The Western Pacific Regional Fishery Management Council

Preparation of Fishery Management Plans and Plan Amendments: Compliance With the National Environmental Policy Act

Prepared by:
Christopher Dahl, Consultant
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Prepared for:
Western Pacific Fisheries Management Council
1164 Bishop Street, Suite 1400
Honolulu, HI 96813

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1 Introduction

This document was originally prepared in 1998 in response to a request by Dr. Gary Matlock, Director, Office of Sustainable Fisheries. He asked the Council to review its existing National Environmental Policy Act (NEPA) documentation to determine what changes may be needed due to changes in the fishery since the fishery management plan (FMP) and acompanying NEPA documents for Council-managed fisheries were prepared. In 2000 it was updated by incorporating descriptions of additional management actions. These include amendments implemented since the document was originally prepared, management actions under review in early 2000, and regulatory amendments and emergency actions that were not originally included.

Since inception the Council has implemented four Fishery Management Plans. The first plan, covering precious corals was completed in 1979 while a fifth plan, Coral Reef Ecosystems, was under review in early 2000. Numerous amendments have supplemented these plans in response to changes in the relevant fisheries. This document reviews 48 management actions that have been implemented pursuant to the four implemented plans and four actions are currently under preparation, not including emergency actions.

Sections 3-7 summarize the management actions of each FMP (including the still-to-be-implemented Coral Reef Ecosystem FMP). These include the plans themselves, plan amendments and so-called regulatory amendments. For the most part, the regulatory amendments are minor adjustments that received a categorical exclusion (CE), as described in Section 2, instead of being analyzed in an environmental impact statement (EIS) or environmental assessment (EA).[1] All implemented plans have been amended to allow framework adjustments. A framework adjustment is management action, meeting certain criteria, that can be implemented without having to go through the full amendment process. The outcome of this process is also designated a regulatory amendment. Several framework adjustments have been implemented in the crustacean fishery and others are under preparation for the precious coral and pelagics fisheries. Emergency actions (or rules) are a fourth type of management action, usually implemented in response to a rapid change in conditions that must be addressed immediately. They are often of limited duration in anticipation of an amendment to more comprehensively address the issue. Emergency actions are not separately described in this document, but significant actions of this type are referred to in the description of the fishery included in each FMP section. The management initiatives contained in each action are summarized using these categories:

- Area Delineation
- Permit
- Monitoring

[1]Alvin Katekaru, NMFS Pacific Area Office, alerted me to these regulatory amendments and kindly provided a list of all these actions. The most readily available documentation is the Federal Register notices announcing the final implementing rule. (The Federal Register citation is used to designate these actions in this document.) The summary statement from these notices are reproduced here without comment, unless there is some NEPA-related supporting material.

- Harvest Limitations
- Closed Seasons
- Closed Areas
- Gear Restrictions
- Protected Species
- Procedural Matters
- Other

A brief description of how NEPA requirements are dealt within the FMP or amendment follows the summary of management initiatives. At the end of each FMP section the current regulatory framework (as found in the Code of Federal Regulations, Chapter 50, Part 660) is described and the evolution of the fishery, as it relates to the management actions, is outlined.

The last section of the document assesses Council documents for NEPA compliance.

2 National Environmental Policy Act Requirements

The National Environmental Policy act of 1969 (NEPA) is primarily a procedural statute that imposes few substantive requirements. By requiring federal agencies to assess the impacts of any proposed action that may significantly affect environmental quality, NEPA helps agencies to make wiser environmental decisions. NEPA establishes the Council on Environmental Quality (CEQ), which through subsequent Executive Orders was given authority to write regulations for compliance with the Act. As emphasized in their regulations:

> NEPA procedures must insure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The information must be of high quality... Most important, NEPA documents must concentrate on the issues that are truly significant to the action in question, rather than amassing needless detail. Ultimately it is not better documents but better decisions that count. NEPA's purpose is not to generate paperwork—even excellent paperwork—but to foster excellent action. (40CFR1500.1(b))

Specific guidance for complying with NEPA requirements are found in two sources. As mentioned, the CEQ issues general guidelines in their regulations (40CFR1500 through 1508). These guidelines require federal agencies to develop and adopt procedures specific to the kinds of programs and activities of the agency (40CFR1507.3). NOAA procedures are currently described in Administrative Order (NAO) 216-6, which superseded NOAA Directives Manual (NDM) 02-10 in 1991. Because NAO 216-6 is relatively recent, many Council plans and amendments refer to the earlier directive. In the following discussion NAO 216-6 will be referred to most often since it offers the most specific guidance and was revised as of May 20, 1999. (This document is available online at http://www.rdc.noaa.gov/~foia/216-6.html.)

From the Council's perspective there are three pressing questions in relation to NEPA compliance:

1. What kinds of actions are subject to NEPA?
2. If an action is subject to NEPA, what kind of document must be prepared?
3. What process or time-line must be adhered to in developing and reviewing the document?

The following discussion will touch on each of these questions.

Section 102(2)(C) of NEPA describes those circumstances for which an environmental impact statement (EIS) must be prepared. At its heart the requirement invokes an EIS for 'major federal actions significantly affecting the quality of the human environment. Each phrase in this description has been subject to much interpretation, first through CEQ regulations and agency guidelines and subsequently through the courts. NAO 216-6, Section 6 provides specific guidance for integrating NEPA into NOAA line office proghrams. Generally, "management plans and management plan amendments require an EA or the RPM [responsible program manager] may decide to proceed directly with an SEIS/EIS" (6.03a). No management plans may

receive a categorical exclusion (CE), but amendments and other regulatory actions may receive one if the action was previously analyzed and approved (for example, if an amendment supercedes an emergency action for which an assessment was made) or if the proposed action is a minor technical addition or correction to the management plan (6.03a3). In summary, the types of actions that the Council normally takes that may be subject to a decision as to whether to prepare an EA or EIS or opt for a categorical exclusion are:

1. Management plans: Although the Order allows for the preparation of an EA, new plans should include an EIS.
2. Amendments: Generally require an EA and may require an EIS.
3. Requests for emergency actions, especially interim rules for management actions not described in plans or amendments: require an EA or EIS based on the same criteria used for non-emergency actions. Since an EA has no statutory time requirement for public notice or comment, their preparation should not delay implementation. If it is determined that the emergency action requires an EIS and that the attendant delay would seriously compromise the substance of the action, the RPM can ask that the CEQ be consulted (via the NOAA NEPA Coordinator) regarding alternative arrangements. However this "is a seldom used practice and the RPM should make every effort to avoid undertaking this approach" (5.06d).

NAO 216-6 provides guidelines for determining what type of NEPA document to prepare. Section 6.01 provides definitions for each word in the phrase "significantly affecting the human environment." Section 6.02 provides specific guidance for fishery management actions by listing additional criteria for determining significance. It is important to note that these criteria apply to "beneficial or adverse impacts that may be reasonably expected to occur" (emphasis added). If any one of the following criteria apply an EIS is required.

a. The proposed action may be reasonably expected to jeopardize the sustainability of any target species that may be affected by the action;
b. The proposed action may be reasonably expected jeopardize the sustainability of any non-target species.
c. The proposed action may be reasonably expected cause substantial damage to the ocean and coastal habitats and/or essential fish habitat as defined under the Magnuson-Stevens Act and identified in FMPs.
d. The proposed action may be reasonably expected to have a substantial adverse impact on public health or safety.
e. The proposed action may be reasonably expected affect adversely an endangered or threatened species or a marine mammals or critical habitat of these species.
f. The proposed action may be reasonably expected to result in cumulative adverse effects that could have a substantial effect on the target species or non-target species.
g. The proposed action may be expected to have a substantial impact on biodiversity and ecosystem function within the affected area (e.g., benthic productivity, predator-prey relationships, etc.).
h. If significant social or economic impacts are interrelated with significant natural

or physical effects, then an EIS should discuss all of the effects on the human environment.

i. A final factor to be considered in any determination of significance is the degree to which the effects on the quality of the human environment are likely to be highly controversial. Although no action should be deemed to be significant based solely on its controversial nature, this aspect should be used in weighing the decision on the proper type of environmental review needed to ensure full compliance with NEPA. Socio-economic factors related to users of the resource should also be considered in determining controversy and significance.

Specific requirements for the type of environmental document are as follows:

Categorical exclusion: "The responsible program manager prepares a memorandum or notation for the file of each decision to use a CE" (4.01c). A copy is sent to the Policy and Strategic Planning Office (PSP). This would presumably be the Regional Director's responsibility rather than the Council's, although the justification for a CE should be included with a request for an interim rule or an amendment.

Environmental assessment: The contents of an EA are not specified in much detail in either CEQ regulations or NAO 216-6 beyond its definition: A concise public document providing evidence for a decision as to whether or not an EIS should be prepared (40CFR1508.9). An EA should include a discussion of the need for the proposed action, information regarding the environmental impact of the action, a limited discussion of alternatives to the action and a list of agencies and persons consulted in preparing the document (40CFR1508.9(b)). If one is to be prepared, the EA can lay the documentary groundwork for the subsequent EIS, if one is deemed necessary.

Environmental impact statement: CEQ regulations provide detailed guidance for preparation of an environmental impact statement (40CFR1502). The "recommended" format (in fact all of these elements must be incorporated, although not in the precise form laid out in the regulations) includes the following elements:

1. Cover sheet
2. Summary
3. Table of contents
4. Purpose and need for action
5. Alternatives including proposed action
6. Affected environment
7. Environmental consequences
8. List of preparers
9. List of agencies, organizations and persons to whom copies of the statement are sent.
10. Response to public comments
11. Index
12. Appendixes (if any)

The EIS (and by implication EA) can be consolidated with other required documents as long as these essential elements are included. More latitude is given for the format of paragraphs 4-7 (and appendices); the other elements are required as described in 40CFR1502.11 through 1502.18. Consolidation is encouraged and it is generally not difficult to combine an EA or EIS with an amendment or plan.

For actions not receiving a CE, CEQ regulations imply an approach in which the EA is used as a decision document in determining whether an EIS is necessary. If the evidence presented in the EA lead to the conclusion that an EIS is unnecessary, then a finding of no significant impact (FONSI) is made and the process ends at that point. This is made public and optionally subject to public review for 30 days before a final determination (40CFR1501.4(3)(2)).

Once it has been determined that an EIS is necessary, the agency must publish a notice of intent in the Federal Register (40 CFR 1501.7). A scoping process is initiated to determine what issues need to be examined in depth in the EIS (40CFR1501.7). Scoping involves consultations with agencies, organizations and members of the public that may have an interest in or knowledge about the action and its impacts. Based on the scoping exercise, a draft EIS (DEIS) is prepared (40CFR.9(a)). The DEIS is circulated for comments from agencies, organizations and the public for a minimum of 45 days (40CFR1503). The comments must be addressed in the final EIS (FEIS) either by attaching a list of substantive comments and agency responses or incorporation into the statement's text (40CFR1503.4). Once issued, the FEIS has a minimum 30 day cooling-off period before issuance of a Record of Decision (ROD).

Often more than one agency is involved in the proposed action and therefor must cooperate in fulfilling NEPA requirements. In this case one agency is designated a lead agency to supervise preparation of the EIS (40CFR1501.5). Alternately, more than one agency can be designated joint lead agencies (1501.5(b)). Although the Council typically drafts the appropriate NEPA document as part of the plan/amendment process, it is the NMFS RPM who signs the Record of Decision (ROD) on the final action. The two may be considered joint lead agencies.

3 Precious Coral Fishery

3.1 Chronology of implemented management actions and NEPA documentation

3.1.1 FMP/EIS

Title: Fishery Management Plan for the Precious Coral Fisheries (and Associated Non-Precious Corals) of the Western Pacific Region (EIS is separate document)

3.1.1.1 Relevant dates

Document date: September, 1979

Final rule effective date: September 29, 1983 (48 FR 39229)[2]

3.1.1.2 Major regulatory provisions

Area delineation: established, conditional and exploratory beds and refugia designated.

Permits: annual commercial permit.

Monitoring: logbooks required.

Closed areas: refugia established (see above).

Harvest limitations: bi-annual quota established for established bed (Makapuu), method for calculating quota outlined for conditional beds, fixed quota for exploratory beds; procedures for closing exploratory beds outlined; 10" minimum size for pink coral in established and two conditional beds; non-retention of incidental catch in other fisheries.

Gear restrictions: selective methods encouraged in established beds and around MHI (location of only established bed identified in FMP); non-selective methods (primarily tangle net dredging) allowed in other areas.

3.1.1.3 Discussion

This FMP covers a number of harvested deep water (400 m.) coral species : pink coral (*Corallium secundum*) and gold coral (*Gerardia sp.*) and the co-occurring but unharvested bamboo coral (*Lepidisis olapa*). A shallow water species, black coral (*Antipathes spp.*) is also harvested but not in federal waters. At the time of FMP preparation deep water species were being harvested from a bed off Makapuu, Oahu using a submersible. This was the only bed for

[2]The effective date of the final rule implementing the management action normally differs from the date of publication in the Federal Register. The Federal Register citation for the notice is given.

which there was sufficient information to estimate MSY for harvested species. Conditional beds are areas known to harbor precious coral but for which the extent of the bed is not well known. MSY would be determined based on estimated productivity of the Makapuu bed multiplied by an area factor once area was determined. Because selective harvest by submersible is capital intensive, the Plan is structured to allow non-selective methods in some areas, primarily in an exploratory phase. However, since these methods only harvest a portion of the coral they knock down, quotas are to be adjusted accordingly.

This FMP was prepared with a "stand alone" 46 page EIS. It summarizes most elements of the FMP, organizing the information in a format that closely adheres to CEQ guidelines (40CFR1502.10) and includes public comments on the DEIS and agency responses. Rejected alternatives (aside from no action) are:

1. prohibition of non-selective methods in all areas;
2. retention of incidental catch;
3. prohibition of any incidental catch;
4. closed season during reproductive period;
5. payment of royalties;
6. limited entry.

3.1.2 Amendment 1, CE

Title: Amendment 1 and Environmental Assessment for the Fishery Management Plan for the Precious Corals of the Western Pacific Ocean

3.1.2.1 Relevant dates

Document date: March, 1988

Final rule effective date: July 21, 1988 (50 FR 27519)

3.1.2.2 Major regulatory provisions

Area delineation: include U.S. possessions as a single exploratory area.

Permits: create an experimental fishing permit (EFP) for fishing within exploratory areas.

Harvest limitations: establish a 1000 kg annual quota for newly designated exploratory area.

Other: include all species of *Corallium* harvested or likely to be harvested by the fishery in FMU.

3.1.2.3 Discussion

Precious corals were discovered in the waters around Palmyra atoll, prompting inclusion of U.S. possessions. At the time of FMP preparation foreign fishers discovered exploitable beds of an undescribed species of *Corallium* on the Emperor Seamounts to the northwest of the NWHI EEZ. This prompted the need to expand the definition of FMUS in the event similar beds were found within the EEZ. A 1,000 kg. annual quota had been set for all exploratory beds. No fishery had developed and interested parties claimed the quota was too low to justify the capital investment necessary to explore these areas. The experimental fishing permit is seen as a way of allowing exploratory dredging under tightly defined constraints. Rejected alternatives (aside from no action) are:

1. FMUS: Only add the undescribed species of *Corallium*.
2. EFP: increase the annual quota for exploratory areas either as a single quota or separate quotas for selective and non-selective gear.

According the document's NEPA section this amendment is defined as a categorical exclusion under criteria set forth in NOAA Directive 02-10 Section 5c(3)(f) because the "actions are two housekeeping measures which enhance the conservation features of the FMP, while the third action, a provision for EFPs, simply facilitates the fishery development intent of the original document" (p. 34).

3.1.3 Amendment 2, EA

Title: Amendment 2 and Environmental Assessment for the Fishery Management Plan for the Precious Corals of the Western Pacific Ocean

3.1.3.1 Relevant dates

Document date: October, 1990

Final rule effective date: January 28, 1991 (56 FR 3072)

3.1.3.2 Major regulatory provisions

Procedural matters: mandated definition of overfishing based on an spawning potential ratio (SPR) of 0.2.

3.1.3.3 Discussion

The spawning potential ratio is a measure of total spawning biomass for the population in an unfished state versus a given level of exploitation. Population modeling suggests that once the spawning stock biomass reaches 20% of its unfished condition (i.e., SPR = 0.20) recruitment overfishing is likely. This amendment was mandated by the DOC Secretary's revised guidelines (54 FR 30826) which specify that each FMP develop "an objective and measurable definition of

overfishing for each stock or stock complex" (p. 9). The rejected alternative, aside from the no action alternative, is to define overfishing as an SPR of 0.3. The NEPA section discusses the preferred actions based on a set of seven criteria. These are similar to the seven criteria in NAO 216-6 discussed earlier.[3] Based in these criteria a finding of no significant impact (FONSI) is made.

3.1.4 Amendment 3, CE

Title: Amendment 3 to the Fishery Management Plan for the Precious Corals of the Western Pacific Region

3.1.4.1 Relevant dates

Document date: May 1998

Final rule effective date: October 19, 1998 (63 FR 55809)

3.1.4.2 Major regulatory provisions

Procedural matters: Framework procedures to modify established measures and establish new measures.

3.1.4.3 Discussion

The amendment notes that the "Council is operating in an environment of great uncertainty with regard to the distribution and abundance of coral resources..." In addition, although there has been some interest in reviving the fishery, current quotas for exploratory areas are considered too small to sustain a commercial operation searching for new beds. Framework procedures are outlined that would allow greater flexibility and shorter response times as more is learned about stock abundance and if an active fishery commences, affecting stocks. Framework procedures to modify established measures or establish new measures are outlined. No action is the only alternative presented. The NEPA section states that "in accordance with paragraph 6.02b.3(a) of NOAA Administrative Order 216-6, establishment of framework procedures is categorically excluded from the NEPA requirement to prepare an environmental assessment."

3.1.5 Amendment 4, EA (SFA)

Title: Magnuson-Stevens Act Definitions and Required Provisions... Amendment 4 to the Precious Corals Fisheries Management Plan

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[3]An earlier version of NAO 216-6 used seven rather than nine criteria which are somewhat different than those in the most recent version.

3.1.5.1 Relevant dates

Document date: September 1988

Final rule effective date: April 19, 1999 (64 FR 19067)- partial approval

3.1.5.2 Major regulatory provisions

Procedural matters: New definitions and fishery plan provisions. (See Table 3.1 for details).

