

THIRD AMENDMENT AND IMPLEMENTING REGULATIONS  
TO THE  
PACIFIC COAST GROUND FISH FISHERY MANAGEMENT PLAN

Incorporating the Environmental Assessment  
and  
Requirements of Other Applicable Law

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## ACRONYM LIST

CDFG	California Department of Fish and Game
Council	Pacific Fishery Management Council
CRS	Congressional Research Service
CZMA	Coastal Zone Management Act
DOI	U.S. Department of Interior
DOE	U.S. Department of Ecology
EA	Environmental Assessment
EEZ	exclusive economic zone (formerly called FCZ)
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FMP	fishery management plan
GAP	Groundfish Advisory Subpanel
GMT	Groundfish Management Team
LCDC	Land Conservation and Development Commission
MFCMA	Magnuson Fishery Conservation and Management Act
MMPA	Marine Mammal Protection Act
MMS	Minerals Management Service
MSY	maximum sustainable yield
mt	metric ton
NAS	National Academy of Sciences
NCFVSI	National Council of Fishing Vessel Safety and Insurance
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRC	Natural Resource Consultants
ODFW	Oregon Department of Fish and Wildlife
OY	optimum yield
PacFIN	Pacific Fisheries Information Network
P.L.	Public Law
PRA	Paperwork Reduction Act
RFA	Regulatory Flexibility Analysis
RFMC	Regional Fishery Management Council
RIR	Regulatory Impact Review
SSC	Scientific and Statistical Committee
WCZMP	Washington State Coastal Zone Management Program

## EXECUTIVE SUMMARY

This document provides an analysis of the impacts of the third amendment to the "Pacific Coast Groundfish FMP and EIS for the California, Oregon, and Washington Groundfish Fishery." Amendment 3 addresses two issues relevant to the Pacific coast groundfish fisheries. These issues include:

1. incorporate habitat considerations into the FMP
2. incorporate provisions to consider and, if appropriate, provide for temporary adjustments due to unsafe weather or oceanic conditions

Alternative actions considered by the Council for each of these issues are briefly described below.

### Issue 1 - Incorporate Habitat Considerations into the FMP

The recent amendment to the MFCMA requires that all FMPs and amendments submitted by the Council for approval and implementation after January 1, 1987 must include habitat conservation considerations and provisions. Therefore, this issue is a mandatory part of the amendment.

The impact of the additional information and documentation should help to provide more effective and timely guidance in the protection and enhancement of habitat for stocks under Council jurisdiction. It should reduce the duplication of effort and expense by developers and management agencies in assembling and disseminating habitat information and should help focus Council and agency actions with respect to habitat management activities. No federal regulatory changes are required by this amendment.

### Issue 2 - Temporary Adjustments to Fishery Access Due to Unsafe Weather or Oceanic Conditions

The recent amendment to the MFCMA also requires that all FMPs must consider the need to make adjustments to fishing seasons when weather or other oceanic conditions make it unsafe for vessels to fish during the scheduled season. In considering any adjustments, the Council must consult with the U.S. Coast Guard.

Two options were considered (1) status quo, i.e., do not establish more formal provisions for considering weather-related vessel safety and (2) require the Council and regional director by regulation to consider vessel access and weather-related safety.

The Council adopted Option 1, the status quo. Without any regulatory changes, the current FMP already allows for consideration of adjustments for vessel access precluded by unsafe weather or ocean conditions. This option meets the requirements of the MFCMA amendment and is the least cost alternative.

## INTRODUCTION

The domestic and foreign groundfish fisheries in the EEZ of the United States (3 to 200 miles offshore) in the Pacific Ocean off the coasts of California, Oregon, and Washington are managed under the "Pacific Coast Groundfish FMP and EIS for the California, Oregon, and Washington Groundfish Fishery." The FMP was developed by the Council under the MFCMA. It was approved by the Assistant Administrator for Fisheries of NOAA on January 4, 1982 and became effective on September 30, 1982. Implementing regulations were published in the Federal Register on October 5, 1982 (at 47 FR 43964) and appear at 50 CFR 663 and Part 675. Two amendments to the FMP have been implemented. This document describes and assesses the potential effects of changes that constitute Amendment 3 to the FMP.

The Council conducts a scoping session to determine the need for amending the FMP on an annual basis and to obtain public input on needed changes. Amendment proposals are further developed by the Council's GMT and reviewed by the Council's industry advisors and SSC. These advisory groups make recommendations to the Council on which proposals merit consideration for the current year's amendment cycle. Amendment proposals and appropriate alternatives are analyzed by the GMT for their efficacy and their potential biological and socio-economic impacts. After reviewing this analysis, the industry advisors and SSC make recommendations as to whether the amendment alternatives should be rejected or changed in any way, whether and how the analysis should be refined, and whether to release the analysis for general public review and comment. At its September 16-17, 1987 meeting, the Council received these recommendations and public testimony and decided to release the analysis of the amendment proposals and alternatives contained in this document. The Council considered public comments on this analysis at a public hearing in conjunction with its November 1987 meeting. The Council then decided based on this analysis, public comments, and the recommendations of its GMT, SSC, and industry advisors which amendment alternatives to recommend to the Secretary of Commerce for approval and implementation.

### List of Amendment Proposals

Two proposals which are being considered by the Council to address requirements of P.L. 99-659 (recent amendments to the MFCMA), constitute Amendment 3 to the FMP.

- Incorporate habitat considerations into the FMP
- Establish procedures for considering weather-related vessel safety

### Environmental Assessment

Part of the analysis in this document provides an EA (Appendix A) that is required by NOAA to comply with NEPA. The purpose of the EA is to analyze the potential impacts on the quality of the human environment of major federal actions. The EA serves as a means of determining if significant environmental impacts could result from a proposed action. If the action is determined not to be significant, the EA will result in a finding of no significant impact. This EA then would be the final environmental document required by NEPA.



Appendix B contains a review of the amendment's consistency with federal and state coastal zone management programs, and Appendix C provides a review of other applicable law.

#### Regulatory Impact Review

An RIR is required by NOAA for all regulatory actions or for significant policy changes that are of public interest. This amendment requires no regulatory action, nor is it a significant policy change. Therefore, no RIR is required.

## ISSUE NUMBER 1 - INCORPORATE HABITAT CONSIDERATIONS INTO THE FMP

This issue concerns the addition of information to the FMP regarding the significance of habitat and the impacts of habitat degradation on the groundfish resource and the fishery.

### Background

In November 1983, a habitat conservation policy was implemented for NMFS. Among other things, this policy encouraged greater participation by the RFMCs in habitat conservation matters. In 1986, the MFCMA was amended to strengthen the involvement of the RFMC in habitat matters. The amendment requires (1) inclusion of a section in the FMP which provides readily available information regarding the significance of habitat to the fishery and assessment as to the effects which changes to that habitat may have upon the fishery and (2) federal agencies to provide a detailed written response to Council comments and recommendation concerning impacts of their activities on the habitat of a fishery resource under Council jurisdiction. The requirement for FMPs to include this habitat information became effective on January 1, 1987 and subsequent guidance from the Secretary of Commerce specifies that after that date failure to include specific habitat information in subsequent amendments submitted by the Council will be grounds for disapproval of the amendment. This section of Amendment 3 is included specifically to address the MFCMA amendment.

The following habitat discussion would be incorporated into the FMP.

### Description of Habitat

Groundfish species off the Washington, Oregon, and California coast occur over all habitat types. They are found from intertidal areas to the depths of the continental slope, on sand or mud bottoms, in rocky reef areas, or in the water column. They seek and select an optimum combination of physical and biological conditions in the environment favorable to the species.

The offshore environment of Washington, Oregon, and California is characterized by relatively stable thermal, chemical, and physical conditions. The nearshore and inshore environments, where some groundfish species spend all or part of their life cycle, are regions of physical and chemical variability due to the influx of freshwater from rivers and run-off from land. These waters are particularly vulnerable to the effects of coastal development and habitat alteration.

Variation in environmental conditions can exert a profound effect on the behavior, distribution, and survival of fish, particularly during early life stages. Each species has its characteristic optimum range and tolerance limits for different environmental conditions.

Water temperature affects the metabolic activity of fish and can modify physical activity. Unusual temperature patterns can cause shifts in the timing and location of spawning, or disruptions in the development of eggs and larvae. The onshore-offshore movement of some groundfish stocks may be temperature dependent (Laevastu and Hayes, 1981). Temperature can also affect the distribution of adult populations.

Ocean currents may act as environmental boundaries to fish and the seasonal shifts in currents may play a role in the migrations of some groundfish stocks (Laevastu and Hayes, 1981). The influence of ocean currents on fish is greatest at the egg and larval stages. Currents transport pelagic eggs and fry from spawning areas to nursery grounds and from nursery grounds to feeding grounds. Current may also influence adult migrations and may affect the distribution of adults through the presence of food or temperature boundaries.

Several currents traverse the Northeast Pacific; of these the southerly flowing California current is significant due to the upwelling that occurs along its route off the Oregon and California coasts. Upwelling mixes deep, nutrient-rich waters with surface water, is associated with high productivity and probably has a great influence over many resident groundfish stocks. Occasional disruptions in upwelling occur, such as during El Nino events, when large scale shifts in currents and water temperature can severely affect fishery resources through the disruption of the food chain and displacement of food organisms.

Light is also an important factor in ocean habitats. Some groundfish species rely on sight for capturing prey. Light may also be used for signaling reproductive behavior, locating shelter, or for coloration. Light may be involved in triggering migrations, thus influencing the timing of reproduction.

The bulk of commercially important groundfish resources off the Washington, Oregon, and California coast occur on the continental shelf and slope. The continental shelf is the shallow apron of land 0 to 700 feet deep surrounding continental land masses. The shelf is continuous with the continental slope, the region where the continental land mass drops rapidly to the deep sea floor. Depth of the continental slope generally ranges from 700 to 10,000 feet. The continental shelf off Washington, Oregon, and California is narrow, ranging from less than one mile wide off Monterey, California to 43 miles wide off northern Washington.

The groundfish fishery is conducted along most of the coastline of Washington, Oregon, and California with concentrations of fishing effort found near major fishing ports and in certain productive banks and canyons. A majority of fishing vessels fish within a 60-mile radius of their home ports. Areas in the vicinity of the ports of Monterey, San Francisco, Eureka, Crescent City, Coos Bay, Newport, Astoria, Westport, and Neah Bay are especially important to groundfish fishermen. Grounds such as the Farallon Islands/Cordell Banks off California, Heceta Bank and Astoria Canyon off Oregon, and Grays Canyon and Cape Flattery Spit off of Washington are examples of productive groundfish areas which also concentrate groundfish fishing vessels.

The depths fishing are determined by the target species and the type of fishing gear used. Setnets are fished primarily off southern California and usually in waters less than 200 feet. Trawlers fish in depths between 40 and 1,400 feet, but about 90 percent of all trawling occurs in waters less than 1,000 feet. Longlines and pots are often fished deeper than the other gear types and are typically found in waters between 400 and 1,200 feet, with occasional forays to depths of 2,500 feet.

The general distribution of fishing effort as described above reflects present patterns, but should not be considered static. Areas presently fished infrequently or no at all could see an increase as market conditions and values of underutilized fish species change, as technological innovations occur, or as fishing regulations are modified.

### Description of Species

This section summarizes information on generalized habitat requirements of commercially important groundfish species of the Washington, Oregon, and California coast. The species are categorized as roundfish, rockfish, or flatfish. Except as otherwise noted, references for the summaries are Miller and Lea, 1972 and Eschmeyer et al., 1983.

#### Roundfish

##### Lingcod (*Ophiodon elongatus*)

Lingcod occur from Baja California to Kodiak Island, Alaska. Adults live on rocky reefs from shallow inshore areas to 1,400 foot depths. Young lingcod live on the sand or mud bottom of bays and inshore areas. Spawning occurs from December to March, with females depositing their eggs in rock crevices in shallow water. Males guard the eggs from intruders. The species is generally sedentary, although limited movement occurs (Adams, 1987). Adults feed on herring, sand lance, flounders, Pacific whiting (hake), walleye pollock, crustaceans, and octopus. Juveniles feed on copepods and other small crustaceans. Lingcod seldom exceed four feet in length. Maximum weight ranges from 40 pounds off California to 100 pounds off British Columbia, Canada.

##### Pacific Cod (*Gadus macrocephalus*)

Pacific cod occur from central California to the Bering Sea, usually near the bottom in depths ranging from 40 to 1,200 feet, but usually do not occur in fishable quantities off Washington, Oregon, and California. Pacific cod congregate to spawn, and disperse to feed. They migrate to deeper waters in autumn, spawn in winter, then return to shallower areas in spring. Pacific cod eat worms, crabs, mollusks, shrimp, herring, sand lance, walleye pollock, and flatfishes. Pacific cod grow to three feet.

##### Pacific Whiting (*Merluccius productus*)

Pacific whiting also known as hake, occur in schools from the Gulf of California to Alaska. Often classified as a demersal species, the distribution and behavior of Pacific whiting suggest a largely pelagic existence. They have been taken in trawls from the surface to 2,900 feet, but they are most common at an average depth of 650 feet in the waters of the continental slope and shelf. Pacific whiting are pelagic spawners. Most spawning occurs off southern California and northern Mexico. Larvae eat copepods, while adults eat euphausiids, shrimp, eulachon, sole, tomcod, and other fishes. Feeding occurs coastwide on the shelf and upper continental slope. Mature whiting average 20 inches, 1.7 pounds, but they can reach three feet in length and nearly four pounds.

### Sablefish (*Anoplopoma fimbria*)

Sablefish occur from Baja California to the Asiatic coast of the Bering Sea. Sablefish are demersal, living in shallow areas down to depths of at least 5,000 feet. Sablefish spawn from November to April, with peak spawning activity occurring in January and February. Juveniles have been observed in the shallow waters of Puget Sound and the Strait of Juan de Fuca. The diet of juvenile sablefish include copepods, amphipods, euphausiids, fish eggs, and fish larvae. Adults eat euphausiids, tunicates, and fish. Sablefish reach sizes of 40 inches, 30 pounds.

