IV. POTENTIAL PROBLEMS ADDRESSED BY AMENDMENT 7

The need for action is based on several concerns regarding the Hawaii pelagic fisheries, which might be exacerbated if the current longline moratorium expires without further Council action. These concerns are described below. In many cases, direct evidence that a problem is occurring, or was occurring prior to the imposition of the moratorium, is not available. Testimony at public hearings and the April 1993 Council meeting, however, demonstrated that many people are concerned about these issues. Several projects to examine these issues have recently been funded, but results will not be available for at least two years. Appendix 2 describes important research needs in greater detail.

IV.A. Stock Conservation

For most (if not all) species, Hawaii-based fisheries in and adjacent to the EEZ around Hawaii will not contribute to recruitment overfishing as defined in Amendment 1, nor would management of these fisheries significantly contribute to rebuilding of stocks that might be overfished on an ocean wide basis. Hawaii pelagic landings generally account for less than 5% of the total catch of each stock. The status of these stocks is impacted mainly by foreign and US distant-water fisheries operating outside the Council's jurisdiction. The catch and effort of these other fisheries far exceed those of Hawaii-based fisheries. A possible exception is swordfish, where the Hawaii-based longliners account for about 15% of the total Pacific catch, and 42% of the eastern central Pacific catch. Before the longline moratorium went into effect, Hawaii swordfish landings increased 100-600% for each of the years from 1988 to 1991. This indicates that the Hawaii fishery has the potential to dominate the central Pacific fishery and affect the status of the swordfish stock(s) in the region.

Pacific landings of swordfish may be near MSY (Table III-2), although recent estimates of MSY may be unreliable. There is, however, no evidence of declines in the average size of the swordfish taken, CPUE, or other aspects of the stock(s). Nonetheless, the Atlantic Ocean experience suggests that even a widely distributed species as swordfish can be over-utilized relatively quickly, while evidence of growth overfishing can take a long time to be demonstrated (ICCAT 1992a).

Growth of the swordfish segment of the Hawaii domestic longline fishery was stimulated by over-utilization of swordfish stocks in the Atlantic and continuation of a strong market demand for this species. A production model analysis was recently completed for the first time for North Atlantic swordfish (ICCAT 1992b, NCMC 1993). This model suggests that reduced fishing effort in the Atlantic (down about 30%) resulted in some recovery of the stock, and that fishing effort may have been reduced to MSY levels. However, it may require years for yield to reach MSY at even this reduced level of fishing effort (NCMC 1993). Age-structured stock assessments are generally recognized as superior to production model analyses. The age-structured assessments for Atlantic swordfish also show some recovery of the adult stock but the

adult stock remains 50% less abundant than in 1978 (ICCAT 1992b). Additional longline fishing vessels may wish to home port in Hawaii, and the fairly rapid decline of swordfish stocks in the Atlantic should serve warning of what could conceivably happen in the central Pacific.

The Council is concerned about the relative abundance of wide-ranging stocks within the EEZ and adjacent waters. There is a finite supply of fish in these waters at any time, and uncontrolled harvest by any sector may result in localized decreases in abundance and catch rates to where fishing becomes unprofitable (see catch competition discussion in next section). Even if local fisheries do not affect the status of stocks throughout their range, they can affect abundance and catch rates within the EEZ and adjacent waters. The Council intends to manage growth of the fisheries so that decreases in local fish abundance due to local fishing pressure, will not significantly reduce the ability of fishermen to maintain profitable or satisfying fishing experiences. In the absence of better information, the Council has chosen to manage its fishery resource to optimize yields in the local domestic fisheries. If fish abundance remains above the level that equitably supports all fishery sectors, then any local stocks that *may exist*[1] will also be conserved.

IV.B Catch Competition

Catch competition can be defined as a localized decline in fish abundance and catch-per-unit-effort (CPUE) resulting from increased fishing effort on fish in a localized area. In theory, catch competition can negatively impact a fishery whose effort is expanding, or other fisheries operating on the same stock(s) nearby. In the latter case catch competition is referred to as "fishery interaction" and in either case it can be termed local overfishing. The magnitude (or existence) of catch competition and fishery interaction in Hawaii's fisheries is poorly known. However, the potential problem of catch competition is a major concern.

When the original FMP was being developed, the Council was concerned that established local longline, troll and handline fisheries could be (and possibly were being) adversely affected by catch competition (fishery interaction) with the foreign longline fishery in the EEZ. The implementation of the FMP resulted in the cessation of this foreign longline fishing. An important reason for the adoption of Amendment 4 (three-year longline moratorium) was concern that the rapid growth of the domestic longline fishery to levels equalling or exceeding former foreign fishery harvests could adversely affect CPUE in the local fisheries.

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[1] Knowledge of stock structure is inadequate to completely rule out the possibility of sub-populations of swordfish, yellowfin tuna, mahimahi, or other pelagic species existing within small regions (e.g., in some limited area surrounding Hawaii). If such local populations are identified then stock conservation would acquire greater local importance. However, the distribution of larvae, tag returns, and genetic evidence strongly suggest that any separation of stocks probably exists only on a large scale (e.g., North and South Pacific).

Studies have been conducted that attempt to determine the relationship between changes in longline fishing and catches and catch rates for other gear types in Hawaii. These studies are not conclusive and further work is needed to reach definitive conclusions, but the perception and fear of catch competition (localized overfishing) remains. This stems from a basic understanding that, at any given time, there is a finite amount of fish available to local fisheries. In theory, removal of some of these fish means that until those fish are replaced (by recruitment or immigration), fewer fish remain to be caught by this or another fishery. If there is substantial immigration of fish into the area (or if rapid local production occurs), then the effects of fishing pressure on local fish abundance may be small. However, if the rate of immigration is low, and if the catch is made in an area near the area used by another fishery, then fish may be intercepted before they reach the other fishery. The impacts of catch competition can thus be significant. This is the concern of troll and handline fishermen who generally believe that longline fishing has caused decreases in the troll and handline catch rates and profitability. The establishment of areas closed to longline fishing (Amendment 5) may have helped prevent catch competition to the extent that the longline fishery may catch fewer fish near the troll and handline fisheries.

The Council has defined OY for the pelagic fisheries non-numerically, based on the FMP objectives (see Sec. VII.C). OY is defined with a focus on preventing "local overfishing" or "economic overfishing" within the EEZ of each island area. This reflects the Council's interest in achieving a balance among the fisheries that pursue pelagic species in the Council's area. As the FMP objectives make clear, the Council wishes to promote domestic harvest (within the limits of OY) and enhance the opportunities for domestic commercial and recreational fisheries to be profitable and satisfying, respectively.

This amendment addresses catch competition because it can prevent the achievement of optimum yield (OY) in a local fishery even when the status of the stock throughout its range is unaffected. A quantitative approach for defining OY in local fisheries that exploit wide ranging stocks is given in Sathiendrakumar and Tisdell (1987) and Boggs (in press). This approach conceives of the maximum level of catch as a function of the number of fish immigrating to the area of the fishery. It is similar to a stock production model relating catch to effort, except that catch does not decline at high levels of effort. However, OY can be defined by such a model, just as it is with a stock production model, as the level of effort that produces the greatest net benefit.