3.1.5.3 Discussion

The Magnuson Act, the governing legislation for federal fisheries management, was re-authorized and amended as the Sustainable Fisheries Act (SFA), also known as the Magnuson-Stevens Fishery Conservation and Management Act. It was enacted on October 11, 1996. The SFA contains new requirements, making it necessary to amend all of the Council's existing FMPs to incorporate these requirements. This was done through a single comprehensive amendment for the Council's four existing plans. (The comprehensive amendment is Amendment 6 to the Bottomfish and Seamount Groundfish FMP, Amendment 8 to the Pelagic FMP, Amendment 10 to the Crustaceans FMP, and Amendment 4 to the Precious Corals FMP.) Section 3 of the SFA contains new definitions, which are incorporated into the plans through this amendment. Section 303(a) of the SFA lists required provisions of FMPs. The amendment addresses new provisions so required. The contents of this comprehensive amendment were only partially approved by the RA. Table 3.1 summarizes the definitions and provisions, and indicates which were approved.

Section 6.1.2 of the amendment is a brief environmental assessment. It was determined that no regulatory actions were entailed in the preparation of this amendment, so an EA was not required. However, the definition of essential fish habitat (EFH) may result in future environmental impacts so the assessment is exclusively concerned with this provision. Three alternatives were considered: Designate EFH based on observed habitat utilization patterns in localized areas (preferred), a narrow designation of EFH based on biological production, and no action.

Table 3.1: SFA comprehensive amendment provisions.

SFA Provision	Comment
New Definitions (§3)	
Bycatch	Definition incorporated by amendment
Recreational, charter and commercial fishing	" " " "
Economic discards and regulatory discards	" " " "
Essential fish habitat	" " " "
Fishing community	" " " "
Individual fishing quota	" " " "
Optimum	" " " "
Overfishing and overfished	" " " "
Pacific Insular Area	" " " "
New FMP Provisions	
Establish reporting methods to assess bycatch and minimize bycatch and bycatch mortality §303(a)(11)	**Disapproved for Bottomfish and Seamount Groundfish FMP, and Pelagics FMP**
Specify pertinent data on commercial, recreational and charter fishing sectors and describe §303(a)(5) and §303(a)(13)	**Approved**
Describe and identify essential fish habitat §303(a)(7)	**Approved**
Include a fishery impact statement for fishing communities §303(a)(9)	**The categorization of Hawaii as a fishing community is disapproved**
Specify overfishing criteria and include preventative measures §303(a)(10)	**Disapproved for the bottomfish, pelagics and crustacean fisheries**

3.2 Management Actions in Preparation

3.2.1 Regulatory Amendment, EA (quotas, size limits, etc.)

Title: Framework Adjustments to the Fishery Management Plan for the Precious Coral Fisheries of the Western Pacific Region Regarding Harvest Quotas, Definitions, Size Limits, Gear Restrictions, Bed Classifications and Reporting and Recordkeeping Requirements

3.2.1.1 Relevant dates

Document date: September 7, 1999

Currently under NMFS review

3.2.1.2 Major regulatory provisions

Area delineation: Revise the boundaries of Permit Area C-B-3 (Brooks Banks) to include an area within a radius of 2.5 nm of a point at 23° 58.8' N and 166° 42' W. Create a new Permit Area (C-B-5) at French Frigate Shoals as an area within a radius of 0.25 nm of 23° 55' N and 165° 23.11 W.

Monitoring: List all managed species of precious corals on the NMFS Daily Precious Coral Harvest Log and Precious Coral Sales Trip Report and revise the Harvest Log to contain additional information.

Harvest limitations: Suspend the harvest quota for gold coral at the Makapu'u bed. Change the harvest quota for pink coral at Permit Area C-B-3 (Brooks Bank) to 200 kg and suspend the harvest quota for gold coral. Set the annual quota for the new Permit Area C-B-5 (French Frigate Shoals) at 0 for all types of precious coral. Prohibit the harvest of black coral less than a stem diameter of 1 inch. Redefine precious coral in order to distinguish between live and dead coral; apply size limits to live coral only.

Gear restrictions: Only selective gear may be used to harvest precious corals in all permit areas.

3.2.1.3 Discussion

Nine management measures are proposed in this framework adjustment and for each management alternatives are presented. They are summarized here.

Surveys at the Makapu'u bed indicated that gold coral is limited at this bed and recruitment is low. Four alternatives were considered:

1. No action.

2. Suspend harvest quota at Makapu'u bed (preferred alternative).
3. Suspend the harvest quota for gold coral at all established and conditional beds.
4. Implement a minimum size lime for gold coral.

Recent research raised concerns about the importance of gold coral habitat (particularly at French Frigate Shoals where there is the largest concentration of seals) to the endangered Hawaiian monk seal, but observations indicate that it is live precious coral that provides important habitat. Three alternatives were considered:

1. No action.
2. Redefine live precious coral as having live polyps or tissue and dead. precious coral as not having live polyps or tissue (preferred alternative).
3. Redefine live precious coral as that which is standing upright.

The current size limit for pink coral applies both to live and dead coral but the limit is inappropriate for dead coral since it is based on growth and reproduction. Two alternatives were considered:

1. No action.
2. Apply size limits only to live coral (preferred alternative).

New harvest technologies and increased demand call for harvest restrictions on black coral. Four alternatives were considered:

1. No action
2. Prohibit the harvest of black coral less than 1 inch stem diameter or a height less than 48 inches (preferred alternative).
3. Prohibit the harvest of black coral with a base diameter of less than 3/4 inch.
4. Establish a weight quota.

The use of non-selective gear is allowed in certain situations under FMP regulations. However, technological advances make the use of submersible technology, which is selective, more feasible and lower cost. Non-selective gear damages habitat and is considered wasteful. Three alternatives were considered:

1. No action.
2. Only allow selective gear for precious harvest coral harvest in all permit areas (preferred alternative).
3. Only allow selective gear for precious harvest coral harvest in established and conditional beds.

A size limit on pink coral only applies in areas where selective gear was required under the FMP. With the previous measure requiring selective gear for all beds it was decided to extend the size limit also. Two alternatives were considered:

1. No action.
2. Apply the current size limit for pink coral to all permit areas (preferred alternative).

New survey data indicates that the Brooks Bank permit area is larger than originally thought. The pink coral quota can therefor be adjusted to reflect the larger area. However, as noted above, there is concern that gold coral is important habitat for the endangered monk seal. Three alternatives were considered:

1. No action.
2. Revise boundaries for Brooks Bank, change the harvest quota for pink coral to 200 kg and suspend the harvest quota for gold coral until more information is known about the impact of harvests on monk seal habitat (preferred alternative).
3. Revise the boundaries for Brooks Bank and re-classify as a refugium.

A newly discovered bed, FFS-Gold Pinnacles Bed (in French Frigate Shoals), is classified as an exploratory bed. A harvest operation could expend the entire 1,000 kg quota for exploratory beds in the Hawaiian waters with significant adverse impacts. There is a need to re-classify it as a conditional bed and establish a quota. Three alternatives were considered:

1. No action.
2. Classify the bed as conditional Permit Area C-B-5 and establish a quota of 0 for all corals pending better information on the importance of the bed as monk seal foraging habitat (preferred alternative).
3. Classify the bed as refugium, Permit Area R-2.
4. Classify the bed as conditional and set the annual harvest for gold coral at 80 kg.

Current recordkeeping and reporting requirements may not provide enough data to accurately assess the recovery and current status of known precious coral beds and determine the location and productive potential of new beds. Three alternatives were considered:

1. No action.
2. List all species of precious corals in the Harvest Log and revise recordkeeping requirements to require additional information about harvest activities (preferred alternative).
3. Implement NMFS observer coverage on all fishing vessels harvesting precious corals.

The entire document is considered an EA and is referenced in the NEPA section of 'Relationship to Other Applicable Laws...' A conclusions and determination subsection contains a bulleted list of the five criteria derived from an earlier version of NAO 216-6 and a sixth criterion relating to the impact on flood plains, wetlands and trails and rives listed under the National Trails and Nationwide Inventory of Rivers. Under each bullet a brief explanation details why this management action does not meet the criterion, which would trigger the EIS requirement. A finding of no significant impact (FONSI) statement and space for the Assistant

Administrator for Fisheries' signature concludes the subsection. As will be seen, this has become a common format in recent Council management action documents.

3.3 Current regulatory framework for the Precious Corals management unit

For each FMU current regulations are summarized using a consistent format based on management measure categories. (Proposed regulations in draft documents reviewed here are not included.) Code of Federal Regulations citations are given for Title 50, Chapter 6. Relevant CFR parts were reorganized and consolidated into a new Part 660 in 1996 (50CFR660) and thus differ from citations and draft regulations in the FMPs and amendments. This Part consists of eight Subparts. Subpart B (660.11-660.17) contains general matters applicable to all FMUs including definitions, permits, recordkeeping and vessel identification. Subparts C-F cover the four Western Pacific Region FMUs. The last two sections apply to West Coast FMUs. Some of the general regulations, such as the permit application process and definitions for FMUS are not included in the regulatory summaries of the four FMUs. The table of contents for Part 660 may be found in Appendix 1.

1. Area Delineation:
   - Precious coral permit areas are defined in 610.12 (definitions).

2. Permits:
   - Commercial permit for specified areas; only one permit for one area can be held by a given vessel (660.81).
   - Experimental fishing permit (EFP) (660.17).

3. Monitoring:
   - Logbook required (660.81).

4. Harvest Limitations:
   - Quotas are described in 660.84 and for specific areas in Table 1 to Part 660. Size restrictions for pink coral are applied in three beds (660.86).

5. Closed Season:
   - Seasons are established for the purpose of quotas; annual (July 1-June 30) for all beds except Makapuu which has a two-year season (660.83). Closed seasons begin when an area quota is met.

6. Closed Areas:
   - One bed is permanently closed (refugium) (660.87).

7. Gear Restrictions:
   - Only selective gear allowed in MHI EEZ (660.68(a)). Areas where non-selective gear allowed described in 660.88(b) and Table 1 to Part 660. Selective and non-selective gear are defined in 660.12.

8. Procedural Matters:
   - Procedure for modifying existing measures (660.89(c)) and implementing new measures (660.89(d)) outlined. Precious Coral Plan Team required to prepare Annual Report (660.89(b)).

3.4 Changes in the fishery during the period under consideration

There is a long history of precious coral exploitation in the Pacific, although generally not in areas that became part of the U.S. EEZ in the region. During preparation of the FMP the only domestic harvest was from the Makapuu Bed off the east coast of Oahu. After discovery of the bed in 1966 by researchers it was briefly exploited using non-selective methods. In the 1970's Maui Divers of Hawaii, Ltd. exploited the bed using a submersible but discontinued operations in 1979 (the year the FMP was completed) due to uneconomic operating costs. From 1979 to late 1999 there was no domestic fishery. However, during the 1980s Japanese and Taiwanese vessels fished illegally near the Hancock Seamounts. A Taiwanese coral dragger was seized in 1984, and in the following year poachers reportedly took about 100 tons of *Corallium* from seamounts north of Gardner Pinnacles and Laysan Island. Poaching subsequently ceased, perhaps because the beds had become economically exhausted. In the last two years domestic interest has revived, partly because advances in submersible technology make operations more cost effective. Permits were issued in 1998 and 1999 but harvesting only began in December of 1999 at the Kona and Makapu'u beds. These recent activities motivated Amendment 3, which implements a framework process. The recent draft framework adjustment, covering a range of issues, also reflects the fact that the domestic fishery has again become active.

4 Crustaceans

4.1 Chronology of implemented management actions and NEPA documentation

4.1.1 FMP, EIS

Title: Final Combined Fishery Management Plan, Environmental Impact statement, Regulatory Analysis and Draft Regulations for the Spiny Lobster Fisheries of the Western Pacific Region

4.1.1.1 Relevant dates

Document date: April, 1982

Final rule effective date: March 9, 1983 (48 FR 5560)

4.1.1.2 Major regulatory provisions

Area delineation: Northwest Hawaiian Islands (NWHI)- west of 161° W long., Main Hawaiian Islands (MHI)- east of 161° long. American Samoa, Guam. Only management measures 2 & 3 (except for inspection at landing) apply outside NWHI (Permit Area 1).

Permits: commercial permit required in EEZ (50CFR681.3); State/Territorial permit as applicable; issuance of research permits for experimental fishing;

Monitoring: log books, observers (no mandated coverage), vessel identification (681.6), catch available for inspection at landing or at sea, shore-based processor reporting.

Harvest limitations: no retention of <7.7 carapace length or <5.0 cm width (up to 15% of total may be =<4.5 cm) or berried females (681.22).

Closed areas: no fishing in <10 fathoms, no fishing in EEZ <20 miles from Laysan Island.

Gear restrictions: trap dimensions specified, no use of harmful chemicals or poisons, nets, spears or explosives.

Protected species: monk seal protective measures require reporting of death of a monk seal directly attributable to lobster fishery. This may lead to investigation by NMFS and imposition of emergency measures such as changes in gear design, area and/or time closures.

Other: recreational fishery at occupied islands in Management Area 1 (NWHI) exempted.

4.1.1.3 Discussion

Section 15 of the document summarizes and/or refers to elements of the plan that satisfy required components of an EIS. The plan considered alternatives for 11 management measures. Measures for areas outside of the NWHI were considered separately. Five alternative management regimes were proposed and evaluated based on the range of measures proposed. These included

1. no action;
2. licensing, prohibition on taking berried lobsters, landing inspection, trip aperture specifications;
3. as above, minimum size limit, closed areas;
4. as above, limited entry by license; and,
5. as above, limit on area-specific catch.

Alternative 3 was chosen because the "Council determined that a management regime designed to protect the reproductive stock of the fishery but not involving extensive regulation of fishing effort would be the best approach to meet the biological, environmental, economic and social objectives of the FMP" (p. 137).

4.1.2 Amendment 1, EA

Title: Final Combined Fishery Management Plan Amendment #1 and Environmental Assessment for the Spiny Lobster Fisheries of the Western Pacific Region

4.1.2.1 Relevant dates

Document date: June, 1983

Final rule effective date: December 20, 1983 (48 FR 2922)

4.1.2.2 Major regulatory provisions

Area delineation: EEZ around MHI designated as Permit Area 2.

Harvest limitations: In Permit Area 2 (MHI) no retention of lobster <8.26 carapace length or berried females; lobsters must be landed whole and substantially undamaged; trap dimensions specified (disapproved by F/SWR), no use of harmful chemicals or poisons, spears or explosives.

Closed season: June-August (MHI).

4.1.2.3 Discussion

At the time that this amendment was drafted a commercial lobster fishery was developing

in those limited areas of suitable habitat in the MHI EEZ. The purpose of this amendment was to harmonize fishing regulations for the EEZ around the MHI with those of the state of Hawaii. Because importation by license of lobster taken outside state waters did not have to conform with state fishing regulation there was concern that lobsters caught in the MHI EEZ would not conform to the state's more restrictive (e.g., larger minimum size, seasonal closure, whole lobster requirement) regulations. More broadly, the state raised the consistency requirement outlined in 307(c)(1) of the CZMA.

Aside from no action three management alternatives were proposed:

1. adopt state regulations in the MHI EEZ;
2. adopt NWHI NMFS regulations in the MHI EEZ; or,
3. amend state regulations to so that lobster landed outside state waters would also have to conform to state regulations.

The first alternative was adopted as the most practicable and consistent with the issues raised. As noted, the provision for trap size limits as in state law was disapproved by the F/SWR as having no bearing on conservation and management goals. Appendix 2 of the same memo from F/SWR to NOAA Administrator covers determinations including a FONSI based on Amendment/EA review.

4.1.3 Amendment 2, EA

Title: Fishery Management Plan Amendment 2 and Environmental Assessment for the Spiny Lobster Fisheries of the Western Pacific Region

4.1.3.1 Relevant dates

Document date: August, 1983

Final rule effective date: January 9, 1984 (49 FR 407)

4.1.3.2 Major regulatory provisions

Gear restrictions: Amends 50CFR660.48(a)(2) (formerly 50CFR681.24(b)) to allow a larger range of lobster trap design types to be used in the fishery.

4.1.3.3 Discussion

The original FMP and pursuant regulations specified exterior and interior entrance tunnel maximum sizes so as to minimize the likelihood of the endangered monk seal getting caught in the trap while foraging and subsequently drowning. Regulation of trap opening size was based on size of traps and cranial measurements from dead monk seals. Specified openings minimized drowning likelihood while conforming to sizes of traps in use. However, because of trap deformity during long-term use and the introduction of new trap designs into the fishery it was

later discovered that the a large percentage of traps in use were in violation of the regulations.

Aside from no action, three alternative measures were proposed:

1. elimination of trap entrance size restrictions;
2. allowing continued use of traps in use as of the effective date of original regulations while requiring new traps to meet the regulations; or,
3. adopt a new, single measurement method.

Alternative 3 was chosen. Traps in use conformed to the new measurement method while biological opinion was that these existing traps (and future designs conforming to the new measurement method) posed little risk to monk seals. This amendment has an appended section as Environmental Assessment and FONSI statement.

4.1.4 Amendment 3, EA

Title: Amendment #3 and Environmental Assessment for the Fishery Management Plan for Lobster Fisheries of the Western Pacific Region

4.1.4.1 Relevant dates

Document date: October, 1985

Implemented: April 6, 1986 (51 FR 8506)

4.1.4.2 Major regulatory provisions

Harvest limitation: eliminates 7.7 cm carapace length and replaces 5.0 cm minimum tail width with a 4.8 cm minimum tail width; eliminates 15% tail width undersize allowance; change on trial basis for one year from effective date.

4.1.4.3 Discussion

This amendment was proposed in response to a change in the fishery to primarily at-sea processing and freezing of lobster tails only. Thus carapace length cannot be measured during monitoring. It institutionalized emergency regulations that had expired around the time of plan approval. The 15% undersize allowance in the original FMP was based on statistically tested variation in the tail width/lobster size relation. However, in practice it was difficult to monitor by sub-sampling in a statistically valid way. The measurement method change allowed easier, more effective measurements to be taken. A relation between tail widths at the new measurement location and the 7.7 cm CL indicated a width of approximately 5.1 cm corresponded to that length, but with differences between sexes. However, for a variety of reasons fishermen felt that a 5.1 cm minimum tail width would be highly damaging to the industry and urged that the 4.8 cm width defined in earlier emergency regulations be retained for a trial period of one year. Assessment of the impact of a 4.8 cm width on stocks was mixed. The

carapace length measurement was eliminated because of the shift to at-sea processing and the difficulty of contending with two different measurements during fishery assessment.

The amendment outlines three alternative management measures (aside from no action) in addition to the one adopted. These were essentially different combinations of the elements discussed above:

1. retain carapace length measurement;
2. set an undersize allowance less than 15%
3. adopt a 5.1 cm minimum tail width

Section 11.2, Environmental Impact Statement (EIS) determination, notes that the actions in this Amendment are not significantly different from those described in the original FMP/EIS and thus formal EIS preparation is unnecessary.

4.1.5 Amendment 4, EA

Title: Amendment #4 and Environmental Assessment for the Fishery Management Plan of Lobster Fisheries of the Western Pacific Region

4.1.5.1 Relevant dates

Document date: October, 1986

Final rule effective date: March 6, 1986 (52 FR 9496)

4.1.5.2 Major regulatory provisions

Closed areas: broadens regulatory language to prohibit fishing for all species of lobsters in closed areas.