### Jack Mackerel (*Trachurus symmetricus*)

Jack mackerel are semipelagic fish ranging from the tropical mid-Pacific off California to Alaska. Spawning occurs at night off southern California between February and May; the eggs are pelagic. Jack mackerel school to feed. Their diet is variable, often consisting primarily of macroplankton, but at times mainly lanternfish or squid. Jack mackerel reach lengths of 28 inches.

### Rockfish

Rockfish are elongate and stout with a large head that usually bears prominent ridges and spines. Rockfish inhabit shores, bays, kelp beds, and offshore areas to 1,500 feet or deeper. Many live in rocky areas, others prefer soft bottoms found offshore. A wide variety of feeding habits exist among the rockfish species. Rockfish bear live young.

### Pacific Ocean Perch (*Sebastes alutus*)

Pacific ocean perch is a long-lived (90+ years) rockfish found from California to the Bering Sea and Japan. They occur in waters ranging in depths of 180 to 2,100 feet; adults usually are found below 400 feet. This species exhibits a seasonal inshore/offshore migration, spending summer months in the shallowest part of their range and winter months at the deepest, where larvae are released (Gunderson, 1971). Pacific ocean perch spawn in February and March; juveniles may remain pelagic until their second or third year. Pacific ocean perch feed mainly on planktonic crustaceans and small squid and reach lengths of 20 inches.

### Yellowtail Rockfish (*Sebastes flavidus*)

Yellowtail rockfish are found in waters off San Diego, California to Kodiak Island, Alaska at depths ranging from near the surface to 900 feet. Yellowtail rockfish are semipelagic and live over rocky reefs. Spawning occurs from November to March. Major food sources are crustaceans and fish. They grow to 26 inches.

### Shortbelly Rockfish (*Sebastes jordani*)

Shortbelly rockfish are the most distinctively pelagic of the rockfish group. A small fish (to 12 inches), they occur from Baja California to Vancouver Island. Adults are found at about 300 to 900 feet; juveniles occur in shallower water. Spawning occurs from January to April. Adults feed on plankton, mainly euphausiids.

### Widow Rockfish (*Sebastes entomelas*)

Widow rockfish occur over rocky banks from Baja California to Kodiak Island, Alaska. They are frequently in midwater schools during hours of darkness. Adults are found at 80 to 1,200 foot depths; juveniles are found in shallower water. Young are produced mainly in January and February off California, and February and March off Oregon (Lenarz and Gunderson, 1987). The diet of widow rockfish varies seasonally but consists mainly of small pelagic crustaceans, salps, and fishes. At maturity, they reach lengths of 21 inches.

### Canary Rockfish (*Sebastes pinniger*)

Canary rockfish grow to 30 inches and are found on rocky bottoms at about 300 to 900 feet from Baja California to Alaska. They are long-lived fish with a 70+ year life span. Their young are born in winter. Their diet consists of small fishes and euphausiids.

### Chilipepper (*Sebastes goodei*)

Chilipepper range from southern Baja California to Vancouver Island. They frequent deep rocky reefs as well as sand and mud bottoms from 200 to 1,080 feet; young chilipepper are found in shallower water. The spawning period for chilipepper is November through March. Adults grow to 22 inches and they feed on euphausiids, small squids, and fishes.

### Bocaccio (*Sebastes paucispinis*)

Bocaccio are found from central Baja California to Kodiak Island. They live over rocky reefs or open bottom at about 90 to 1,050 feet. Bocaccio are carnivorous, feeding mostly on other fish, including other rockfish. Females give birth in late fall and again in late winter. The young school and are found in shallower rocky areas. Adults grow to three feet in length.

### Flatfish

With exceptions, flatfish generally spawn during late winter and early spring. Larvae are pelagic, but settle to the bottom after metamorphosis. Once on the bottom, flatfish eat small crustaceans, polychaete worms, and mollusks. As they grow, they eat larger forms of the same organisms.

### Dover Sole (*Microstomus pacificus*)

Dover sole live on mud bottoms from northern Baja California to the Bering Sea at depths of 90 to 3,000 feet. Tagging studies show evidence of subpopulations, limited coastwide movement, and extensive seasonal inshore-offshore migrations associated with spawning (Frey, 1971). Spawning occurs from November through March in deep offshore areas. Eggs are pelagic; larvae have a prolonged pelagic existence before they metamorphose and settle to the bottom. Dover sole grow to 30 inches. They feed on sedentary, mud-inhabiting invertebrates, such as small bivalves, polychaete worms, and crustaceans.

### English Sole (*Parophrys vetulus*)

English sole occur in ocean waters to depths of 1,800 feet, and in bays and estuaries, from Baja California to Alaska. Tagging studies indicate seasonal coastwide movement (Frey, 1971). Spawning occurs between November and March, peaking in January and February. Eggs and larvae are pelagic. After metamorphosis, they settle to the bottom. The diet of English sole consists of bottom organisms such as segmented worms, clams, and small starfish. Adults grow to an average of 22 inches in length.

### Petrale Sole (*Eopsetta jordani*)

Petrale sole are found from northern Baja California to the northern Gulf of Alaska on sandy bottoms at depths ranging from 60 to 1,500 feet. They are known to move great distances: tagged fish released at Eureka, California have been recovered off British Columbia (Frey, 1971). Petrale sole spawn from November through March at 900 to 1,200 foot depths. Shortly after spawning, petrale sole move inshore and northward for the spring and summer. During autumn and winter there is offshore and southerly movement associated with spawning (Frey, 1971). Their diet is composed largely of euphausiids, shrimp, anchovies, smelt, herring, juvenile whiting, small rockfish, and other flatfish. Adults reach sizes of 27 inches.

### Rex Sole (*Glyptocephalus zachirus*)

Rex sole are found in shallow water to depths of 2,100 feet from southern California to the Bering Sea on sand or mud bottoms. Little is known of their movements and migrations. Spawning fish are most abundant from 180 to 300 feet at various times of the year; some are in spawning condition throughout the year. In the Eureka area, rex sole show heaviest spawning activity during summer months, while in the Gulf of Farallones spawning peaks in February and March. Rex sole are preyed upon by sharks, skates, rays, lingcod, and some rockfish. They eat annelid worms, shrimp, and amphipods. Maximum size of rex sole is about two feet.

### Pacific Sanddab (*Citharichthys sordidus*)

Pacific sanddab live on sandy bottoms at depths of 30 to 1,800 feet from southern Baja California to the Bering Sea. Sanddab in the Puget Sound spawn in February, however, there are indications that females may spawn twice in a season (Hart, 1973). Sanddab grow to 16 inches.

### Starry Flounder (*Platichthys stellatus*)

Starry flounder occur from Santa Barbara, California to the Bering Sea and Japan. They are a relatively sedentary species found mostly in nearshore areas, frequently in estuaries (Frey, 1971). They spawn in February and April in the Puget Sound region and in December and January off California (Hart, 1973). Eggs are pelagic. They feed on crabs, shrimps, worms, clams, small mollusks, small fishes, and brittle stars.

### Sand Sole (*Psettichthys melanostictus*)

Sand sole is a large-mouthed flatfish up to two feet in length that occurs from southern California to the Bering Sea. They frequent sand bottoms in shallow, inshore areas but range to 600 foot depths. They spawn from January to April depending on their location. Eggs are pelagic. Sand sole eat fishes, crustaceans, worms, and mollusks.

### Butter Sole (*Isopsetta isolepis*)

Butter sole are common from southern California to the Bering Sea. They occur in shallow water to depths of 480 feet. There are north-south migrations as well as seasonal inshore-offshore spawning movements (Hart, 1973). Butter sole spawn from February to late April. Eggs are demersal. While they can grow to 21 inches, they are usually under 12 inches in length.

### Effects of Habitat Alteration

Industrial, urban, and agricultural activities are major contributors to marine habitat degradation. Developmental pressures in coastal areas have altered and decreased the amount of habitat available for fishery production, with chemical pollution degrading the quality of what remains. Impacts on fish include mortality, disease, increased susceptibility to predation, or reduced reproductive success, all potentially lowering the quantity and quality of commercial and recreational fishes or those species upon which they depend for food.

The dependence of Pacific groundfish species on nearshore or inshore areas, where the potential for impacts from habitat alteration may exist, is poorly understood. Areas close to shore have been suggested as essential habitat for juvenile bocaccio; as well as blue, olive, yellowtail, widow, and shortbelly rockfishes (Miller and Geibel, 1973); for English sole and bocaccio in their early years; and for lingcod spawning and nesting areas (Council, 1982). Starry flounder are common in estuarine areas (Conomos, 1977). Young Pacific ocean perch and sablefish are found in regions inshore of 150 feet and many species of rockfish; including blue, black, and olive rockfish; remain in this zone throughout their life (Council, 1982).

Although the effects of habitat alteration on fishery production are more pronounced inshore than offshore, concern about offshore species is warranted to the extent that offshore habitats are degraded by inshore activities or offshore uses, or offshore species are directly or indirectly dependent on inshore habitats for reproduction and/or food supply.

The waters off the coasts of California, Oregon, and Washington are used for commercial and recreational fishing, pleasure boating, commercial navigation, and waste disposal. At this time, it is unknown whether offshore habitats supporting Pacific groundfish species have been affected by these activities. Expanded use of the waters off the coasts of Washington, Oregon, and California may mean increased risks to Pacific groundfish from impacts associated with those activities, as discussed in the following sections.



## Oil and Gas Development

The DOI is considering oil and gas leasing in 1991 for the continental shelf and slope (to 200 nautical miles) from Cape Mendocino, California to the Washington-Canada border. Current estimates for oil and gas resources feasible for development off Oregon and Washington are projected at 56 million barrels. This amount is 20 to 33 percent of the amount off northern California, and 8 to 14 percent of that in the southern California planning area (MMS, 1987).

There are typically three phases to oil and gas development: geological surveys, drilling, and production. Each phase may pose some element of risk to marine organisms and some level of conflict with pre-existing fisheries. In general, the risks include biological impacts (i.e., mortality, impaired growth, reduced reproductive success) from spilled oil and discharged drilling fluids and cuttings, or physical disruption (i.e., scattering of species off normal grounds, altering migration routes, etc.) from soundwaves or construction and related exploratory and production activities. Other conflicts with fisheries include disruption of soft bottom areas, hard bottom areas, and kelp beds; impacts from the discharge of drilling muds and cuttings; loss of fishing area due to presence of drilling rigs; increased risk of collision due to increased vessel traffic; gear snags from lost drilling equipment; or fouling of fishing gear by spilled oil.

Two potentially competing objectives involved in the use of offshore resources are to meet national energy needs and to conserve living marine resources. While 39 percent of the estimated 3.2 million mts of petroleum entering the marine environment each year derives directly from oil and gas production and transportation, it is not known whether commercially important offshore fisheries have been disrupted by either chronic or catastrophic contamination of their habitat by oil (NAS, 1985).

In general, the greatest potential impact of offshore oil and gas development is to coastal areas. Specifically, risks are highest in shallow water areas; areas of poor circulation; areas where circulation patterns may entrain contaminants (e.g., Puget Sound); or pebble-cobble beaches, where oil penetrates deeply and rapidly and the pebble-cobble sediments are replaced very slowly by natural coastal processes (Owens, 1973).

The season, location, sea state, water temperature, volume and type of oil released, and whether oil dispersants are used are important factors influencing the impact of a spill on marine biota. If a spill were to coincide with fish spawning, hatching, or larval development, mortality might be higher than otherwise because the early life stages tend to be particularly susceptible to petroleum exposure. The rate of degradation of spilled oil slows as water temperature decreases. As such, spilled oil may persist for longer periods in colder waters.

Laboratory and field studies have shown a broad range of effects on behavioral, reproductive, and developmental processes at low concentrations (less than one part per million) including reduced feeding activity, delayed development, decreased hatching success, and increased incidence of skeletal abnormalities (NAS, 1985). Decreased growth in English sole has been observed in studies simulating field exposure conditions (McCain, et al., 1986).

Photosynthetic activity, and thereby phytoplankton growth, is depressed by a wide range of petroleum hydrocarbons (NAS, 1985). Zooplankton as well are vulnerable to dispersed and dissolved petroleum constituents (NAS, 1985). With perhaps the exception of chronically oiled or enclosed waters, recovery of oil-impacted phytoplankton and zooplankton communities is probably rapid due to recruitment from other areas and their wide distribution, large populations, and short generation times. Pacific groundfish larvae are directly or indirectly dependent upon phytoplankton and zooplankton productivity in the waters in which they rear.

Concerns about spills or chronic release of oil from offshore oil and gas development center on potential biological and ecological impacts. Various studies have shown that low concentrations of petroleum hydrocarbons can disrupt normal behavior of marine organisms, particularly fragile life stages such as larval or juvenile forms (NAS, 1985). Population changes that occur as a result of oil and gas development might result in additional effects by altering food web relationships and interspecific competition in the ecosystem. Identifying these effects is difficult because of problems associated with monitoring offshore pelagic and benthic communities and because the natural variability of offshore fish stocks may mask petroleum effects.

While studies support concern about spills and chronic discharges of oil into protected or enclosed coastal waters, there are virtually no data available on long-term effects of petroleum discharges offshore (Malins, 1981). Therefore, the effects of oil and gas development on the abundance and distribution of Pacific groundfish stocks is largely unknown.

### Marine Mining

Demand is increasing for sand and gravel as a construction aggregate, and as onshore deposits are depleted, pressure increases to mine offshore. It is estimated that the continental shelf off Oregon and Washington alone contains eight billion cubic meters of sand and gravel (Moore and Luken, 1979).

The MMS of the DOI is examining the possibility of leasing areas of the Oregon-Washington continental shelf for mining placer deposits of hard minerals such as chromite, garnet, ilmenite, magnetite, zircon, gold, and platinum. The extent and abundance of these deposits is unknown, and while market conditions do not favor extraction at present, exploration and development is expected in the near future because of demand and strategic importance of many of these minerals (ODFW, 1987).

Potential impacts from marine mining are a function of the timing of dredging operations in relation to seasonal fish migration, and include coastal erosion, interruption of the longshore transport of sand, potential conflicts with fisheries, and the loss of important benthic habitat. There may also be beneficial effects, such as resuspension of nutrients trapped in sediments. The release of these nutrients increases food availability.