The Council must consider possible restrictions on the growth of the longline fishery to the extent that increases in longline fishing may adversely affect other fisheries, or the longline fishery itself. For example, if uncontrolled increases in longline catches of yellowfin tuna, blue marlin and mahimahi were permitted in Hawaii, there is concern that this catch could depress the troll and handline CPUE for these species below profitable levels. There is concern that reduced success rates could also negatively impact the recreational fishing experience. The negative impact of depressed CPUEs for these three species on the longline fishery itself would be small since the present-

day fishery depends primarily on swordfish and bigeye tuna. There is concern, however, that catch competition for swordfish and bigeye tuna within the longline fishery could threaten its profitability.

Several studies have found evidence of catch competition in Hawaii when foreign longline fishing was conducted within the EEZ before 1980 (Lovejoy 1977, 1981, Wetherall and Yong 1983, Skillman and Kamer 1992). These studies made use of foreign fishery data on catch and CPUE within the Hawaii EEZ, and found that CPUE decreased with increases in foreign fishing effort. Analyses of more recent domestic fishery data (Boggs, in press) have not shown evidence of catch competition, even though the current level of fishing effort is higher than it was before 1980. The poor quality of domestic fishery data makes it hard to document catch competition unless it is very intense.

IV.C Market Competition

Another concern has been the impact of increased harvests on the ex-vessel prices of pelagic species landed in Hawaii (i.e., market competition). Such impacts can negatively affect the prices received by fishermen within the fishery with increased effort and catch levels or by other pelagic fisheries that harvest the same species of fish. The price received by fishermen for their fish is influenced by a number of factors including the size and location of the market demand, the number of competing sources of supply (other domestic sources, foreign sources), the amount of product available, the degree to which other species act as substitutes, and the quality of the product.

While earlier investigations were unable to demonstrate a clear market competition between longline and troll/handline caught fish, some impact may exist. There are two dimensions to this potential problem. First, there may be an actual decline in overall revenue to the troll and handline fleets due to downward price pressure as measured on an aggregate annual basis. Identifying what impacts are actually due to increased longline landings is confounded by the fact that skipjack landings by the aku fleet, which vary considerably from year to year, are also major competitors in the same markets as troll/handline caught tuna. Second, there may also be the perception of price declines because of daily or weekly "flooding" of the market by longline catch. These daily or weekly fluctuations in prices may inflict hardship upon individual fishermen, and thus indicate a negative distributional impact of an increase in the longline fishery. However, if there is not an overall decline in troll/handline prices, then the troll/handline fleet is not negatively affected as a whole.

Market competition can also occur within the longline fleet with increased landings. The prices received for longline-caught swordfish have declined during times of large landings due to the increased supply available. Again, the prices received will be influenced not only by the Hawaii landings at a given time but by the amount of other domestic harvests (e.g., the Atlantic fishery) and foreign supplies.

IV.D Gear Conflict

The "gear conflict" problem was the primary focus of Amendment 5 which created area closures around the main Hawaiian Islands[3]. Many of the newly-arrived longline vessels were fishing in areas traditionally frequented by troll and handline boats, and fished in a different fashion (shallower sets, perpendicular to shore and near to fish aggregating devices (FADs)) than the longliners already in the area. These methods tended to cause direct gear conflict with troll and handline boats, most of which fish within 20 miles of the islands. Amendment 5 separated the fleets and ended most of the problem.

However, there is an additional component to the gear conflict problem. The availability of swordfish has evidently proved to be sufficiently concentrated at some times to where gear conflicts among longliners have occurred. The same pressures which might lead to gear conflicts with the offshore handline fishery might also exacerbate these intra-longline fleet gear conflicts, particularly if the fishery were to return to open access.

IV.E. Risk of Over-capitalization

Although most existing fisheries in the United States are fully-utilized, the Hawaii longline fishery is still developing. The rapid growth from 1987-90 and the shift of the primary target species to swordfish typify this development. The current moratorium was instituted because the rapid growth of the Hawaii longline fleet prompted concern that the rate of growth was exceeding the ability of the Council to respond to problems which might arise. It was also exceeding the ability of NMFS to track and analyze the economic and biological implications of the increase in fishing effort and catch. The Council explicitly identified off-setting continued instability in the Hawaii pelagic fishery (longline, troll and handline) as an objective of the moratorium.

Instability caused by rapid growth of the longline fleet involves three kinds of management risk: (1) over-fishing (probably limited to swordfish), (2) decline in CPUE (all species), and (3) economic over-capacity. The first two are discussed in the previous sections. The third relates to the risk of over-capitalization.

If the fishery returns to open access, a significant increase in the number of longline vessels and effective effort would be expected. Most recent information concerning the Atlantic swordfish stocks indicates they are not as close to recruitment overfishing as originally estimated, but the fishery remains growth overfished and the Atlantic fleet is over-capitalized. Interest in the Hawaii fishery still exists within the Atlantic fleet, and many Alaska vessels, facing increasingly restricted fishing opportunities, are

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[3] "Gear conflict" is defined as the crossing and tangling of lines, fishing vessels being forced off course by the fishing activities of other fishing vessels, and related physical interactions between fishing vessels.

looking toward the western Pacific. While the Pacific swordfish fishery is currently under-utilized, long-term, uncontrolled growth will increase the risk of over-capitalization in the fleet (i.e., excess harvesting capacity to harvest the available stock). Thus, a level of effort could be reached where the Pacific fishery, like the Atlantic, could become over-utilized. Such over-capitalization would lead to much reduced profitability to individuals, decreased economic benefits to the nation and increased need for restrictive management measures.

Limitation of the Hawaii-based fleet will not halt the growth of the domestic fishery, however. In 1993, four vessels based in Alaska began fishing North Pacific swordfish grounds. Another 40 vessels have indicated their intent to relocate from the Gulf of Mexico to California and longline beyond the EEZ for pelagic species.

IV.F Bycatch Issues

The term "bycatch" is used in fishery management to cover several issues. Bycatch can mean a species caught in conjunction with other targeted species, but is discarded because of limited commercial value. The catch of most shark species in the longline fishery is an example of this type of bycatch. In 1992, almost 95,000 sharks were caught by Hawaii-based longline fishermen, but only about 3,600 were retained. The majority of sharks released from longline gear on research cruises have been alive and it is unclear whether shark bycatch poses a problem for the shark stocks.

A second category of bycatch is a species that is caught incidentally in one fishery, but is a target species in another fishery. The incidental catch of blue marlin by longlines (and possible the commercial troll fishery) and the targeting by more-recreational troll fisheries is an example. Blue marlin brings a low price and is not targeted by commercial fishermen, but the species is highly regarded by sport fishermen for its recreational value, which likely exceeds its commercial value. The rate of incidental catch of blue marlin in the longline fishery varies considerably, depending on the type of longline trip. Blue marlin catch rates are higher in the summer and coincide with higher catch rates for yellowfin tuna. Blue marlin catch rates are lower in the winter when longliners target bigeye tuna and swordfish. Therefore, while any increases in the number of longline trips could increase blue marlin bycatch, the amount of increased harvest would depend on the targeted species. Changes in fishing strategies of existing vessels (i.e., upgrading operations in order to fish in more distant water swordfish grounds) could decrease the amount of blue marlin bycatch.

The Council sponsored a blue marlin workshop in April 1993 to discuss the scope of the blue marlin problem and to identify means to address these concerns. Participants included both scientists and industry members. One of the recommendations made by workshop participants was to continue some sort of effort

limitation program for the longline fishery, while collecting information to determine whether there is basis for concern related to blue marlin.