Gear restrictions: broadens language on gear restrictions to include all species.

4.1.5.3 Discussion

This amendment institutionalizes an emergency interim rule that expired in March, 1987. As the fishery expanded CPUE on spiny lobster declined and slipper lobster became an increasingly important component of the total catch rising from 10% in 1983 to 63% at the time of amendment preparation. The provisions amend regulatory language where necessary to include slipper lobster. Two alternatives to the measures adopted were proposed:

1. No action.
2. Postpone action.

Section 8.2 is the Environmental Impact Statement determination with language

essentially similar to that in Amendment #3.

4.1.6 Amendment 5, EA

Title: Revised Amendment 5 and Environmental Assessment to the Spiny Lobster Fishery Management Plan Western Pacific Region

4.1.6.1 Relevant dates

Document date: September, 1987

Final rule effective date: January 14, 1988 (52 FR 3072)

4.1.6.2 Major regulatory provisions

Permits: revise permit application to include information about fishing vessel.

Monitoring: eliminate the Annual Processor Report; revise Trip Processing and Sales Report to distinguish slipper lobster, spiny lobster and octopus and simplify form; revise Daily Lobster Catch Report.

Harvest limitations: minimum tail width of 5.6 cm for slipper lobsters, non-retention of berried females of slipper lobsters

Gear restrictions: require escape vent panels in traps to allow escape of sub-legal size lobsters

4.1.6.3 Discussion

The main thrust of this amendment is to bring slipper lobster—which had become an important part of the fishery—within the management framework outlined in the original FMP. This is reflected in another provision of the amendment: renaming the FMP the Crustacean FMP. The escape vent panel requirement stems from data from the NWHI and other fisheries indicating low survival rates for surface released sub-legal lobsters. Changes in various reports and the permit application reflect ongoing changes in the fishery with respect to overall size, fishing strategy and catch composition. Rather than evaluating alternative sets of management measures this amendment proposed alternatives for each action. Aside from the no action alternative the following alternatives were proposed:

1. Minimum tail width for slipper lobster: a different minimum width than the preferred 5.6 cm.
2. Escape vents: alternative size or configuration.
3. Non-retention of berried slipper lobsters: impose requirement on only one species of slipper lobster.
4. Daily Lobster Catch Report revision: 3 alternative revisions.

Reference to NEPA is in Section 10.4 with language essentially similar to earlier amendments with regard to the non-requirement for EIS preparation.

4.1.7 Regulatory Amendment (53 FR 52998), CE

Federal register date: December 30, 1988

Final rule effective date: January 30, 1989

SUMMARY: NOAA issues a final rule to revise the regulations implementing the Fishery Management Plan for the Crustacean Fisheries of the Western Pacific Region (FMP). This rule amends the regulations to better reflect the intent of Amendment 5 to the FMP with respect to escape vent panels and reporting requirements.

(The Amendment specified that all lobster traps used in the NWHI have two escape vent panels placed opposite each other in the trap. This provision was omitted from the implementing final rule. In addition, one proposed change in reporting requirements was omitted. This regulatory amendment corrects these omissions.)

4.1.7.1 Major regulatory provisions

Gear restrictions: Amends requirements for escape vents on lobster traps.

4.1.8 Amendment 6, EA

Title: Amendment 6 and Environmental Assessment, Fishery Management Plan for the Crustaceans of the Western Pacific Region

4.1.8.1 Relevant dates

Document date: October, 1990

Final rule effective date: January 22, 1991 (56 FR 3072)

4.1.8.2 Major regulatory provisions

Procedural matters: adoption of an objective and measurable definition of overfishing as mandated in DOC Secretary's revised guidelines based on spawning potential ratio (SPR) of 0.2.

4.1.8.3 Discussion

As noted, a measurable definition for overfishing was mandated; the original FMP stated

that there is a potential for overfishing in the NWHI but did not define a threshold (p. 27). The SPR was derived from a cited lower bounding value and data from similar fisheries elsewhere. Supporting research indicated that open-access equilibrium conditions, given then current prices and costs, result in a fishing mortality / natural mortality ratio below 1.0. Across a range of biological and population variables this ratio indicated that SPR at minimum would be around 0.38, although this would be below OY. This action did not require the adoption of any new regulations.

The nature of this amendment is not particularly amenable to the environmental impact assessment process since it is a mandated action. Nonetheless, two rejected alternatives were proposed: no action and a non-numerical definition. Section 8.3 presents an environmental assessment in terms of a brief impact analysis.

4.1.9 Amendment 7, EA

Title: Amendment 7, Fishery Management Plan of the Western Pacific region (includes Environmental Assessment. Regulatory Impact Review and Proposed Regulations)

4.1.9.1 Relevant dates

Document date: October, 1991

Final rule effective date: April 27, 1992 (57 FR 10437)

4.1.9.2 Major regulatory provisions

Permits: access to the fishery limited to 15 vessels maximum; various criteria proposed to determine eligibility initially and maintain it; various criteria for determining eligibility for new entrants; permits freely transferable, application process revised.

Monitoring: transshipping vessels must have logbook copies, Trip Processing and Sales reports and Daily Lobster Catch Reports are modified to include additional information.

Harvest limitations: annual fleet-wide quota based on target CPUE.

Gear restrictions: maximum of 1100 traps per vessel, traps must return to port with vessel, traps and floats marked for identification.

Closed season: from January 1 to June 30; fishing to start on July 1 and end when quota has been harvested.

4.1.9.3 Discussion

The outlined restrictions in the fishery were in response to serious declines in CPUE and catch in 1989 and 1990 leading to an emergency closure of the fishery on May 8, 1990.

Recruitment was forecast to be low in 1991. Measures of SPR were approaching the overfishing definition of 0.2 (20% of the unfished spawning stock biomass).

Section 6 of the Amendment presents the environmental assessment in a similar format to the previous two amendments.

4.1.10 Amendment 8, EA

Title: Amendment 8, Fishery Management Plan for the Crustacean Fisheries of the Western Pacific Region

4.1.10.1 Relevant dates

Document date: June, 1994

Final rule effective date: December 12, 1994 (59 FR 56004)

4.1.10.2 Major regulatory provisions

Permits: eliminate the minimum annual landing requirement ("use it or lose it") for permit renewal.

Monitoring: narrow the notification period for vessels returning to port; require notification of actual off-loading time of catch; reduce the number of contact points for at-sea notifications and shoreside contacts; modify record-keeping and reporting requirements.

Procedural matters: establish a framework procedure to review and adjust the annual quota target CPUE (if necessary) through rule-making by the RD, in consultation with the Council, avoiding additional amendments; establish a framework process to allow a limited fishery by adjusting a forecast quota (previously, "initial quota") of 0 through rule-making by the RD in consultation with the Council.

4.1.10.3 Discussion

This amendment contains a variety of adjustments to reporting to facilitate monitoring. The "use it or lose it" requirement adopted in Amendment 6 is dropped so that there will not be a rush into the fishery (to maintain eligibility under limited entry) if forecast quota is adjusted up from 0. Framework procedures allow management to be more responsive in terms of setting quota. Now that fishing pressure is heavy there is more need for "real time" management. However, the framework for a forecast quota adjustment was disapproved by the Regional Director (see Amendment 9, p. 7). As in Amendment 5, alternatives are presented for each management action rather than for sets of measures. Aside from the no action (or status quo) alternative these are:

1. Two year landing "use it or lose it" requirement: additionally eliminate the

qualification system for new entrants implemented in Amendment 6; retain landing requirement but give re-entry priority to vessels leaving the fishery; eliminate the landing requirement and require the owner to man vessel on fishing trips, thereby increasing turnover.

2. Mechanism for allowing limited fishing when forecast quota is 0: allow fishing during first month regardless of forecast quota.

3. Catch reporting requirement changes: shift some reporting requirements to first-level buyers.

Section 5.6 outlines fulfillment of NEPA requirements. It cites Sections 3- background and need for action, 4.1- proposed actions, 4.2- comparison of proposed action and alternatives and 4.3- impacts of proposed actions.

4.1.11 Amendment 9, EA

Title: Amendment 9, Fishery Management Plan for the Crustacean Fisheries of the Western Pacific Region (includes Environmental Assessment, Regulatory Impact Review and Proposed Regulations)

4.1.11.1 Relevant dates

Document date: November, 1995

Final rule effective date: June 28, 1996 (61 FR 35145)

4.1.11.2 Major regulatory provisions

Harvest limitations: calculate quota by establishing an annual guideline system based on constant harvest rate and specific risk of overfishing; eliminate in-season harvest guideline adjustment; allow retention of egg-bearing female lobsters and eliminate minimum size (tail width) limits.

Procedural matters: Authorize RD to close the fishery as necessary; establish framework procedures to allow changes in management measures without new amendments; conduct a five-year from amendment implementation review of management system; evaluate alternative vessel monitoring systems for application to NWHI lobster fishery.

4.1.11.3 Discussion

The provisions in this amendment represent a change in management strategy within the limited entry, closed season and annual quota framework established in Amendment 7. The method for calculating quota is changed. The method in use, constant escapement (allowing harvest of surplus production above optimal population level) was found to be highly sensitive to

uncertainty and more overfishing risk prone. A new method, constant harvest rate (CHR) (harvest that is proportional to estimated exploitable population size) is adopted instead. This method is more robust to uncertainty, lowers variability in quota setting and has a low risk of overfishing. Harvest limitations for berried and sub-legals are dropped because of unique characteristics of the NWHI fishery: high abundance of predators and catch handling methods lead to very high rates of mortality among non-retained lobsters. In addition, escape vents mandated in Amendment 5 are estimated to allow escape of 50% of sub-legals. Finally, modeling the CHR method suggests that retention will not substantially increase the risk of overfishing using this method. It was also determined to be somewhat 'self-correcting' in terms of underreporting due to "high-grading." Procedural measures, as with Amendment 8, seek to increase the capacity for 'real-time' management of the fishery.

Rejected alternatives are described individually in a manner similar to the most recent past amendments. These alternatives include:

1. retain the term "quota system" in preference to the adopted "harvest guidelines";

2. continue calculating harvest guideline (quota) using the constant escapement method;

3. adopt a third alternative method for calculating harvest guideline: a constant catch where the harvest level is set at a fixed amount for several years;

4. retain the in-season quota adjustment;

5. adopt guideline alternatives based on a risk level (of exceeding SPR of 0.2) other than 10%;

6. modify trap configuration to allow more effective escape of small lobsters;

7. maintain minimum size and berried lobster prohibitions;

8. require retention of all lobsters caught (in retain-all fishery);

9. limit the authority of Regional Director to change reporting requirements and conservation measures; and,

10. immediately implement a vessel monitoring system.

Section 6.5 states that this "amendment has been written and organized in a manner that meets NEPA requirements, and is intended to serve as an Environmental Assessment." It notes those sections that address specific NEPA requirements. A FONSI statement is included in the text.

4.1.12 Regulatory Amendment (62 FR 35448), CE

Federal Register date: July 1, 1997

Final rule effective date: June 26, 1997

SUMMARY: NMFS issues this final rule to implement a vessel monitoring system (VMS) program in the crustaceans fishery of the Northwestern Hawaiian Islands (NWHI). Under this program, a vessel equipped with an operational VMS unit may enter Crustaceans Permit Area 1 (CPA 1) except for the subarea consisting of the area seaward 50 nautical miles (nm) from the geographical center of the islands and banks within CPA 1 with lobster traps on board during the closed season. This rule is necessary to remove a restriction on fishermen so that they may reduce the transit distance and time needed to begin fishing at distant fishing grounds. The intended effect of this action is to reduce fishing on lobster on grounds closest to the main Hawaiian Islands by encouraging the distribution of fishing effort throughout the management area.

4.1.12.1 Major regulatory provisions

Monitoring: Implements vessel monitoring system and allows VMS-equipped vessels to enter permit area.

4.1.13 Regulatory Amendment (63 FR 20539), CE

Federal Register date: April 27, 1998

Final rule effective date: May 27, 1998

SUMMARY: NMFS issues this final rule to implement three management measures governing the crustacean fisheries in the Exclusive Economic Zone around Hawaii. The first measure allows fishing vessels in the Northwestern Hawaiian Islands (NWHI) lobster fishery with vessel monitoring system (VMS) units to transit the prohibited Crustaceans Permit Area 1 VMS Subarea while returning to port following closure of the fishery. Because these vessels are under surveillance by NMFS, they are allowed to traverse the permit subarea. Lobster vessels without VMS units must be outside the permit area when the closure takes effect and be back in port as specified by the Administrator, Southwest Region, NMFS. The second measure changes the deadline by which NMFS must announce the NWHI lobster harvest guideline for the following fishing season from March 31 to February 28. This action gives fishermen additional lead time to prepare their vessels for the lobster season which opens on July 1. The third measure, which pertains to the main Hawaiian Islands crustacean fishery, adds another month (May) to the existing closed lobster season (June through August), which makes Federal regulations for the lobster closed season consistent with the State of Hawaii's closed season for State waters. This rule also contains a nonsubstantive clarification of the definition of Crustaceans Permit Area 1 VMS Subarea.

4.1.13.1 Major regulatory provisions

Closed areas: Allows VMS-equipped vessels to transit permit VMS Subarea when returning to port.

Closed seasons: An additional month added to MHI closed season.

Procedural matters: Announcement date for harvest guideline changed to February 28.

4.1.14 Regulatory Amendment (63 FR 40377), CE

Federal Register date: July 29, 1998

Final rule effective dates: July 23-December 31, 1998

SUMMARY: NMFS issues a final rule to implement a regulatory amendment under the framework procedures of the Fishery Management Plan for the Crustacean Fisheries of the Western Pacific Region. This rule allocates the overall 1998 Northwestern Hawaiian Islands (NWHI) harvest guideline of 286,000 lobsters (spiny and slipper combined) among three individual fishing banks and a fourth combined area. Specifically, no more than 70,000 lobsters may be harvested from Necker Island; no more than 20,000 lobsters may be harvested from Gardner Pinnacles; no more than 80,000 lobsters may be harvested from Maro Reef; and no more than 116,000 lobsters may be harvested from all the other remaining NWHI banks combined within Crustaceans Permit Area 1. This rule is intended to protect the lobster resources at each fishing ground, to obtain better data on the lobster stocks, and to conserve the resource.

4.1.14.1 Major regulatory provisions

Harvest limitations: Sets annual, area-specific harvest guidelines for 1998 season.

4.1.15 Regulatory Amendments (64 FR 36819 & 36820), EA

Federal Register date: July 8, 1999

Final rule effective date: July 3, 1999

64 FR 36819

SUMMARY: NMFS announces the 1999 bank-specific harvest guidelines for the NWHI crustacean fisheries. The previously announced total NWHI-wide harvest guideline of 243,100 lobsters (spiny and slipper lobster combined) is allocated among the four NWHI lobster fishing grounds as follows: Necker Island, 54,600 lobsters; Gardner Pinnacles, 27,690 lobsters; Maro Reef, 89,570 lobsters; and the other remaining lobster banks combined, 71,240 lobsters. The intent of this action is to prevent overfishing and achieve the objectives of the Fishery Management Plan for the Crustacean Fisheries of the Western Pacific Region (FMP).

64 FR 36820

SUMMARY: NMFS issues this final rule to implement a regulatory amendment under the framework procedures of the Fishery Management Plan for the Crustacean Fisheries of the Western Pacific Region. This rule divides the Northwestern Hawaiian Islands (NWHI) lobster fishery into four fishing grounds and allows the Southwest Regional Administrator, NMFS (Regional Administrator) to allocate the annual NWHI harvest guideline among these grounds for the 1999 season and beyond. Also, this final rule allows a lobster vessel carrying an operational NMFS-certified vessel monitoring system (VMS) unit to be within the boundary of a fishing grounds immediately after it is closed, provided the vessels is making steady progress to an open fishing grounds or back to port. This rule is intended to protect the lobster resources at each fishing ground, to provide better data on stocks, and to conserve the resource.

SUPPLEMENTARY INFORMATION: This rule divides the NWHI lobster fishery into four fishing grounds: Necker Island, Gardner Pinnacles, Maro Reef, and all the remaining lobster banks combined, for the purpose of allocating the annual NWHI lobster harvest guideline among them. Also, the rule authorizes the Regional Administrator, in consultation with the Western Pacific Fishery Management Council (Council), to allocate the annual NWHI-wide lobster harvest among the four lobster fishing grounds. Under this final rule, the harvest of lobster and the possession of lobster traps on board a permitted lobster vessel will be prohibited within a lobster fishing ground when the harvest guideline allocation is determined to have been taken, unless the vessel has on board an operational NMFS-certified VMS unit and is making steady progress to another fishing ground that is open, or is returning to port. Also, vessels with a VMS unit will not be subject to a specified time by which their lobsters must be landed. Vessels not carrying an operational VMS unit will be required to land their lobsters within a specified time period, to be announced by the Regional Administrator, following closure of the fishery, as provided by current regulations (50 CFR 660.50).

4.1.15.1 Major regulatory provisions

Harvest limitations: Formalizes the area-specific harvest guidelines with four areas: Necker Island, Gardner Pinnacles, Maro Reef, and all the remaining lobster banks combined. Allows RA and Council to allocate lobster harvest among the areas.

Monitoring: Allows vessels with VMS to transit permit areas out of season and lifts time restrictions on landing for such vessels.

4.1.15.2 Discussion

An October 29, 1998 draft document, entitled "Annual Determination of Partial Bank-Specific Harvest Guidelines for the NWHI Lobster Fishery: Framework Regulatory Measure", was available for review. The existing quota system, based on Amendments 7 and 9, produced a single quota for all of the NWHI. There was growing concern about the status of stocks at Necker Island. Commercial and research data indicated that there are differences in population dynamics among areas (implying little or no population transfer or recruitment between different

banks). This led to bank-specific harvest guidelines in 1998. This framework adjustment would allow this practice to be formalized as an administrative procedure, equivalent to the existing process of setting an archipelago-wide harvest guideline. (The second rule, 64 FR 36819, sets 1999 area-specific quotas because this measure was not implemented in time for that season.)

Four other alternatives were considered, grouped under two headings, Rejected Alternative and Additional Alternatives (for consideration by the Council in December). Aside from the No Action alternative, the other rejected alternative was 'general area-specific harvest guidelines.' In this alternative data are partitioned into several broader areas, based on biological or geographic similarity in conditions. The geographic composition of these zones could change between years, depending on ecological shifts in species or populations size-structure, or due to changes in targeting in the fishery. The other two alternatives are full bank-specific harvest guidelines and bank-specific harvest guidelines using the method employed to calculate the 1998 guidelines. (From the discussion the difference between the two approaches in unclear.)

