APPENDIX IV

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ENVIRONMENTAL ASSESSMENT

DRAFT
ENVIRONMENTAL ASSESSMENT
FOR THE
ESSENTIAL FISH HABITAT (EFH) GENERIC AMENDMENT
TO THE
FISHERY MANAGEMENT PLANS
OF THE
US CARIBBEAN

Caribbean Fishery Management Council

October 1998

COVER SHEET

RESPONSIBLE AGENCIES: Caribbean Fishery Management Council (CFMC)
National Marine Fisheries Service (NMFS)

TITLE OF PROPOSED ACTION: Essential Fish Habitat (EFH) Generic Amendment to the Fishery Management Plans of the US Caribbean

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ABSTRACT:

The Caribbean Fishery Management Council (CFMC) is proposing a Generic Amendment to the Fishery Management Plans of the US Caribbean. The Generic Amendment addresses the essential fish habitat (EFH) requirements of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act). This Draft Environmental Assessment (DEA) addresses the National Environmental Policy Act (NEPA) requirements for the US Caribbean.

This Generic Amendment proposes no management measures or regulations. Management measures and associated regulations concerning EFH are deferred to future amendments when the CFMC has the information necessary to identify and analyze practicable management measures.

The purpose of this Generic Amendment is to amend, simultaneously, all existing Fishery Management Plans (FMPs) for the US Caribbean to comply with the requirements of the Magnuson-Stevens Act to address EFH. The amendment identifies and describes EFH (Section 4) based, primarily, on the common distribution of the various life stages of managed and selected (indicator) species; it identifies adverse impacts to EFH from fishing and non-fishing activities (Section 5); it provides recommendations to minimize impacts to EFH from identified threats from non-fishing activities (Section 6); it addresses threats to EFH from fishing-related activities, but defers potential management options to future FMP amendments when the required information becomes available; and it identifies research needs to better identify and describe EFH (Section 6).

DUE DATE FOR COMMENTS:

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1.0 PURPOSE AND NEED

The purpose of the Generic Amendment is to fulfill the requirements of Section 305 of the Magnuson-Stevens Act (16 U.S.C. 1801 *et seq*.), as amended (Public Law 104-267. The Act requires the Councils to amend all FMPs through description and identification of EFH, including adverse impacts, and consideration of actions to conserve and enhance EFH.

The Magnuson-Stevens Act defines Essential Fish Habitat (EFH) as "those waters and substrates (7) necessary to fish for spawning, breeding, feeding or growth to maturity." Additionally, fish is defined as "finfish, mollusks, crustaceans, and all other forms of marine animal and plant life other than marine mammals and birds."

The fish (as defined in the Act) under management by the CFMC are valuable resources, both renewable and non-renewable (corals) natural resources. These resources contribute to the food supply, economy and health of the Nation and provide recreational opportunities. Commercial and recreational fishing are a source of employment and subsistence, and contribute to the economy of the US Caribbean and the Nation. The CFMC has implement measures to manage the reef fish, queen conch, spiny lobster and coral fisheries, and to reduce fishing mortality (e.g., closed seasons, closed fishery) and is actively involved in protecting habitat (e.g., establishing a no-take Marine Conservation District). The US Caribbean, therefore, is an integral part of the national program of conservation and management that is necessary to realize the full potential of the Nation's fishery resources.

The EFH document amends and broadens the sections on habitat in the Spiny Lobster, Reef Fish, Coral and Queen Conch FMPs. In summary, the coral reef resources are the backbone of the food chain reef-based fisheries. The Council understands the importance of managing corals, simultaneously as fish species and essential fish habitat, and coral reefs since the fisheries are dependent on the well being of the habitat. The Generic Amendment and the Coral FMP describe all marine habitats (including wetlands) which serve various functions during the different life stages of the many fish species that inhabit these areas. These areas serve as breeding grounds, nurseries, feeding grounds, and refuge for most protected species, all of which, and including coral reefs, are vulnerable to overfishing.

The CFMC's Generic Amendment identifies and describes EFH (Section 4) based primarily on the common distribution of the various life stages of managed and selected (indicator) species; it identifies adverse impacts to EFH from fishing and non-fishing activities (Section 5); it provides recommendations to minimize impacts to EFH from identified threats from non-fishing activities (Section 6); it addresses threats to EFH from fishing-related activities, but defers potential management options to future FMP amendments when the required information becomes available; and it identifies research needs to better identify and describe EFH (Section 6).