IV.G Protected Species Interactions

As indicated in section III.G., the longline fishery is known to take marine turtles. In 1991, the take of turtles reported by longline fishing vessel operators exceeded the incidental take level authorized in the 1991 Biological Opinion and Incidental Take Statement for the longline fishery. As a result, NMFS re-initiated consultations under section 7 of the ESA, and a new Biological Opinion (Opinion) and an Incidental Take Statement (Statement) were issued on 10 June 1993 (see Appendix 3).

The Opinion concluded that the activities conducted by longline fishing vessels under the FMP are not likely to jeopardize the continued existence of any threatened or endangered species of sea turtles during the 12 months that the Opinion is in effect. However, the fishery adversely affects five species of sea turtles, and the take that is authorized under the Statement may not be sustained on a continuing basis without the risk of jeopardizing the species' continued existence. The Opinion is to be in effect for one year, and consultations will be reinititiated in June 1994. The Opinion and Statement authorize an incidental take of 752 turtles, with a mortality level of 299 animals. No more than 150 leatherback turtles may be taken in a manner that is observed to result in mortality or serious injury.

The Opinion presented three conservation recommendations:

1. NMFS should undertake research to determine the fate of turtles released alive after being taken incidentally in the fishery.

2. NMFS should propose that the Council develop a FMP amendment to preclude increases in effort until NMFS has determined that incidental turtle mortality is being managed at a level that will not preclude recovery and that increased effort will not result in increased sea turtle mortality.

3. NMFS should initiate discussions with the Department of State to lead to the exchange of data with other nations whose vessels fish with longline gear in the Pacific.

These conservation recommendations are not legally binding, but NMFS has indicated a commitment to carry them out to the extent practicable.

In addition, the Statement presents a number of "Reasonable and Prudent Measures," including:

1. NMFS shall establish a voluntary observer program within 30 days and a mandatory observer program as soon as practicable. Observer coverage shall

be sufficient to produce statistically significant results and to evaluate the accuracy of logbook data submitted for the fishery. A sampling design shall be prepared within 60 days for the observer program.

2. An automated vessel monitoring system shall be implemented as part of this program to verify the location of "non-observed" vessels and to help verify the accuracy of logbook reports.

3. NMFS must evaluate observer information quarterly and other information when available to determine if the incidental take level should be modified or if other management measures need to be implemented to reduce the take.

4. NMFS shall evaluate methods and experimental designs that can be used to determine the fate of turtles released alive after being incidentally taken in the longline fishery.

Unlike the conservation recommendations, these measures are legally binding. If they are not followed, the incidental take of turtles would be prohibited. Individual fishermen could be prosecuted for taking turtles, or the fishery could be curtailed or closed.

The Council was not included in the Section 7 consultation, even though they requested to be, and did not receive a copy of the Opinion and Statement until after the initial preferred alternative had been selected for public review in the draft amendment. The Council discussed the Opinion and Statement at its September 1993 meeting, and was presented with NMFS recommendations both for Amendment 7 and for complementary actions. None of the measures specifically applies to the Council and Amendment 7, but the Council shares NMFS' concern for the status of sea turtle populations and for adequate protection from excessive take. In the context of Amendment 7, the Council's overall goal in limited entry to the longline fishery is to ensure that this fishery does not expand to the point where there are adverse impacts on fish stocks, protected resources, on other fisheries, or on the fleet. The Council's complementary action to request the Regional Director establish a mandatory observer program through framework procedures of Amendment 3, and to establish a VMS requirement also support achievement of the required reasonable and prudent measures in the Statement.

The Council requested that its SSC review the Opinion prior to the September Council meeting, at which time NMFS formally presented their recommendations related to the Opinion and Statement to the Council. The SSC review is attached as Appendix 4.

IV.H Problems Which Have Occurred During The Current Moratorium

IV.H.1. Safety concerns

The moratorium prohibits vessel owners from replacing their vessels with vessels that might have greater harvesting capacity (usually meaning larger vessels). This restrictions on upgrading has raised safety concerns. When the longline moratorium was first instituted, there were no closed areas around the main Hawaiian islands. The subsequent area closures prohibited any longline fishing within 75 nm of Oahu and the islands of Kauai County and within 50 nm of the four islands of Maui County and the island of Hawaii. Small vessels which had formerly fished closed to shore are now required to travel far offshore in order to fish. Safety concerns due to the size limitations and, in some instances, the vessel condition, have limited or eliminated the ability of some permit holders to fish.

The swordfish fishery is conducted mostly in international waters, often up to 2000 miles from Hawaii. In order to participate safely in this fishery, a number of permit holders wish to increase the size of their vessels. Such upgrading is not currently allowed, increasing the likelihood that some longline fishermen may decide to fish under unsafe conditions. In addition to the safety issue, many current permit holders feel that the restrictions on upgrading unfairly constrain their ability to operate effectively in the currently underutilized swordfish fishery.

IV.H.2. Increased Uncertainty Due to Permit Transfer Rules

The moratorium regulations allow the transfer of a permit only once, and only with the sale of a vessel. A change in corporate ownership of 50% or more constitutes a transfer. This has adversely affected vessel owners, and potential owners, in their ability to plan and run their businesses, because the sale or purchase of a permitted longliner (a primary business asset) is severely restricted under the one-time transfer provision. Under the regulations, restructuring of a corporation or disposition of property (i.e., vessel) in divorce proceedings involving individuals who are 50% joint tenants of the vessel is restricted or made more complicated by the 50% transfer rule. Under the moratorium, the initial permit holder can at best provide a non-transferable permit to a prospective buyer. During the moratorium, 36 permits (21%) were transferred, making impossible any further sale or major change in corporate ownership without invalidating the permit. This constraint has also severely limited the opportunities for vessel owners to obtain financing.

IV.H.3. Administrative Difficulties

Two problems have become apparent during the administration of the current moratorium. The first relates to monitoring changes in corporate ownership or partnership. To determine if changes in corporate ownership of 50% or more have taken place, all individuals and shares in a corporation or partnership must be

monitored. This is a virtually impossible task, considering that 62% (103) of the longline vessels are currently owned by corporations or partnerships, and are registered in eight different states. The regulations define an owner as the entity listed on the Coast Guard vessel documentation. If this is a corporation, the Coast Guard records usually do not show any change in ownership unless the name of the corporation changes, thus making the vessel owners responsible for reporting ownership changes, without the ability to cross-check with Coast Guard files.

Second, Hawaii longliners are required to carry two types of longline permits, general and limited entry, which have resulted in some confusion to the fishermen and additional administrative workload for the NMFS.

IV.H.4. Flexibility of Management Actions

The time required to implement regulations under the current FMP gives rise to another set of problems. To be effective, fishery management must be able to respond in a timely manner to respond to changes in the fishery. This need has been recognized in framework procedures that allow changes in the area closure regulations, without having to go through the amendment process. However, the process still limits the ability to take timely action because all changes must go through at least three and possibly four stages of public review. The Council must discuss (with an opportunity for public comment) and agree that action is needed and must complete the necessary documentation, requiring at least two meetings. The proposed rule must be published by NMFS with an opportunity for public comment. The final rule cannot be made effective until the end of a 30-day delayed effectiveness period (sometimes waived) intended to allow interested parties to consider and comment on the final action being taken.