The potential impacts of mining operation to groundfish species would have to be assessed on a site-specific basis. In general, risks to groundfish species would be greater in later rather than earlier life stages, since many of these species have pelagic egg and larval stages. While some studies suggest

limited harmful effects on fish (Gustafson, 1972; Moore and Luken, 1979), the effects of increased turbidity from mining on primary productivity and egg and larval survival, as well as other long-range impacts of marine mining operations on Pacific groundfish stocks are unknown.

### Dredge and Fill

The removal and relocation of river, harbor, and coastal sediments is often conducted for maintenance of navigation channels and port facilities. Associated impacts have the potential to affect Pacific groundfish species to the extent that populations occur at or near sites of dredging, filling, or dredged material disposal operations.

Dredging results in increased turbidity, with the effects being dependent on the type of substrate dredged, on currents, tides, preventive measures, and the type of dredge employed by the contractor. Habitat alteration occurs from dredging through disruption of benthic communities, loss of shallow water habitat, or resuspension of polluted sediments. These effects can be temporary or long term.

Dredged material is either disposed of at designated sites or used as fill. There is little evidence that the disposal of dredged material poses significant risk to Pacific groundfish communities, except perhaps in localized inshore areas. NMFS conducted a study of four interim dredge disposal sites off Oregon and found no indication of habitat degradation as measured in terms of benthic invertebrate species and densities (NMFS, 1987).

Filling occurs as part of dredging operations, as well as for urban and agricultural purposes. Significant losses of wetlands have reduced important nursery, rearing, and spawning habitats for fish. The relationship between wetland loss and the distribution and abundance of offshore groundfish stocks is poorly understood. More knowledge of the life histories of groundfish species as well as that of their food organisms is required to judge impacts.

### Marine Debris

The problem of debris in the marine environment is receiving increased attention. Highly persistent plastics cause mortality of fish, marine mammals, and seabirds through ingestion or entanglement. Discarded fishery gear (ghost nets) continue to catch commercially valuable species, Pacific groundfish included, for years after their loss.

Quantitative data regarding effects on fishery stocks due to plastic debris or ghost nets are limited. There is concern, however, that ghost fishing may pose a significant problem to fisheries (Center for Environmental Education, 1987). A NMFS study observed a synthetic gillnet to remain adequately strong to hold living animals for six years (High, 1985). Although commercially and ecologically important, impacts on fish are the least researched and documented areas in the study of the effects of marine debris (Wallace, 1985). Therefore, no conclusions on impacts of marine debris on Pacific groundfish species can be drawn at this time.

## Waste Discharge

The discharge of organic and industrial wastes can cause severe damage in the marine environment. Heavy metals, petroleum hydrocarbons, chlorinated hydrocarbons, and other wastes can be toxic or cause sublethal effects in fish and their food organisms. The effects of waste discharge are the most severe in areas where the contaminants are entrained or collect in bottom sediments.

A variety of pollutant-associated pathological conditions, including liver lesions and cancers, have been identified in Puget Sound and San Francisco Bay. In Puget Sound, a correlation has been established between certain liver diseases in English sole, concentrations of aromatic hydrocarbons in sediment, and metabolites of aromatic compounds in bile (McCain et al., 1986). Very high levels of organochlorine compounds, including DDT and PCBs, have been found in fish off Los Angeles and near the Farallon Islands in California (Brown, 1987; Melzian et al., 1987). These studies measured contaminant levels only and did not assess the effects of the contaminants.

At present, it is unknown whether offshore Pacific groundfish habitats have been adversely affected by waste discharges, or to what extent contaminants are entering the groundfish food chain, since very little monitoring of offshore sites and species within the management area has been conducted. In general, contaminant concentrations drop to low levels moving away from depositional urban areas. However, certain contaminants have been found in organisms inhabiting pristine areas at concentrations rivaling those found in species inhabiting contaminated habitats. PCBs, for example, were found in Pacific cod liver in concentrations comparable to levels observed in inshore English sole (Malins, 1982). The PCB concentrations in Pacific cod edible tissue, however, were well below federal standards. Levels of PCBs and DDT in sablefish and Dover sole taken at depths of 1,500 and 3,000 feet near the Farallon Islands, 30 miles off the coast of central California, were reported to be as high or higher than levels recently reported in the same species taken from highly contaminated areas off southern California (Melzian et al., 1987). These species were collected in the vicinity of former low-level and chemical munition disposal sites located near the Farallon Islands. Although the definitive sources of the contaminants are not known, the disposal sites may be a potential source of one or both of these contaminants.

## Discussion

The level of commercial and recreational harvest in a fishery is in part a function of productivity in the fish stock, which is in turn directly related to the availability and quality of appropriate habitat for both the target species and its food sources. Disturbances that reduce either the availability or quality of habitat will depress production in the fishery, potentially leading to reduced commercial and recreational harvest.

There is no evidence that offshore Pacific groundfish habitat is at this time significantly affected by either onshore or offshore activities, largely because studies to identify levels and effects of contaminants in offshore Pacific groundfish species have not been conducted. Neither is it known whether nearshore groundfish subpopulations are adversely affected by existing sources of habitat alteration, and, if so, if overall stock abundance is affected. If offshore uses expand, pressure on groundfish stocks from habitat

alteration would likewise increase. Oil and gas development, marine mining, or expanded use of offshore areas for waste disposal constitute the primary risks to offshore habitat.

Maintaining the current productive capacity of Pacific groundfish habitat will require careful case-by-case, site-specific, and cumulative impact analysis of proposed activities. Until the life histories of Pacific groundfish species are better understood in terms of offshore-inshore distribution of larvae and juveniles and their importance as recruits to the commercial fisheries, the potential impact of habitat alteration from onshore and offshore activities should not be underestimated.

Therefore, it is the policy of the Council that there be no net loss of the productive capacity of any marine or estuarine habitat which sustains Pacific groundfish species. It is the policy of the Council that habitats critical to the reproduction, rearing, and survival of Pacific groundfish species be protected from significant adverse effects of habitat alteration.

Guided by these policies, the Council will pursue its goal of maintaining productive capacity of Pacific groundfish habitats by participating with other agencies in decisions which directly or indirectly affect those habitats, and by working to resolve conflicts regarding uses of the coastal and offshore areas of California, Oregon, and Washington.

Further, in order to better judge potential impacts of expanded use of coastal and offshore areas on Pacific groundfish, the Council will encourage the pursuit of the following areas of research.

- ° Life histories of Pacific groundfish species, including spawning, rearing, food sources, migrations, etc.
- ° Inshore/offshore distribution of Pacific groundfish species.
- ° Importance of nearshore subpopulations to overall stock abundance.
- ° Short- and long-term impacts of discharged and spilled oil on Pacific groundfish and their food sources.
- ° Extent and effect of organochlorine contamination in commercial groundfish species.
- ° Impact of marine debris on Pacific groundfish.

The Council will convey the importance of these research and information needs to NMFS, the DOI, the U.S. Environmental Protection Agency, or other federal agencies; Sea Grant institutions; state resource agencies; and other appropriate entities.

#### Impacts

The proposed action describes the diverse habitats and life histories of various groundfish species in the Washington, Oregon, and California coastal waters. It describes habitat factors of importance to groundfish production and identifies the general effects and associated risks of various activities

and habitat alterations. The proposed action also establishes Council policies regarding habitat protection and alteration in line with the NMFS habitat conservation policy and MFCMA. The proposed action also provides the necessary authorization to implement regulations to protect marine fish habitat such as regulations to prohibit discard of debris from fishing vessels at sea. However, no regulations to implement these provisions are proposed at this time.

Specific biological or socio-economic impacts cannot be quantified for this issue. However, the general impact of supplying this habitat information in a readily available and documented format should be positive from both a biological and socio-economic standpoint. It should reduce the duplication of effort and expense by management agencies in assembling and disseminating this information. Federal law requires that habitat provisions be included in all FMPs at the earliest possible time. Failure to incorporate habitat information would result in disapproval of the entire amendment.

#### References

- Adams, P. 1987. Personal communication. NMFS, Southwest Fisheries Center, Tiburon Laboratory.
- Brown, D. 1987. Personal communication. Southern California Coastal Water Research Project. Los Angeles, CA.
- Center for Environmental Education. 1987. Plastics in the Ocean: More Than a Litter Problem. Washington, DC:128.
- Clemens, W. A. and G. V. Wilby. 1949. Fishes of the Pacific Coast of Canada. Fisheries Research Board of Canada, Ottawa. Bulletin Number LXVIII.
- Conomos, T. J., ed. 1977. San Francisco Bay: The Urbanized Estuary. Investigations into the natural history of San Francisco Bay and Delta with reference to the influence of man. 58th Annual Meeting of the AAAS/Pacific Division:493.
- Cotter, C. H. 1966. The Physical Geography of the Oceans. American Elsevier Publishing Company, Inc. New York:317.
- Council. 1982. Final FMP and Supplemental EIS for the Washington, Oregon, and California Groundfish Fishery. Portland, OR:329.
- Duxbury, A. C. 1971. The Earth and Its Oceans. Addison-Wesley Publishing Company. Reading, MA:381.
- Eschmeyer, W. N., E. S. Herald, and H. Hammann. 1983. A Field Guide to Pacific Coast Fishes of North America From the Gulf of Alaska to Baja California. Houghton Mifflin Company. Boston, MA:336.
- Frey, H. W., ed. 1971. California's Living Marine Resources and Their Utilization. CDFG.

- Gunderson, D. R. 1971. Reproductive Patterns of Pacific Ocean Perch (Sebastes alutus) Off Washington and British Columbia and Their Relation to Bathymetric Distribution and Seasonal Abundance. Journal Fisheries Research Board of Canada, Ottawa 28:417-425.
- Gustafson, J. F. 1972. Beneficial Effects of Dredging Turbidities. World Dredging and Marine Construction, Volume 8, Number 12:44-72.
- Hart, J. L. 1973. Pacific Fishes of Canada. Fisheries Research Board of Canada, Ottawa:740.
- High, W. L. 1985. Some Consequences of Lost Fishing Gear. Proceedings of the Workshop on the Fate and Impact of Marine Debris. November 27-29, 1984. Honolulu, HI. NOAA Technical Memorandum NMFS-SWC-54.
- Krygier, E. E. and W. G. Pearcy. 1986. The Role of Estuarine and Offshore Nursery Areas for Young English Sole, Parophrys vetulus Girard, Off Oregon. Fisheries Bulletin, U.S. 84:119-132.
- Laevastu, T. and M. L. Hayes. 1981. Fisheries Oceanography and Ecology. Fishing News Books, Ltd. Surrey, England:199.
- Lenarz, W. H. 1980. Shortbelly Rockfish, Sebastes jordani: A Large Unfished Resource in Waters Off California. Marine Fisheries Review. March-April, 1980:34-40.
- Lenarz, W. H. and D. R. Gunderson. 1987. Widow Rockfish: Proceedings of a Workshop. Tiburon, CA. December 11-12, 1980. NOAA Technical Report NMFS 48.
- Malins, D. C. 1981. Testimony on the Outer Continental Shelf Environmental Studies Program Before the Subcommittee on Oversight and Investigations. Committee on Interior and Insular Affairs. Washington, DC.
- Malins, D. C., B. B. McCain, D. W. Brown, et al. 1982. Chemical Contaminants and Abnormalities in Fish and Invertebrates from Puget Sound. NOAA Technical Memorandum OMPA-19. Boulder, CO.
- McCain, B. B., D. W. Brown, M. M. Krahn, et al. 1986. Marine Pollution Problems: North American West Coast. Presented at Toxic Chemicals and Aquatic Life: Research and Management Symposium. September 16-18, 1986. Seattle, WA.
- Melzian, B., C. Zoffmann, and R. B. Spies. 1987. Chlorinated Hydrocarbons in Lower Continental Slope Fish Collected Near the Farallon Islands, California. Marine Pollution Bulletin. Volume 18:7 p. 388-393.
- Miller, D.J. and J. J. Geibel. 1973. Summary of Blue Rockfish and Lingcod Life Histories; A Reef Ecology Study; and Giant Kelp, Macrocystis pyrifera, Experiments in Monterey Bay, California. CDFG Fish Bulletin 158:137.
- Miller, D. J. and R. N. Lea. 1972. Guide to the Coastal Marine Fishes of California. CDFG Fish Bulletin Number 157.

- MMS. 1987. Outer Continental Shelf Oil & Gas Five Year Leasing Program, Mid-1987-1992:48.
- Moore, G. W. and M. D. Luken. 1979. The Sand and Gravel Resources of the Pacific Northwest. Oregon Geology Volume 41, Number 9:143-151.
- NAS. 1985. Oil in the Sea: Inputs, Fates, and Effects. Ocean Science Board, National Research Council. Washington, DC.
- NMFS. 1987. Demersal Fishes and Benthic Invertebrates at Four Interim Dredge Disposal Sites Off the Oregon Coast. Northwest and Alaska Fisheries Center, Seattle, WA.
- Oceanography Study Committee. 1967. Oceanographic Resources of the Pacific Northwest. Inventory of capabilities for oceanographic and marine activities. University of Washington, Seattle, WA:263.
- ODFW. 1987. Scope of Work: Development of Nonliving Marine Resources. Research and Development Section. Corvallis, OR.
- Owens, E. H. 1973. The Cleaning of Gravel Beaches Polluted by Oil. Proceedings of the 13th International Coastal Engineering Conference. American Society of Civil Engineers, New York:2549-2556.
- Smolowitz, R. J. 1978. Trap Design and Ghost Fishing: An Overview. Marine Fisheries Review Paper 1306.
- Wallace, N. 1985. Debris Entanglement in the Marine Environment: A Review. Proceedings of the Workshop on the Fate and Impact of Marine Debris. R. S. Shomura and H. O. Yoshida, eds. NOAA Technical Memorandum NMFS-SWFC-54.



## ISSUE NUMBER 2 - ESTABLISH FORMAL PROCEDURES FOR CONSIDERING WEATHER-RELATED VESSEL SAFETY

P.L. 99-659, enacted in November 1986, requires, among several things, that FMPs and amendments submitted to the Secretary of Commerce by the Councils after January 1, 1987 consider, and may provide for, temporary adjustments, regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting the safety of the vessels. Consultation with the U.S. Coast Guard and persons utilizing the fishery is required.