EFH is identified and described based on areas where various life stages of the 17 selected managed species and the coral complex commonly occur. The selected species are: Nassau grouper, *Epinephelus striatus*, red hind, *Epinephelus guttatus*, coney, *Epinephelus fulvus*, yellowtail snapper, *Ocyurus chrysurus*, mutton snapper, *Lutjanus analis*, schoolmaster, *Lutjanus apodus*, grey snapper,

Lutjanus griseus, silk snapper, *Lutjanus vivanus*, butterfly fish, *Chaetodon striatus*, squirrel fish, *Holocentrus ascensionis*, white grunt, *Haemulon plumieri*, queen triggerfish, *Balistes vetula*, sandtilefish, *Malacanthus plumieri*, redtail parrotfish, *Sparisoma chrysopterum*, trunkfish, *Lactophrys quadricornis*, spiny lobster, *Panulirus argus*, queen conch, *Strombus gigas*.

The selected species represent some of the key species under management by the Council. Collectively, these species commonly occur throughout all the marine and estuarine waters of the US Caribbean. EFH for the remaining managed species will be addressed in future FMP amendments, as appropriate.

EFH is defined as everywhere that the above-mentioned managed species commonly occur. Because these species collectively occur in all habitats of the US Caribbean, the EFH includes all waters and substrates (mud, sand, shell, rock, and associated biological communities), including coral habitats (coral reefs, coral hardbottoms, and octocoral reefs), sub-tidal vegetation (seagrasses and algae) and adjacent intertidal vegetation (wetland and mangroves). Therefore, EFH includes virtually all marine waters and substrates (mud, shell, rock, coral reefs, and associated biological communities) from the shoreline to the seaward limit of the EEZ.

This Generic Amendment proposes no management measures or regulations. Management measures and associated regulations concerning EFH are deferred to future amendments when the CFMC has the information necessary to identify and analyze practicable management measures.

2.0 ALTERNATIVES

Although there are no management measures, thus no regulations, proposed in the Generic Amendment, the following alternatives are listed in this DEA to comply with the environmental review process. Only two alternatives are considered and identified in the usual manner of "No Action" and "Preferred Alternative". The preferred alternative is only the general description and identification of EFH (see below).

2.1 No Action

The "No Action" alternative, required by NEPA, consists of conditions under current programs and regulations pursued by the Federal and state agencies outside the requirements of the Magnuson-Stevens Act. It is the baseline against which other actions can be compared. There is presently no other program that would address the concerns covered under the Magnuson-Stevens Act.

The consequence of the "No Action" alternative is that the US Caribbean would not be part of the national program for the conservation and management of the fishery resources to prevent overfishing, to rebuild stocks, to ensure conservation, and to facilitate long-term protection of essential fish habitats. Thus, the full potential of the Nation's fishery resources would not be realized. In addition, the legal requirements of the Act would not be met.

2.2 Preferred Alternative

The CFMC's Generic Amendment fulfills the Magnuson-Stevens Act's requirements that the Council identify and describe EFH (including adverse impacts) in FMPs, and consider conservation and management measures for EFH. The Generic Amendment accomplishes this statutory requirement by identifying and describing EFH (Sections 2 and 4)) based, primarily, on the common distribution of the various life stages of managed and selected (i.e., indicator) species; identifying adverse impacts to EFH from fishing and non-fishing activities (Section 5); providing recommendations to minimize impacts to EFH from identified threats from non-fishing activities (Section 6); but defers potential management options to future FMP amendments when the required information becomes available; and, identifying research needs to better identify and describe EFH (Section 6).

The NMFS' guidelines were considered in gathering and organizing the data necessary to describe and identify EFH for this Generic Amendment. Most of the information available for the species under management is Level 1 (presence or absence), the lowest level to describe the distribution of the species. However, wherever more specific information was available (e.g., specific habitat areas for red hind spawning aggregations), it was included in the Generic Amendment or crossed referenced to the pertinent FMP (e.g., Reef Fish Regulatory Amendment to establish additional seasonal area closures for the red hind off the West coast of Puerto Rico).