To compound the potential difficulty, the Magnuson Act does not set statutory limits on the amount of time that can be taken to promulgate rules under the regulatory amendment procedures. Further, all regulatory actions under framework procedures are considered to be equally significant in terms of process, regardless of the importance or scope of the action. For example, a minor change in reporting requirements would be considered in the same manner as a major change in the longline area closures. A case in point was the modification of the MHI longline area closures. The Council began discussing possible modifications in December 1991 and took final action to request a season change in the size of the area closure in March 1992. This request was submitted to NMFS for implementation through the regulatory amendment process in April 1992 but still had not been formally published in the Federal Register as a final rule by October 1992 when the modification was to begin. This caused a great deal of uncertainty for the fishermen and required a special last-minute announcement to be made to assure fishermen they could begin to fish in the newly opened areas without penalty.

Because of the uncertain timing of regulatory changes, fishery participants may also find it difficult to plan ahead and may either defer or accelerate fishing activity, investments or other actions to take maximum short-term advantage under the regulations in place or to minimize the risk of adverse action if new regulations are somehow rejected. It is rarely in anyone's interest to have a long period of uncertainty before an action can be put into effect.

Finally, the Council has been hindered by the timing of emergency actions and subsequent amendments to incorporate measures into the FMP on a long-term basis. Emergency measures can be in place for only 180 days, the same amount of time allowed for the amendment review process, after it leaves the Council. This has significantly increased the risk for a lapse in regulations after the emergency regulations expire and before the amendment regulations are published as final rules in the Federal Register. This leads to increased public dissatisfaction with the Council process which would be reduced through the use of a framework process.

V. DESCRIPTION OF PROPOSED ACTIONS AND REJECTED ALTERNATIVES

V.A Effort Limitation Alternatives

V.A.1. Proposed Limited Entry Program

Amendment 7 proposes to implement a limited entry program to replace the current moratorium on new entry into the Hawaii longline fishery when it expires in April 1994. Permits would be issued to all limited entry permit holders whose vessels made at least one landing in Hawaii of longline-caught fish during the moratorium. People with moratorium limited entry permit for vessel less than 40 feet long, or with limited entry permits based on the lobster fishery criterion, would be exempt from the landing requirement to qualify for a new permit. If an individual or corporation has more than one permit, new permits would be issued for each qualifying permit.

Permit holders would be allowed to upgrade their vessels or replace their vessels, provided that the vessel used to fish under the permit is no longer than the longest vessel which was active during the moratorium (93 feet as of December 1993). Permits would be transferable, with or without the sale of the vessel, subject to the restriction on vessel upgrading.

V.A.2. Rejected Alternatives

Among the elements that can be manipulated to carry out a limited entry program are: the number of limited entry permits, permit transferability, vessel upgrade rules and, applying limited entry differentially to separate sectors of the fleet or in different areas. While there are 24 possible combinations of these elements plus the open access situation, the Council focused discussions on the following four alternatives. One of these was the preferred alternative until the September 1993 Council meeting when the Council developed the proposed limited entry program. The five alternatives which were discussed and rejected are described below.

V.A.2.a. Limited entry with fleet-wide harvesting capacity not to exceed the maximum capacity that was allowed during the moratorium.

In September, the Council decided that the maximum harvesting capacity which was allowed during the moratorium should not be exceeded under the new limited entry program. Under this alternative, permit holders would have been allowed to upgrade their vessels or replace their vessels provided that the cap on total harvesting capacity was maintained. This would likely have required permit holders to obtain harvesting capacity units from another permit holder. Permits would have been transferable, with or without the sale of the vessel, subject to the restrictions on harvesting capacity. The initial issuance of permits would have been based on the same eligibility criteria described for the proposed limited entry program.

The Regional Director, working with the longline industry and Council staff, was directed to develop a definition of harvesting capacity, a determination of the maximum harvesting capacity allowed during the moratorium and a system for allowing vessel upgrades while maintaining the cap on harvesting capacity (as defined). These determinations were to be presented to the Council for approval in December so that a method for allowing upgrades and permit transfers would be in place when the limited entry program was implemented.

Through examination of available data and discussions with industry members it became evident that measuring the harvesting capacity of an individual vessel was extremely difficult, if not impossible. Harvesting capacity is related to the potential ability of a vessel to harvest fish under optimal conditions. Therefore, actual landings will almost always be less than the maximum possible. Analysis performed examined annual landings by vessel but was unable to show a good relationship with any physical vessel characteristic. There was no agreement on how to define or measure harvesting capacity. Therefore, no mechanism could be developed to make this alternative operational and allow permit transfers and vessel upgrades needed to relieve problems encountered by the industry under the moratorium. Given this situation, and the fact that there is no evidence of pelagic species stock concerns or catch competition, the Council rejected this alternative in favor of placing an upper limit on vessel upgrades.

V.A.2.b. Limited entry with free transferability and no harvesting capacity restrictions (the Council's original preferred alternative)

Permits would be issued to existing Hawaii limited entry permit holders, or the last permit holder of record in the case where a permit was no longer valid due to more than one transfer. These permits would allow the holder to fish for (or transship) pelagic species with longline gear, either within or outside the EEZ surrounding Hawaii, as well as land their catch in Hawaii ports. Permits would be freely transferable (with or without their vessel). Permit holders would be allowed to upgrade their replacement vessels or modify existing vessels with no restrictions on harvesting capacity. The ability to modify effective effort in the longline fishery through the use of frameworked adjustment mechanisms was also an integral component of this effort limitation alternative.

The Council decided that some limits on vessel upgrading would be prudent and rejected this alternative in favor of the proposed limited entry plan.

V.A.2.c. Extend the current limited entry (moratorium) regulations

This alternative would have continued the moratorium regulations. Only those people who were originally issued a Hawaii limited entry (moratorium) permit, or obtained a permit through a one-time transfer during the moratorium period would be granted new permits. The one-time only transfer rule would continue; only those permits which had

not been transferred during the April 1991-94 period would be allowed to transfer once with the sale of the vessel. A 50% or more change in the ownership of a corporation holding a permit would constitute a transfer. A permit holder could replace his or her vessel as long as the NMFS Regional Director determined that the replacement vessel is of equal or less harvesting capacity than the original vessel.

This alternative was rejected because the Council determined that the permit transfer and vessel replacement rules were causing undue hardship for the longline community.

V.A.2.d. Dual permit system

This alternative involves establishing two classes of longline limited entry permits. One would be the same as under the Council's original preferred alternative (V.A.2.a) and would be awarded to persons qualifying for permits under the current moratorium (Class "A" permits). The other would be awarded to new entrants allowed to fish only outside the Hawaii EEZ and may require them to carry VMS equipment (Class "B" permits). The reason for the two classes would be to provide for separate management and development of the Hawaii-based longline fishery in the face of uncertainty.

This alternative assumes that some expansion of the fishery is consistent with the FMP's objectives. Within the EEZ, the assumptions in accepting this alternative are the same as for the Council's preferred alternative. While it is not known how much the fishery can be allowed to expand, it is assumed that impacts will be discernable at some level of fishing effort and that an effort limitation plan will eventually have to be in place to reduce effort and obtain OY. Hence, Class A permits would be fixed at 166, except for minor adjustments that might become necessary as more data became available. Class B permits would be allowed to increase until fishery interaction, with fisheries within the EEZ, or over-utilization of a particular resource became apparent. At such time the number of Class B permits would be reduced using frameworked adjustment mechanisms identified in this amendment.