### Background

#### Introduction

P.L. 99-659 requires the RFMCs to consider, and if needed, provide for temporary adjustments (after consultation with the U.S. Coast Guard and persons utilizing the fishery) regarding access to a fishery for vessels otherwise prevented from harvesting because of weather or other ocean conditions adversely affecting the safety of the vessels. The RFMCs have always been free to consider the vessel/crew safety implications of alternative and recommended management measures. The available legislative history for P.L. 99-659 indicates that this additional required FMP element reflects specific recognition of safety problems which have arisen in certain fisheries where the RFMCs established fishery access rules or regulations on a strict, time-limited, or another similar basis. Regulations in certain fisheries (e.g., east coast surf clam or west coast halibut) have led to highly competitive fisheries which encourage fishermen to take risks they might ordinarily not take, such as fishing under adverse weather conditions, fishing in areas of extreme vessel congestion, or even overloading of vessels.

#### Purpose of this Discussion

The purpose of this section is to meet the requirement of P.L. 99-659 that any FMP or new amendment contain a "required provision" which considers, and may provide for, temporary adjustments regarding vessel access to the fishery for vessels prevented from harvesting because of weather or ocean conditions affecting vessel safety. This section will summarize vessel safety issues relevant to the existing management measures of the FMP, as well as to the measures of Amendment 3.

#### Interim NMFS Guidance for Fulfilling the New Section 303 (a)(6) Requirement

NMFS guidance to the RFMCs is fairly general regarding the newly required safety-consideration provision in FMPs/amendments. NMFS indicates that it is important for the RFMCs to use all available expertise when considering safety issues. Individual RFMCs are to develop their own mechanism for this requirement. In all cases, however, NMFS indicates that the assigned U.S. Coast Guard representative will provide technical assistance in evaluating the Council's recommended alternative management measures for their effects on safety, particularly with regard to adverse weather and oceanic conditions. This evaluation is to include the identification of (1) safety concerns caused by a particular management approach, (2) suggested alternatives to minimize safety problems, and (3) mechanisms that allow for flexible modification of

management limitations in response to safety and weather concerns. The interim guidance directs that U.S. Coast Guard comments on safety will be included as a separate and independent document in the FMP package forwarded to the Secretary of Commerce for approval. If the Council disagrees with a U.S. Coast Guard evaluation of safety issues, it may choose to address the issues, modify the FMP/amendment, request the U.S. Coast Guard to reconsider the points, or submit the FMP/amendment without further comments. In the case of inseason management under framework FMPs, the U.S. Coast Guard will be available for consultation as needed.

## FMP Measures--Relation to Vessel Safety

### Review of Existing Information

A recent study has identified a few vessel safety issues associated with the west coast groundfish fishery. In 1985, the NCFVSI, under a Saltonstall-Kennedy grant, examined the effects of fishery management regulations and techniques on the safety of commercial fishing operations. The study's purpose was to develop recommendations for alternative management techniques which might help address vessel and crew safety concerns while maintaining the overall management objectives for a specific fishery. The NCFVSI awarded a subcontract to NRC in Seattle, Washington to conduct the research on the west coast.

After 60 formal interviews and more than 100 informal discussions with Alaska, Washington, Oregon, and California fishermen, vessel owners, captains, and federal and state fishery managers, NRC reported that industry members typically did not raise strong objections to west coast groundfish management regulations on the basis of vessel/crew safety. Some points of concern, however, were raised over trip limit regulations under the FMP, particularly for the more stormy winter season.

The referenced trip limit regulations apply specifically to widow rockfish and the "Sebastes complex" of rockfish. Since 1984, the Council has used trip poundage limits, coupled with trip frequency limits, for these species (species group) to reduce fleet landing rates and spread the fishery out over the year. At industry request, the Council provided the fishermen options for certain trip limits so they could choose, at any time during the year, between weekly or biweekly limits. Those who favored these options over a single weekly limit indicated that the flexible choice provided better opportunity to catch their trip limit and avoid risky weather or ocean conditions. The Council eliminated the flexible trip limits for widow rockfish landings in 1985 as a means of slowing overall landing rates, preventing a fishery closure, and resolving certain marketing problems associated with the biweekly limit. The Council considered the safety implications of this change, particularly when it decided not to adopt the widow rockfish biweekly option for the beginning of the 1986 and 1987 fishing seasons (a time of year when the weather is poor). The final Council decision was based on balancing the need for flexibility in landing restrictions with the overall management objective of extending the fishery throughout the year and with processor needs for a certain product flow. It was noted by the Council that the biweekly option favored larger vessels, many of which are available (and large enough) to fish in the early season bad weather; many of these vessels are involved in joint ventures later in the year. The trip limit flexibility for

the Sebastes complex was expanded to a choice of three options (i.e., one trip per week, one per two weeks, and two per one week). Since excessive landing rates and marketing problems were not a serious issue, the fishing community, including the harvesters and processors, has supported this arrangement and acknowledged the safety benefit of being able to minimize fishing risks when conditions are marginally or clearly not safe.

Generally, the interview summaries in the NCFVSI report suggested that major unresolved safety issues do not remain in the groundfish fishery and the Council has responsibly considered safety issues. There appears to be user recognition and acceptance of the need for trip limits. However, some opponents point out that inflexible limits may encourage fishermen to take risks in poor weather simply to avoid losing one or several trip's catch. Some fishermen interviewed advocated starting the groundfish fishery season later than January 1 because then the season beginning would coincide with better weather. No one argued or presented evidence that the present season, based upon a calendar year, has caused fishermen to take unreasonable risks. Other factors, including market prices, timing of joint venture fishing, and processor requirements have been considered by the Council in setting a season opening date.

The NCFVSI report makes several general observations regarding fishing vessel safety in relation to management approaches. Many "open fisheries," such as the groundfish fishery, where regulations do not limit the number of participating vessels nor establish vessel size categories with individual quotas or allocations, have become overcapitalized--the number of vessels fishing is in excess of the fleet size required to catch the annual quota. These circumstances have resulted in shortened seasons and competitive fisheries where the larger number of fishing units "compete" for proportionately smaller shares of the catch quota. A business environment is stimulated which rewards hard work and innovative fishing methods which improve harvesting efficiency and reduce costs. These competitive benefits may arguably outweigh safety considerations by vessel operators and marginal or poor weather conditions may take second place to the rush to catch limited harvest quotas. Several safety related issues are associated with these fishery conditions. Vessels of widely differing size, seaworthiness, and economic requirements all compete against each other. Management regulations establishing seasons and opening dates do not necessarily resolve the problem of inequitable operational capacities of these vessels. Weather conditions prevailing at a season opening may be safe for larger or more seaworthy vessels, while presenting hazardous or life-threatening conditions to smaller or less seaworthy vessels. This "big boat-small boat" conflict is not easily resolved and any trip limits established usually represent a compromise between big boat and small boat interests.

NCFVSI also points out that most management systems established by the RFMCs are characterized by catch quotas, season and area restrictions, and inseason closures and/or trip limits which restrict either or both the tonnage of fish landed or the landing frequency. Intensified by increasing numbers of vessels, and often by a cyclical catch quota, these types of management measures tend to foster "derby fisheries." Directly or indirectly, most owner or skipper concerns for vessel or crew safety center around derby fisheries and associated inflexible regulations. NCFVSI concludes that the relationship between fisheries management and vessel safety is more complex than initially

appears. Attempts to legislate safety (i.e., recent MFCMA amendment) must strike a reasonable balance between addressing safety concerns and preserving the Council's ability to pursue legitimate conservation and allocation objectives.

It should be noted that the federal groundfish fishery off Washington, Oregon, and California is not regulated by specific seasons (although a fishery is closed when the quota is reached) and only six of the more than 80 species covered by the FMP are managed by quota. Of these, only three species are highly desirable to the shore-based fleet. Pacific ocean perch may be landed only at incidental levels which does not encourage a rush to take the quota. Sablefish currently is allocated between gear types which minimizes at-sea competition between the user groups. Finally, widow rockfish is managed by trip frequency limits which slow landings but give fishermen a choice of when in a given week they would like to fish.

The Council generally agrees with the NCFVSI assessment of safety issues in the groundfish fishery, and also with its recognition that certain types of necessary fishing regulations do not allow for much flexibility in addressing vessel safety concerns without adversely affecting management or conservation objectives. To the extent that quotas are large enough and seasons long enough, fishermen can choose to stay ashore in inclement weather and await better fishing conditions to harvest their allowable catch. It is difficult, if not impossible, to anticipate major adverse weather or ocean conditions during the preseason, measure-setting process. Average weather patterns and existing or predicted unusual ocean conditions, such as an "El Nino," are considered by the Council in establishing preseason management measures. Unusual ocean conditions also affect preseason resource assessment predictions of stock abundance which are a basis for management decisions.

The other recent study of safety implications of FMPs was conducted in 1985 by the CRS and involved a national survey to identify perceptions of safety problems resulting from FMP provisions. Some 80 marine advisory specialists and agents under the National Sea Grant College Program were questioned. Only one comment was received regarding safety and the west coast groundfish fishery--it indicated that the use of weekly catch quotas has caused trawlers to fish in very bad weather in order to get their "weekly quota." The commenter argued that a monthly quota would be more logical and much safer because the trawlers could wait out bad weather periods (lasting up to two weeks) and pick a calm period to harvest the monthly quota. The CRS study makes the general point that competition in any form may cause harvesters to ignore safety precautions, or to take risks, if they believe it is necessary to maintain or increase profits. Since almost all regulatory systems encourage competition among harvesters, such systems contribute to the potential for unsafe fishing operations. The CRS study indicates that four regulatory situations, imposed by the RFMCs, were identified by survey respondents as those contributing to unsafe fishing operations: (1) severely restricted fishing time (seasons), (2) intense harvesting effort concentrated in limited areas, (3) season closures in certain areas while adjacent areas remain open, and (4) catch quotas assigned to short time periods. In general, these conditions no longer apply to the west coast groundfish fishery since the fishery is distributed over wide areas and usually over the entire season. CRS indicates that respondents identified the fourth condition as applying to the groundfish fishery.

CRS concludes that harvester competition can be substantially reduced or eliminated by only a few regulatory regimes, such as those employing a form of limited access based upon guaranteed harvest shares or individual harvester quotas. Such management systems are more likely to allow fishermen to fish when and where they choose within the conservation limits imposed to protect the resource; a fisherman would be more inclined to remain ashore during risky weather since his share of the resource is still available for harvest. The Council is presently considering the suitability of some form of limited entry system for the fishery.

It should be acknowledged that fishing is, by its nature, an inherently dangerous business. Safety equipment and procedures seem hardly adequate to deal with emergency situations under the best of circumstances. Statistics indicate that fishing is one of the most dangerous occupations in the U.S. The U.S. Coast Guard provided information at 1986 Congressional hearings concerning fishing vessel insurance problems which show that loss rates of large fishing vessels (over 100 gross tons) are five to seven times as great as for U.S. ocean going cargo ships and the death rate for fishermen is seven times the national average for all industrial groups. Between 1981 and 1984, an average of 84 fishermen's lives were lost each year.

Safety during fishing operations, as in any activity, is a compromise between a number of competing interests. The decision as to an acceptable level of safety frequently changes, being reconsidered constantly by the vessel owner or master and revised as circumstances require. In addition to weather and ocean conditions, these circumstances are likely to include factors such as vessel condition and size, product quality and marketing considerations, and financial conditions. Business decisions based principally on profit and loss may possibly override the risk of hazardous weather or seas.

Finally, it is noted that the industry is virtually free from any government inspection and safety regulation. The U.S. Coast Guard has developed voluntary vessel standards and a safety awareness and educational program. The work has been conducted in a cooperative atmosphere with fishing industry groups around the country. While the U.S. Coast Guard's goal has been to reduce the number of major vessel casualties, the increased emphasis on safety has had a positive impact on prevention of minor accidents and injuries as well. One of the difficulties with a completely voluntary program, however, is that while there is a general improvement in safety, specific vessels may continue to operate without even the most fundamental safeguards. Efforts at reducing the frequency and severity of fishing vessel accidents are desirable not only for humanitarian purposes, but also make good economic sense. Accidents resulting in loss of life or property have obvious costs. Accidents resulting in unplanned returns to port for emergency medical treatment of injured crew also cost money in terms of foregone fishing time and added fuel consumption. The poor safety record of the commercial fishing industry has, in some part, contributed to the high cost of vessel insurance and unavailability or loss of coverage.

#### Previous Council Considerations of Vessel Safety

The Council believes that it has adequately considered vessel safety issues in its previous formulation of alternative FMP and amendment management measures and in the selection of preferred measures. Certain past management changes

were taken by the Council with vessel and crew safety as important considerations. Management adjustment flexibility has been incorporated into the system where the Council thought it appropriate and consistent with the FMP objectives. For example, alternative trip limits were added for certain species; this has had safety-related benefits in giving fishermen greater choice in how or when they take a trip's catch limit. The Council has used its GAP (consisting of representatives of diverse industry sectors), and particularly its Groundfish Select Group (composed of industry, state, NMFS, and Council representatives) to identify, and propose solutions to, significant management issues. Furthermore, the Council has established an Enforcement Consultants group (state and federal enforcement agents and U.S. Coast Guard representatives) which considers compliance and safety issues. Specific examples of consideration of safety issues follow.

1. **Establishment of Trip Limits** - This subject was discussed earlier concerning the results of the NCFVSI study. The principal purpose of trip limits established by the Council for the Sebastes complex, widow rockfish, Pacific ocean perch, and sablefish has been to extend fishing throughout the season--to prevent exceeding the OY or harvest guidelines before year-end and avoid fishery closures. This race for the quota encouraged some smaller boats to begin fishing in the winter under weather conditions marginal for them. Where industry was concerned about lost fishing days or opportunities to catch each trip limit, the Council has attempted to provide reasonable flexibility by imposing trip frequency limits in conjunction with trip poundage limits; simply, a fisherman may be limited to one trip per week, but he may choose which days he fishes. Further flexibility is provided by the option to land once every two weeks in the Sebastes fishery which enables vessels to avoid extremely bad weather conditions. (The biweekly trip limit option for widow rockfish was eliminated in 1985 because it contributed to higher than desired landing rates, tended to favor the larger vessels, and posed certain marketing problems for processors.)
2. **Fixed Gear Versus Mobile Gear Conflicts--Gear Marking Requirements** - The original FMP required that trap and longline fishermen mark each mile of groundline with a pole and flag and either a light or radar reflector. These requirements were imposed to prevent longline entanglements with other gear (such as with mobile gear including bottom and shrimp trawls) by marking the longline location. In response to user testimony regarding the safety, among other reasons, of the one-mile markers, the Council reconsidered its gear marking requirements. Fixed-gear fishermen indicated that marking each mile of groundline could be dangerous, especially when fishing in deep water. As the longline gear is retrieved from one end, the mile-marker and marker line drift free and may present a hazard to the propeller of the fishing vessel. A mile-line marker could easily be 3,000 to 8,000 feet long. Smaller vessels also may have too little deck space to hold additional cable without it being in the way of crew hauling in gear. Based in part on safety considerations, the Council chose to revise its regulations and require markers on both ends of a groundline but not each intermediate mile.