A brief discussion about environmental assessment is included under a section entitled other applicable laws. It is argued that the preferred alternative is not significantly different from the harvest guideline procedure implemented under Amendment 9, which incorporated an environmental assessment. There is a brief, one paragraph discussion of the impacts of the preferred alternative. A FONSI statement is included, but without listing the NAO 216-6 criteria frequently included in other Council documents. The argument made in this section is rather weak. It would have been preferable to either argue for a categorical exclusion for this measure or prepare an assessment that better conforms to past practice and NEPA requirements. However, there is insufficient documentation to determine if a fuller treatment was given in a later, final document.

4.1.16 Amendment 10, EA (SFA)

Title: Magnuson-Stevens Act Definitions and Required Provisions... Amendment 10 to the Crustaceans Fisheries Management Plan

4.1.16.1 Relevant dates

Document date: September 1998
Final rule effective date: April 19, 1999 (64 FR 19067)- partial approval

4.1.16.2 Major regulatory provisions

Procedural matters: New definitions and fishery plan provisions. (See Table 3.1 for details).

4.1.16.3 Discussion

See section 3.1.5.3 for a description of the comprehensive amendment.

4.2 Current regulatory framework for the Crustacean management unit

1. Delineation of Management Areas (660.12, definitions):
   - Permit Area 1: EEZ of Northwest Hawaiian Islands (NWHI)- west of 161° W long.
   - Permit Area 2: EEZ of Main Hawaiian Islands (MHI)- east of 161° long.
   - Permit Area 3: EEZ of American Samoa and Guam.
   - Crustaceans Permit Area 1 VMS Subarea: EEZ area within Permit Area 1 defined by 50 nm radius from the center geographical positions of designated islands and reefs with connecting areas between areas that otherwise would be non-contiguous.

2. Permits (660.41):
   - Limited access commercial permit required in Area 1, maximum of 15 permits issues;
     - permits are transferable;
     - guidelines are established for qualification for limited access permit based on history in fishery.
     - Commercial permit required for Areas 2 and 3; cannot simultaneously hold permit for a single vessel to operate in Areas 1 and 2.
     - Research permits for experimental fishing (660.17).

3. Monitoring:
   - Recordkeeping (660.14):
     - fishing record forms: log of fishing activity and catch (660.14a);
     - sales report and packing or weigh-out slips: provides record of landings (660.14c & d).
   - Notification: report 36-24 hours prior to landing ETA and place, 12-6 hours before off-loading catch, unless VMS-equipped.
   - Observers: may be placed on vessels at NMFS discretion (660.49)
   - Vessel identification (660.16).
   - Gear identification (660.47).

4. Harvest limitations:
   - Permit Area 1 (NWHI): NMFS sets annual harvest guideline (quota) by February 28; based on vessel reports season ends when quota met (660.50).
     - Harvest guideline set by area: for the Necker Island Lobster Grounds, Gardner Pinnacles Lobster Grounds, Maro Reef Lobster Grounds, and General NWHI Lobster Grounds (660.50(a)).

   - Permit Area 2 (MHI): no retention of <8.26 carapace, berried females, punctured or mutilated lobsters (660.44).

5. Closed seasons (660.45):
   - Permit Area 1: January to June, inclusive, but VMS equipped vessels may enter Permit Area (exclusive of VMS Subarea) in advance of season opening.
   - Permit Area 2: May, June, July and August.

6. Closed areas (660.46):
   - within 20 miles from Laysan Island;
   - within EEZ landward of 10 fathoms.

7. Gear restrictions (660.48):
   - Permit Areas 1 & 2:
     - traps or hand only, no use of harmful chemicals or poisons, nets, spears or explosives.
   - Permit Area 1 only:
     - Trap opening dimensions specified (not allow 16.5 cm sphere passage);
     - Traps must have two escape vents (6.7 cm diameter).
     - Vessel cannot carry more than 1,200 traps of which 1,000 may be assembled.
     - Vessel cannot leave traps unattended (except in emergency and with notification to NMFS).
     - Vessel with VMS may enter Permit Area prior to season opening but must remain outside VMS subarea but may transit subarea for the purpose of returning to port following the season closure date.

8. Protected Species (monk seal) (660.51 & 660.52):
   - monk seal protective measures require reporting of death of a monk seal directly attributable to lobster fishery. This may lead to investigation by NMFS and imposition of either protective or emergency protective measures such as changes in gear design, area and/or time closures.

9. Procedural matters
   - Framework procedures: allows for modification of existing measures on recommendation from Council based on Council's consultative process. Allows for implementation of new measures on recommendation from Council after Federal Register notification and public comment. (660.53)
   - Five-year review: assessment of the biological, economic and social aspects of the fishery by July 1, 2001. (660.54)

4.3 Changes in the fishery during the period under consideration

Council activity has focused on Permit Area 1 (NWHI) in the crustacean fishery because this is the only area in federal waters where is a substantial active commercial fishery. (A few vessels fish in the limited fishable waters of Permit Area 2.) The history of the fishery can be divided into three phases: inception and early development in the pre-FMP period (1978-1992), a

"boom and bust" cycle where management was mainly reactive (1983-1991), and inception and adjustment to a period of more proactive catch-effort limiting management measures (1992-present).

In 1975 stock assessment by the NOAA vessel Townsend Cromwell gave evidence that there were commercially exploitable lobster populations in the NWHI, particularly near Necker Island. Data for the fishery that developed during this period are fairly limited and not consistent with later data gathered under FMP mandate. Five or fewer vessels appear to be active during this period, making between 6 and 14 trips annually. Lobsters were caught for a local live market. Estimated annual harvest was below 100,00 lbs.[4] (in contrast to the fishery's peak year, 1985, when 533,000 pounds were harvested). To a certain extent FMP development was attempting to hit a 'moving target' in that the fishery was already undergoing substantial growth and change during the period of its preparation. The main change in strategy was a move towards at-sea processing and freezing of the catch in order to overcome the limitations of the local fresh market, which had already become saturated in the late '70's.

If the estimate of a 400,000 lb. harvest in 1980 is correct then it may be that the fishery was already exhibiting a cyclic nature at the time of Plan implementation. In any case, the next phase, from Plan implementation in 1983 to the implementation of Amendment 7 in 1992, when tight catch and effort limits were put on the fishery, shows a classic pattern of growth and decline. 3.1 gives a graphic overview of the fishery from 1983 onwards. During the initial growth period large West coast-based vessels entered the fishery, spurring elevated harvest levels. The harvest strategy also changed in two ways during this period. As mentioned, there was a move towards on-board processing and freezing so that by the peak of the fishery less than 10% of the catch was destined for the live market. At the same time fishing effort was increasingly directed towards the harvest of slipper lobster species. Slipper lobsters are caught in deeper waters and are more prevalent in certain fishing areas (1986 Annual Report, p. 6). There is also a seasonal pattern in species harvest with slipper lobster species harvested earlier in the calendar year (February to June) and the spiny lobster species prevalent in the middle and late part of the year (May to November). This period can be sub-divided into two parts around 1987. Total harvest and proportion of slipper lobster species in the harvest increase rapidly and then fall to a 1987 low. CPUE declines rapidly, but one would expect at MSY a CPUE half as large as the value at the beginning of exploitation. This was achieved around 1989, but for other reasons the fishery continued to decline (see below). The fishery temporarily bottoms out in 1987 when a number of the large West coast vessels leave the fishery. A second cycle then runs from 1988 to 1991. The fishery rebounds, although with a much higher proportion of spiny lobster in the catch. Harvest increases in 1988 were attributed to good weather conditions and greater fishing efficiency (for example, by contracting for at-sea re-provisioning). Slipper lobster landing dropped because of declining ex-vessel prices for slipper lobster and good catch rates for spiny lobsters (1988 Annual Report, p. 17). A shift in the type of traps used may also have had an impact on slipper lobster catch rates.

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[4] Data is generally not available for the years 1980-1982 although the FMP gives an estimate of 400,000 lbs. for 1980 (p. 79).

These changes prompted most of the amendment provisions adopted during this period. Amendment 3, changing the definition for minimum size, was adopted in response to the shift to at-sea processing. Amendments 4 and 5, broadened the regulated species and changed reporting requirements to include slipper lobsters. Another important provision in Amendment 5, given later developments, was the requirement for escape vents in traps.

Polovina and Mitchum[5] argue that larval recruitment to the fishery had fallen off substantially around 1986 due to meso-scale oceanographic factors. This led to recruitment failure in 1990 when 1986 and later year classes recruited to the fishery. Excepting 1987, where catch decline may not be related to stock characteristics, the growth and decline in harvests during this period is dramatically evident. Although the annual reports and amendment background text written during this period argue that there was little evidence of recruitment overfishing, it seems evident that high levels of effort combined with (possibly cyclic) environmental factors affecting recruitment led to a precipitous decline in annual harvests. A second factor that may have affected assessments of the fishery in this period was an overestimation of the survival rate of discarded sub-legal and berried lobsters. This culminated in the 1991 emergency closure of the fishery for six months and subsequent implementation of Amendment 7 in early 1992.

Management of the crustacean fishery was significantly intensified under Amendment 7. This ushered in a third phase in the fishery in which harvests have been much lower than in previous years, in part due to problems in accurately setting quota. The fishery was completely closed for all of 1993 and in 1995 the fishery was closed except for one vessel fishing under an experimental permit to assess the condition of the stocks. Subsequent amendments have essentially been adjustments to quota setting methods. Amendment 9 represents a significant departure with the abandonment of catch restrictions based on size and reproductive status. This is a recognition of high handling mortality and the feeling that assessments can be more accurate in a retain all fishery because fishing mortality can be more precisely estimated. The escape vents mandated in Amendment 5 are an important component in this strategy.

The most recent management initiative has been the implementation of area-specific quotas in 1998. It was recognized that there is little recruitment between banks so local depletion was possible. In 1999 a regulatory amendment (framework procedure) implemented an administrative process for making annual harvest guidelines area-specific. The method of calculation differed somewhat from that used in 1998. As seen if Figure 4.1, CPUE has improved somewhat in recent years. Because of the retain-all regulations caught and kept CPUE converge.

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[5] Polovina, Jeffrey J. and Gary T. Mitchum. 1992. Variability in spiny lobster *Panulirus marginatus* recruitment and sea level in the Northwestern Hawaiian Islands. *U.S. Fishery Bulletin*, 90:483:493.

{Figure 4.1: Catch and CPUE in NWHI lobster fishery}

5 Bottomfish and Seamount Fisheries

5.1 Chronology of implemented management actions (FMP & Amendments) and NEPA documentation

5.1.1 FMP, EA

Title: Combined Fishery Management Plan, Environmental Assessment and Regulatory Impact Review for the Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Ocean (Final)

5.1.1.1 Relevant dates

Document date: March 1986

Final rule effective date: August 27, 1986 (51 FR 27413)

5.1.1.2 Major regulatory provisions

Area delineation: NWHI, MHI, Hancock Seamounts, Guam and American Samoa are designated management sub-units.

Permits: Federal permit required for commercial bottomfishing in the NWHI; experimental fishing permit to allow limited experimental fishing to improve management data base.

Monitoring: to be carried out by state/territorial agencies.

Harvest limitations: 6 year moratorium on commercial fishing at Hancock Seamounts.

Gear restrictions: Prohibit bottom trawl and bottom-set nets; prohibit use of explosives and poisons.

Procedural matters: Framework for regulatory adjustments by following process:

1. establishment of Bottomfish Monitoring Team (BMT);
2. BMT conducts annual review and prepares report;
3. further investigation by BMT if any one of 14 issue criteria are met;
4. at any time if needed, evaluation by BMT of FMP specified alternative management measures (catch limits, size limits, closures, effort limitations, access limitations, or other measures) for possible Council consideration;
5. based on above BMT recommends to Council new federal regulation, state/territory action, administrative elements or research and data collections; recommendation includes consideration of biological, physical, economic and social, and

administrative impacts;

6. Council considers recommendations, holds public hearings and recommends action to (a) Regional Director for federal action (recommendation includes description of consistency with national standards, CZMA and other applicable federal law, e.g., NEPA), or (b) state/territorial governments.
7. If federal action Regional Director forwards regulations, if approved, for clearance by relevant agencies and publication in Federal Register; if disapproved Council may appeal to F.

(**procedural matters** cont.) Limited access may be considered under the framework for the NWHI only and specific requirements for development are outlined; adoption of measures equivalent to current state/territorial measures for relevant EEZ may be done procedurally.

Other: define two FMU's by species complex and outline excluded species.

5.1.1.3 Discussion

Management units are defined both spatially and ecologically. Three species complexes are identified: the seamount complex occurring in more northerly latitudes and only found at Hancock Seamount in Western Pacific U.S. waters, the bottomfish complex defined by the 100 fathom isobath and the reef fish complex in shallow coastal waters, which is excluded from management. There are also trans-boundary issues in the bottomfish fishery because fishing vessels readily move between local and federal waters. This requires that management be closely coordinated with responsible state/territorial agencies. The plan identifies 10 issues that justify the need for management and translate them into Plan objectives.

The FMP proposes a few basic measures for immediate implementation. The major thrust is directed at outlining a framework procedure so that future action can be taken without plan amendment. The framework process is explicitly outlined in the FMP and pursuant regulation because framework action by the RD must show a clear relation to FMP implementation and not represent a *de facto* amendment. Imposing a limited access regime was under discussion during plan development; therefor additional requirements for procedural adoption are outlined in the draft regulations. The framework process contains the essential elements for a NEPA document: description of preferred and alternative actions, assessment of the impact of each action and opportunity for public comment through the Council process. In addition, the plan suggests that the framework process will address NEPA with a box labeled "Satisfy Other Applicable Law" in Figure 6.1, a flow chart of the framework process (p. 6-2).

A variety of rejected alternatives are described. These fall into three broad categories: measures precluded from Council consideration; measures rejected for inclusion in framework management options and alternatives considered. The plan also reviews alternatives by management sub-area. Considered but rejected alternatives are presented paired with the preferred alternative and include:

1. state/territory management of EEZ fishing activity (versus federal management);

2. conventional FMP (versus framework FMP);
3. single species FMU's (versus multi-species FMU's)
4. numerical estimate of OY and DAH (versus non-numerical description);
5. federal data (catch) reporting requirements (versus existing state/territorial requirements).

NEPA compliance (incorporation of environmental assessment) is referred to in Section 9.7 (9.0: Relationship to of FMP to Other Applicable Laws and Policies). The FONSI (Section 8.8, under Section 8.0: Determinations) is well documented by summarizing management goals, elements of the proposed action and evaluating these according to criteria set out in NDM (NOAA Directives Manual) 02-10(13)(b), which are equivalent to an earlier version of NAO 216-6.

5.1.2 Amendment 1

Title: Amendment #1 for the Fishery Management Plan for the Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Region

5.1.2.1 Relevant dates

Document date: June, 1987

Final rule effective date: November 11, 1987 (52 FR 38102)

5.1.2.2 Major regulatory provisions

Procedural matters: extend limited access option within plan framework to include EEZ's of American Samoa and Guam; extend the due date for Annual Report of BMT from March 31 to June 30 of each year.

5.1.2.3 Discussion

This amendment was developed in response to requests made by American Samoa and Guam Council representatives. Although limited entry programs could be established for these areas through amendment, Amendment 1 allows it to be adopted through framework procedures. Only the no action (or "do nothing") alternative is proposed. Amendment language states that it "is purely procedural and is simply a fine-tuning or minor adjustment of the framework FMP" (p. 11). Therefor it is not prepared as an EA/EIS. Given that it is a minor adjustment to the framework procedure (and only required deletion of a few phrases in the regulations) this assertion seems justified. However, as outlined in NAO 216-6, management documents must have some accompanying NEPA documentation, either an EIS, EA or CE. If this amendment merited a CE it should have been so stated.

5.1.3 Amendment 2, EA

Title: Amendment 2 to the Fishery Management Plan for the Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Ocean

5.1.3.1 Relevant dates

Document date: March, 1988

Final rule effective date: September 6, 1988 (53 FR 29907)

5.1.3.2 Major regulatory provisions

Area delineation: NWHI divided into Mau and Ho'omalu zones.

Permits: limited entry permit system for NWHI Ho'omalu zone including eligibility for initial permits based on historic participation ("grandfather clause") and qualification procedure for new entrants and re-entry, requirements for permit renewal, voluntary withdrawal from fishery.

Harvest limitations: in Ho'omalu zone bottomfish incidentally caught in other fisheries (i.e. crustacean fishery) cannot be sold.

Protected species: qualifying Ho'omalu permit holders must attend USFW-sponsored workshop on endangered species.

5.1.3.3 Discussion

Although framework provisions accommodated the limited entry option it was decided to use the amendment process so as to maximize public input and discussion. A specific upper limit for vessel participation is not specified. Instead this would be determined by total eligible number under the 'grandfather clause'. The need for management rationale is based on the 14 criteria outlined in the FMP framework provisions. It is argued that eight of these criteria have been met, triggering the need for additional management measures. Alternatives besides the proposed action (and no action) tend also to directly or indirectly limit effort. They are:

1. fishery wide annual quota;
2. individual transferable quotas (ITQ's);
3. minimum size limits (not effort limiting but lessen chance of recruitment overfishing);
4. closed seasons or areas;
5. gear restrictions limiting lines or hooks, crew per boat, or use of electronic equipment;
6. landing limits per trip ("bag limit");
7. limit on number of trips per year; and

8. taxation and license fees.

Although not reflected in the amendment title, Section 10.5 notes compliance to NEPA requirements and includes the FONSI statement, referencing documentation in the FMP FONSI.

5.1.4 Regulatory Amendment (55 FR 42966), CE

Federal Register date: October 25, 1990

Final rule effective date: November 26, 1990

SUMMARY: NOAA issues this final rule as an addition to the regulations implementing the Fishery Management Plan for the Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Region (FMP). The rule makes it a Federal requirement that catch and effort data for all bottomfish be reported to the State of Hawaii, the Territory of American Samoa, and the Territory of Guam in compliance with the respective laws and regulations of each area. The intended effect of this action is to improve the ability of NMFS, American Samoa, Guam, and Hawaii to monitor the catches of bottomfish and seamount groundfish management unit species (BMUS). This rule will foster cooperative enforcement efforts between NMFS, the U.S. Coast Guard, and the state/territorial enforcement agents to ensure compliance with catch reporting requirements without imposing additional Federal data collection rules.

5.1.4.1 Major regulatory provisions

Monitoring: Requires reporting to state agencies.

5.1.5 Amendment 3, EA

Title: Amendment 3 and Environmental Assessment, Fishery Management Plan for the Bottomfish and Seamount Groundfish of the Western Pacific Region

5.1.5.1 Relevant dates

Document date: October, 1990

Final rule effective date: January 16, 1991 (56 FR 2503)

5.1.5.2 Major regulatory provisions

Procedural matters: mandated definition of overfishing based on a spawning potential ratio of 0.20; two alternative estimation equations proposed.