Class B permits would provide for collecting data on the status of the resources and fishery interaction as the fishery developed. These Class B permits could be required of boats fishing in central Pacific waters of the region but based elsewhere. The Council decided that expansion through the use of B permits is not desirable at this time.

V.A.2.e. Open Access

Under this alternative, the current limited entry program would lapse, and the fishery would return to open access in April 1994. There would be no limit on the number of general permits available, nor would there be any restrictions on the harvesting capacity of the vessels used in the fishery.

V.B. Framework Adjustment Mechanisms and Procedures

V.B.1. Proposed Comprehensive Framework Process

The Council proposes to implement a single set of framework procedures that can be used to adjust the pelagics fisheries management program without having to go through a FMP amendment process except for controversial measures. Regulatory measures are categorized as "established" and "new". Established measures are those that are or have been in place for various sectors of the fisheries, such as longline fishery permits, reporting requirements, and area closures. New measures would be those not yet in place but potentially available for future application, such as harvest guidelines, permits for new classes of vessels, or reporting requirements for new sectors of the fisheries. After its first application, a "new" measure would be categorized as an "established" measure for the gear(s) or sector(s) involved. Controversial measures are those for which there is a great deal of dispute and concern. In these cases, there is a good likelihood of challenge on substantive or even procedural grounds because of the expected or perceived adverse impacts that might result from the action. Therefore, controversial measures would be implemented through plan amendments.

V.B.1.a. "Established" Measures

An established measure is one which applies to one or more sectors of the fishery and has been implemented by rulemaking procedures in the past. The estimated and potential impacts of the measure have been evaluated in past plan amendments or associated documents. The people and organizations participating or interested in the fisheries have had several opportunities to review and comment on the need for and impacts of the measures and are familiar with the measures. It is known that there could be proposals for occasional adjustments in the measures. In this context, adjustment means such things as changes in the size or seasonality of longline area closures, reporting requirements, criteria for area closure exemptions, or gear marking. An adjustment must be consistent with the original purpose of the measure being adjusted and the impacts of the adjustment must be within the range of the impacts considered when the measure was first proposed and implemented.

If this amendment, including the proposal to establish comprehensive frameworking procedures, is approved by the Secretary, then all components of the limited entry program would become "established" measures and any one of them could be changed through these revised framework procedures. Thus, adjustments in the number of vessels, permit transfers, or vessel upgrading could be made under framework procedures for established measures. However, implementation of specific new effort control programs such as quotas, fractional licensing or establishing new "B" permits could only be implemented under procedures for "new" measures or possibly "controversial" measures. In addition, if the complementary actions are approved by the Secretary to provide observer placement authority to the Southwest

Regional Director, and to establish VMS requirements for Hawaii-based longline vessels, then those requirements could be modified under the established measures framework procedures.

Procedure for Changing Established Measures

The framework procedure to allow rapid adjustments in established measures, is as follows:

1. The Council would identify a problem that may warrant action. This will usually be through the annual report prepared by the Council-appointed Pelagics Plan Team by 30 June of each year. The annual report covers the following topics:

   (i) Fishery performance data;
   (ii) Summary of recent research and survey results;
   (iii) Habitat conditions and recent alterations;
   (iv) Enforcement activities and problems;
   (v) Administrative actions (e.g., data collection and reporting, permits);
   (vi) State and Territorial management actions;
   (vii) Assessment of need for Council action (including biological, economic, social, enforcement, administrative, and State/Federal needs, problems, and trends).

   A problem may also be identified by a separate report from the Pelagics Plan Team, the Advisory Subpanel, Pelagics Review Board, enforcement officials, NMFS, concerned pelagic fishermen or other sources. Such a report would include specific information which indicates a problem exists, an examination of possible approaches to resolve the problem, and a recommendation for Council action or additional study.

2. Potential problems warranting further investigation and action may be identified by a number of criteria, including but not limited to significant changes in:

   (i) Mean size of the catch of any species;
   (ii) The estimated ratio of fishing mortality to natural mortality for any species;
   (iii) Catch per unit of effort by any sector;
   (iv) Ex-vessel revenue of any sector;
   (v) The relative proportions of gear in and around the EEZ around Hawaii;
   (vi) The rate of entry/exit of fishermen in any Hawaii fishery;

(vii) Net revenues for a significant percentage of trips for any sector;
(viii) Total pelagics landings in Hawaii;
(ix) Species composition of the pelagics landings in Hawaii;
(x) Research results;
(xi) Habitat degradation or environmental problems; and
(xii) Level of interactions between pelagic fishing operations and protected species in the EEZ or surrounding waters.

3. The Council may consider a wide variety of adjustments to the components of the limited entry program as well as other management measures (e.g., area closures) in effect, and may propose adjustments to measures other than limited entry permit limitations to regulate longline effort and/or catch, including but not limited to:

(a) General longline fishing permit requirements;
(b) Hawaii longline limited entry permit requirements, including changes in permit transferability and vessel upgrade regulations;
(c) Longline reporting requirements;
(d) Longline area closures;
(e) Longline gear marking;
(f) Longline observer requirements;
(g) Longline permit fees;
(h) Species in the management unit;
(i) Access to Hawaii ports by non-permitted U.S. longline vessels;
(j) Harvesting capacity unit definition and management system; and
(k) VMS requirements for longline vessels.

4. The Council would discuss at its next meeting whether adjustment of existing conservation and management measures would resolve the problem. The notice to the public and news media preceding the meeting would indicate that the Council intends to discuss and possibly recommend regulatory adjustments at its meeting through its framework process for established measures to address the issue. The notice would summarize the issue(s) and the original basis for setting the regulation being reviewed and would refer interested parties to the document(s) pertaining to the issue.

5. Based on the discussions at the meeting, which could include input from the Pelagics Plan Team, Advisory Subpanel, Pelagics Review Board, Scientific and Statistical Committee, or other Council organizations, the Council would decide whether to recommend action by the Regional Director. The Regional Director would be asked to indicate any special concerns or objections to the possible

actions being considered under the framework process and, if there are any concerns or objections, will be asked for ways to resolve them.

6. If the Council, after discussing the problem (including opportunity for public comment at the meeting), decides to proceed, a document would be prepared describing the problem and the proposed regulatory adjustment to resolve the problem. The document would demonstrate how the adjustment is consistent with the purposes of the established measure and that the impacts had been addressed in the document supporting the original imposition of the measure. The document would be submitted to the Regional Director with a recommendation for action. The Council may indicate that it intends for the Regional Director to either approve or disapprove the entire proposal.

7. If the Regional Director approves the Council's recommendation, the Secretary is expected to waive for good cause the requirement for prior notice and comment in the Federal Register and would publish a "final rule" in the Federal Register, which would remain in effect until amended. This does not, however, preclude the Secretary from deciding to provide additional opportunity for prior notice and comment, but contemplates that the Council process will satisfy the requirements of the Magnuson Act and Administrative Procedures Act. Again, it is emphasized that established measures are measures that have been evaluated and applied in the past, and adjustments are meant (a) to be consistent with the original intent of the measure and (b) to have been within the scope of analysis in previous documents supporting the existing measure.

8. If the proposal is disapproved in whole or in part, the Regional Director shall provide an explanation of the reasons for disapproval and recommendations to resolve any identified problems. A revised proposal shall be dealt with as if it were a new proposal, but the earlier consideration by the Regional Director will increase the likelihood that the proposal (if approved) can be implemented through a single rulemaking.