The preferred alternative with respect to identifying and describing EFH is that EFH is everywhere that the managed and selected species commonly occur. Because these species collectively occur in all habitats of the US Caribbean, the EFH includes all waters and substrates (mud, sand, shell, rock, and associated biological communities), including coral habitats (coral reefs, coral hardbottoms, and octocoral reefs), sub-tidal vegetation (seagrasses and algae) and adjacent intertidal vegetation (wetland and mangroves). Therefore, EFH includes virtually all marine waters and substrates (mud, shell, rock, coral reefs, and associated biological communities) from the shoreline to the seaward limit of the EEZ. This description of EFH errs on the side of inclusiveness to ensure adequate protection for EFH.

As required by the Magnuson-Stevens Act, the Generic Amendment also identifies fishing activities and those activities not related to fishing which threaten EFH. Regarding adverse impacts from fishing activities, the Act requires that FMPs must contain an assessment of the potential adverse effects of all gear types used in EFH to evaluate the impact of any fishing gear or activity that physically alters EFH. NMFS guidelines state that FMPs must include management measures that minimize adverse effects of EFH from fishing, to the extent practicable. To decide whether minimizing an adverse effect from fishing is practicable, the Council has to consider whether, and to what extent, the fishing activity is adversely affecting EFH , including the fishery, the nature and extent of the adverse effect on EFH, and whether the management measures are practicable taking into consideration the long- and short-term costs and benefits to the fishery and its EFH, along with other appropriate factors (National Standards). The Council decided that developing fishing-related management measures is premature because: (1) information to analyze the practicality of the

management measures is not available, and (2) the information on the adverse impact of fishing-related activities is not available. Fishing-related management measures are thus deferred to future amendments.

The description and identification of EFH will provide additional information to fishery managers, regulatory agencies, and the public on areas that are particularly important to fisheries. That additional information, and the strengthened consultation the Act requires for activities that adversely affect EFH, should improve natural resource management decisions and result in increased conservation of EFH. The long-term effect of better habitat conservation will be healthier fish stocks.

2.3 Other Alternatives

No other alternatives were considered.

POSSIBLE FUTURE ACTIONS

Several management measures were identified during the development of this Generic Amendment that merit consideration for future action. These measures were not included in the Generic Amendment because of insufficient data, but may be added by future amendment. The measures include:

- limiting entry into the fisheries, including establishment of a control date for possible use in determining historical participation
- establishing additional temporary closures (e.g., spawning season or area closures)
- prohibiting harvest of additional vulnerable or rare species
- prohibiting the use of certain gear(s) in certain habitats

SPECIAL RECOMMENDATIONS

It is the basic premise and goal of the Generic Amendment that management of component resources (reef fish, lobster, queen conch and corals) and habitat be carried out throughout their range. In particular, given the effect of anthropogenic activities on near shore habitats, especially in state waters, state cooperation is essential for effective management. Solutions to the problems of habitat management may only be found through a combination of state and Federal action. It is worth while to reiterate the exercise of providing specific recommendations marine resources to the local governments some of which also become important for the identification of EFH (essential fish habitat).

The Council's FMP provide the following recommendations to the governments of Puerto Rico and the U.S. Virgin Islands:

Establish permitted anchoring sites in coral reef areas (including seagrass beds, etc)

Identify habitats of special concern or ecological importance

Create marine conservation districts to provide a monitoring baseline and to increase productivity by enhancing the spawning potential of individuals in the protected area with resulting benefits for both local fisheries and eco-tourism

Develop a comprehensive mapping of coral, seagrass beds, rock reef areas and all other habitats identified in Section 4.0 of the Generic Amendment, over the insular platform

Harmonize state and federal laws

Ensure compliance with discharge and dredging laws

Permit only tertiary water treatment standards for identified coral ecosystems

Regulate diving activities to reduce damage to reef areas from direct physical contact and recreational collecting

Emphasize the importance of the reef ecosystem in the development of tourism (eco-tourism)

Develop management measures for seagrass habitats

Enforce existing regulations to protect coral resources and habitats

3.0 AFFECTED ENVIRONMENT

The environment that may be directly affected is fish habitats designated as EFH. Environments that could be indirectly affected include fish habitat (i.e., freshwater areas) that is not designated as EFH (See Appendix III, Volume I for comments on diadromous species), and other areas (i.e., upland) where activities determined to have an adverse impact on EFH are modified or redirected. Fish populations may be indirectly affected through conservation and enhancement.

The EFH designation also has the potential to have an impact on the fishing industry, depending on the fishing-related management measures the Council may establish with future amendments.