5.1.5.3 Discussion

This definition was mandated based on DOC Secretary's revised guidelines which

specify that each FMP specify and "an objective and measurable definition of overfishing for each stock or stock complex" (p. 5). This definition is to be integrated into existing framework procedures as a criterion for additional management. Rejected alternatives aside from no action are a non-numerical definition or a definition based on an SPR other than 0.20. NEPA requirements are outlined and a FONSI statement included in Section 8.0

5.1.6 Amendment 4, EA

Title: Amendment 4 and Environmental Assessment, Fishery Management Plan for the Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Region

5.1.6.1 Relevant dates

Document date: January, 1991

Final rule effective date: May 26, 1991 (56 FR 24351)

5.1.6.2 Major regulatory provisions

Area delineation: RD may change the size of the protected species study zone if he determines that the fishery is not having an adverse impact.

Monitoring: vessels operating within the protected species study zones in the NWHI must notify RD for possible placement of NMFS observers on board their vessels.

5.1.6.3 Discussion

This amendment makes permanent emergency interim rule (55 FR 4905 et. seq.) that required operators to notify NMFS if they intend to fish within a NWHI protected species zone for possible placement of observers on board. Emergency rules can only stay in effect for a maximum of 180 days.

The amendment only offered the no action alternative. Section 6.1 outlines NEPA compliance and 6.1.1 discusses the action against six criteria that seem to be a mix of those outlined in the earlier version of NAO 216-6 (Sections 6.10c and 6.11) in support of a finding of no significant impact. The FONSI statement is contained in Section 6.1.2.

5.1.7 Regulatory Amendment (57 FR 36907), CE

Federal Register date: August 17, 1992

Final rule effective date: August 27, 1992

SUMMARY: NMFS issues this final rule to extend for 6 years the moratorium on fishing in the Hancock Seamount fisheries under the Fishery Management Plan for Bottomfish and Seamount

Groundfish Fisheries of the Western Pacific Region (FMP). This rule is intended to ensure that fishing mortality in the exclusive economic zone (EEZ) will not contribute to further declines in the seamount groundfish stocks and may help foster a rebound of those stocks throughout their range. The seamount groundfish stocks are overfished, and if the moratorium is not extended and fishing resulted, the recovery of the stocks would be further threatened.

5.1.7.1 Major regulatory provisions

Harvest limitation: Extends moratorium on Hancock Seamount fisheries to 1998.

5.1.8 Regulatory Amendment (58 FR 26255), CE

Federal Register date: May 3, 1993

Final rule effective date: June 2, 1993

SUMMARY: NMFS issues this final rule that amends the regulations implementing the Fishery Management Plan for the Bottomfish and Seamount Groundfish Fisheries of the Western Pacific Region (FMP). The final rule requires all primary operators and relief operators on vessels intending to fish for bottomfish within the Mau Zone of the Northwestern Hawaiian Islands (NWHI) to complete a protected species workshop conducted by NMFS.

5.1.8.1 Major regulatory provisions

Protected species: Requires vessel operators to attend NMFS protected species workshop.

5.1.9 Regulatory Amendment (62 FR 8637), EA

Federal Register date: February 26, 1997

Final rule effective date: March 27, 1997

SUMMARY: NMFS issues this final rule to impose a 2-year moratorium on issuing new permits for harvesting bottomfish in the Mau Zone of the Northwestern Hawaiian Islands so that effort in the fishery will be stabilized while the Western Pacific Fishery Management Council (Council) develops a limited access program for the area. This will stabilize effort in the fishery while the Council develops a management system for the Mau Zone that may limit access to the fishery.

5.1.9.1 Major regulatory provisions

Permits: Imposes a 2-year moratorium on Mau Zone permits.

5.1.10 Regulatory Amendment (63 FR 35162), CE

Federal Register date: June 29, 1998

Final rule effective date: September 1, 1998

SUMMARY: NMFS is extending the current moratorium on harvesting seamount groundfish from the Hancock Seamount in the Northwestern Hawaiian Islands until August 31, 2004. The fishery has been under a moratorium since 1986. This action is being taken in response to a recommendation by the Western Pacific Fishery Management Council (Council), which heard reports from its Bottomfish Plan Team and Scientific and Statistical Committee that revealed that armorhead (*Pentaceros richardsoni*), an overfished seamount species, has not recovered. The intent of this action is to allow the protection provided for this resource to continue.

5.1.10.1 Major regulatory provisions

Harvest limitation: Extends Hancock Seamount moratorium to 2004.

5.1.11 Amendment 5, EA

Title: Amendment 5 Northwestern Hawaiian Islands Mau Zone Limited Access System

5.1.11.1 Relevant dates

Document date: August 1998

Final rule effective date: May 28, 1999 (64 FR 22810)

5.1.11.2 Major regulatory provisions

Permits: Establishes a limited entry program for the Mau Zone (NWHI), with a target of 10 permitted vessels. Criteria for the initial allocation of permits are outlined.

5.1.11.3 Discussion

The preferred alternative, a limited entry program, is compared to a grouped set of alternatives collectively referred to as indirect effort management measures in addition to the no action alternative. These are: annual quota for total harvest, minimum size limits for target species, closed seasons during spawning periods of target species, area closures to create protected habitat, additional gear restrictions, and landing, trip and crew limits. Impacts are analyzed in several categories derived from the national standards in the Magnuson-Stevens Act. The include sub-categories under the main categories of ecological, economic and social impacts.

The NEPA section states that an EA was prepared for this document and that relevant sections of the amendment are incorporated into it by reference. As with many other management

documents, this section includes list of criteria, based on NAO 216-6 and demonstrating that an EIS is not required, followed by the FONSI statement. A signature line for the appropriate administrator is also included.

5.1.12 Amendment 6, EA (SFA)

Title: Magnuson-Stevens Act Definitions and Required Provisions... Amendment 6 to the Bottomfish and Seamount Groundfish Fisheries Management Plan

5.1.12.1 Relevant dates

Document date: September 1998
Implemented: April 19, 1999 (64 FR 19067)- partial approval

5.1.12.2 Major regulatory provisions

Procedural matters : New definitions and fishery plan provisions. (See Table 3.1 for details).

5.1.12.3 Discussion

See section 3.1.5.3 for a description of the comprehensive amendment.

5.2 Current regulatory framework for the Bottomfish and Seamount Fisheries management unit

1. Area Delineation (660.69):
   - NWHI: area west of 161° 20' W. long.
   - Ho'omalu Zone: west of 165° W. long.
   - Mau Zone: area between 161°20' and 165° W. long.
   - MHI: area east of 161° 20' W. long.
   - Guam.
   - American Samoa.
   - Hancock Seamount.

2. Permits:
   - General: 660.13: Commercial permit required in all areas.
   - Limited entry permit for NWHI Ho'omalu and Mau Zones (660.61):
     - cannot hold permits for both zones simultaneously (660(a)(2));
     - guidelines are established for qualification for limited access permit based on history in fishery for Ho'omalu Zone and Mau Zone (660(a)-(b));
     - permits non-transferable except to replacement vessel (660(c), (d), (i));
     - must make qualifying landings as defined in 660.12 to renew permit (660.61(e), (j));
     - point system established to determine eligibility for new limited access

permits (660.61(g), (h));
    - new permits for Ho'omalu Zone may be issued by RA and Council if stocks can support additional effort (660.61(f));
    - appeal process outlined (660.61(k)).
- Research permits for experimental fishing (660.17).

3. Monitoring:
    - Catch reports submitted as required under state law (660.14(g)) and must be made available to federal agents (660.14(f)(3)).
    - Notification:
        - report intent to fish in protected species zones defined in 660.12; (definitions) for possible placement of observer on board;
        - at least 24 hours prior to landing notify of ETA and place if taken fish in Ho'omalu Zone.
    - Observers: may be placed on vessels at NMFS discretion (660.65).
    - Vessel identification (660.16).

4. Harvest limitations: Hancock Seamount: fishing prohibited until August 31, 2004.

5. Gear restrictions(660.64):
    - fishing with bottom trawls of bottom set gillnets;
    - poisons and explosives.

6. Endangered species: protected species study zones defined in 660.12; RD may modify (660.66). Vessel operators required to attend NMFS protected species workshop if fishing in Mau or Ho'omalu Zones (660.62) and to receive permit (660.61).

7. Procedural matters: framework procedures established (660.67):
    - monitoring team and annual reports (660.67(a));
    - further investigation based on criteria (660.67(a));
    - recommendations for management action (660.67(b));
    - Council evaluation and recommendation to RD and/or state/territorial governments (660.67(b));
    - federal action by rulemaking (660.67(b));
    - process of appeal if Council's recommendation rejected by RD (660.67(c));
    - specific procedures for limited access programs (660.67(d)).

8. Other: FMU's defined in 660.12.

5.3 Changes in the fishery during the period under consideration

The bottomfish fishery is both biologically and socially complex. Since it is a multi-species fishery abundance and stock status of individual species can have greater variance than indicators for the management unit as a whole. The fishery (except in the NWHI) mixes commercial, semi-commercial and recreational fishers with as much as half of the landings

(which may not be as effectively monitored) coming from the recreational fishery. It is also a trans-boundary fishery meaning that management depends on both federal and local regimes being effective.

The fishery has a long history in Hawaii; elsewhere it has developed more recently. Hawaii saw large landings after World War II, when catch data began to be compiled (and probably due largely to the war-related ban offshore fishing). However, landings declined until the late 1970's for economic rather than stock abundance related reasons. Since then landings have increased substantially. Commercial bottomfishing in the other areas (Guam, American Samoa and the Northern Mariana Islands) probably developed in the 1960's and '70's.

Hawaii landings are much larger in comparison to the other areas (Figure 5.1). During the period under federal management landings outside Hawaii have fluctuated but only in American Samoa are landing lower than at the beginning of the available comparative data series (Figure 5.2). These fluctuations are not thought to be stock related; because of the small size of the fishery in these areas entry and exit of individual fishers can significantly impact total landing figures.

The annual reports of the Bottomfish Plan Monitoring Team (BMT) evince the most concern for the main Hawaiian Islands fishery. Beginning with the 1989 Annual Report a streamlined report format has been adopted. Four biological and two economic indicators (as opposed to the 14 outlined in the framework process) are used to assess fishery status in each jurisdiction. "Yellow light" or "red light" status is given to fisheries deemed to be in trouble and meritorious of action. The main Hawaiian islands fishery was flagged as in "yellow light" condition from the outset of this approach primarily due to declining CPUE (Figure 5.3) and SPR values near the critical 0.20 value, with *Epinephelus quernus* (hapu'upuu) deemed in "red light" condition by the 1996 Annual Report. Of particular concern were severe declines in opakapaka (*Pristipomoides filamentosus*) and ehu (*Etelis carbunculus*) CPUEs and SPRs (1993 Annual Report, p. 9).[6] A consistent issue raised in these reports are problems with Hawaii state data, both in terms of assessed accuracy and ability to integrate it with NMFS data. By the early '90's some of these concerns had been resolved so that in Hawaii NMFS and Hawaii Department of Aquatic Resources data could be integrated. However, indicators for a number of critical species were still in decline and the BMT recommended urgent action on the part of state managers. However, in 1998 SPR values showed significant improvement, indicating some rebound in the fishery. In addition, research on larval drift suggest single archipelago-wide stocks with substantial larval transfer between zones, particularly from more healthy northwestern zones toward the more depleted MHI area.

There has not been a fishery for seamount groundfish due to the federal moratorium on this (foreign) fishery. Research indicates that these species recruit to specific seamounts from a pelagic phase in an essentially random fashion. Natural mortality is extraordinarily high so that

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[6] Although the CPUE for ehu was the lowest for all species in 1994 lowest SPR was for onaga (*Etelis coruscans*) suggesting that this species is also stressed (1994 Annual Report, pp. 8-9).

SPRs have remained very low. Given that most of the habitat is in international waters not subject to management and that recruitment is non-local it seems unlikely that these stocks will be fishable in the near future.

Amendment 2, establishing a limited entry program for the Ho'omalu Zone in the NWHI, is an important management measure because it sets a ceiling on vessels based on historic participation. Presumably potential effort represented by this level is below what would be needed to overfish stocks. Amendment 5 establishes a similar limited entry program for the Mau Zone. However, it is undoubtedly economically sub-optimal. Despite continuing concern by the BMT, neither the amendment or framework process has been used to address problems with overfishing in the MHI. This is due in part to the mix of commercial-recreational elements in the fishery and its trans-boundary status.

{Figure 5.1: 1998 bottomfish landings by area}

{Figure 5.2: Bottomfish landing trends}

{Figure 5.3: CPUE trends, Hawaii}

6 Pelagic Fisheries

6.1 Chronology of implemented management actions and related NEPA documentation

6.1.1 FMP, EA

Title: Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region

6.1.1.1 Relevant dates

Document date: July, 1986

Final rule effective date: March 23, 1987 (52 FR 5987)

6.1.1.2 Major regulatory provisions

Permits: foreign longliners require permit; experimental fishing permit for domestic drift-gillnet fishing.

Monitoring:

- Foreign longliners: file effort plans two months prior to EEZ entry; carry observers as directed by RD; maintain fishing logbooks.
- Domestic drift-gillnetters (under experimental fishing permit): collect catch-effort data and protected species interactions.
- Foreign pole-and-line vessels: voluntary submission of incidental catch data (mandatory reporting to be considered if voluntary effort fails).
- (Domestic fisheries: state/territorial monitoring programs continue).

Closed areas: various sizes designated around island areas for foreign longliners.

Gear restrictions: no foreign drift-gillnets, domestic with experimental fishing permit only.

Procedural matters: annual reports to be prepared; five-year review of FMP.

6.1.1.3 Discussion

Management of pelagic fisheries was complicated at the time of FMP preparation because of the United States' controversial policy towards highly migratory species which did not recognize coastal states' jurisdiction (and was subsequently changed in 1990 as part of re-authorization of the Magnuson Act). Management authority extended only to incidentally caught non-tuna species which were construed to be non-migratory although stock ranges of many of these species were as broad as the excluded tunas. Thus the FMUS are in fact by-catch in most of the foreign and some of the domestic fisheries. Measures could be imposed as long as they

gave foreign vessels a "reasonable opportunity" to fish within the EEZ and impose the least burden to achieve effective management of incidentally caught fish. Since 1980 non-tuna pelagic species in the Western Pacific EEZ's had been managed under a Preliminary Management Plan (PMP) promulgated by NOAA through the Secretary of Commerce. The PMP applied only to foreign fishing, thus legally (if not practically) allowing such a fishery in the interim before an FMP (which would also apply to domestic fisheries) was implemented. It set a quota (or TALFF and reserve) for managed species. The quota and ancillary poundage fees levied on actual catches were a sufficient deterrent so that no foreign fishing actually occurred in the EEZ's after promulgation of the PMP.

A further complication is the wide variety of gear types used and fishing styles practiced by foreign and especially domestic fishers. Each of these has a somewhat different 'by-catch' for FMU species. In addition, (as in the bottomfish fishery) the recreational-subsistence-quasi-commercial component of the domestic catch is significant. Accurate data is generally not available from these sectors.

The goals of the plan are generally to enhance domestic fishing for FMU species while providing foreign vessels targeting on tuna a reasonable to fish in the EEZ's. The main provision in the FMP is the area closures for foreign vessels; complete closure of the Hawaiian and Guam EEZ's were initially proposed but this was judged to violate the "reasonable opportunity" test required under U.S. tuna policy. Although many billfish apparently migrate in to coastal waters from a common central Pacific stock, it was felt that area closures would at least eliminate localized competition for billfish (but not necessarily pan-stock interactions). At the time of FMP preparation available data from both foreign fishers (because FMUS are not target species) and domestic (because of the large non-commercial and non-reported component) were somewhat limited. Monitoring actions seek to increase reporting from foreign vessels. State programs for monitoring commercial fisheries continue to be the main data source in these fisheries. Since the Hawaii recreational troll fishery is a major harvester of FMUS, joint monitoring efforts with Hawaii DAR are described.

The Plan proposes a variety of alternative measures. The no action alternative would be to leave the PMP in place. Amending the PMP represents another broad action that was rejected. A number of alternative management strategies are then presented:

1. Foreign longline fisheries:
   - monitoring only
   - control fishing effort
   - control fishing effort on a seasonal basis
   - control catch
   - placement of observers on a voluntary basis

2. Foreign pole-and-line fisheries:
   - monitoring only
   - control fishing effort

3. Foreign purse seine fisheries:
   - monitoring only

4. Foreign drift-gill-netters:
   - control fishing effort

These strategies are somewhat confusing as they are directed towards particular fisheries; unlike the preferred alternative (proposed actions) they do not contain measures across fisheries. Thus it is difficult to determine if these are in fact strategies (a compendium of measures comprising an integrated plan) or simply discrete measures. As a result they don't come across as genuine alternatives. These strategies are rated against the FMP's goals, presented in tabular format (Table 7.10). The accompanying text then discounts the results because assignment of values *vis a vis* goal attainment is "highly subjective". In addition, the preferred alternative is not included in the table for comparison. The impression given (fostered by confusingly presented and incomplete information) is that one or more of the rejected alternatives may have been preferable in terms of attainment of Plan goals and this fact was 'covered up.'

NEPA information is provided in Section 9.7. The actions are evaluated against the five criteria outlined in NOAA Directive Manual 02-10 (similar to NAO 216-6 Section 6.02) to determine whether an EIS is necessary. (It should be noted that NAO 216-6 (6.01.b.1) states that an EIS may be required if impacts are beneficial or adverse; it is not clear whether the actions are assessed for positive as well as negative impacts.) Additional broad criteria to assess significance are also considered: socio-economic impacts, controversy, uncertainty and impact on cultural and historic resources. A FONSI determination is made and so stated at the end of this section.

6.1.2 Regulatory Amendment (55 FR 42967), CE

Federal Register date: October 25, 1990

Final rule effective date: November 26, 1990

SUMMARY: NOAA issues this final rule as an addition to the regulations implementing the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region (FMP). The rule makes it a Federal requirement that catch and effort data for pelagic management unit species (PMUS) be reported to the State of Hawaii, the Territory of American Samoa, and the Territory of Guam, and Hawaii to monitor catch and effort of the PMUS. This rule will foster coopertive enforcement efforts between NMFS, the U.S. Coast Guard, and the state/territorial enforcement agents to ensure compliance with catch reporting requirements without imposing any additional Federal data collection rules.

6.1.2.1 Major regulatory provisions

Monitoring: Requires catch and effort data be reported to state agencies.

6.1.3 Amendment 1, EA

Title: Amendment 1 and Environmental Assessment, Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Ocean

6.1.3.1 Relevant dates

Document date: November, 1990

Implemented: March 1, 1991 (56 FR 9686)

6.1.3.2 Major regulatory provisions

Procedural matters: adopt mandated definition of overfishing; billfishes, mahimahi and wahoo SPR of 0.20, oceanic sharks SPR of 0.35; revise FMP objectives.