Initial Designated Established Measures

The FMP contains a number of conservation and management measures for the pelagic fisheries which are to be categorized as established measures. Most of these apply to the longline fishery, with special emphasis on longline fishing based in Hawaii, as this is the largest (in terms of landings and landed value) and most rapidly changing sector of the pelagic fisheries in the western Pacific. If this amendment is approved, the established measures will be:

(i) General longline fishing permits (all areas except Hawaii)
(ii) Longline limited entry permits (Hawaii only) and associated rules regarding permit eligibility, permit transfers, and limits on vessel upgrading

(iii) Longline reporting requirements
(iv) Main Hawaiian Island longline area closures (with possible exceptions)
(v) NWHI longline area closures
(vi) Longline gear marking
(vii) Notification of longline landings
(viii) Permit fees not to exceed the cost of permit administration
(ix) Access to Hawaii ports for non-limited-entry-permitted domestic longline vessels
(x) Species in the management unit

In addition, through complementary actions taken by the Council, requirements concerning longline observer placement authority and VMS equipment for the longline fleet will be in effect. These requirements could be modified under the framework process for established measures if this amendment is approved.

Purposes for established measures

The above measures have been instituted for a number of reasons. The longline fishery grew extremely rapidly between 1987 and 1992, from a fleet of less than 50 vessels to a fleet of more than 160 vessels with limited entry permits. Many of the new entrants into the fishery were unfamiliar with ocean conditions around the Hawaiian Islands or with other pelagic fishery sectors based in Hawaii and other western Pacific areas. They also were unfamiliar with conditions in the NWHI and the potential risk of interactions with such protected species as Hawaiian monk seals. Among the results of the increased longline fishery were direct gear conflicts between longline and other gear sectors and interactions with Hawaiian monk seals. In addition, there was concern that the increased catch by longline vessels would result in localized reductions in availability of pelagic species to other sectors, with consequent loss of income to fishermen and disruption of markets in Hawaii. There also was concern that the increased longline catch could have effects on the status of stocks taken by longline gear. The database was inadequate to assess these potential impacts.

In summary, the selected conservation and management measures, including those proposed for implementation through Amendment 7, were imposed for one or more of the following purposes:

1. Collect and analyze data to determine impacts of current and alternate regulations on the stocks, on different fishery sectors, and on protected species.

2. Protect species for which there were special conservation concerns.

3. Prevent direct gear conflicts with minimum economic hardship for participants in the restricted fishery sector.

4. Maintain the value of established pelagic fisheries.

5. Cap potential effort through limits on participation and vessel upgrading until it is determined whether increases or decreases are needed to achieve OY from the fishery.

Any changes in management measures under the framework for established measures must be consistent with one or more of these purposes. A change in objectives may not be made under the framework for established measures.

If the action to implement the longline VMS requirement is approved, then the purposes of that action will be added to the purposes for future action under the framework for established measures.

V.B.1.b "New" measures

A new measure is either a measure that has not been used before (e.g., quotas) or a measure that, while previously applied, would be applied to a new fishing sector or gear type for the first time (e.g., federal reporting requirements for purse seine vessels in the management area). A new measure may have been previously considered in a past plan amendment or document, but the specific impacts on the persons to whom the measure would newly apply have not been evaluated in the context of current conditions. This framework procedure proposes that new measures can be implemented only after at least two Council meetings and publication in the Federal Register of a summary of the issue and Council deliberations between meetings with an indication that the Council may take final action at its subsequent meeting. The action, if ultimately approved by the Regional Director, could be implemented by a final rule without need for further comment, but this does not preclude rulemaking by notice and comment procedures if that approach is deemed suitable by the Regional Director.

This approach recognizes that a new measure is by definition a first application of a new measure either to the entire fishery or to a sector of the fishery, or the first application of an established measure to a new sector of the fishery. The nature of such a first time application requires that there generally be sufficient opportunity to (a) notify the people who would be newly affected by the issue, (b) deliberate alternative ways to address the problem, (c) discuss the estimated impacts of a chosen approach on the sector being affected, other sectors, and the stocks involved. A new measure may previously have been evaluated but not selected by the Council for application, or it may not have been evaluated in terms of the sector to which it would possibly apply if action is taken. Therefore, it is incumbent on the Council and NMFS to ensure full debate on the problem and alternative solutions. While the Council would be expected to request the involvement of all who are known to be interested in the issue, there may be some interested parties who do not have the means for direct participation through Council meetings or who might not be informed solely through

distribution of Council documents. Therefore, publication of the information notice prior to the Council taking final action is necessary to ensure that the Magnuson Act, Administrative Procedure Act, and other applicable law are followed.

Procedure for Implementing New Measures

The procedure for a "new" measure is as follows:

1. A Plan Team report (either an annual report or a separate report), input from advisors, or input from NMFS or other agencies will first bring attention to a problem or issue which needs to be addressed at the next Council meeting. In its notice announcing the meeting, the Council will summarize the concern or issue raised, the party that has raised the problem, and the extent to which it is a new problem or a problem that may require new management measures. The Council will seek to identify all interested persons and organizations and solicit their involvement in discussion and resolution of this problem through the Council process, and the Council meeting notice in the Federal Register will emphasize that this problem will be discussed and that proposed actions may result. The indicator of a problem may be any of the criteria listed in section 2 of the framework procedure for established measures.

2. The document presenting the problem to the attention of the Council would be distributed to all pelagics advisory groups of the Council who have not yet received it with a request for comments. The document also will be distributed to the Council's mailing list associated with the Pelagics FMP to solicit inputs and to indicate the Council will take up the action at the following meeting. Prior to the Council meeting, the Council Chairman may request that the Pelagics Standing Committee, review the comments (if any) of the Plan Team, Advisory Subpanel, Pelagics Review Board and SSC, and develop recommendations for Council action.

3. At the meeting, the Council would consider the recommendations of the Pelagics Standing Committee and other Council advisory groups and would take comments from the public concerning the possible course of action. If the Council agrees to proceed with further action under the framework process, the issue would be placed on the agenda for the following meeting. A document describing the issue, alternative ways to resolve the issue, the original preferred action, and the anticipated impacts of the preferred action, would be prepared and distributed to the public with a request for comments. A notice would be published in the Federal Register summarizing the Council's deliberations and preferred action and indicating the time and place for the Council meeting to take final action.

4. In its notice for the following meeting, the Council would indicate that the Council may take final action on the possible adjustment to regulations under

the framework process. At the meeting, the Council would consider the comments received as a result of its solicitation of comments and take public comments during the meeting on the issue or problem. The Council would consider any new information presented or collected and analyzed during the comment period. The Regional Director would be provided a specific opportunity to indicate any objections or concerns about the possible adjustment, and would be asked for ways to remedy any objections or concerns. The Council then would decide whether to propose a new measure under the framework process.

5. If the Council decides to proceed, the Council would submit its proposal to the Regional Director for consideration. The Council may indicate its intent that the Regional Director consider the entire proposal in its entirety and that the proposal be either approved or rejected in full. If the Regional Director concurs in the proposed action(s), the Secretary is expected to waive for good cause the requirement for prior notice and comment in the Federal Register and publish a "final rule" which would remain in effect until amended. Nothing in this procedure is intended to preclude the Secretary from deciding to provide additional opportunity for prior notice and comment in the Federal Register, but it is contemplated that the Council process (which includes two Council meetings with opportunity for public comment at each) would satisfy that requirement.