The achievement of increased protection for EFH depends on individual decisions made by Federal and state regulatory agencies. Predicting the nature of those decisions is not possible. For that

reason quantifying the beneficial consequences of the Generic Amendment on the environment is not possible.

ENVIRONMENT AFFECTED DIRECTLY

EFH is defined as everywhere that the managed and selected species commonly occur. Because these species collectively occur in all habitats of the US Caribbean, the EFH includes all waters and substrates (mud, sand, shell, rock, and associated biological communities), including coral habitats (coral reefs, coral hardbottoms, and octocoral reefs), sub-tidal vegetation (seagrasses and algae) and adjacent intertidal vegetation (wetland and mangroves). Therefore, EFH includes virtually all marine waters and substrates (mud, shell, rock, coral reefs, and associated biological communities) from the shoreline to the seaward limit of the EEZ.

The great diversity in fish species managed in the US Caribbean, EFH encompass a wide range of habitat types (see Sections 2 and 4 of the Generic Amendment). In summary, the environment directly affected will be the habitat currently used by fish managed under the Act. Again, the degree to which this habitat is affected will depend on individual decisions made by Federal and state regulatory agencies. Predicting the nature of those decisions is not possible. For that reason quantifying the beneficial consequences of the Generic Amendment on the environment is not possible. Many of these habitats may already be adversely affected by urban development and agriculture (see Section 5 of the Generic Amendment.)

ENVIRONMENT AFFECTED INDIRECTLY

Although no management measures are proposed in the Generic Amendment, the identification of EFH might cause the displacement of activities to other areas. Section 6 of the Generic Amendment regarding conservation, restoration and enhancement or increased protection of EFH, alludes to the possible indirect effects of future actions. The achievement of restoration or increased protection for EFH depends on individual decisions made by Federal and state regulatory agencies. Predicting the nature of those decisions is not possible. For that reason quantifying the beneficial consequences of the Generic Amendment on the environment that may be indirectly affected is not possible

Recreational and Non-Consumptive Uses

The principal recreational value of coral resources (habitat) involves tourism and the diving industries. In 1991, tourist expenditures were $708.1 million in Puerto Rico and $1,390.8 million in the U.S. Virgin Islands.

The U.S. Virgin Islands is the major diving destination in the U.S. Caribbean. About 25-30 dive businesses are currently operating in the U.S. Virgin Islands, up from 20 in the 1980s. An underwater trail in Trunk Bay, St. John, is utilized daily by hundreds of tourists. The National Park Service on St. John has documented annual increases of visitors to Trunk Bay beach from 20,000 in 1966 to 170,000 in 1986. These figures give one indication of the value of the resource to the local economy. The Coral FMP's Regulatory Impact Review (see Appendix 3 of the Coral) contains a complete

discussion of this subject. For example, American citizens valued the existence of coral reefs at about $36 per resident adult. Using this figure, the recreational-use value of the coral reefs of the U.S. Caribbean would be about $76 million

Commercial Landings and Fishery Habitat

A primary economic value of reef, seagrasses and other estuarine and marine habitats lies in their importance to commercial fisheries, including reef fish, conch, and lobster. Since most of the fisheries production in the U.S. Caribbean is dependent on the existence of healthy coral reefs, some of the economic value of the reef can be approximated by fishery landings data. The ex-vessel value of the commercial fisheries of U.S. Virgin Islands (reported landings in 1991 totaling 1.9 million pounds) was $4.8 million. There were 428 licensed commercial fishers in the USVI in 1991-1992. The ex-vessel value of the commercial fisheries of Puerto Rico (reported landings in 1995 totaling 3.7 million pounds) was about 8 million dollars. There were 1,758 registered commercial fishers in Puerto Rico in 1995).

4.0 ENVIRONMENTAL CONSEQUENCES

The intent of the Generic Amendment is to identify habitat essential to fish managed by the CFMC and to promote its conservation and restoration. Through the development and synthesis of fish habitat information, coupled with the specific commenting and consultation requirements of the Magnuson-Stevens Act, the Generic Amendment may change the way fish habitats are currently managed by placing additional emphasis on habitats important to fisheries. However, increased protection or restoration of EFH will continue to depend on individual decisions made by Federal and state regulatory agencies.