3. **Starting Date for the Fishing Year** - The FMP currently manages all groundfish on a calendar year basis, with new OYs and associated quotas and harvest guidelines effective in January each year. Over recent years, certain fishery segments, particularly the fixed gear sablefish fishermen, have advocated changing the opening and closing dates for the groundfish fishery to April 1 through March 31. Expressed reasons for this proposal included the avoidance of closures at economically disadvantageous times, greater protection for spawning fish, and increased likelihood of closures in the January through March period (when weather is bad) because this would become the "end" of the year. The Council chose not to change the fishing year in its first amendment to the FMP partly because the authority already existed to close the sablefish fishery in January through March for resource conservation reasons. In fact, by applying allocations to fixed and trawl gear in 1987 to slow the achievement of OY (and reduce the catch of incidental sablefish after the OY is reached), the fixed gear fleet did not feel the need to compete against the trawl fleet early in the year. As a result, fixed gear fishermen who earlier were concerned about operating in January through March did not fish during these months because they knew their share could not be taken by trawlers.

Safety Related Statistics on Fishing Vessel Casualties and Personal Injuries/Lives Lost in the West Coast Groundfish Fishery; Related Weather Information

1. **General** - Weather and ocean conditions are important safety factors in west coast fishing operations. Operations are primarily from coastal ports which have potentially hazardous bar crossings, and fishing grounds are in ocean waters primarily 3 to 50 miles offshore. Catches are brought aboard, iced in the holds and routinely delivered to shorebased processors within three days of capture. Wind and sea state conditions can be dangerous and bar conditions extremely hazardous, but icing conditions almost never exist, even during winter. Numerous marine advisories are issued by the National Weather Service each year. Information on the number of days per month in which small craft advisories, rough bar advisories, and gale warnings were posted off Washington for the April through October period (1977-1981 and 1985) is presented in Table 1.

The U.S. Coast Guard maintains a vessel casualty file compiled from reports of casualties and accidents submitted to the U.S. Coast Guard by vessel owners and operators. These reports are required to be submitted to the U.S. Coast Guard by 46 Code of Federal Regulations, Part 4. A U.S. Coast Guard review of U.S. commercial fishing fleet casualties from 1970-1983, concentrating on cases involving total loss of the vessel and deaths due to vessel loss or damage, provides the following observations.

- ° The causes or categories of casualties were described as collision, fires and explosion, grounding, flounder-flooding-capsizing, weather damage, material failure, and other.

Table 1. Number of days per season in which small craft advisories, rough bar advisories, and gale warnings were posted on the Washington coast, 1977-1981 and 1985.

	April	May	June	July	August	September	October
-----							
1977							
Small Craft Advisories	14	12	4	0	7	12	6
Rough Bar Advisories	0	0	0	0	0	0	0
Gale Warnings	0	2	0	0	0	0	9
1978							
Small Craft Advisories	14	12	1	0	5	18	10
Rough Bar Advisories	0	0	0	3	3	0	0
Gale Warnings	1	1	0	0	0	2	4
1979							
Small Craft Advisories	8	7	3	6	2	8	15
Rough Bar Advisories	0	0	0	0	0	0	0
Gale Warnings	1	1	0	0	0	2	4
1980							
Small Craft Advisories	17	11	7	5	7	8	17
Rough Bar Advisories	0	0	3	5	1	0	0
Gale Warnings	4	0	0	0	0	2	0
1981							
Small Craft Advisories	15	6	13	3	4	15	9
Rough Bar Advisories	0	0	4	3	0	0	0
Gale Warnings	1	0	0	0	0	2	5
1985							
Small Craft Advisories	19	15	20	4	8	14	15
Rough Bar Advisories	5	0	0	3	11	0	0
Gale Warnings	2	0	0	0	0	2	9
Average							
Small Craft Advisories	14.5	10.5	8	3	5.5	12.5	12
Rough Bar Advisories	0.8	0	1.2	2.3	2.5	0	0
Gale Warnings	1.5	0.7	0	0	0	1.7	5.2
-----							

Source: For 1977-1981 data: "Proposed FMP for Managing the 1982 Salmon Fisheries Off the Coasts of California, Oregon, and Washington," Council. May 1982.

For 1985 data: Unpublished National Weather Service messages.

Note: Small craft advisories are issued when sustained winds are from 21 to 34 knots; gale warnings are issued when sustained winds are over 34 knots; and rough bar advisories are issued when waves are breaking or are over 10 feet high.



- The casualty rate for fishing vessels declined from 11.0 lost per 1,000 in 1970 to 6.0 lost per 1,000 in 1980. This improvement did not continue from 1981-1983.
  - The material used for vessel construction and the vessel's age affect the loss rates. Fiberglass hulled vessels showed a lower loss rate; as age increases so does the loss rate until some age point is reached at which point the loss rate begins to decline.
  - Vessels less than 65 feet in length demonstrated significantly lower loss rates than those in the 65 to 100 feet and greater than 100 feet categories.
  - Among various causes noted in reviewing casualties, human failure stood out. Such failures include (1) poor watchkeeping practices; (2) navigational errors and rules of the road violations; and (3) lack of understanding of the various forces acting on the vessel, especially as concerns the vessel stability. The human factor plays a role even where the direct casualty cause was equipment failure or bad weather. Required or prudent maintenance may not have been done, or vessel cleanliness was not maintained and led to fire. Poor judgment may have been exercised as to when and where to go fishing.
  - Floodings, flounderings, and capsizings present a much greater threat to crew lives and vessel safety than other causes. Of particular concern is the apparent little appreciation by many vessel operators for the number of at-sea hazards, which can seriously reduce vessel stability. The elimination of casualties in these categories depends on the vessel owners and operators: crews must be trained properly, vessels must be equipped and maintained properly, and fishing trips and operations must be conducted safely. Careful risk management is crucial for business success, not to mention survival.
2. **West Coast Groundfish Fishery** - Exact and comprehensive data on the number and extent of at-sea vessel accidents in the west coast groundfish fishery is unknown. U.S. Coast Guard data indicate that out of some 20 U.S. fishing areas, and for the 1972-1979 period, the Pacific Northwest (Washington and Oregon) was third, southern California fourth, and northern California fifth in the number of documented commercial fishing vessels lost at sea (similar order of magnitudes existed for lives lost). U.S. Coast Guard data does not usually specify in which fishery a vessel was participating, but some casualty reports do note the type of fishing or gear used.

The Council has obtained information from U.S. Coast Guard Headquarters on documented commercial vessel casualties (vessels lost and damaged) and crew deaths for territorial and internal waters of, and the EEZ off, California, Oregon, and Washington (for the period 1981-1986) the cause was attributed to adverse weather conditions or where weather was considered a primary or secondary contributing factor. Data were also obtained on all fishing vessel casualties irrespective of the cause. The U.S. Coast Guard data specify vessel

name, event date and location, value of total loss or damages, crew deaths, and sea and weather conditions each reported casualty during the six-year period. An initial review of the data shows the following.

- ° Between 1981 and 1986 inclusive, there were reported 51 documented commercial fishing vessels lost at sea, 38 vessels sustaining measurable damage which affected seaworthiness, and 38 lives lost where adverse weather was considered the cause or primary or secondary contributing factor. Refer to Table 2.
- ° On the average, for the entire coast, the number of fishing vessel casualties per month (combined number of vessels totally lost or damaged with seaworthiness affected), attributed by the U.S. Coast Guard to **all causes**, appeared significantly higher during a period from May through August. The number of vessels lost per month did not evidence a clear peak, but was generally lower from January through April and higher from May through December. Refer to Figure 1.
- ° On the average, for the entire coast, monthly fishing vessel casualties (combined number of vessels lost or damaged) attributed by the U.S. Coast Guard to weather as the cause or primary contributing factor, appeared to vary reasonably closely about a mean value from January through October, but rose sharply in November and December. The number of vessels damaged per month was lowest in January and February and rose some (with fluctuations) over the season with a sharp peak in November. The number of vessels lost per month appeared to fluctuate reasonably closely about a mean value from February through October, but peaked sharply in November; December was a high incidence month as was January (although to a lesser degree). Refer to Figure 2.

### Options

The Council reviewed two options for fulfilling the safety-related requirements of P.L. 99-659 and interim NMFS guidance. Both alternatives consider temporary regulatory adjustments for vessels otherwise prevented from harvesting because of weather or other ocean conditions affecting vessel safety. P.L. 99-659 requires that any such adjustments be based upon consultation with the U.S. Coast Guard and persons utilizing the fishery.

#### Option 1 - Status Quo (No Regulatory Changes Needed)

Present FMP regulations require public comment and consultation with the Council before pre-season or in-season management actions are implemented (except for closures which must occur when quotas are reached). The U.S. Coast Guard is represented on the Council and, therefore, as required by P.L. 99-659, comments on proposed management measures as it sees fit. In addition, the U.S. Coast Guard participates in the Council's Enforcement Consultants group and so has another opportunity to raise or comment on safety concerns. U.S. Coast Guard comments are part of the NMFS' publicly available administrative record and written comments on an FMP or amendment are formally

Table 2. Reported vessel casualties; 1981-1986; documented commercial fishing vessels; vessels lost or damaged with seaworthiness affected and crew deaths; internal and territorial waters of, and EEZ off, California, Oregon, and Washington; weather primary cause or first or second contributing factor.

	Vessels Lost	Vessels Damaged	Crew Deaths
Weather-Primary Cause	24	11	12
Weather-First Contributing Factor	21	18	19
Weather-Second Contributing Factor	6	9	7
Totals	51	38	38

Data Source: Marine Safety Evaluation Branch, U.S. Coast Guard Headquarters

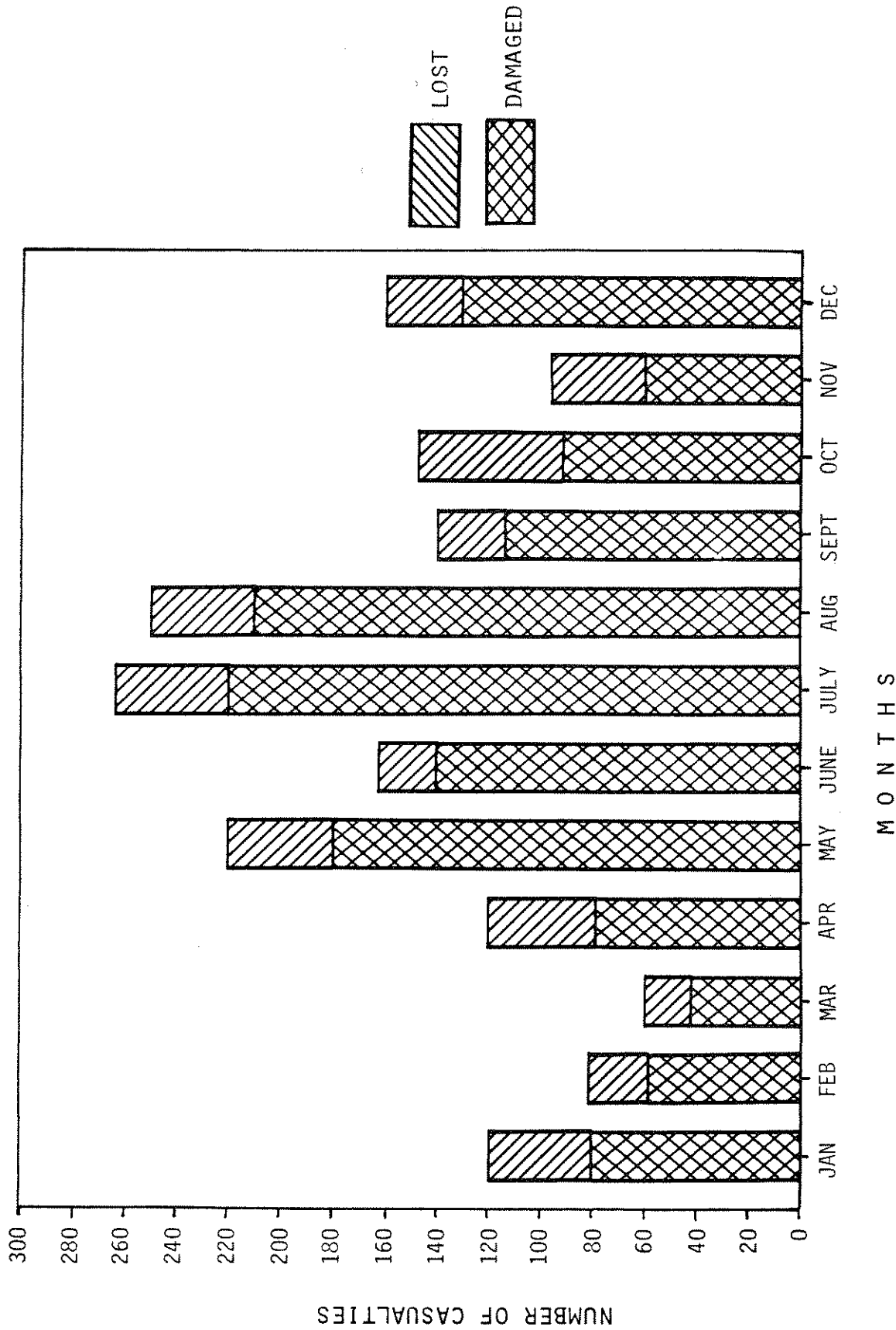


Figure 1. Total number of vessel casualties--vessels lost or damaged, all causes; California, Oregon, and Washington, 1981-1986, by months. Data Source: U.S. Coast Guard Headquarters.