6. If a new action is approved and implemented, future adjustments may be made under the procedure for established measures.

7. If the proposal is disapproved in whole or in part, the Regional Director shall provide an explanation of the reasons for disapproval and recommendations to resolve any identified problems. A revised proposal shall be dealt with as if it were a new proposal, but the earlier consideration by the Regional Director would increase the likelihood that the proposal (if approved) can be implemented through a single rulemaking.

If the proposed action is adopted and implemented by Federal rules, then the framework process could be used to implement "new" measures such as permits, reporting requirements, or area closures for non-longline fishing sectors; or fractional licensing of the longline fishery, issuance of "B" permits, quotas, trip limits, or other catch or effort limits for the longline fishery or any other sector of the pelagics fisheries. Some examples of "new measures" can be found in Appendix 5.

Purposes of New Measures

New measures being promulgated under this procedure must be consistent with the objectives of the FMP, and the impacts of the measures in terms of FMP objectives must be evaluated explicitly in the documentation supporting the proposed change.

An action not consistent with the objectives of the FMP can only be implemented through amendment of the FMP to revise the objectives. Any new purpose approved through this framework procedure becomes a purpose which could subsequently warrant action under the framework procedure for established measures.

V.B.1.c. Controversial Measures

These are measures which are highly controversial for the entire fishery or a substantial sector. Examples include establishment of limited entry for a new sector or application of vessel monitoring system requirements to a new sector. Such measures would not have been considered or evaluated in any detail in the past, and a framework process is not suited to dealing with such issues. Any such decisions would be through a fishery management plan amendment. It would be the responsibility of the Council to complete the documentation needed to ensure public participation, full evaluation of alternatives, and completion of public hearing and review requirements under the Magnuson Act and other applicable law. The advantage of this approach is that the statutory timetables under the Magnuson Act would expedite the timely approval or disapproval of any proposed actions dealing with controversial issues.

V.B.2. Rejected Alternatives

V.B.2.a Framework Limited Entry Regulations Only

The Council also discussed establishing framework procedures only for modifications of the limited entry program. These would have resulted in four separate framework processes under the FMP (Amendment 3, modifications of protected species-related regulations; Amendment 4, implementation and changes to vessel tracking systems; Amendment 5, MHI area closure adjustments; and Amendment 7, modifications to the limited entry program). In choosing the proposed course of action, the Council decided to simply the FMP by implementing one, comprehensive framework process.

V.B.2.b Status Quo

Under this alternative, no new framework procedures would be included for the limited entry program. Existing framework procedures could be used to adjust through rulemaking the NWHI or main Hawaiian Islands area closures, or to change the criteria for allowing exemptions to MHI closures, including the publication of proposed and final rules as now occurs. Regulatory amendments could continue to be used to carry out minor changes in such areas as gear marking, reporting requirements, and permit documentation requirements. However, most rule changes, including adjustments to the longline limited entry program, would likely require a minimum of 150 days, including at least one Council meeting, a proposed rule stage with a comment period of 30 days, a final rule stage, and a possible 30-day delayed

effectiveness period. This alternative was not acceptable because it would limit the Council's ability to respond to new information in a timely manner.

V.C Permit Fees

V.C.1 Proposed Action

The Magnuson Act allows the charging of fees for fishing permits, provided that the fees do not exceed the administrative costs incurred by issuing the permits. The Southwest Region, NMFS, would administer the permit program. This would involve maintaining a registry of permit holders as well as harvesting capacity unit holders and recording all changes as they occur. It also requires frequent meetings with permit holders, responding to inquiries about permits and transfer procedures, reviewing documentation, maintaining vessel files, and other activities. The level of application fee to be assessed is determined according to established Federal (NOAA, U.S. Department of Commerce) guidelines governing cost computation specific for activities associated with the permit product and services. The guidelines require in the computation direct labor costs of all NMFS personnel involved in the administration of the Western Pacific longline permit program including wages, compensation, cost-of-living adjustments, supplies and materials, postage, printing, etc. and indirect costs such as NOAA support, rent, etc. The cost for administering the issuance of permits under the Hawaii longline limited entry program is estimated to be between $40 to $50 per application.

V.C.2. Rejected Alternative: Charge no fees.

No fees are charged for other federal fishing permits in Hawaii, and the Council discussed whether the fee policy for longline permits should be consistent with the fee policy for other federal permits. The Council decided that it is appropriate for fishermen to cover basic permit issuance costs, provided that the fees are not unreasonably burdensome.

V.D. Other Proposed Changes

V.D.1. Require Limited Entry Permit Holders to Carry Only One Federal Permit

Hawaii longliners are currently required to carry two types of federal longline permit, general and limited, which has resulted in some confusion to fishermen and additional administrative workload for NMFS staff. To reduce this burden on fishermen and NMFS, the Council proposes that a single limited entry permit be issued to qualified Hawaii longliners which would allow them to fish either in the Hawaii fishery or in other areas under Council jurisdiction. For longliners not holding a Hawaii limited entry permit, a general permit would be required to fish within the EEZ of American Samoa, the Northern Mariana Islands, Guam and other US Pacific island possessions.

V.D.2. Allow US Longliners without Limited Entry Permits to Enter Hawaii Ports and EEZ

Currently, domestic longliners without Hawaii limited entry permits are not allowed to enter either the Hawaii EEZ or Hawaii ports with longline-caught fish onboard. Amendment 7 would amend the FMP allow domestic longline vessels that do not hold a Hawaii limited entry permit to enter the EEZ (but not fish) and enter Hawaii ports for provisions and repair, as long as no pelagic species are off-loaded. This change would provide US longliners the same access to Hawaii ports as is currently afforded foreign longliners.

V.D.3. Modify the list of species included as Pacific Pelagic Management Unit Species (PPMUS)

Several important species which are part of the harvest of pelagic fisheries are currently not included as PPMUS. Amendment 7 proposes to add the following species to the management unit:

Moonfish (opah)	*Lampris* spp.
Pomfret (manchong)	family Bramidae (pelagic species)
Oilfish (walu)	family Gempylidae

Moonfish, pomfret and oilfish would be considered to be recruitment overfished when their Spawning Potential Ratio (SPR) is equal to or less than 0.20. SPR is a ratio of the current reproductive capacity of the stock, or stock complex, to its unexploited capacity, over the entire range of the stock. A detailed description of the SPR definition and a discussion of various ways to measure SPR are found in Amendment 1 to the FMP.

V.D.4. Modify the Definition of Optimum Yield

The Council is concerned that the expansion of the longline fishery may potentially have adverse effects on certain stocks, on fisheries that are dependent on pelagic species availability in the EEZ around Hawaii, or on protected species. These impacts may occur even if the longline fishery occurs mostly outside the EEZ. Approximately 64% of the gear sets made by Hawaii limited entry longliners in 1992 occurred outside the EEZ. Accordingly, Amendment 7 proposes to amend the definition of OY to include the phrase "and adjacent waters to the extent regulated by this Fishery Management Plan". By making this change, the Council recognizes that OY should be defined to encompass the fishery beyond the EEZ. The amended definition reads as follows:

OY is the amount of each management unit species or species complex that can be harvested by domestic and foreign fishing vessels in the EEZ and adjacent waters to the extent regulated by the Fishery Management Plan without causing "local overfishing" or "economic overfishing" within the EEZ of each island area[1], and without causing or significantly contributing to "growth overfishing" or "recruitment overfishing" on a stock-wide basis.