6.1.3.3 Discussion

The overfishing definition was mandated by the DOC Secretary's revised guidelines which specify "an objective and measurable definition of overfishing for each stock or stock complex." Five estimation procedures are outlined but it is noted that "SPR cannot be estimated reliability with any of the above estimators using statistics from the U.S. EEZ alone" (p. 13). The amendment discusses revision of the optimum yield (OY) definition in the FMP but notes that this cannot be done until greater knowledge of these Pacific-wide stocks is acquired. FMP objectives are revised to more explicitly address the need to achieve OY. Two alternatives (aside from no action) are proposed: using an SPR other than 0.20 for billfishes, mahimahi and wahoo, and using an MSY-based definition of overfishing for oceanic sharks. The NEPA section addresses the set of criteria used in the FMP (and found in NAO 216-6 and elsewhere) followed by the FONSI statement.

6.1.4 Amendment 2, EA

Title: Amendment 2 and Environmental Assessment, Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region

6.1.4.1 Relevant dates

Document date: February, 1991

Final rule effective date: May 26, 1991 (56 FR 24731)

6.1.4.2 Major regulatory provisions

Permits: require a federal permit for U.S. longline and transshipment vessels (whether or not fishing in EEZ).

Monitoring: logbooks required for U.S. longliners; vessel and gear identification.

Protected species: notification by longliners if intending to fish within 50 miles of selected NWHI for possible observer coverage; required orientation meeting about protected species for vessel operators fishing in NWHI.

Procedural matters: redefine the management unit to consist of the species management units across their range and longline and support vessels operating both inside and outside the EEZ but having impacts on fish and fishing within EEZ.

6.1.4.3 Discussion

This amendment makes permanent an emergency elements of an interim rule that became effective on November 27, 1990 (55 FR 42985) with some adjustments. The most significant is the redefinition of the FMU. The Hawaii-based longline fleet expanded rapidly during this period and targeted FMUS (especially swordfish and marlin) in addition to tunas. In targeting swordfish longliners in the NWHI were fishing close in shore and their was evidence of protected species interactions: monk seals with hooks in or non-natural injuries to their bodies for example. The main purpose of the amendment is to increase the quality and quantity of data on the domestic longline fishery. During this period the Council had also requested the Secretary, DOC establish an entry moratorium for the longline fishery based on a control date of June 21, 1990 (see Amendment 4). Rejected alternatives (aside from no action) include:

1. permits and logbooks only;
2. same as preferred alternative except that observer requirement applies to vessels fishing within 12 miles (instead of 50 miles) from selected NWHI.

The NEPA section contains a short summary of the document. The EA is evaluated in terms of the criteria used in other Pelagic FMU documents for a FONSI.

6.1.5 Amendment 3, CE

Title: Amendment 3, Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region (includes Regulatory Impact Review and Proposed Regulations

6.1.5.1 Relevant dates

Document date: June, 1991

Final rule effective date: October 14, 1991 (56 FR 52214)

6.1.5.2 Major regulatory provisions

Closed areas: extends closure of PSZ to longline fishery established in emergency interim rule (56 FR 15842).

Protected species: designates a protected species zone (PSZ) for waters within 50 nm of NWHI and corridors between islands more than 100 nm apart; establishes a process for the RD to designate additional conservation measures applicable within the PSZ.

6.1.5.3 Discussion

Mounting evidence suggested that there were interactions between longline gear and monk seals. Although there was no direct documentation of resultant mortality, circumstantial evidence suggested that this was so. This makes permanent elements of the interim rule implemented on April 18, 1991 (56 FR 15842). Rejected alternatives (aside from no action) would create a PSZ based on a definition different from 50 nm. The NEPA section states that a EA was prepared for the emergency interim rule and thus "this action is categorically excluded from the requirement to prepare an environmental assessment by NOAA Directive 02-10" (p. 10).

6.1.6 Amendment 4, CE

Title: Amendment 4 to the Fishery Management Plan for the Pelagics of the Western Pacific Region, Extend the Hawaii Longliner Moratorium for a total of 3 Years, Includes Environmental Assessment and Regulatory Impact Review

6.1.6.1 Relevant dates

Document date: June, 1991

Final rule effective dates: October 16, 1991-April 22, 1994(56 FR 14866)

6.1.6.2 Major regulatory provisions

Monitoring: test vessel monitoring systems (VMS) to track location; establish process for requiring use by vessels.

Procedural matters: extend entry moratorium to longline fishery established by emergency interim rules (56 FR 14866, 4/12/91 and 56 FR 28116, 6/19/91) for three additional years.

6.1.6.3 Discussion

The main interim rule (effective date, April 23, 1991) established a three-year moratorium on new entry into the longline fishery based on a control date of June 21, 1990. The proposed amendment changes the control date (which establishes eligibility based on participation in the fishery prior to that date) at December 5, 1990. It also admitted five vessels from the NWHI lobster fishery due to hardship conditions in that fishery. This amendment is in response to the doubling of Hawaii-based longline vessels between 1989 and the amendment date. Most of the new entrants had moved from home ports in the Gulf of Mexico. These vessels

are larger, range further and have greater fishing power than older Hawaii-based 'sampan-style' longliners. The longline fleet very rapidly became the largest component of Hawaii commercial fisheries.

The amendment also discusses testing of remote vessel tracking systems in the context of determining whether U.S. longline vessels fishing exclusively outside the EEZ should be exempted from the moratorium (which applies to landing fish in Hawaii).

Rejected alternatives (aside from no action) are:

1. "Only" implement area closures around MHI. This alternative is somewhat confusing as it refers to another emergency interim rule not yet implemented at the time of this amendment.
2. A shorter or longer moratorium period.
3. Moratorium applied only to vessels fishing in EEZ (contrasted to preferred alternative of application to entire species range).
4. Make permits transferable or implement ITQs.
5. Exempt species not significant in coastal small-boat fisheries (e.g., swordfish).
6. Limit berthing spaces in Honolulu Harbor.

The list of alternatives is slightly confusing because of the inclusion of an alternative that does not seem to bear directly on the preferred alternative (closed areas) and listing of a preferred alternative (application of moratorium to vessels fishing in full species range) in this list to contrast it with the rejected alternative. The NEPA section notes that the NMFS prepared an EA for the interim regulations establishing the emergency closure. Although there is no specific mention that this action categorically excluded, it contains a FONSI statement based on criteria similar to those in other Pelagic FMU documents.

6.1.7 Amendment 5, SEA

Title: Amendment 5, Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region

6.1.7.1 Relevant dates

Document date: October, 1991

Final rule effective date: March 2, 1992 (57 FR 7661)

6.1.7.2 Major regulatory provisions

Closed areas: prohibit longline fishing within 75 or 50 nm of designated MHI and within 50 nm of the 100 fathom isobath around Guam and its offshore banks and FADs.

Procedural matters: establish framework process to adjust area closures annually and/or in-season; establish framework process for exempting individual vessel owners from area

closures.

6.1.7.3 Discussion

The amendment makes the MHI area closure established by interim rules (56 FR 28116, June,19, 1991; corrected at 56 FR 31689 on July 11, 1991 and extended at 56 FR 47701 on September 20, 1991) permanent and extends it to Guam. Framework procedures are outlined in order to review and adjust area closures by annual review or immediately (in-season) if warranted, and to exempt fishermen on a case-by-case basis if historic dependence and economic hardship can be demonstrated. Whether or how NEPA requirements would be addressed in framework procedures is not discussed. Rejected alternatives (aside from no action) are:

1. smaller closed areas (Guam and Hawaii);
2. exemption of small vessels (e.g. less than 50 ft.) from area closures (Hawaii only).

The NEPA section notes that an EA was prepared for the emergency interim rule. This amendment is intended to supplement that EA because of the additional framework provisions not included in the interim rule and the inclusion of Guam provisions. It states that a "supplemental EA discussing Guam is attached" (p. 40). This is not the case (e.g., there is no appendix with a separate supplemental EA discussing the Guam provisions exclusively) but the amendment--which incorporates a full discussion of the Guam provisions--conforms to a standard amendment format that satisfies NEPA requirements. The FONSI is based on review of criteria similar to those used in other Pelagic FMU documents.

6.1.8 Amendment 6, EA

Title: Amendment 6, Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region. Proposed Actions: 1) include tunas and related species in the FMP; 2) establish consistent regulations for foreign and domestic longline vessels; 3) establish general regulations for other foreign vessels fishing for pelagic species.

6.1.8.1 Relevant dates

Document date: April, 1992

Final rule effective date: November 27, 1992 (57 FR 48564)

6.1.8.2 Major regulatory provisions

Other: Include tunas (species previously excluded from management jurisdiction) in FMU; develop mandated overfishing definition for these species; develop regulatory framework to allow foreign fishing for these species.

6.1.8.3 Discussion

The 1990 amendments to the Magnuson Act recognized coastal state jurisdiction over "highly migratory species" (defined as tuna and related species). This meant that these species can now be regulated under the Pelagic FMP which had previously been focused on the 'by-catch' in these fisheries (although the expanded Hawaii-based longline fleet targets on some non-tuna pelagics). Rejected alternatives (aside from the no action alternative) are:

1. develop a new FMP for tunas only;
2. define overfishing for tunas as an SPR other than 0.2;
3. establish additional management measures for domestic tuna vessels (rejected because a separate amendment is to be prepared to establish a limited entry program to replace the moratorium).

The NEPA section contains a FONSI statement without discussion of criteria as in other amendments.

6.1.9 Regulatory Amendment (58 FR 14170), CE

Federal Register date: March 16, 1993

Final rule effective date: April 15, 1993

SUMMARY: NMFS issues this final rule recommended by the Western Pacific Fishery Management Council (Council) to revise requirements for making and identification of gear used by operators of domestic and foreign longline fishing vessels operating under the Fishery Management plan for the Pelagic Fisheries of the Western Pacific Region (FMP). The change requires operators of permitted longline vessels to mark all their longline floats and buoys, whether deployed in the exclusive economic zone (EEZ) or possessed on board the vessel. The regulations previously required operators of permitted longline fishing vessels to mark floats and buoys only when attached to deployed longline gear; this limited the effectiveness of the regulations. The final rule also allows for the confiscation of unmarked longline gear that is found deployed in the EEZ. This will reduce the likelihood of abandoned gear impacting other fisheries or protected species.

6.1.9.1 Major regulatory provisions

Monitoring: Revises gear identification requirements.

6.1.10 Regulatory Amendment (58 FR 49438), CE

Federal Register date: September 23, 1993

Final rule effective date: October 25, 1993

SUMMARY: NMFS removes Federal regulations governing foreign longline fishing for pelagic species, other than tuna, in the exclusive economic zone (EEZ) off the Commonwealth of the

Northern Mariana Islands (CNMI) and the west coast of the U.S. mainland. Foreign fishing in these areas is governed by the Preliminary Fishery Management plan for Pacific Billfish, Oceanic Sharks, Wahoo, and Mahimahi (PMP). The Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region (FMP), which manages all domestic and most foreign fishing for pelagic species off the coasts of Hawaii and U.S. territories of the western Pacific, has largely replaced the PMP. Withdrawing the PMP and its implementing rules will reduce the complexity caused by having two separate management approaches for foreign fishing.

6.1.10.1 Major regulatory provisions

Procedural: Withdraws rules on fishing for non-tuna species in CNMI waters implemented under PMP.

6.1.11 Regulatory Amendment (59 FR 18499), EA

Federal Register date: April 19, 1994

Interim final rule effective date: April 23, 1994

SUMMARY: NMFS adopts as final, with one change, the interim final rule authorizing the Southwest Regional Director (RD), NMFS, to require the owner or agent of a vessel with a permit for the longline fishery to make accommodations for a NMFS observer. This final rule requires permit holders or their designated agents (which may include the vessel operator) to provide NMFS with at least 72 hours notice (not including weekends and Federal holidays) prior to each departure from port so the RD can determine if an observer placement will be made. This action is necessary to ensure adequate collection-of-data on the frequency and nature of interactions between longline fishing gear and sea turtles around Hawaii to ensure the fishery operates in compliance with the Endangered Species Act (ESA).

6.1.11.1 Major regulatory provisions

Monitoring: Requires vessel owner/operator to notify NMFS prior to departure in order to decide if an observe is required on the trip.

6.1.12 Amendment 7, EIS

Title: Amendment 7 to the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region, Proposed Limited Entry Program for the Hawaii Longline Fishery (measures to replace the 1991-94 moratorium on new entrants to the fishery), Includes Final Environmental Impact Statement and Regulatory Flexibility Analysis.

6.1.12.1 Relevant dates

Document date: January, 1994

Final rule effective date: June 24, 1994 (59 FR 26979)

6.1.12.2 Major regulatory provisions

Permits: establish limited entry program with single permit and including fees to cover administrative costs.

Procedural matters: establish framework procedure to modify limited entry program including established and new measures.

Other: allow transiting longliners entry to Hawaii ports and EEZ; add additional species to MU; modify OY definition.

6.1.12.3 Discussion

This amendment transforms the three year entry moratorium established in Amendment 4 into a limited entry permit program. Specific qualification criteria are described. Vessels can only upgraded to the size of the largest longline vessel fishing under the moratorium. Permits are transferable subject to vessel size limits.

Separate framework procedures for modifying established measures (i.e., by this and other amendments) and new measures(i.e., not used before or not applied to the fishery in question). Established measures are listed. Description of the framework processes does not explicitly address NEPA requirements although in both cases a proposal document must be prepared for submission to RD and this might be the entry point for environmental assessment. Minor provisions simply permits by only requiring a single permit for limited entry qualifiers (versus both a general commercial permit and a longline permit), adds three species groups to the FMU and allows non-permitted longliners to transit the Hawaii EEZ and enter its ports as long as no pelagic species are off-loaded.

Rejected alternatives are organized in sections describing each preferred alternative. No action alternatives are listed by section with reference to preferred alternative. Rejected alternatives (aside from no action) are:

1. Limited Entry Program:
   - limit entry so that fleet-wide harvesting capacity does not exceed maximum capacity during moratorium;
   - limited entry permits transferrable, no harvest capacity limits;
   - extend current moratorium regulations;
   - dual permit system with second unrestricted permit for vessels only fishing outside the EEZ;
   - open access.

2. Framework procedures:
   - framework limited entry procedures only;

- no new framework procedures.

3. Permit fees
   - no permit fees.

A variety of regulatory measures that were not evaluated are briefly described. Because the amendment is an FEIS it includes comments on the DEIS and responses to those comments.

6.1.13 Regulatory Amendment (59 FR 58789), CE

Federal Register date: November 15, 1994

Final rule effective date: December 15, 1994

SUMMARY: NMFS issues a final rule implementing an experimental vessel monitoring program in the pelagic longline fishery around Hawaii using an electronic vessel monitoring system (VMS). Under this program, vessels operating in this fishery, upon notification by NMFS, are required to carry vessel monitoring equipment owned and installed by NMFS. Such equipment allows a vessel to be identified and its location monitored by satellite. Such information will be used by NMFS and the U.S. Coast Guard (USCG) in the enforcement of regulations that prohibit fishing in closed areas. This experimental program, which is to run for 3 years or less, is needed so that the Western Pacific Fishery Management Council (Council) and NMFS can evaluate the performance and cost-effectiveness of VMSs and make recommendations regarding the future use of VMSs in this and other fisheries.

6.1.13.1 Major regulatory provisions

Monitoring: Hawaii longline permit holders required to use VMS.

6.1.14 Amendment 8, EA (SFA)

Title: Magnuson-Stevens Act Definitions and Required Provisions... Amendment 8 to the Pelagic Fisheries Management Plan

6.1.14.1 Relevant dates

Document date: September 1998
Final rule effective date: April 19, 1999 (64 FR 19067)- partial approval

6.1.14.2 Major regulatory provisions

Procedural matters: New definitions and fishery plan provisions. (See Table 3.1 for details).

6.1.14.3 Discussion

See section 3.1.5.3 for a description of the comprehensive amendment.

6.2 Management Actions in Preparation

6.2.1 Regulatory Amendment (PRIA permits)

Title: Regulatory Amendment Establishing Permit and Reporting Requirements for the Pelagic Troll and Handline Fishery in the Remote Island Areas of the Western Pacific Region

6.2.1.1 Relevant dates

Document date: September 22, 1999

Under NMFS review

6.2.1.2 Major regulatory provisions

Permits: Required to harvest pelagic MUS around Howland, Baker, Jarvis, and Wake Islands; Johnston, Midway, and Palmyra Atolls; and Kingman Reef (Pacific remote island areas-PRIAs).

Monitoring: Logbooks are required for vessels operating under the proposed permit. The current logbook required by the US Fish and Wildlife Service for charter vessels operating at Midway Atoll meets this requirement.

6.2.1.3 Discussion

This management initiative is prompted by an increase in commercial fisheries around the PRIAs since 1998. Vessels from the Hawaiian longline fleet and two Hawaii-based troll/handline vessels are operating at Palmyra Island and Kingman Reef. With the introduction of tourism to Midway, charter boats now operate there. Thus there is the need to begin monitoring activities in these areas. Three management alternatives were considered. However, they are cast in terms of the regulatory process; that is, either a 'comprehensive amendment,' which would incorporate the proposed permitting and monitoring requirements into all existing FMPs, or the preferred alternative in which adjustments (or amendments) are made to each FMP separately; thus this initiative addresses pelagic fisheries only. (The third alternative is no action.) The Council determined that a comprehensive amendment would be time consuming, especially since the PRIAs are not part of the management areas in the Bottomfish and Crustacean FMPs. The preferred alternative would allow regulatory activity to begin for pelagic fishing vessels, which are the main type active in the Remote Areas.

The regulatory amendment (framework adjustment) is an integrated document with the recommended sections necessary to satisfy NEPA requirements. However, the NEPA subsection

does not specifically reference the document sections that address the elements of an EIS/EA. (Since the document is under review it is likely that eventually these points will be addressed.) As with other recent Council documents, a seven point list mainly derived from the criteria in NAO 216-6 is used to demonstrate that the action does not trigger an EIS requirement. The FONSI statement and Administrator signature line are also included.

6.2.2 Regulatory Amendment, EA (seabirds)

Title: Measures to Reduce the Incidental Catch of Seabirds in the Hawaii Longline Fishery; A Framework Adjustment to the Western Pacific Pelagic Fisheries Management Plan

6.2.2.1 Relevant dates

Document date: December 13, 1999

Under NMFS review

6.2.2.2 Major regulatory provisions

Other: Two or more of a suite of mitigation measures designed to reduce the inadvertent hooking of seabirds (described in the document), particularly the black-footed albatross (*Phoebastria nigripes*) and the Laysan albatross (*P. immutabilis*), must be used by longline vessels fishing north of 25° N latitude. Proper handling techniques, as described in the document, must be used to increase the survival of birds that are brought aboard alive after being ensnared in fishing gear. Vessel captains must attend an annual protected species educational workshop conducted by the NMFS.