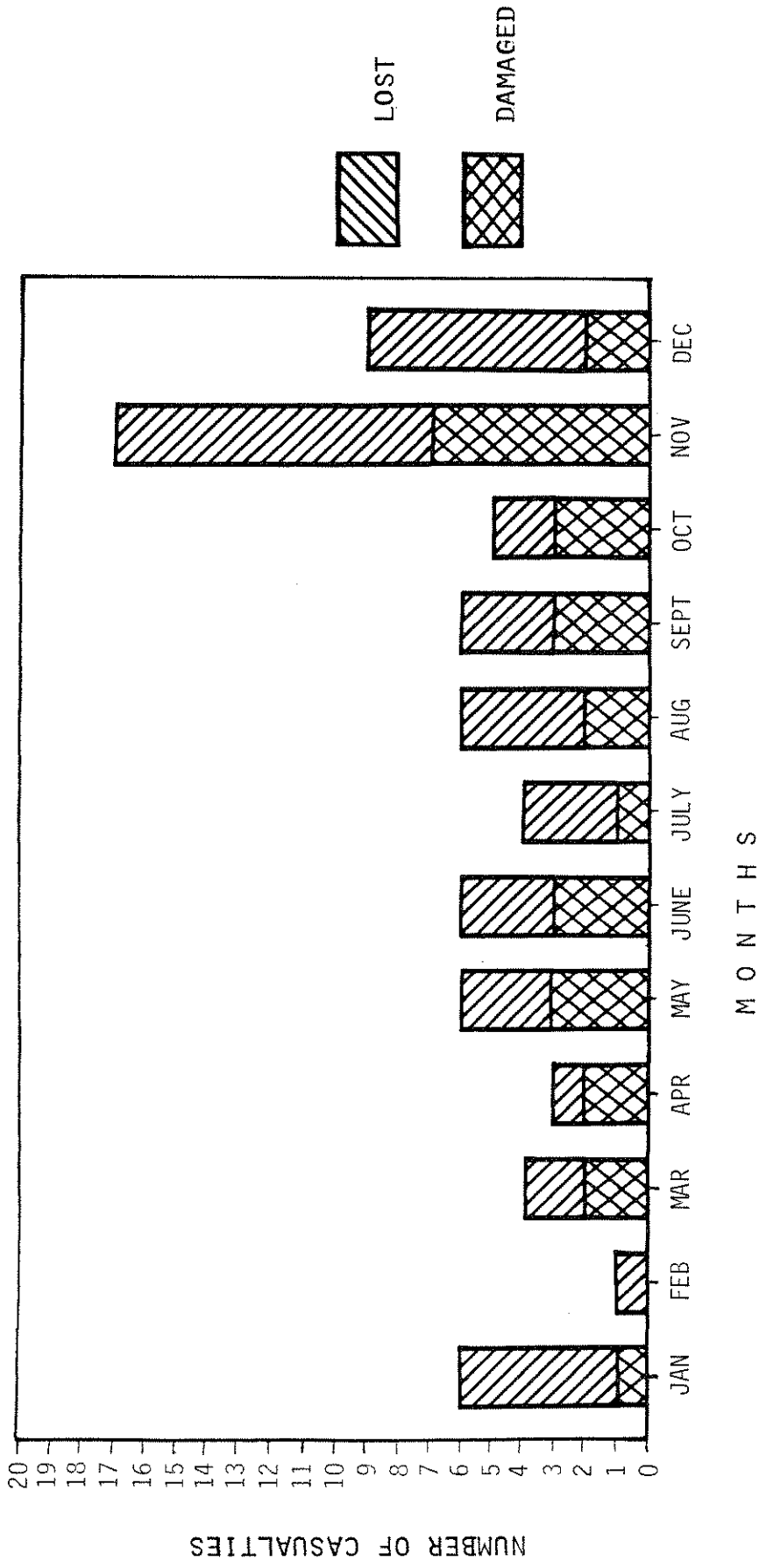


Figure 2. Total number of vessel casualties due to weather--vessels lost or damaged; California, Oregon, and Washington, 1981-1986, by months.  
 Data Source: U.S. Coast Guard Headquarters.

considered and submitted for Secretarial review. In addition, NEPA requires consideration of relevant safety issues in preparation of an EA of an FMP or amendment. Therefore, relevant safety issues already are considered in the current decision-making process and the U.S. Coast Guard is consulted on these issues as required by current FMP and NEPA regulations.

No procedure has been formalized requiring the regional director specifically to consider providing access to the fishery for vessels which could not go fishing because of weather or oceanic conditions. However, if vessels do not go fishing, quotas are not met, and the regional director may liberalize fishing restrictions so the harvest goal may be reached. It should be noted that trip limits are based on the assumption that each vessel will not take the available limit due to bad weather or vessel repair. If each vessel were guaranteed the limit, poundage amounts would have to be significantly lower than current levels. The industry has been involved in these choices, particularly when discussing the merits of individual vessel or monthly quotas, and the current trip limit strategy has resulted at the request of most industry representatives.

Finally, where significant vessel safety issues have risen (e.g., been expressed by fishery users), the Council has discussed whether such issues were amenable to a regulatory solution, and if so, has taken appropriate and reasonable action to address the identified problems. The conclusions of the NCFVSI study support this finding. Any significant or measurable safety impacts of proposed management measures were discussed by the Council in reaching its final decisions and public views were invited. The Council's consideration of any safety issues and relevant public comment has consistently been reflected in final amendment documents submitted to the Secretary of Commerce. Under the status quo option, this approach to considering safety issues would continue.

#### Option 2 - Required Consideration of Safety Conditions in Adjustments to Management Measures

Option 2 would formalize by regulation the current procedure of consulting with the U.S. Coast Guard on safety impacts of alternative management measures. In doing so, weather and oceanic conditions would be specified at 50 CFR 663.22 as one of the factors to be considered when making adjustments to management measures. Also, the U.S. Coast Guard would be explicitly mentioned as a consultant, and the authority of the regional director would be more clearly stated for adjusting management measures so that harvest goals may be reached.

Consideration of weather and oceanic conditions could be appropriate when the management action would affect the timing or length of a season, the areas open or closed to fishing or the amount or frequency of a trip limit. Weather and oceanic conditions are expected to have no bearing on other management adjustments such as size, bag, or gear limitations.

#### Impacts

Interim guidance from NMFS specifies that all FMPs and amendments submitted after January 1, 1987 must contain provisions for evaluating the safety implications of recommended management alternatives, particularly with regard

to adverse weather and temporary adjustments to fishery access due to unsafe weather or oceanic conditions. This should include the identification of safety concerns caused by a particular approach, suggested alternatives to minimize safety problems, and mechanisms that allow for flexible modification of specified management limitations. Failure to include these provisions is grounds for disapproval of the amendment. However, both the Council and NCFVSI (in its report) believe that major unresolved safety issues do not exist in the Washington, Oregon, and California groundfish fishery and vessel safety and access considerations have been fully and appropriately addressed under current management procedures (Option 1). The U.S. Coast Guard and industry representatives are involved at both the Council and advisory committee levels in the decision-making process. Regarding vessel access, the trip limits currently in effect already are based on the fact that some vessels will not be fishing due to bad weather (or breakdowns); accordingly trip limits are higher than they otherwise would be if vessels were guaranteed the limit of fish. Inclusion of this vessel safety discussion in the amendment is primarily to clarify current procedures and to ensure that the amendment is in conformance with the MFCMA.

Option 2 puts current practice into regulatory language. Since the domestic groundfish fishery is not managed by seasons (except when OY is reached) and management is either coastwide or by the large International North Pacific Fisheries Commission statistical areas, there is little that realistically would be changed by imposing these additional regulations. Trip limits or other management measures still will be adjusted so that the quota or harvest guideline may be reached, thus responding to low catch rates due to poor weather. No substantive change is expected in the behavior of the groundfish fishery under any of the alternatives, nor are any biological or physical impacts expected. The amount and kind of fishing mortality imposed on groundfish and non-groundfish species will likely remain unchanged.

#### Impacts on Fishermen

No change in access of fishermen to the resource is anticipated under either of the options because currently the fishing season generally lasts the entire year (with occasional exceptions such as the fixed gear sablefish fishery). If fishing opportunities must be restricted due to reduction in the resource or increase in the number of fishermen, the potential for reduced access due to weather could become more important. However, such restrictive measures undoubtedly would result in other more serious disruptive impacts on the fishery than those caused by bad weather.

It is highly questionable whether the action taken under either of the options would have an impact on the number of injuries or vessels lost at sea. Likewise the impact on groundfish fishermen's insurance rates is a matter of conjecture. There is no evidence the insurance industry reacts to losses in one particular fishing activity but rather sets rates based on risks in the fishing industry in general.

#### Recommendation

The Council recommends Option 1 because it is consistent with P.L. 99-659, requires the least cost, and is responsive to the safety issue.

### Selected References

- Analysis: U.S. commercial fishing vessel losses, 1970-1981. Marine Safety Evaluation Branch, Office of Merchant Marine Safety, U.S. Coast Guard Headquarters. 1983.
- Buck, E. H.. 1985. Federal FMPs--Safety Implications. CRS, The Library of Congress. Prepared at the request of the House Committee on Merchant Marine Fisheries, Washington, DC.
- Council. 1982. Proposed FMP for Managing the 1982 Salmon Fisheries Off the Coasts of California, Oregon, and Washington: An Amendment to the "FMP for Commercial and Recreational Salmon Fisheries off the Coasts of Washington, Oregon, and California Commencing in 1978." Portland, Oregon.
- Hart, T. E., and F. P. Perrini. 1984. Analysis of U.S. Commercial Fishing Vessel Losses, 1970-1982. U.S. Coast Guard Headquarters.
- Nixon, D.W. 1986. Recent Developments in U.S. Commercial Fishing Vessel Safety, Insurance and Law. Journal of Maritime Law and Commerce 17(3):359-387.
- Sabella, J. 1986. Personal testimony before the Subcommittee on Coast Guard and Navigation, Committee on Merchant Marine and Fisheries, United States House of Representatives, Seattle, WA. May 23, 1986.
- Sabella, J. 1986. Vessel Safety Manual. North Pacific Fishing Vessel Owners' Association in Cooperation with the U.S. Coast Guard. Seattle, WA.
- Schmitt, R. A. 1986. Personal testimony before the Subcommittee on Coast Guard and Navigation, Committee on Merchant Marine and Fisheries, United States House of Representatives, Seattle, WA. May 23, 1986.
- Study on the use of fishery management regulations and techniques to improve the safety of commercial fishing operations. The NCFVSI, Washington, DC:1986.



APPENDIX A  
ENVIRONMENTAL ASSESSMENT FOR AMENDMENT 3 TO THE PACIFIC COAST GROUND FISH FMP

Introduction

After four years of development, the Pacific coast groundfish FMP was approved by the NOAA Assistant Administrator for Fisheries with the exception of one provision, on January 4, 1982. The draft EIS was submitted to the EPA on November 23, 1979, and then modified and resubmitted as a draft supplemental EIS on December 24, 1980; the final supplemental EIS was submitted to the EPA with publication of the proposed implementing regulations. The EPA published the notice of availability for the final supplemental EIS on February 12, 1982 (47 FR 6483) and implementing regulations became effective September 30, 1982 (except for vessel identification and gear provisions which were effective January 1, 1983).

Two amendments to the FMP have already been implemented: the first amendment on July 29, 1984 and the second amendment on March 15, 1987 (except for gear marking provisions which were effective August 1, 1987). An EA was prepared for each amendment, and each EA supported the finding that no new significant environmental impacts would result from these amendments.

The Council has prepared Amendment 3 to the FMP to address legal requirements under the recent amendment to the MFCMA (P.L. 99-659) which calls for all FMPs and amendments submitted after January 1, 1987 to include discussions on habitat (Issue 1) and consideration of weather-related vessel access and safety concerns (Issue 2). The EA part of this document has been prepared according to 40 CFR 1501.3 and 1508.9 and NOAA Directive 02-10 in order to determine whether an EIS is required by Section 102(2)(C) of the NEPA. An EIS normally is required for any major action that will have a significant impact on the quality of the human environment. However, an EA that provides sufficient analysis of environmental impacts leading to a finding of no significant impact can take the place of an EIS as the final environmental document required by the NEPA.

Another part of this document is the RIR which is required by NOAA for all regulatory actions or significant policy changes that are of public interest. The RIR provides a review of the problems and policy objectives prompting the regulatory proposals and ensures that the regulatory agency systematically and comprehensively considers all available alternatives so the public welfare can be enhanced in the most efficient and cost effective way. The RIR portion of this document also serves as the basis for determining whether any proposed regulations are major under criteria provided by Executive Order 12291 and whether proposed regulations will have significant impact on a substantial number of small entities in compliance with the Regulatory Flexibility Act.

Choice of Issues and Preferred Options

In order to determine the need for modifying the FMP, potential amendment issues were identified at various Council meetings and a public scoping session held on September 17, 1986. At its September 16-17, 1987 meeting, the

Council decided to proceed with consideration of the two issues contained in this amendment. The Council conducted a public hearing in November 1987 and adopted the amendment. The discussion of environmental and socio-economic impacts in the amendment and this EA-RIR/RFA covers the range of possibilities that could be chosen.

### Summary of Environmental Impacts

Table A-1 identifies the pages of the amendment which discuss the need for action and analysis of the potential impacts of each alternative. Thus, this appendix either contains or references the information required for a "structurally complete" EA-RIR/RFA.

None of the actions being considered for the two issues in this amendment are expected to jeopardize the productive capability of the target resource species or any related stocks that may be affected by this action, allow substantial damage to the ocean or coastal habitats, have a substantial adverse impact on public health or safety, affect adversely any endangered or threatened species or a marine mammal population, or result in cumulative effects that could have a substantial adverse effect on the target resource species or any related stocks that may be affected by this action. The impacts of any action taken under these issues, considered separately or together, would not have a significant impact on the quality of the human environment. The basis for these conclusions is summarized below.

### Impacts on the Biological and Physical Environment

Implementation of any option presented in this amendment would not have a significant biological or physical impact, direct or indirect. None of the options intend to allow increased fishing mortality for groundfish or non-groundfish species. Insofar as the issues in this amendment have no interaction with the physical environment other than with ocean waters, there is no impact, significant, adverse, or otherwise, on floodplains or wetlands, sites included in the National Trails and Nationwide Inventory of Rivers, or sites nominated or designated by the Advisory Council on Historic Preservation.

