft LOA, the replacement vessel cannot exceed the length of the original vessel by any amount.

A consequence of the vessel replacement provisions outlined above is the potential for a market in the exchange of vessel "replacement rights." To the extent that an eligible vessel can be replaced within the guidelines outlined above, the right to replace a vessel may become a transferable privilege between consenting vessel owners. The exchange of these rights is an important feature that facilitates the ongoing vessel transfer and replacement activities undertaken by owners in response to financial, economic, and efficiency incentives. That is, the preferred alternative provides for some flexibility in operations of individuals given the pool of eligible vessels and the replacement rights assigned to these boats. However, the transferability of eligibility rights also may enhance the entry of some vessels into the fishery, if the replacement rights to vessels that otherwise would not participate in the fishery are transferred to new vessels seeking entry. As noted in Section 8.2.1, the pool of eligible vessels under the preferred alternative is significantly larger than actual participation in 1991.

### 8.2.7 Salvage/Replacement of Lost or Destroyed Vessels

The replacement of lost or damaged vessels incorporates the length restrictions noted under the reconstruction guidelines, and makes further allowances for vessels lost prior to the moratorium, and during the moratorium. Under the preferred alternative, replacement rights on lost or damaged vessels extend back in time only to January 1, 1989, rather than the January 1, 1980 beginning date applicable to presumably active vessels. This restriction reflects Council concerns that vessels lost prior to 1989 likely have received insurance claims, and have subsequently been replaced with other vessels in the interim. Extending the replacement period for lost vessels back in time to 1980 could encourage the replacement of some vessels that have already been replaced, in the sense that insurance claims have been used already to purchase or build another boat. The number of vessels lost or damaged is relatively small, averaging between 20 and 30 moratorium-eligible vessels per year between 1980 and 1989. Thus, the net impact of this provision is relatively small, but the action is designed to prevent the unwarranted resurrection of vessels long since replaced, or removed from the fleet. Though it cannot be replaced, a vessel lost or destroyed prior to January 1, 1989, may be salvaged so long as salvage efforts were ongoing as of June 24, 1992. That vessel must be salvaged, and make a landing within two years of the effective date of the moratorium, to remain qualified.

A vessel which is lost or destroyed after January 1, 1989, may be salvaged and would be considered a moratorium qualified vessel for the duration of the moratorium. Once the moratorium is effective, and a vessel is lost or destroyed, it may be replaced, again subject to the 20% Rule. If the replaced vessel is subsequently salvaged, it would no longer be moratorium qualified.

A final scenario involves vessels which may have been lost or destroyed after January 1, 1989, but before the effective date of the moratorium. As in the previous case, this vessel could be replaced, subject to the 20% Rule. To remain qualified for the duration of the moratorium, this vessel must make a landing in a moratorium fishery within two years of the effective date of the moratorium.

### 8.2.8 Small Vessel Exemptions

As shown earlier, the fleet participating in Council-managed fisheries has many small vessels and relatively few large ones, but the latter catch most of the fish. Of the vessels that qualify between 1/1/80 and 2/9/92, about 68% are less than 35 ft and yet account for only about 1% of total catch. Exempting small vessels will not significantly affect fleet capacity or capitalization, but will relieve small vessel owners from unnecessary regulation and paperwork imposed by the moratorium.

The difference in the vessel length criteria adopted for the GOA and BSAI reflects differences in fishing opportunities, historical practices, and fishing conditions in the two areas. For the BSAI, the small vessel cutoff is 32 ft which is the historical length restriction imposed on the Bristol Bay drift gillnet salmon fishery. Though these vessels often participate in some near-shore Council-managed BSAI fisheries, they do not account for a significant volume of total catch or catch capacity. For the GOA, the small vessel cutoff is 26 ft, representative of the typical skiff fleet in the GOA. In both the BSAI and GOA, the Council reasoned that the exempted class of vessels does not contribute significantly to the industry overcapitalization problem.

The small vessel exemption will reduce considerably the number of vessels restricted by the moratorium. Of the estimated 13,507 vessels qualifying for the moratorium based on the 1/1/80 - 2/9/92 eligibility period, 5,874 (43.5%) are under 26 ft and could fish either the GOA or BSAI during the moratorium. An additional 2,523 vessels are between 26 ft and 32 ft and can freely fish in the BSAI, but would need to be moratorium qualified to fish the Gulf. With the exemption, there would remain about 7,633 vessels in the moratorium qualified fleet in the GOA, and 5,110 in the BSAI.