V.E. Regulatory Measures Not Evaluated

There are regulatory tools, frequently employed by fishery managers, that were considered to be beyond the scope of this amendment. These are briefly described below.

V.E.1. Area and Season Closures

Area closures can be used to manage fishing effort in certain areas or at certain times for a variety of biological, economic, and social reasons. They can be established to prevent the excessive take of small fish, interactions with protected resources, or conflicts among gear types. Area closures (for example, sanctuaries and preserves where no fishing is allowed) are generally well understood by fishermen and can be relatively easy to enforce.

The current longline fishery management regime includes area closures to protect Hawaiian monk seals in the NWHI, and prevent conflicts between longline gear fishermen and troll and handline fishermen around the main Hawaiian Islands (MHI). The former closure is year-round and encompasses waters within approximately a 100-mile wide corridor around the NWHI (i.e., west of 160o W longitude). The area closure around the MHI is adjusted seasonally each year, with a somewhat smaller closure on the windward sides of most of the islands from October through January. While intended to prevent gear conflicts, the MHI closures also may reduce catch competition if fish that would have been caught on longline gear had the waters been open become available to and possibly catchable by other gear types. In addition, the MHI area closure also reduces the risk of interaction with protected species.

The FMP provides a framework process by which adjustments can be made in the area closures through a regulatory amendment to the FMP. Amendment 7 includes an alternative which would provide further improvements in the framework process so that area closures would be designated "established measures" which can be changed by notice rather than through a regulatory amendment (see Section V.C.4) after

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[1] "Island area" refers to American Samoa, Guam, Hawaii, the Northern Mariana Islands and other US Pacific Islands.

Council deliberation. In the scoping process for this amendment, the Council did not indicate any intent to review or revise the area closures now in place.

V.E.2. Catch Limitations (Quotas)

Quotas are a common type of fishery regulation designed to limit the amount of fish that can be taken from a stock (i.e., the output of a fishery). Fishermen are generally familiar with quotas systems. A quota could be set for total catch of all species in a fishery, the catch of a single species, the catch of a species by one or more gear types, or even the catch of species by sizes. Quotas are most commonly set for a given time period, such as a year or a fishing season. As a general rule, quotas are set to reflect a determination that a harvest of that amount is suitable given the condition of the stock involved, and would result in optimal benefits from the fishery considering the status of the stock and the social and economic variables relevant to the fishery.

Some types of quotas can result in erratic fisheries, with large catches early in the fishing season as participants race to take a maximum share before the overall quota is reached. This can lead to economic waste as fleets may be idled if the quota is taken before the end of the year and vessels have no alternate fisheries to pursue. Markets may be disrupted by the large early landings and small or nonexistent late season landings, and prices could fluctuate wildly as well. Management by quotas also requires a careful monitoring presence to determine actual landings and to deter landings after a quota is reached, especially if there are many places where fishermen can land their catch. Quotas are more likely to be effective in a single species fishery than a mixed species fishery. In a single species fishery, closure would not result in incidental catch and discard of bycatch. In a mixed species fishery, if a quota is set for one or more species which cannot be effectively targeted and avoided, then achievement of a quota for one species may result either in closure of the fishery and loss of value of other species taken with the quota species, or in discards and waste of catches made and discarded after the quota is reached.

Quotas have not been used in the western Pacific pelagics fisheries. The availability of pelagic fish tends to be highly variable, so there is considerable uncertainty concerning the condition of stocks. There is little evidence that setting quotas for the EEZ, either by species or area or gear type, would contribute to stock conservation or would result in improved economic and social conditions. Regulating catches in the EEZ is not likely to affect the status of the stocks, either in terms of maintaining their productivity or restoring the productivity of stocks that may be overfished on an ocean-wide basis. While there is evidence that eliminating heavy fishing by a given sector would result in better CPUE for other sectors, these effects are small for blue and striped marlin in Hawaii, and are not demonstrated for tuna. The potential economic impacts of such shifts are unclear. The Council did not include consideration of quotas in the scoping process for this amendment, and the impacts of quota alternatives are not evaluated.

Another variation is individual transferable quotas (ITQs). Under an ITQ system, each participant is assigned an ownership "share" of the total allowable catch (TAC) for a fishery. ITQs have been described as a possible adjustment mechanism (Sec. V.C.1). ITQs can help reduce or eliminate the "derby fishery" that often arises when a quota is set for a year with all participants trying to maximize their share of the quota in a first-come, first-served race. Markets can be more stable and there is less likelihood of quality problems, waste, and fishing under unsafe conditions.

There are, however, drawbacks to an ITQ system, especially early in the implementation phase, including difficulties in determining appropriate levels for TAC (as in any quota system), in determining the appropriate basis for assigning shares, and possibly in consolidation of quota share into very few hands. Use of ITQs has been included as a possible adjustment mechanism for use in the future. If adjustments become necessary, the feasibility and effectiveness of ITQs would be evaluated respective to other adjustment mechanisms.

V.E.3. Bycatch Limits

The harvest of bycatch can regulated for certain gear, area, and species combinations. For example, blue marlin: to many, the catch of blue marlin by longliners can be categorized as bycatch -- catch which is either discarded or of such minor relative value that requiring its release would not impose a significant burden. A bycatch allowance could be set that allows only a small portion of the total landings of a longline vessel operating around the MHI to consist of blue marlin. Generally, this would result in release of most, if not all, blue marlin which might subsequently be available to the sport and charter fishing sectors who value blue marlin highly. Vessel operators also could be advised about methods of longline fishing that result in lower rates of blue marlin catch. Bycatch allowances are, however, very difficult to monitor and enforce and, depending on the survival rate for released fish, the waste from discard mortality could be high.

V.E.4. Gear Restrictions

Gear restrictions can be used for a variety of purposes, but generally are intended as a means of limiting effective effort and, ultimately, the catch of fish or protected species. By defining the gear types covered by a management measure, the FMP defines those who will be managed. The FMP currently defines longline gear for purposes of the limited entry program as having a mainline of one mile or more in length. This effectively removes from the limited entry program persons who might deploy one or more "short" longlines and allows the use of short lines in areas around the main Hawaiian Islands otherwise closed to longline fishing. Gear restrictions can take the form of limits on the amount of gear used (e.g., length of mainline or number hooks per set) or how the gear is deployed (e.g., distance between longline floats so that hooks are set deeper or shallower or only during the day) or what gear is deployed (e.g., certain hook sizes or prohibition on no drift nets). Gear restrictions

could be set by fishery sector and could be limited to specific times or areas. The more detailed and specific the restriction, the greater the difficulty in monitoring and enforcing the measure, and the less likely it is to be effective in reducing fishery harvests.

Gear restrictions generally lead to inefficiency by individual vessels. Restrictions on one form of gear, or its use, often results in shifts to improved efficiency of other gears or technology to maintain catches at historic levels. Thus, gear restrictions may be a very inefficient way of regulating the effective harvest. Enforcement may also be difficult and costly.

Other than a comprehensive ban on drift gillnet fishing in the EEZ, there are few gear restrictions at this time in the pelagics fisheries, principally because they have not been viewed as likely to promote the achievement of FMP objectives. In the scoping process for this amendment, the Council did not indicate an intent to consider new objectives which might justify new gear restrictions. Therefore, this amendment does not evaluate the impacts of possible gear restrictions. The Council may consider such measures as part of its annual review under the FMP using the framework process proposed.