#### Issue 1

This issue addresses the legal requirement that the FMP include readily available information regarding the significance of habitat to the fishery and an assessment of the effects which changes to that habitat may have upon the fishery. Because P.L. 99-659 requires inclusion of this information in the FMP, there are no alternative options.

This issue incorporates into the FMP information on generalized habitat requirements of commercially important groundfish species, habitat factors of importance to groundfish production, and the general effects and associated risks of habitat alterations by various activities (e.g., oil and gas development, marine mining, dredge and fill). This issue also incorporates into the FMP the Council policy regarding habitat protection and alteration, consistent with the NMFS habitat conservation policy and the MFCMA. Although this issue provides the necessary authorization to implement regulations to protect marine fish habitat, no specific management measures currently are

Table A-1. Issues in Amendment 3 to the "Final FMP and Supplemental EIS for the Washington, Oregon, and California Groundfish Fishery" (pages reference requirements of an EA under NEPA and a RIR/RFA under Executive Order 12291 and the Regulatory Flexibility Act).

Issue	Title	Need for Action	Alternative (Options)	Impacts	
				Biological	Socio-Economic Interaction
1	Habitat	5	5	16-17	17
2	Temporary Adjustments for Access	20	29, 33	34	34-35
					15

proposed; therefore, this issue currently has no direct impacts. Should regulations be imposed in the future (such as a prohibition against discarding debris from fishing vessels at sea), these regulations would be designed to have a positive impact on the biological and physical environment.

## Issue 2

Issue 2 has no impact on the biological or physical environment.

### Impacts on the Human Environment

The two issues have minimal or no socio-economic impacts relative to current management. No possible action taken under this amendment imposes a significant cost (as defined by Executive Order 12291) on the industry when compared with the status quo. The basis for these conclusions is summarized below. More complete analyses of the socio-economic impacts are in the discussions of each issue.

### Safety

Issue 1 - This issue has no safety or fishery access implications.

Issue 2 - This issue addresses the legal requirement that the FMP consider, and possibly provide for, temporary adjustments to management measures regarding access to the fishery for vessels otherwise prevented from harvesting because of weather or other oceanic conditions affecting the safety of the vessels. Such adjustments would include consultation with the U.S. Coast Guard and persons utilizing the fishery. Interim guidance from NMFS specifies that the FMP provisions include the identification of safety concerns caused by a particular management approach, suggested alternatives to minimize safety problems, and mechanisms that allow for flexible modification of management limitations in response to safety and weather concerns. Consideration of weather and oceanic conditions could be appropriate when a management action affects the timing or length of a season, the areas open or closed to fishing, or the amount or frequency of a trip limit.

Both Options 1 and 2 make a finding that current procedures fully consider safety and vessel access implications and incorporate the basis for this finding in the FMP. There is no difference between Options 1 and 2 in management or the decision-making process. However, Option 2 would explicitly mention in the regulations the current practice of consulting with the U.S. Coast Guard on safety impacts of alternative management measures and would clarify NMFS authority to change inseason management measures so that the harvest goal for a species may be reached.

The Council and NCFVSI believe that major unresolved safety issues do not exist in the west coast groundfish fishery and that vessel safety and access considerations have been fully and appropriately addressed under current management procedures. Neither option is expected to substantively alter the behavior of the groundfish fleet. Furthermore, it is highly unlikely that either option would have an impact on the number of injuries or vessels lost at sea.

The U.S. Coast Guard will evaluate the proposed measures in this amendment for their effects on vessel safety, particularly regarding adverse weather and oceanic conditions. Comments by the U.S. Coast Guard will be included in the final amendment, but they will not represent a certification that the amendment or any specific measure is safe.

### Direct Costs

Issue 1 - Issue 1 involves no direct cost to the fishing industry.

Issue 2 - Under either option, the Council includes weather-related vessel safety and access concerns in its management deliberations and fully consults with the U.S. Coast Guard and affected public. No change in fishermen's access to the resource (and thus in direct costs) is anticipated as a result of any of the options. Trip limits currently in effect are based on the fact that some vessels will not be fishing due to bad weather or breakdowns; these trip limits may be made less restrictive if it appears the quota or harvest guideline will not be reached.

If fishing opportunities become more restrictive due to reduction in the resource or increase in the number of fishermen, then the potential for reduced access due to weather could become more important. However, such restrictive measures undoubtedly would have more serious disruptive impacts on the fishery than those caused by bad weather.

It is highly unlikely that any action taken under either option would have an impact on the insurance rates for groundfish fishermen; there is no evidence the insurance industry reacts to losses in a particular fishing activity but rather sets rates based on risks in the fishing industry in general.

### Administration

Issue 1 - By providing habitat information in a readily available and documented format, Issue 1 is expected to reduce duplicative cost and effort by management agencies in assembling and disseminating such information and sets the stage for introducing regulations to protect marine fish habitat without an additional FMP amendment. FMP amendments can be costly (approximately \$30,000 to \$50,000 per amendment) and time consuming.

Issue 2 - Option 2 formalizes the current procedures in Option 1 (status quo) to consider vessel access and weather-related safety. Administrative costs to change current regulations would be about \$1,000 for announcing proposed and final rules in the Federal Register.

### Regulatory Impacts on Small Business

No action taken under Issue 1 or Issue 2 will impact small business or small government entities. Inclusion of habitat and weather-related vessel safety provisions into the FMP are mandated by the MFCMA. Their inclusion in this amendment does not indicate any policy change by the Council and any regulatory changes are merely for clarification of existing policy.

### Interaction With Other Amendment Issues

An amendment to the FMP may be approved in whole, in part, or not at all. Each issue described in this amendment is independent of the other and could be considered separately on its own merits. However, both topics are required by the MFCMA to be included in the first amendment submitted by the Council after January 1, 1987. Thus, if the NOAA Assistant Administrator for Fisheries disapproved that portion of the amendment dealing with either issue, the result would be disapproval of the entire amendment.

### Additional Record Keeping, Reporting, Paperwork, and Rulemaking Costs Relevant to the PRA

Issue 1 and Issue 2 have no record keeping requirements.

### Agencies and Persons Consulted

Representatives of the following agencies were consulted in the preparation of this EA.

California Coastal Commission  
California Department of Fish and Game  
Oregon Department of Fish and Wildlife  
Oregon Land Conservation and Development Commission  
San Francisco Bay Conservation and Development Commission  
Washington Department of Ecology  
Washington Department of Fisheries  
Pacific Fishery Management Council  
National Marine Fisheries Service  
U.S. Coast Guard

### Finding of No Significant Environmental Impact

For the reasons discussed or referenced above, it is hereby determined that neither approval nor disapproval of any issue or option presented would significantly affect the quality of the human environment in a way that has not already been contemplated in the supplemental EIS for the FMP. Accordingly, preparation of a supplementary EIS on these issues is not required by Section 102(2)(C) of the NEPA or its implementing regulations.

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Assistant Administrator for Fisheries, NOAA

Date

APPENDIX B  
CONSISTENCY WITH FEDERAL AND STATE COASTAL ZONE MANAGEMENT PROGRAMS

Coastal Zone Management Act

The CZMA of 1972 specifies at Section 307(c)(1) that

Each federal agency conducting or supporting activities directly affecting the coastal zone shall conduct or support those activities in a manner which is, to the maximum extent practicable, consistent with approved state management programs.

The MFCMA specifies at Section 303(b) that

Any FMP which is prepared by any council or by the Secretary, with respect to any fishery, may . . .  
(5) incorporate (consistent with the national standards, the other provisions of MFCMA, and any other applicable law) the relevant fishery conservation and management measures of the coastal states nearest to the fishery.

Both the CZMA and the MFCMA establish policies that affect the conservation and management of fishery resources.

NOAA administers both the MFCMA and the CZMA. Moreover, it is NOAA's policy that the two statutes are fundamentally compatible and should be administered in a manner to give maximum effect to both laws. It is also NOAA's policy that most FMPs (and amendments of FMPs) constitute a federal activity that "directly affects" the coastal zone of a state with an approved coastal zone management program. NOAA recognizes that fisheries constitute one of the key resources of the coastal zone and that the preparation and implementation of FMPs to regulate fisheries in the EEZ could have a direct effect on the state's coastal zone because of the division in the fishery resources between the EEZ and state territorial and internal waters.

The CZMA and the MFCMA establish time frames for consistency review and approval of FMPs and amendments that are approximately equal. However, these time frames may, on occasion, cause procedural problems in coordinating consistency review and approval of FMPs or amendments.

NOAA regulations require that consistency determinations be provided to states with approved programs "at least 90 days before final approval of the federal activity unless both the federal agency and the state agency agree to an alternative notification schedule" (15 CFR 930.54[b]). Similarly, NOAA regulations encourage federal agencies to provide consistency determinations "at the earliest practical time" in the planning of an activity, "before the federal agency reaches a significant point of decision making in its review process" (930.54[b]). A state must indicate its agreement or disagreement with the consistency determination within 45 days. If the state fails to respond within 45 days, the state's agreement may be presumed. However, the state may request one 15-day extension before the expiration of the 45-day period, and the federal agency must comply. Longer extensions may be granted by the federal agency (15 CFR 930.41).

The MFCMA requires the Secretary of Commerce review an FMP or amendment prepared by a council and notify such council of his approval, disapproval, or partial approval within 95 days after he receives the FMP or amendment (P.L. 97-453).

The sections that follow summarize those portions of the Washington, Oregon, and California coastal zone management programs that may be relevant to the FMP and subsequent amendments, and the last section determines consistency between the third amendment to the FMP and these state programs.

### Washington State Coastal Zone Management Program

The DOE is lead state agency for implementation of the WCZMP. The coastal zone boundary embodies a two-tier concept. The first or primary tier, bounded by the "resource boundary," encompasses all of the state's marine waters and their associated wetlands, including, at a minimum, all upland area 200 feet landward from the ordinary high water mark. The second tier, bounded by the "planning and administrative boundary," is composed of the area within the 15 coastal counties which front on saltwater. The second tier is intended to be the maximum extent of the coastal zone and, as such, is the context within which coastal policy planning is accomplished through the WCZMP.

Management of the coastal zone is subject to the Shoreline Management Act and implementing regulations, the federal and state clean air act requirements, and the energy facility siting law. Together, these authorities establish priorities for permissibility of uses and provide guidance as to the conduct of uses of Washington's coastal zone. The emphasis of the program includes not only Washington's coastal waters, but the shoreline jurisdiction throughout the 15 coastal counties.

The WCZMP provides a consistency review mechanism for federal activities affecting the coastal zone based on specific policies and standards. For federal activities requiring no permits, but having coastwide implications (such as FMPs), the policies and standards addressed in the Shoreline Management Act of 1971 (RCW 90.58) and the Final Guidelines (WAC 173-16) provide the basis for determining consistency.

### Shoreline Management Act

The management goals in the Shoreline Management Act emphasize a balance between conservation and use of the shorelines. More specific priorities were given to "shorelines of statewide significance" encompassing an area including Washington ocean waters and shoreline from Cape Disappointment on the south to Cape Flattery on the north, including harbors, bays, estuaries, and inlets.

Amendment 3 to the FMP is consistent with the following directives contained in the WCZMP concerning shoreline management.

#### (a) Recognize and Protect the Statewide Interest Over local Interest

The current FMP and both issues in this amendment have statewide and regionwide implications for a productive groundfish resource and fisherman success and safety.



(b) Preserve the Natural Character of the Shoreline

This proposed FMP amendment should have no direct impact on the natural character of the Washington shoreline. Issue 2 (adjustments for weather-related vessel safety) is not relevant to this directive. Any impacts of Issue 1 (habitat relationships and preservation of productive capacity) should be supportive of this directive where degradation of the natural character of the shoreline also degrades the productive capacity of the environment.

(c) Result in Long-term Over Short-term Benefit

The FMP requires the annual consideration of long-term resource needs and short-term social and economic benefits. The determination of OY balances these competing demands. Under the FMP, management measures may be imposed to alleviate biological stress on any stock of fish to assure that future productivity is not threatened. Ocean commercial fisheries off Washington have been curtailed in recent years in order to alleviate biological stress on certain stocks of groundfish. Neither amendment issue would change this aspect of the FMP. Thus, no option presented in this amendment would jeopardize the productivity of any stock of fish or would result in significant short-term economic gains at the expense of long-term benefits.

(d) Protect the Resources and Ecology of the Shoreline

The purpose of the FMP and subsequent amendments is to conserve and protect the groundfish resource for current and future use. The FMP amendment directly addresses this goal by inclusion of a section which stresses the need to protect groundfish habitat.

(e) Increase Public Access to Publicly-owned Areas of the Shoreline

The amendment to the FMP will not have any direct or indirect affect on public access to publicly-owned areas along the coastal zone.

(f) Increase Recreational Opportunities for the Public in the Shoreline

The FMP amendment will not affect recreational fishing opportunities for the public in the shoreline.

DOE Final Guidelines

The concept of preferred shoreline uses has been incorporated in DOE's final guidelines, with water-dependent uses clearly a priority over water-oriented or nonwater-oriented uses. The guidelines address uses compatible with (1) the natural environment, (2) the conservancy environment, (3) the rural environment, and (4) the urban environment. Of the 21 individual development policies in the final guidelines, three have relevance or potential relevance to the federal activity proposed in this amendment to the FMP.

(a) Commercial Development

Shoreline-dependent commercial development and developments which will provide shoreline enjoyment for a large number of people shall be preferred. New commercial activities shall locate in urbanized areas.

(b) Ports and Water-related Industry

Industry which requires frontage on navigable waters should be given priority over other industrial uses. Prior to allocating shorelines for port uses, regional and statewide needs for such uses should be considered.

Although this amendment does not specifically address development of water-related coastal industry, the protection and enhancement of ocean resources may provide a incentive for shoreside commercial development. Numerous shoreside fish plants process groundfish that are caught in the EEZ. Some of the processors are dependent on the groundfish fishery and will be affected by regulatory decisions made under the FMP and subsequent amendments. Consideration of the economic viability of shoreside commercial developments that are dependent on groundfish fisheries is an important economic factor in the annual determinations of OY by the Council.