For both the GOA and BSAI small vessel exemptions, reconstruction or replacement of exempted small vessels that would result in a vessel exceeding the maximum exemption length would place that vessel under the more restrictive provision of the moratorium plan. For example, if a moratorium-qualified 24 ft GOA skiff was replaced with a 50 ft vessel, this new vessel would not qualify under the moratorium since the vessel is no longer in the small boat exemption category, and the change in length exceeds the 20% vessel length increase allowable under the plan. It is the Council's intent that the small vessel exemption apply to the length of the vessel, and any subsequent changes made to that vessel.

The exemption of small vessels affects not only the moratorium qualified vessels as estimated above, but also the entire population of small vessels that are not eligible for the moratorium based on the qualifying criteria. These vessels are exempt from the moratorium restrictions, and may elect to enter various Council-managed fisheries and make various changes to these small vessels within limits. That is, the exemption basically maintains certain open access conditions in the fishery for qualifying small vessels. Over the long term, such an exemption could evolve into a significant contributor of additional capitalization of the fishery, but the impacts are expected to be relatively minor over the three to five year life anticipated for the moratorium. Moreover, the sablefish and halibut IFQ programs proposed by the Council may effectively deter further inefficient capitalization in these two important small vessel fisheries.

#### 8.2.9 Disadvantaged Communities

The Council evaluated several options concerning a possible moratorium exemption for disadvantaged communities. While the small vessel exemption and reserve pool of eligible vessels suggest that disadvantaged communities would be able to secure vessels during the moratorium, such allowances may not provide the communities with sufficient flexibility to obtain specialized vessels envisioned for use under the BS CDQ program. In evaluating the exemption for disadvantaged communities the Council weighed two considerations: (1) apprehension over creating an unregulated avenue by which new vessels could enter non-CDQ fisheries; and (2), concerns that the CDQ program and disadvantaged communities be able to effectively and efficiently use the fishery resource allocations granted them.

The preferred alternative combines these two considerations by granting an exemption for the construction or purchase of new vessels up to 125 ft, so long as the vessel is judged to be a specialized vessel justified as an integral part of the CDQ project. The exempted vessel would be eligible to participate in both CDQ and non-CDQ fisheries consistent with the approved CDQ project. Vessels qualifying under this exemption would not maintain their moratorium eligibility if transferred to a non-CDQ entity during the life of the moratorium.

#### 8.2.10 Minimum Qualifying Poundage

Early in the discussions leading up to the moratorium proposal, Council and industry sentiments dismissed the need for a minimum qualifying poundage requirement to achieve moratorium eligibility. This rationale was based on the concern that different segments of the individual fisheries represent varying dependencies on the aggregate fishery. The diversity and flexibility with which many fishermen operate in the North Pacific preclude the identification of average dependencies, or the characterization of typical fishing operations. In addition, basing eligibility on some measure of catch volume may become highly allocative, and is a judgement more appropriate in the determination of a comprehensive, long-term management policy.

### 8.2.11 Applicable Sectors of the Industry

In the process of developing the moratorium amendment, the Council considered the merits of extending the vessel moratorium to processing vessels, as well as harvesting vessels. Based on recommendations of the moratorium committee and public testimony, the Council concluded that such a moratorium on at-sea processors would be ineffective, and this option was eliminated during the April 1992 Council meeting. An increase in at-sea processing may increase the harvest capacity of catcher vessels, but the moratorium on harvest vessels prevents further growth in the catcher fleet. Thus, the rate of harvest might increase, but not the number of harvesters. Moreover, so long as shore-based processing is not restrained, a moratorium on at-sea processors appears inequitable. It was also reasoned that an arbitrary or ill-conceived restriction on processing activity may hinder efforts to add value to the fishery resources, thus undermining potential net returns and optimum yield.

### 8.2.12 Halibut and Sablefish Fixed Gear Vessels

The proposed moratorium would affect the ability of vessel owners to alter their fishing operations consistent with the quota shares allocated under the Council's halibut and sablefish IFQ program. The Council intends that the IFQ program encourage the efficient configuration of the affected halibut and sablefish fleet, as well as create a rational pattern of capital investment and harvest effort. In this context the imposition of a moratorium at this stage on the halibut and sablefish fixed gear fleet appears unnecessary. The difficulty--as noted in the analysis--is that vessels in the IFQ fishery (halibut and sablefish) may also participate in non-IFQ fisheries such as Pacific cod and rockfish. The moratorium applies to vessels, and the IFQ program applies to vessel owners. As a result, the two proposed management plans cannot be conveniently merged or separated to resolve this problem.