6.2.2.3 Discussion

Seabirds, especially the two species mentioned above, dive on baited hooks as the longline is deployed, or less frequently, during haulback. Birds hooked during deployment often drown, but those hooked during haulback may survive if they can be released in the proper manner. Analysis of data on seabird incidental catch indicates that it is correlated with location as albatrosses tend to fly and forage north or northeast from nesting areas in the NWHI. The required measures are meant to reduce the incidental catch and subsequent mortality of these birds. Four alternatives were considered to mitigate mortality:

1. No action.
2. The preferred alternative containing the provisions described above in Section 6.2.2.2.
3. An alternative with the provisions of #2 but the Councils selects which mitigation measures will be used.
4. Prohibition of longlining north of 23° N.

A lot of the descriptive material meant to address EA requirements is included under the NEPA section (10.1) of the document. As a result, this subsection is actually longer than the

main body of the document. It includes a description of the affected environment, environmental consequences of alternatives (which discusses the mitigation measures and possible geographic limitations) and a description of the impacts of the alternative management measures. It also include a list of criteria similar to other documents (in this case it contains six points because the issue of controversy is omitted), followed by a FONSI and Administrator's signature line.

In this respect it is organized in a fashion midway between a document that incorporates NEPA elements and a stand-alone EA/EIS. Like the American Samoa closed area action, described below, this document takes a more explicit approach to satisfying NEPA, but without a stand-alone EA.

6.2.3 Regulatory Amendment (Am. Samoa closed area)

Title: Prohibition of fishing for pelagic management unit species within closed areas around the islands of American Samoa by vessels more than 50 feet in length; Framework Measure under the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region

6.2.3.1 Relevant Dates

Document date: January 2000

In preparation

6.2.3.2 Major regulatory provisions

Closed areas: A closed area for domestic fishing vessels over 50 l.o.a. approximately 50 nm from the baselines of Tutuila Island, Rose Atoll and Manu'a Islands and approximately 30 nm from the baseline of Swain's Island is proposed. Closed area boundaries are simplified by the use of straight lines between defined points. Owners with vessels greater than 50 l.o.a. that held an NMFS Longline General Permit on or prior to November 13, 1997 and made a landing of PMUS in American Samoa on or prior to that date are exempt from the prohibition.

Procedural matters: The Council will conduct an annual evaluation of the biological, economic and social impacts of the closed areas.

6.2.3.3 Discussion

This framework measure is being prepared in response to concerns by small boat fishers in American Samoa that larger longline vessels may begin fishing in EEZ because of fleet restrictions elsewhere, particularly in the Hawaii fishery. Four alternatives were considered. Aside from the no action alternative, these were variations on the size and location of the closed area. The preferred alternative, as outlined above, was originally selected by the Council in July 1998 but has not yet (as of May 2000) been implemented. This is because the amendment was rejected by the NMFS Regional Administrator. However, since mid-1998 knowledge and

conditions in the fishery have changed somewhat. First, several new vessels (still less than 50 ft) capable of greater range entered the fishery, demonstrating that the local fleet could effectively fish throughout the closed area. Second, catches of albacore at older grounds closer to shore continued to decline but fishermen were finding good fishing farther offshore. Finally, evidence from theoretical models suggests that the impacts of purse seining may be felt at greater distances--up to 600 nm--than was previously thought. In fact, these reasons suggest that a larger, 100 nm closed area might be justified. (This was the size originally desired by American Samoan fishers.) Therefor, depending on Council action, there is a possibility that this framework measure may be revised again before implementation.

This document has a stand-alone EA contained in an appendix. The EA is organized around the standard elements: purpose and need for action, alternatives, affected environment, and environmental consequences of proposed action and alternatives (which is subdivided into 'biological impacts' and 'economic and social economic impacts' sections.) The other elements--cover sheet, summary, table of contents, list of preparers, and description of public review--are, of course, part of the main document. The conclusion and determination section, including FONSI and Administrator signature line is similar to other recent council documents. As would be expected, the stand-alone EA approach leads to some degree of redundancy since many of the elements in the EA are also part of the main document, albeit in somewhat different format. On the other hand, a separate EA makes the way in which NEPA requirements are being addressed very obvious.

6.2.4 Amendment 9, EA (annual quota for sharks, bottom longlining)

Title: Amendment 9 to the Fishery Management Plan for the Pelagic Fisheries of the Western Pacific Region; Proposed Actions: 1) Establish an annual harvest guideline for the number of sharks taken in the Hawaii longline fishery 2) Define bottom longline gear and prohibit its use

6.2.4.1 Relevant dates

Document date: March 2000

In preparation

6.2.4.2 Major regulatory provisions

Harvest limitation: Initial annual harvest guideline for the number of blue sharks that may be landed (based on any part thereof) of 50,000. For other species a harvest guideline of one shark per boat per trip, landed whole or dressed, is proposed. In the future the harvest guideline may be adjusted through the framework adjustment process outlined in Amendment 7.

Gear restriction: Bottom longlining is defined and prohibited in the NWHI and MHI longline prohibited areas.

6.2.4.3 Discussion

The amendment document was prepared in response to widespread concerns about the exploitation of oceanic sharks in the region, and in particular, by the Hawaii-based longline fleet. Finning, where the shark carcass is discarded and only the fins are retained, has become a widespread practice in this fishery (as it is in many foreign high seas fisheries in the western Pacific). Shark fins are a valuable commodity used in the preparation of shark fin soup, an Asian delicacy. The predominant shark caught, the blue shark (*Prionace glauca*), does not keep well on ice and there are no developed markets for the flesh in Hawaii. Thus their carcasses are discarded at sea. The document identifies five issues related to shark management:

1. Regionally, there is inadequate data on shark exploitation.
2. Because of the biological characteristics of sharks, they are vulnerable to over-exploitation.
3. Finning is seen by the public as both wasteful and, by some, cruel because it is believed that sharks are alive during and after the finning process. Some native Hawaiians find killing sharks culturally offensive. Thus exploitation issues are grouped in two subsets: the waste issue and the 'existence value' issue.
4. A bottom longlining fishery conducted in the NWHI during 1998-99 could not be regulated because it fell outside the regulatory definition for longline gear. There are concerns that this fishery may harm the endangered monk seal.
5. Currently oceanic sharks, as pelagic MUS, are defined at the family level. This means that some inshore and coastal species fall under the Pelagic FMP. Management could be improved if the definitions were changed so that only those sharks commonly caught in Pelagic fisheries are PMUS and other species are shifted to appropriate FMPs.

From this set of issues four sets of management alternatives are developed. (It is argued that improved data gathering in Council-managed fisheries can be addressed through administrative processes.) For two of these sets of alternatives--to address waste due to finning and the redefinition of oceanic shark PMUS--the no action alternative is chosen. Thus only two management actions are actually proposed, as reflected in the title, above. The preferred alternative to address concerns about over-exploitation is an annual harvest guideline (quota), initially set at 50,000 blue sharks and one shark per trip for non-blue species (landed whole or dressed), to apply to the landing of sharks in the Hawaii-based longline fishery. Framework procedures would allow the harvest guideline to be adjusted in future years. Bottom longlining is to be defined in regulations and then prohibited in existing longline prohibited areas in the NWHI and MHI. The alternatives outlined in this document are:

- Alternatives to address shark resource sustainability issue:
  1. Harvest guideline and framework adjustment (preferred alternative).
  2. Prohibit the retention and landing of shark products in all Council-managed fisheries and the transshipment of shark products through US-flag Pacific ports.
  3. Prohibit the retention and landing of shark products by the Hawaii-based longline fishery.
  4. Implement an annual quota based on some other measure than the number of landed

sharks or sets of fins (e.g., weight).
5. Implement minimum and/or maximum size limits for retained sharks based on reproductive characteristics of different shark species or prohibit the taking of all female sharks.
6. Require more selective gear and/or minimize mortality of released sharks.
7. No action.

- Alternatives considered to minimize waste of and harm to sharks:
  1. No action (preferred alternative).
  2. Prohibit the sale, trade or barter of shark fins.
  3. Prohibit the commercial landing or transhippment of shark fins by the Hawaii-based longline fleet without the carcass or a specified percentage of the carcass of each shark.
  4. Require a minimum product recovery rate.

- Alternatives considered to regulate bottom longlining:
  1. Develop a new definition specifically for bottom longline gear and prohibit its use in the longline prohibited areas in the NWHI and MHI (preferred alternative).
  2. Amend the existing definition for longline gear so that it includes bottom longline gear and then prohibit the use of this method in the protected species zone in the NWHI.
  3. No action.

- Alternatives considered to manage sharks under appropriate fishery management plans for each species or species group:
  1. No action (preferred alternative).
  2. Redefine pelagic MUS to include only those shark species known to be exclusively pelagic and treat other shark species thus excluded as bycatch or redefine them as MUS under other, more appropriate fishery management plans.
  3. Include only those shark species known to be frequently caught in the Hawaii-based longline fishery as pelagic MUS. (And redefine any other important species under other plans or continue to treat them as bycatch, as above.)
  4. Exclude shark species as pelagic MUS if they are not utilized. (As above, these species would be treated as bycatch, and selected species could be included under other plans, if appropriate.)
  5. Include those shark species identified in Alternative 3 and longfin mako shark and salmon shark as pelagic MUS. (As above, treat other species as bycatch or redefine under other FMPs.)

In terms of satisfying NEPA requirements this is an integrated document. The NEPA section provides a table identifying which sections of the document correspond to EIS/EA sections identified in regulations. The impacts section briefly analyzes each set of alternatives separately for biological, economic and social impacts. As in other recent Council documents, the criteria set drawn from NAO 216-6, FONSI, and Administrator's signature line are found in the NEPA subsection of the 'other applicable laws' section of the document.

6.3 Current regulatory framework for management regime

1. Permits:
   - General: longlining and transshipment in U.S. EEZ outside of Hawaii (660.21(a)).
   - Limited entry: longlining and transshipment in Hawaii EEZ (660.21(b)), fees (660.13(f)).
   - Experimental: (660.17).

2. Monitoring:
   - Fishing record forms for longliners (660.14(a)).
   - Transshipment logbooks (660.14(b)).
   - Conditions for at-sea observer coverage (660.28).
   - Reporting under state/territorial law required (660.14(g)).
   - Vessel identification (660.16).
   - Gear identification (660.24).
   - Notifications of departure (660.23(a)), transiting PSZ without VMS (660.23(b))
   - experimental vessel monitoring system (VMS) requires installation at NMFS request for limited entry permit holders, no cost to vessel owner (660.25).

3. Closed Areas (for longliners):
   - Protected species zone (660.12 (definitions) and 660.26(b)).
   - MHI closed areas: Feb.-Sept inclusive (660.26(c)(1)) and Oct.-Jan. inclusive (660.26(c)(2)).
   - Guam: (660.26(d)).
   - Criteria and procedures for exempting individual fisherman from specific closed area restrictions (660.27).
   - Closed area to protect turtles; Hawaii longline vessels may not fish in area; prohibited to land or transship fish caught in closed area cannot be land or (660.22(z)-(bb)).
4. Gear Restrictions:
   - Drift gillnets prohibited (660.30) (but could be allowed under EFP (660.17)).

5. Protected Species:
   - PSZ defined (see closed areas) (660.12 (definitions) and 660.26(b)).

6. Procedural Matters:
   - Framework adjustments to management measures (under procedures outline in Amendment 7 (660.31).

7. Other:
   - U.S. longline vessels without permit may transit WestPac EEZ and dock at ports but may not offload FMUS (660.29).

6.4 Changes in the fishery during the period under consideration

At the outset federal management of pelagic fisheries was made difficult for a number of reasons:

1. Because U.S. policy prevented jurisdiction over tuna species, until Amendment 6 in1992, management couldn't include species which were the main target of both foreign and domestic fishers.
2. Despite U.S. policy, both tuna and non-tuna species have a vast range much of it outside of the U.S. EEZ.
3. Because of their wide range and fishing by a number of distant water nations, stock dynamics and condition for most FMUS are poorly understood.
4. The FMU—especially in Hawaii—is a complicated mix of different fisheries including recreational, charter, semi-commercial and full-time commercial participants using different gears and targeting on a variety of species
5. The reliability of data gathered by the state on Hawaii commercial pelagic fisheries (by far the largest domestic pelagic fishery in the region) was of questionable accuracy due to under and non-reporting of landings.

As noted, U.S. tuna policy changed with amendment of the Magnuson Act, allowing inclusion of tunas in the FMU by Amendment 6. Efforts to improve landings data were made through a variety of monitoring measures including an interim rule making non-compliance with state reporting a federal violation and Amendment 2 reporting requirements for longliners. Still, as of 1995 (1994 Annual Report) no regular surveys were being made of the substantial recreational sector.

The greatest change relates to radical growth in the Hawaii longline fishery shortly after FMP implementation. Growth was primarily due to the influx of vessels leaving mainland U.S. fisheries. Between 1987 and 1991, when the entry moratorium was in effect, the number of active vessels increased more than four-fold (Figure 6.1). In addition, these new entrants were larger and had a greater fishing capacity than older Hawaii-based vessels. Gear conflicts between longliners and local small-boat fishermen escalated, especially around FADs. Although these longliners also fished farther offshore—often outside of the Hawaii EEZ altogether—there was concern among local fishermen that they might be intercepting fish migrating towards inshore areas, thus reducing opportunities for small-boat recreational and commercial fishers. Overall, although it was unlikely that the Hawaii fleet was having stock-wide impacts, the possibility existed that local overfishing could occur. In addition, a substantial proportion of the catch was locally valued non-tuna species such as marlin and mahimahi. Longliners also began targeting swordfish, often caught far offshore outside the EEZ, for an export market to the mainland. By the early 90's swordfish constituted a majority of total pelagic landings, although catches have declined from a 1992 peak (Figure 6.2).

Almost all Pelagic FMP amendments, many codifying emergency interim rules[7], are

[7] At least nine interim rules were implemented to deal with pelagic fishery management issues.

designed to deal with the growth of the longline fishery in Hawaii. These amendments deal with three issues. First, they attempt to check growth in the number of vessels by a moratorium (Amendment 4 extending an emergency interim rule) and a formal limit entry permit system (Amendment 7). Second, they seek to minimize protected species interactions (Amendments 2 and 3). Third, they seek to minimize gear conflicts by creating closed areas (Amendment 5). Although management had to be very reactive in the early '90's (as evidenced by the implementation of six amendments and a number of interim rules between 1991 and 1994) it appears that a workable framework has been established to deal with fleet effort. From a peak in the early '90's, the number of active vessels has declined somewhat (Figure 6.1). Both effort and catch for swordfish also declined after a peak in the mid-90's, although catches have again increased slightly, 17% between 1995 and 1998 (Figure 6.2). Overall catch reached record levels in 1997-98. (Preliminary data indicate that 1999 was also a record year.) But a greater proportion of the catch is now tuna. Sharks are also a significant component. However, for most of the catch only the fins are retained. (It is important to note that in the accompanying figures shark landings are back-calculated to round weight. The actual landed weight is substantially less.)

Environmental concerns--specifically, protected species interactions and the practice of shark finning--have become major issues. A framework adjustment, described above, is under review to address seabird mortality. In 1999 the EarthJustice Legal Defense Fund filed a complaint against NMFS alleging failure to follow NEPA procedures and challenged the conclusions of the Biological Opinion. On November 23, 1999 the US District Court in Hawaii ordered the NMFS to prohibit, within 30 days, longline fishing within the closed area outlined above, necessitating the Emergency Rule. In addition to an area closure, NMFS must require fishing vessels to carry and use the equipment needed to safely disengage any entangled or hooked sea turtles. The injunction will remain in effect while an EIS is carried out; alternative management measures may be implemented once the appropriate studies are completed. An EA was prepared for the emergency rule, outlining two configurations for the closed area in addition to the no action alternative. However, it is important to point out that the configuration of the closed area was mandated in the court order, encompassing an area north of 28° N between 168° W and 150° W. For the two alternatives several scenarios, based on how displaced fishing effort might be redistributed, are analyzed. Another environmental concern relates to shark finning, which is addressed in Amendment 9, in preparation.

{Figure 6.1: Total landings and vessel participation in the Hawaii longline fishery.}

{Figure 6.2: Landings by species of the Hawaii-based longline fleet.}

7 Coral Reef Ecosystems

7.1 Chronology of management actions (FMP) and NEPA documents

7.1.1 Draft FMP, DEIS

Title: Draft Fishery Management Plan for Coral Reef Ecosystems of the Western Pacific Region (and Regulations) (DEIS is a separate appended document)

7.1.1.1 Relevant dates

Document date: December 7, 1999
In preparation

7.1.1.2 Major (proposed) regulatory provisions

Area delineation: Marine protected areas (MPAs) proposed for Pacific Remote Islands, NWHI and Guam's Southern Banks. Other areas may be proposed in the future.

Permits: (1) General permit for currently harvested coral reef taxa outside MPAs in the EEZ. (2) Special coral reef ecosystem permit for harvesting MUS inside the MPAs and harvest of non-target (i.e., previously unexploited) coral reef ecosystem taxa.

Monitoring: Fishing under permits (above) requires reporting of catch, effort and discards by species, location, time and other factors as specified by the regional administrator of the NMFS. Permits also require reporting lost gear. In addition, under the special coral reef ecosystem permit, fishers may be required to provide additional data if fishing previously unexploited stocks so that unfished stock size can be estimated.

Closed areas: In the NWHI, areas 10 fathoms or shallower are designated a 'no-take' zone.

Harvest limitations: NMFS may impose harvest limitations. A harvest control rule is used to determine the level of allowable fishing mortality (see discussion below).

Gear restrictions: Only selective, non-destructive gear and methods are allowed. These include ROV/submersibles, hand harvest, handline, hook-and-line, rod and reel, spear, slurp gun, hand net/dip net, barrier net (for harvesting aquarium species) and surround/purse net (for *akule* and *aku* bait fishing). Night spearfishing with SCUBA; hookah; and the use of poisons, explosives or intoxicating substances are explicitly prohibited.

Procedural matters: A framework process is proposed in order to implement future regulatory measures. Three measures are under consideration for future implementation: (1) The

installation of mooring buoys and the prohibition of anchoring within a prescribed radius from the buoy: (2) Requiring fishing vessels to post a bond to cover the cost of removal if the vessel is grounded and damage to the substrate; and, (3) Requiring fishing vessels to carry electronic vessel monitoring system (VMS) in order to facilitate monitoring and enforcement.

Other: Vessels over 50 ft LOA would not be allowed to anchor in the Guam Souther Banks MPA. Various non-regulatory measures are proposed (see below).