(c) Recreation

Priority will be given to developments which provide recreational uses and other improvements facilitating public access to shorelines. Water-oriented recreation is a preferred use along the shorelines, but it should be located and conducted in a way which is compatible with the environment.

The amendment does not specifically address shoreside recreational development, but again the conservation, protection, and enhancement of ocean resources could provide an incentive for such developments.

Oregon State Coastal Zone Management Program

The Oregon program calls for consistency review to activities directly affecting the coastal zone, including air, water, scenic, living, economic, cultural, and/or mineral resources of the coastal zone.

The basis for the Oregon program is the 1973 Oregon Land Use Act, ORS 197. Oregon's program relies on the combined authority of state and local governments to regulate uses and activities in the coastal zone. The principal components of Oregon's program are: (1) 19 statewide planning goals and supporting guidelines adopted by LCDC, the state's coastal zone agency; (2) coordinated comprehensive local plans prepared by local governments and approved by the LCDC; and (3) selected state statutes implemented by various state agencies. Local and state planning decisions must comply with the statewide planning goals, which serve as the program's overriding standards until local comprehensive plans are developed and acknowledged by LCDC. Once acknowledged, the comprehensive plans supersede the goals as standards for

state and federal planning and activities in the coastal zone. Coastal zone boundaries are generally defined to extend to the state's seaward limit (three nautical miles offshore) and inland to the crest of the coastal mountain range.

Table B-1 lists the statewide planning goals and state regulations that have been examined for this analysis and categorized them according to their particular relevance to the recommendations in the amendment to the FMP.

(a) Goal 19 - Ocean Resources

The amendment is consistent with Goal 19 the most pertinent aspect of the Oregon State Coastal Zone Management Program relating to groundfish management. The overall statement of Goal 19 is:

to conserve the long-term value, benefits and natural resources of the nearshore ocean and continental shelf. All local, state, and federal plans, projects, and activities which affect the territorial sea shall be developed, managed, and conducted to maintain, and where appropriate, enhance and restore, long-term benefits derived from the nearshore oceanic resources of Oregon. Since renewable ocean resources and uses, such as food production, water purity, navigation, recreation, and aesthetic enjoyment will provide greater long-term benefits than will nonrenewable resources, such plans and activities shall give clear priority to the proper management and protection of renewable resources.

Guidelines for Goal 19 reflect concerns for awareness of impacts upon fishing resources, biological habitat, navigation and ports, aesthetic uses, recreation, and other issues. The management objectives that are expressed in the FMP and this amendment are consistent with the objective of Goal 19, the protection and conservation of ocean resources. Goal 19 emphasizes the long-term benefits that would be derived from the conservation and restoration of the renewable nearshore oceanic resources. Issue 1 of the FMP amendment emphasizes the need to provide for the conservation and protection of groundfish stocks and their habitat. As such the amendment should enhance the protection and conservation of oceanic resources.

(b) Goal 5 - Preservation of Open Space . . . and Natural Resources

Goal 5 also addresses the issue of conservation of natural resources. The guidelines call for fish and wildlife areas and habitats to be protected and managed in accordance with the Oregon Fish and Wildlife Commission's management plans. The FMP was found consistent with the management objectives for groundfish stocks off Oregon that were developed by ODFW and adopted by the Oregon Fish and Wildlife Commission. The habitat conservation provisions in Amendment 3 strengthen this consistency.

Table B-1. Oregon coastal zone management planning goals and state regulations.

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Category 1. Applicable Issues and Statutes

Goal No. 1	Citizen Involvement in Planning
Goal No. 5	Preservation of Open Space . . . and Natural Resources
Goal No. 8	Recreational Needs
Goal No. 16	Estuarine Resources
Goal No. 19	Ocean Resources
ORS 496.012	Wildlife Policy
ORS 506.109	Foodfish Management
ORS 506.201- 506.211	Oregon Fish and Wildlife Management Planning

Category 2. Potentially Applicable Goals and Statutes

Goal No. 2	Land-use Planning
Goal No. 9	Economy of the State
Goal No. 17	Coastal Shorelands
ORS 184.033	Economic Development
ORS 777.835	Ports Planning

Category 3. Goals Relatively Inapplicable to the Proposed Action

Goal No. 3	Agricultural Lands
Goal No. 4	Forest Lands
Goal No. 6	Air, Water, and Land Resources Quality
Goal No. 7	Areas Subject to Natural Disasters
Goal No. 10	Housing
Goal No. 11	Public Facilities and Services
Goal No. 12	Transportation
Goal No. 13	Energy Conservation
Goal No. 14	Urbanization
Goal No. 18	Beaches and Dunes

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(c) Goal 16 - Estuarine Resources

Goal 16 addresses the protection of estuarine resources. This goal emphasizes the need for protection, maintenance, development, and appropriate restoration of long-term environmental, economic, and social values; diversity, and benefits of Oregon's estuaries. Comprehensive plans and activities affecting estuaries must protect the estuarine ecosystem including its biological productivity, habitat, diversity, unique features, and water quality. However, Goal 16 underscores the need to classify Oregon estuaries and to specify "the most intensive level of development or alteration which may be allowed to occur within each estuary." Neither the FMP nor its amendment has a direct affect on development or alteration of the estuarine environment. However, the amendment stresses the need to protect the estuarine environment and establishes the Council's habitat protection policy.

(d) Goal 8 - Recreational Needs

Goal 8 refers to existing and future demand by citizens and visitors for recreational facilities and opportunities. Planning guidelines recommend that inventories of recreational opportunities be based on adequate research and analysis of the resource, and where multiple uses of the resource exist, provision be made for recreational users. The FMP amendment in no way impedes the opportunity for Oregon recreational fishermen to harvest groundfish.

(e) Goal 1 - Citizen Involvement

Goal 1 calls for the coordination of state, regional, and federal planning with the affected governing bodies and citizenry. Guidelines address communication methods, provision of technical information, and feedback mechanisms to assure the opportunity for citizen involvement in planning processes. The FMP process provides for close collaboration and coordination between state and federal management entities and assures citizen involvement in decision making through the forum of the Council and through a series of public hearings that are convened before the Council adopts any fishery management measures.

Lastly, insofar as FMPs and FMP amendments have the potential to indirectly affect the coastal zone by stimulating private development of new markets or development of fish handling and processing facilities, or otherwise influence land-use planning, Goals 2, 9, and 17 may also apply.

California State Coastal Zone Management Plan and San Francisco Bay Plan

Coastal Plan

The California State Coastal Zone Management Plan is based upon the California Coastal Act of 1976, Division 20, California Public Resources Code, Sections 30000, et seq.; the California Urban and Coastal Park Bond Act of 1976, Division 5, CPRC 5096.777 et seq.; and the California Coastal Commission Regulations, California Administrative Code, Title 14.

The California Coastal Act establishes a structure for state approval of local coastal programs (Section 30050). The California Coastal Commission is the state's coastal zone agency (Section 30300). The coastal zone boundaries are generally the seaward limit of state jurisdiction, and inland to 1,000 yards from the mean high tide line.

The general provisions of the California plan that address issues significant to this analysis concern the protection of the ocean's resources, including marine fish and the natural environment. The plan also calls for the balanced utilization of coastal zone resources, taking into account the social and economic needs of the people of the state. Specific coastal zone policies developed to achieve these general goals and which are applicable or potentially applicable to the regulatory measures proposed in the amendment to the FMP have been identified as follows.

- (a) Section 30210 - ". . . recreational opportunities shall be provided for all the people consistent with the need to protect natural resource areas from overuse."

This goal is consistent with the FMP which seeks to provide recreational fishing opportunities consistent with the needs of other user groups and the need to protect the resource. Recreational fishing opportunities of California citizens are not expected to be inhibited in any way by this FMP amendment.

- (b) Section 30231 - "The biological productivity and quality of coastal waters, streams, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained, and, where feasible, restored . . ."

Any action considered in the amendment does not affect the quality of coastal waters. However, the amendment establishes a habitat conservation policy and provides discussion of the need to protect marine fish habitat. It also provides for the conservation and optimum use of groundfish stocks, which are an integral part for the ecology of the coastal waters.

- (c) Section 30230 - "Uses of the marine environment shall be carried out in a manner . . . that will maintain healthy populations of all species of marine organisms adequate for long-term commercial, recreational, scientific, and educational purposes."

The amendment to the FMP does not jeopardize the reproductive capability of any resource, has no significant environmental impacts, and promotes equitable utilization among user groups with the intent of maintaining the groundfish harvest at levels which provide the long-term MSY.

- (d) Section 30234 - "Facilities serving the commercial fishing and recreational boating industries shall be protected, and where feasible, upgraded."

This amendment does not specifically address the development of shoreside facilities that serve the commercial and recreational fishing industries.

- (e) Section 30260 - "Coastal-dependent industrial facilities (such as fishing support) shall be encouraged to locate or expand within existing sites and shall be permitted reasonable long-term growth where consistent with the California Coastal Act."
- (f) Section 30708 - "All port-related developments shall be located . . . so as to . . . give highest priority to the use of existing and space within harbors for port purposes including . . . necessary (commercial fishing) support and access facilities."

The amendment does not address the location of coastal-dependent industry or ports.

- (g) Section 30411 - "The CDFG and the Fish and Game Commission are the state agencies responsible for the establishment and control of wildlife and fishery management programs."

The director of CDFG is a voting member of the Council. A representative from CDFG participates on the Council's GMT and helped develop the FMP and this amendment. The MFCMA mandated that all interested individuals, including state fishery management personnel, would have the opportunity to participate in the preparation of FMPs and amendments. This action is consistent with the provisions of Section 30411 because the CDFG has been involved in the planning process for those parts of the amendment that pertain to the management of California and coastwide fisheries.

#### San Francisco Bay Plan

The San Francisco Bay Conservation and Development Commission has jurisdiction over the San Francisco Bay itself, as well as any river, stream, tributary, creek, flood control, or drainage channel that flows into San Francisco Bay.

The San Francisco Bay Plan was approved by the California legislature in 1969. Part II of the plan describes the Commission's objectives as follows.

1. Protect the bay as a great natural resource for the benefit of present and future generations.
2. Develop the bay and its shoreline to their highest potential with a minimum of bay filling.

Part III of the San Francisco Bay Plan describes the findings and policies of the Commission including fish and wildlife policies for the San Francisco Bay. The adopted policies state:

1. the benefits of fish and wildlife in the bay should be insured for present and future generations of Californians. Therefore, to the greatest extent feasible, the remaining marshes and mudflats around the bay, the remaining water volume and surface area of the bay, and adequate fresh water inflow into the bay should be maintained.

the bay, the remaining water volume and surface area of the bay, and adequate fresh water inflow into the bay should be maintained.

2. specific habitats that are needed to prevent the extinction of any species, or to maintain or increase any species that would provide substantial public benefits, should be protected, whether in the bay or on the shoreline behind dikes . . . .

Part IV of the bay plan presents the findings and policies concerning the development of the bay and the adjacent shoreline. Emphasis is given to the consideration of construction projects on filled lands and the controls over-filling and dredging in San Francisco Bay.

The amendment to the FMP does not address water flows or shoreline development. It does expand the Council's habitat protection policy and provide information on the need to conserve marine fish habitat.

#### Consistency Determination

This amendment, including its appendices, describes issues considered in Amendment 3 to the FMP, evaluate the likely impacts of various options that could be taken, compare the expected impacts of the amendment from environmental, social, and economic perspectives, and assess the impacts on small businesses. Any option analyzed in this amendment has been determined to have no significant impact under NEPA, Executive Order 12991, or the Regulatory Flexibility Act.

Based on the above discussions and supported by these determinations, the Council finds that any action likely to result from the third amendment to the FMP is consistent, to the maximum extent practicable, with the approved Washington, Oregon, California, and San Francisco Bay coastal zone management plans.



APPENDIX C  
OTHER APPLICABLE LAW

Endangered Species Act of 1973

The purposes of the ESA are to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved, to provide a program for the conservation of such endangered and threatened species, and to take such steps as may be appropriate to achieve the objectives of the treaties and conventions created for these purposes. Those species listed as endangered under the ESA and which could be encountered in the groundfish fishery are: gray whale (Eschrichtius robustus), blue whale (Balaenoptera musculus), humpback whale (Megaptera novaeanglie), right whale (Balaena glacialis), fin whale (Balaenoptera physalus), sei whale (Balaenoptera borealis), sperm whale (Physeter macrocephalus), and leather back sea turtle (Dermochelys coriacea).

The Council and NMFS have determined that the conservation and management measures proposed in the third amendment to the FMP would have no adverse impact on any listed threatened or endangered species under NMFS jurisdiction, and would not jeopardize the continued existence of any endangered or threatened species or result in destruction or adverse modification of habitat of any such species.

Marine Mammal Protection Act of 1972

The purpose of the MMPA is to protect marine mammals and prevent certain marine mammal species and stocks from falling below their optimum sustainable population which is defined in Section 3(8) as

. . . the number of animals which will result in the maximum productivity of the population or the species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element.

Recreational and commercial groundfish fishermen occasionally will have an incidental involvement with marine mammals. Any commercial fishermen that may expect to become involved with marine mammals incidental to normal fishing operations should apply to NMFS for a free Certificate of Inclusion. The Certificate of Inclusion prevents the fishermen from being in violation of the MMPA in the event a marine mammal is taken incidental to normal fishing operations.

The Certificate of Inclusion providing for the incidental take of marine mammals is authorized by the General Permit and applicable federal regulations (50 CFR 216.24). MMPA General Permits that provide for the incidental take of marine mammals during commercial groundfish fishing operations off the west coast have been issued by NMFS for a five-year period ending December 31, 1988. Commercial fishing under Amendment 3 to the FMP will not be any different than anticipated and provided for in the issuance of the General Permit.

## Paperwork Reduction Act of 1980

The major purposes of the PRA of 1980 are: (1) to minimize the federal paperwork burden for individuals, small businesses, state, and local governments; (2) to minimize the cost to the federal government of collecting, maintaining, using, and disseminating information; and (3) to ensure that the collection, maintenance, use, and dissemination of information by the federal government is consistent with applicable laws relating to confidentiality. No options in the FMP amendment nor any regulations that might be necessary to implement the amendment will involve any federal government collection of information.