(A) Effects on Consultation and Commenting Process

The Generic Amendment should contribute to the current Federal consultation and comment process by identifying EFH. Coupled with the Act's requirement that Federal agencies must respond in writing to NMFS and Council recommendations to conserve and enhance fish habitat, the synthesis and publication of information on EFH may encourage avoidance of activities that will adversely affect fish habitat in these areas.

(B) Preservation and Protection of Fish Habitat

The intent of the Generic Amendment is to identify EFH so that it might be considered for increased protection under the expanded consultation requirements of the Magnuson-Stevens Act.

Biological Effects

The protection of EFH could have a direct beneficial effect on fish populations. However, quantifying the beneficial consequences of Generic Amendment on fish populations or on habitat is not possible.

Socio-economic Effects

The long-term expectation of the Act's EFH mandate is that declining trends in fish stocks can be halted or reversed by minimizing adverse impacts to EFH and restoring lost habitats, where feasible, along with other management measures called for in the Act. Protecting the quantity and quality of EFH should help ensure survival potentials of managed fishery species and help maintain biological productivity of both ecosystems and stocks of managed species dependent on the components of those ecosystems. Any increased in stock abundance should result in increased economic return.

In addition to the value of the commercial and recreational fisheries that are dependent on for example reef and seagrass habitats, the non-consumptive value of these habitats needs to be assessed. Tourists visiting Puerto Rico and the U.S. Virgin Islands expect to see abundant, diverse, and undisturbed reef and seagrass habitats. The almost $2 billion in income from tourism and the almost $13 million in income from island fishers need to be assessed for the Council to establish additional management measures regarding EFH

(C) Effects on Marine Mammals and Endangered Species

Of the endangered or threatened species under NMFS jurisdiction in the U.S. Caribbean, the hawksbill sea turtle (*Eretmochelys imbricata*) and the green sea turtle (*Chelonia mydas*) may use reef areas for foraging and shelter. The Generic Amendment is expected to benefit sea turtle and West Indian manatee conservation efforts.

(D) Mitigating Measures

The Generic Amendment is intended to help mitigate potential effects on habitat and species by identifying EFH

(E) Unavoidable Adverse Impacts

At present there are no unavoidable adverse impacts identified from the description of EFH in the Generic Amendment. The Generic Amendment is intended to identify and describe EFH for species under management, the adverse impacts on that habitat, and the actions that should be considered to ensure the conservation and enhancement of that habitat. No management measures are proposed, thus no regulations, but this information eventually may result in changes in the patterns of resource use to avoid activities that degrade habitats.

(F) Irreversible and Irretrievable Commitment of Resources

There are not expected to be any irreversible or irretrievable commitments of resources. The identification of EFH may restrict development or other activities in HAPC and concentrate these activities in other locations. However, increased protection for EFH depends on individual decisions made by Federal and state regulatory agencies.

5.0 OTHER APPLICABLE LAWS

(1) Vessel Safety

Actions in this Generic Amendment are not expected to affect vessel safety

(2) Coastal Zone Consistency

The actions in this Generic Amendment will not make changes in federal regulations.

(3) Paperwork Reduction Act

This Generic Amendment imposes no paperwork requirements on the public.

(4) Federalism

No federalism issues have been identified in the Generic Amendment.

6.0 LIST OF PREPARERS

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7.0 LIST OF AGENCIES, ORGANIZATIONS, AND PERSONS TO WHOM COPIES OF THE ASSESSMENT ARE SENT

U.S. Department of Commerce, National Oceanic and Atmospheric Administration
    Office of Ecology
U.S. Department of State
U.S. Department of Agriculture
U.S. Department of the Interior
    U.S. Fish and Wildlife Service
    National Park Service
U.S. Department of Transportation
    U.S. Coast Guard
U.S. Environmental Protection Agency, Region II
Commonwealth of Puerto Rico
Government of the US Virgin Islands

FINDING OF NO SIGNIFICANT IMPACT

In compliance with the National Environmental Policy Act (NEPA), an environmental assessment has been prepared for the Caribbean Fishery Management Council's Generic Amendment that fulfills the requirements of the Magnuson-Stevens Act to describe, identify, conserve and enhance essential fish habitat (EFH). The preferred alternative [Section 2.2 of this DEA] will have no significant effect on the human environment. Therefore, an Environmental Impact Statement is not required by Section 102 (2) (C) of NEPA or its implementing regulations.