7.1.1.3 Discussion

At the time that this document was being updated (May, 2000) a draft of the FMP was finished and under review. It is being prepared in response to the President's Executive Order 13089 on Coral Reef Protection. This EO establishes a US Coral Reef Taks Force, which developed recommendations for coral reef research, monitoring and protection. In addition to the Magnuson-Stevens Act, the Code of Conduct for Responsible Fisheries, developed by the FAO, and a report entitled Ecosystem-Based Fishery Management, prepared by an NMFS advisory panel, provided guidance for FMP preparation. The overall goal of the FMP "is to ensure that coral reef resources in the EEZ of the US Western Pacific Region are effectively managed to achieve a sustainable balance of economic productivity, ecological integrity and social acceptability" (p. 9). Since 94% of coral reefs under US jurisdiction occur in the Pacific ocean, action by the WPRFMC is particularly urgent. It is important to note that federal management only applies to the EEZ and the coral reefs around oceanic islands are commonly found close to shore (within territorial waters) because of the extreme bathymetric relief around these islands. However, inshore areas in the NWHI and Pacific Remote Islands (Wake, Johnston, and Palmyra atolls; Jarvis, Howland and Baker islands; and Kingman reef) are under direct federal management. In addition, there are several offshore banks and shallows that fall within the EEZ. As a result, about 68% (10, 762 out of 15,852 km^2) of coral reef area falls in federal waters. This FMP contains additional elements not found in the other FMPs (but being incorporated through amendments). These are new requirements consequent of the 1996 re-authorization of the Magnuson-Stevens Act (also known as the Sustainable Fisheries Act). One section describes and designates essential fish habitat (EFH) and habitat areas of particular concern (HAPCs) as required in §305(b). Another section contains 'Sustainable Fisheries Act determinations' consequent of §303 (required provisions of FMPs), including a description of commercial recreation and charter fishing sectors (§303(a)(5) and (13)), the preparation of a 'fishery impact statement' (§303(a)(9)), a definition of overfishing (§303(a)(10)), and establishing a methodology to assess the amount and type of bycatch and minimize bycatch and bycatch mortality (§303(a)(11)).

Four main management measures are proposed. These have been summarized in Section 6.1.1.3 above. They are (1) a combination permit process; (2) allowing only selective, non-destructive gears and methods; (3) designating marine protected areas; and, (4) establishing a framework process. Four non-regulatory management measures are also proposed. These are (1) establishing a formal process to coordinate FMP plan team decisions in order to facilitate coral reef management; (2) facilitating consistent management methods by non-federal entities;

creating incentives to encourage sustainable use; and, (4) conducting public education programs. As noted above, about a third of coral reefs are under the jurisdiction of non-federal entities (i.e. the territorial governments in American Samoa and Guam, and the Commonwealth of the Northern Mariana Islands). Further, both the bottomfish and crustacean fisheries are conducted in coral reef areas. These non-regulatory measures are important. It is also noted that species managed under other Council FMPs may occur, at least for part of their life stage, in the coral reef ecosystem. In some cases other FMP MUS are also part of the Coral Reef FMP. "For these MUS, fishery-level effects and management should be the primary responsibility of the other FMP processes, while ecosystem effects should be the primary respnsibility of the coral reef ecosystem FMP process."

No harvest limits or quotas are proposed in the management plan. Instead a 'harvest control rule' is proposed for harvested taxa described under the overfishing definition section. Allowable harvest is equivalent to optimum yield. If target species' biomass is greater than the biomass at maximum sustainable yield (MSY) then OY is set at MSY. If target species' biomass is greater than a minimum stock size threshold, but less than MSY biomass, then OY is reduced proportionally. If target species' biomass falls below the minimum stock size threshold then OY is set a 0. This approach makes depletion less likely, given the uncertainties about stock characteristics.

A separate 98-page draft EIS is appended to the FMP, containing the following sections:

1. Table of Contents
2. Cover Sheet
3. Purpose and Need for Action
4. Affected Environment
5. Management Measures and Their Relationships to FMP Objectives
6. Management Alternatives and Comparison of Impacts
7. Potentially Significant Environmental, Social and Economic Issues
8. Environmental Consequences of Preferred and Other Alternatives (Summary)
9. Proposed Mitigation for Significant Impacts of Preferred Alternatives

It should be noted that the FMP also contains a description of the management alternatives that were considered (Section 9). There is thus a large degree of overlap between the two documents.

7.2 Proposed regulatory framework for Coral Reef Ecosystems management unit

Since the plan has not been implemented and amended, the proposed regulatory framework is the same as outlined in section 7.1.1.2.

7.3 Changes in the fishery during the period under consideration

Because it has not been implemented yet, there haven't been any changes to coral reef fisheries under the authority of this plan. However, the DEIS describes the need for management

in two sections (1.4, 'Problems for Resolution' and 1.7, 'Need for Coral Reef Ecosystem Management'). In summary, two types of threats are identified:

1. Although coral reef resources in the US EEZ are not heavily exploited right now, there are a number of potential threats, including destructive and unsustainable harvesting of corals and animals dependent on them for habitat.
2. There is no coherent system of management because coral reefs extend across jurisdictional boundaries, and some impacts, like the accumulation of marine debris, are caused by activities outside the region.

The need for management is due to:

1. Global social and environmental trends that are leading to widespread coral reef degradation.
2. The importance of coral reefs as highly diverse and productive ecosystems.
3. The inadequacy of existing fishery management methods for ecosystem management.

8 The Western Pacific Fishery Management Council's Fishery Management Plans and Amendments: Compliance with NEPA

Of the 52 management actions or documents reviewed here, the majority employ an environmental assessment (EA) to satisfy NEPA requirements (see Table 8.1). Thus far, all the EAs have resulted in a finding of no significant impact (FONSI) and thus an EIS was not subsequently prepared. Three EIS's have been completed; two for fishery management plans and one for an amendment. The Coral Reef Ecosystem FMP, in preparation, has an accompanying draft environmental impact statement (DEIS). Categorical exclusions are most commonly used in the case of regulatory amendments and in particular for those that are not consequent of a framework adjustment. (Eleven of 15 regulatory amendments received categorical exclusions. The four framework adjustment-based regulatory amendments currently in preparation or under review all employ EAs.) Two amendments were accepted with CEs: Precious Corals FMP Amendment 1 because the action was deemed minor, and Pelagics FMP Amendment 3 because the action was first taken as an emergency interim rule for which an EA had been prepared. Only the Bottomfish FMP Amendment 1 makes no reference to NEPA and consequently cannot be classed as an environmental document.

NMFS Operational Guidelines for the Fishery Management Plan Process notes that two approaches may be taken in plan/amendment preparation. In one supporting analyses, such as EIS/EAs and regulatory impact reviews, are prepared as separate, stand-alone documents. The second approach is to create a so-called integrated document. The Guidelines argue that

> the second approach may prove preferable for several reasons. Good management and the specific demands of NEPA, RFA and E.O. 12866 all require a comparison of the alternatives considered to justify that the course taken by a Council was rationally based, and a series of parallel analyses is clearly duplicative. An integrated format can provide all pertinent information and analyses to the Council prior to its identification of a preferred course of action and reduces the duplication of information. Also, it can bring together in one relatively short part of the FMP the whole basis for the Council's action. (p. C-3)

Council documents have employed both methods, although the integrated approach is much more common, at least with respect to NEPA. (The regulatory impact review [RIR] and regulatory impact analysis [RFA] are more recent requirements. A combined RIR/RFA is commonly a separate appended document. However, the substance of the RIR is usually presented in the impacts analysis section of the main document.) The first FMP prepared by Council staff--for precious corals--employs a stand-alone EIS, as does the most recent, in preparation, for Coral Reef Ecosystems. The other two EISs prepared by the Council are integrated documents. One is for the Crustaceans FMP and the other for Amendment 7 for the Pelagics FMP (the limited entry program). Two other documents in preparation--framework adjustments to the Pelagics FMP (see section 7.2)--dispense with the integrated approach. (As noted, one employs a stand-alone EA while the other uses a 'hybrid' expanded NEPA subsection as part of the document.) It is hard to tell if this represents an emerging trend towards a stand-

alone approach. However, for both the reasons outlined in NMFS guidance and for consistency, using the integrated method is preferable.

The management documents that take an integrated approach to addressing NEPA tend to have a fairly consistent format because NMFS guidance, NAO 216-6 and NEPA regulations all point towards a common set of elements. In essence these are:

- a problem statement or description of the issues;
- supplementary information describing environmental and social conditions;
- one or more sets of alternatives for each proposed management action (with a preferred course of action identified); and,
- an analysis of the environmental and social impacts of the alternatives within each set of alternatives.

The impact analysis is the most crucial aspect of the document, specifically for NEPA, but more generally in order to clearly demonstrate why the preferred action, or actions, will result in the best outcome. The analysis is comparative, and for an EA should be in reference to the criteria in NAO 216-6[8] that determine whether an EIS is necessary. The recommended contents of an FMP (and by extension, an amendment document) is compared to NEPA EIS contents in Table 8.2.

In Council documents two approaches to describing management alternative have been used. One approach (used in the Crustacean FMP) is to describe alternative management programs; that is, complete sets of alternative management measures. One of these 'bundles' of management measures is chosen as the preferred action. A second approach, by far the most common, is to simply list a set of alternatives for each proposed action (management measure) without grouping the measures into a 'program.'

Impacts can be assessed for each action, if there are a number of distinct actions being proposed. This is the approach taken in Pelagic FMU Amendment 7. Another approach is to jointly assess impacts for all preferred actions and rejected alternatives by type of impact, i.e., biological, economic and social. Amendment 9 to the Crustacean FMP uses this approach. This tends to result in an organizationally simpler impact assessment. If the two methods are combined--the different types of impacts are evaluated for each action--the assessment becomes more complicated. Again, there is no evidence that one approach is superior; it depends on the number and complexity of the proposed actions.

This review gives evidence that the Council has addressed NEPA requirements when considering and implementing management actions. Council documents reflect an approach to decision-making that examines alternative courses of action for their environmental impact and chooses an 'optimal' course. In addition, even if an EIS--with its requirement for public review--is not prepared, the Council process itself allows for considerable public input.

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[8]Note that both the number of criteria and their substance are different in the May 20, 1999 revision of NAO 216-6 than in the earlier version.

Despite the positive intent to comply with NEPA and the evolution of a useful document format for doing so, there are two issues relating to process--which is what NEPA is intended to be about--that require further consideration. It is expected that for many, if not most actions it is unclear whether the potential impacts warrant EIS preparation. In these cases EAs can act as a vehicle to determine the necessity for an EIS. However, looking at the reviewed documents as a whole, the impression given is that a judgment of the magnitude (or 'significance') of the action is made in advance of document preparation. The reason for using this modified approach is understandable given the procedural burden of first preparing an EA and then deciding to go ahead with an EIS. As a result, the Council commonly prepares a document that falls somewhere in between an EA and EIS in terms of complexity. Many of the EAs, especially if they review more significant actions, approach the detail of an EIS. (For example, compare Amendment 9 to the Crustacean FMP, an EA, and Amendment 7 to the Pelagics FMP, an EIS.) A major difference between Council-prepared EAs and EISs is process related: without the draft/final requirement there is less opportunity for public review and comment. But as noted, Council procedures accommodate significant public input, although in a procedurally different manner than an EIS.

Second, the determination to prepare an EA, versus an EIS, can appear inconsistent. For example, in three of the fisheries limited entry programs have been implemented. In one, the pelagics fishery, an EIS prepared for this action while in the other two fisheries, crustaceans and bottomfish, an EA was prepared. The impression is that the decision to prepare an EIS in the pelagics case was due to 'controversy' (the rapid entry of out-of-state longliners was a highly publicized and divisive issue), which in and of itself is <u>not</u> a sufficient criterion for EIS preparation. At the same time, NWHI lobster stocks as a whole were in much worse shape when limited entry was proposed than stocks of pelagic fish were when its limited entry program was implemented. Thus the impact of action might be expected to be greater in the crustacean fishery. Yet an EIS was not prepared in this case. The earlier two FMPs were prepared as EISs while the later two are EAs. Despite the apparent inconsistency, Sven Fougner (Assistant Regional Administrator for Sustainable Fisheries), commenting on the original version of this document, argued "that the Council [going] straight to an EIS rather than EA first in the instance of Amendment 7 to the Pelagics FMP reflected the judgment that this was a 'significant' action with potentially serious biological and economic impacts, from which derived serious controversy. The controversy did not drive the decision; the likelihood of serious impacts drove the decision. It is acknowledged that the status of most stocks of large pelagics would not likely be affected on a stockwide basis; but it was conceivable that the stocks of swordfish could be directly affected and that the abundance and distribution of some stocks locally could be substantially affected."

The format of the criteria, outlined in NAO 216-6 and used to determine if an EIS is necessary, may partly explain the apparent inconsistency outlined above. These criteria are somewhat ambiguous because they are stated in negative terms (e.g., 'jeopardize productivity', 'allow substantial damage'), yet the impacts of Council action are generally intended to be environmentally beneficial. The key is that analyses must be comparative. The benefits of each alternative must be assessed in relation to each other, and especially to the 'no action' alternative. It may be that a rejected alternative has greater environmental benefits in one dimension; in this

case it should be demonstrated that the overall benefits of the preferred action outweigh these more narrow benefits. In this way the relative positive benefits of each action, and especially the preferred action can be assessed. Nonetheless, it is apparent that in the case of Council action, the conclusions of an EA will never fulfill the negative criteria of NAO 216-6. Further, if there are 'significant' positive benefits EIS preparation may seem unwarranted. But both CEQ regulations and NOAA Administrative Orders make it clear that an EIS must be prepared even if the action's significance is positive. In reviewing the FONSI statements in Council documents it is clear that often only negative impacts are considered in determining the finding.

The Council could ask NOAA to consider further refining the criteria in future revisions of the Administrative Order to make their application easier and more consistent. One possibility would be to develop a 'positive' test for the criteria (since, as noted, Council actions are intended to be environmentally beneficial) Such a test must be comparative, as suggested above. A simpler method would be define significance based on the type of management measure that is proposed. (For example, if a limited entry program is being proposed an EIS is required.) This approach has the advantage of being simple to apply but does not take into account the fact that the impacts of management measures can vary depending on conditions in the fishery.

Whatever test is applied, it seems likely that Council staff will continue to choose between EA and EIS preparation in advance of developing management documents. Although this is somewhat at variance with the process as laid out in NEPA (an EA determines EIS necessity), staff might consider some formalization of the decision-making process. A brief memo-length analysis could serve as a justification for and record of the decision to prepare an EA or EIS.

NAO 216-6 (6.03.a) states "Generally, where an EIS has been completed on a previous management plan or plan amendment and that EIS or SEIS [supplemental EIS] is more than five (5) years old, the RPM should review the EIS to determine if a new EIS or SEIS should be prepared." This can overcome the necessarily piecemeal approach of performing assessments for discrete management actions, which may overlook cumulative impacts. For this reason the Council is now preparing supplemental or new EISs for its four implemented plans. (An EIS is also being prepared for the soon-to-be-implemented Coral Reef Ecosystem FMP.) Council staff might consider instituting regular environmental assessments outside of those associated with specific management actions. As indicated in NAO 216-6, these assessments (SEISs), carried out every 5 years, would focus on the overall status of the fishery and especially the cumulative impacts of management actions. In particular, if conditions in the fishery changes significantly (so that resource sustainablity is affected, or cumulative effects result in impacts, for example) a supplemental EIS would be warranted since the information used for analysis in the existing EIS has changed.

Table 8.1: Summary of environmental review of Council documents.

	CE	EA	EIS (DEIS)	None
Precious Corals				
FMP			1	
Amendments	2	2		
Regulatory Amendment		(1)		
Crustaceans				
FMP			1	
Amendments		10		
Regulatory Amendments	3	1		
Bottomfish				
FMP		1		
Amendments		5		1
Regulatory Amendments	4	1		
Pelagics				
FMP		1		
Amendments	2	5 (1)	1	
Regulatory Amendments	4	1 (3)		
Coral Reef Ecosystem				
FMP			(1)	
Total	15	27 (5)	3 (1)	1

Numbers in parenthesis indicate management actions in preparation or under review.

Table 8.2: FMP contents, amendment contents and NEPA requirements. (Sources: NMFS Operational Guidelines Fishery Management Plan Process and 40CFR1502.10)

0.0 Forward (Checklist of required and discretionary Magnuson-Stevens Act FMP provisions)

1.0 Introductory material (Found in both FMPs and amendments)
- **1.1 Cover sheet (NEPA)**
- **1.2 Summary (NEPA)**
- **1.3 Table of Contents (NEPA)**
- **1.4 Introduction (Includes list of preparers to satisfy NEPA and for EA may have a public review and comment section, which parallels the EIS requirement for a list of agencies, organizations, and persons to whom copies of the statement were sent. But also see Section 6.3.)**

2.0 Fishery management program
- **2.1 Problems for resolution (Also found in amendments. Equivalent to purpose and need for action under NEPA.)**
- 2.2 Management objectives (For amendments may demonstrate how action satisfies FMP objectives.)
- 2.3 Management unit
- 2.4 Habitat preservation, protection, and restoration
- **2.5 Management alternatives (Also found in amendments. Equivalent to alternatives including proposed action under NEPA.)**
- 2.6 Development of fishery resources
- **2.7 Summary of beneficial and adverse impacts of each potential management action (May be found in amendments and equivalent to environmental consequences under NEPA, but see Section 3.0 below.)**
- 2.8 Measures recommended to attain management objectives (3 subsections not listed here.)
- 2.9 Rationale and net benefit discussion
- 2.10 Relationship of the recommended measures to existing applicable laws and policies
- 2.11 Council review and monitoring of the FMP

3.0 Analysis of the beneficial and adverse impacts of potential management options
- **3.1 Ecological**
- **3.2 Economic**
- **3.2 Social**

(This section found in amendments. equivalent to environmental consequences section under NEPA.)

4.0 Supporting material (8 subsections. Elements may be included in Amendments. Could serve as affected environment section for NEPA.)

5.0 Other applicable laws
(9 subsections not listed here. Also found in amendments. Contains NEPA subsection describing the relationship of document to NEPA requirements and FONSI, if applicable.)

6.0 References
- 6.1 Bibliography
- 6.2 Sources of data and methodology
- **6.3 List of public meetings and summary of proceedings (Alternative location for list of agencies, etc. to whom the document was sent, or equivalent for EA.)**

Appendix 1: Table of Contents for Title 50, Part 660

[Title 50, Volume 3, Parts 600 to End]
[Revised as of October 1, 1999]
From the U.S. Government Printing Office via GPO Access
[CITE: 50CFR660]

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TITLE 50--WILDLIFE AND FISHERIES

DEPARTMENT OF COMMERCE

PART 660--FISHERIES OFF WEST COAST STATES AND IN THE WESTERN PACIFIC

Subpart A--General

Sec.

Subpart B--Western Pacific Fisheries--General

Subpart C--Western Pacific Pelagic Fisheries

[omitted]

Subpart H--West Coast Salmon Fisheries

[omitted]

Subpart I--Northern Anchovy Fishery

[omitted]

Authority: 16 U.S.C. 1801 et. seq.

Source: 61 FR 34572, July 2, 1996, unless otherwise noted.

Appendix 2: Summary Tables for FMU Plans and Amendments

(Note: Only implemented plans, amendments and regulatory amendments are summarized.)