In the preferred alternative, the Council has elected to support the intent of the IFQ program by exempting these vessels from the moratorium at such time that the IFQ program is implemented. The exemption would allow halibut and sablefish fixed gear operations to adjust vessel use independent of the moratorium, so long as any non-qualifying vessels entering the fishery are restricted to the IFQ halibut and sablefish fisheries. Thus, an IFQ holder could bring a new, non-moratorium vessel into the halibut fishery, but that vessel would not be allowed to participate in non-IFQ fisheries, except as bycatch.

This exemption creates the potential for some expansion of capacity in the overall groundfish and crab fleet outside the halibut and sablefish fisheries, since moratorium-eligible vessels in these IFQ fisheries may be transferred into non-IFQ fisheries if they are replaced with new vessels. Although the total pool of moratorium vessels is not increased, there may be some increase in capacity or effort in the non-IFQ fisheries as a result of this exemption. However, many of the affected halibut vessels are likely to be covered by the small vessel exemption regardless of the exemption created for IFQ fisheries. The dilemma imposed by the overlay of the moratorium and IFQ program underscores that the moratorium is only an interim measure for a problem that will ultimately require a more comprehensive solution.

### 8.2.13 Appeals

The Council recognized the potential for disputes or disagreements over moratorium eligibility arising from the complexity of fishing operations affected, and the reliance upon records of catch history and participation. The intent of the appeals process is to allow for an administrative solution to contested eligibility without the expense of a court proceeding. The analysis and public comment also noted the potential for the appeals procedure to evolve into a large and costly administrative burden. The Council has endeavored to streamline the appeals procedure by simplifying the elements and criteria that comprise the moratorium itself. By eliminating ambiguity and complexity in the moratorium plan, the need for appellate hearings should be reduced.

Given clear, simple moratorium criteria, appeals from vessel owners are likely to focus on definitive questions of catch history, past participation, or vessel dimensions that can be administered or resolved through clerical examination of records, rather than requiring a lengthy hearings procedure. In the event that the appeals procedure requires industry expertise beyond that available from a simple review of records, an adjudication board is specified in the preferred alternative. A hearings board would be established to review those appeals that require more than a routine application of the regulations. The board need not be directly involved in all appeals, however.

### 8.3 Entry into Fisheries since Council Action

Vessel participation data for 1992 have become available since this analysis was performed. The source of these data are the State of Alaska fish ticket, NMFS groundfish vessel permit, weekly production report, and catch estimate databases.

In 1991, 2,227 vessels fished in Alaska Federal groundfish fisheries, and in 1992, 2,341 vessels fished, for an increase in 1992 of 114 vessels. Approximately half (46 vessels) of this increase is due to vessels less than 60 feet LOA. Such vessels normally do not make a significant contribution to the overall landings of groundfish. In addition, vessels less than 26 feet LOA in the GOA and those less than 32 feet LOA in the BSAI area would be exempt from the moratorium. After subtracting such small vessels and considering only those newly permitted vessels that made recorded groundfish landings in 1992, only about 27 vessels apparently entered the groundfish fishery in 1992 for the first time, and would not be eligible to fish under the moratorium. With respect to halibut, about 156 "new" vessels made landings for the first time in 1992 (some of these had groundfish and crab landings records also). With respect to BSAI crab, 8 "new" vessels made landings for the first time in 1992. Therefore, a total of about 191 vessels apparently entered the groundfish, halibut and crab fisheries for the first time in 1992 and may not be eligible for a license if the moratorium is approved and implemented as proposed.

The number of "new" vessels that entered these fisheries in 1993 and 1994 is unknown because individual vessel catch data are still preliminary. Assuming that roughly the same number of "new" vessels entered these fisheries in 1993 and 1994 as entered in 1992 probably is unrealistic. The Council's moratorium decision occurred midway through 1992. Most fishermen decide whether to enter a fishery at the beginning of the year. Public knowledge of the Council's action after June, 1992, probably had a negative effect on decision to enter a "new" vessel in 1993 or 1994. According to the NMFS vessel permit database, about 447 Federal groundfish vessel permits were issued between February 9, 1992, and March 21, 1994, that had never before obtained a groundfish vessel permit. However, the majority of these "new" vessel permits likely were issued to halibut longline vessels, which would be exempt from the moratorium when the halibut IFQ program is fully implemented in 1995. In addition, some unknown number of these "new" groundfish vessel permits were never used to actually harvest and land groundfish, and others were issued to small vessels that would be exempt from the moratorium. For the reasons described above, the number is likely more than 35 but less than 100, based on the available data and knowledge of the fisheries.