

IN FOCUS: ESSENTIAL FISH HABITAT

# RAY *of* HOPE

Successes and Shortcomings in  
Protecting Essential Fish Habitat





# Acknowledgements

## Cover Images:

Top Left Photograph: Spotted eagle ray in Florida Keys. Photo Courtesy of: NOAA/Department of Commerce.

Bottom Left Photograph: Anglerfish in Sargassum. Photo Courtesy of: Elliott Norse, Marine Conservation Biology Institute.

Photograph on Right: Reef fish in coral habitat. Photo Courtesy of: NOAA/Department of Commerce.

This report was prepared by Amy Mathews Amos of Turnstone Consulting, with information provided by staff and members of the Marine Fish Conservation Network.



## Executive Summary

Fish need habitat to survive; it provides food, shelter, and places to reproduce. Numerous scientific studies have demonstrated, however, that many common fishing gears damage critical fish habitat, which can lead to declines in fish populations. Bottom trawls and dredges dragged along the seafloor damage habitat by scraping up coral, submerged aquatic plants, and rocks in their path. Gillnets, traps, longlines, and other gears can also snag these seafloor structures and cause significant damage.

As American seafood consumption continues to rise, we will need a strong and productive fishing industry to support this growing demand. Scientific studies have shown, however, that certain fishing gear should be restricted in sensitive habitat areas to ensure that fish populations continue to thrive.

Congress recognized the importance of fish habitat and the threats posed by certain fishing practices when it passed the Sustainable Fisheries Act in 1996 and first required the regional fishery management councils to describe, identify, and protect “essential fish habitat” for all federally managed fish. Most importantly, the Sustainable Fisheries Act required councils to minimize, to the extent practicable, any adverse impacts of fishing on essential fish habitat. To do so, councils must assess the negative impacts of all fishing gear used in their regions and consider practicable alternatives that are less destructive to fish habitat.



Smallmouth Grunts in coral habitat.

Generally, from the years 1996-2001, the councils identified essential fish habitat broadly, but took few new actions to protect it. Instead, they relied on existing management measures to protect essential fish habitat. In 2000, a federal court found that the National Marine Fisheries Service, the federal agency that oversees fisheries management in the oceans off our coasts, had violated the National Environmental Policy Act for approving five councils’ essential fish habitat amendments that did not consider a full range of alternatives to minimize negative fishing-related impacts. In a subsequent settlement agreement, the government agreed to develop new environmental impact statements that thoroughly evaluated the adverse effects of fishing on essential fish habitat and regulate damaging fishing practices as appropriate. Without the National Environmental Policy Act’s requirements for full analysis, it is unlikely that the National Marine Fisheries Service or the councils would have undertaken new actions to protect essential fish habitat.

Since 2001, most of the councils have enacted limited protections to minimize the adverse impacts of fishing on essential fish habitat. Recent council actions to protect essential fish habitat are a significant improvement over past inaction. However, some councils continue to use several tactics to avoid enacting adequate essential fish habitat protections. These include:

- ***Hiding behind scientific uncertainty.*** Fishery managers will often require site specific or quantifiable information on the environmental impacts of fishing practices and proposed solutions before taking action. This tactic flies in the face of scientific warnings to take a precautionary approach to management and often delays necessary habitat protections. With the precautionary approach, fishery managers apply the best available science, but a lack of full scientific certainty does not postpone action when threats of serious or irreversible damage exist. The U.S. Commission on Ocean Policy recommended using a precautionary approach in all ocean management.
- ***Maintaining that existing management measures are sufficient.*** While some measures recently adopted to minimize overfishing, such as

reducing fishing effort, can help protect habitat as well, some councils rely too heavily on these measures and neglect other critical tools for protecting habitat such as closed areas and gear modifications specifically designed for habitat protection.

- **Prohibiting gear where it currently is not a threat.** Certain councils should be commended for their proactive and precautionary efforts to limit the footprint of damaging fishing gear in sensitive habitats and for recognizing that prevention is easier than recovery. These types of measures, however, do little to protect essential fish habitat currently impacted by damaging fishing gear.
- **Providing some protection for the most vulnerable habitat types, but ignoring other important areas.** Recent protections for essential fish habitat reflect growing scientific recognition of the importance of coral reefs, deepwater corals, and hard bottom surfaces. Other habitat types, such as gravel bottoms, however, are important to a variety of managed species, but they receive little or no protection.



Deep water habitat, Alaska.

Ten years after the passage of the Sustainable Fisheries Act, protections for essential fish habitat from harmful fishing practices remain inadequate. Recent council actions to protect essential fish habitat are an improvement over past inaction, but they still fall short of what is required to protect our nation’s fish. Councils need to move beyond adopting the easiest and most obvious measures, and provide the thorough levels of protection needed for sustaining fish populations for future generations.

The South Atlantic Council is the primary exception to these trends, adopting essential fish habitat protections in all its managed fisheries and taking meaningful steps towards an ecosystem-based approach to management. Its actions are evidence that the essential fish habitat provisions of the Sustainable Fisheries Act are a workable and valuable tool for protecting fish habitat in U.S. waters. The essential fish habitat provisions must remain a central component of U.S. fisheries management into the future to ensure that other councils move forward with adequate levels of protection.

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# An Introduction to Federal Fishery Management

In 1976, under pressure to eliminate foreign fishing in U.S. waters and promote the U.S. fishing industry, Congress passed the Fishery Conservation and Management Act (FCMA). The FCMA established a structure for the federal government to manage living marine resources from 3-200 miles offshore, creating eight regional fishery management councils to regulate commercial and recreational fishing. At the time, the primary goal of the FCMA was to develop the American fishing industry and to phase out foreign fishing. To facilitate this, Congress allowed the fishing industry a large role in writing the rules. The FCMA established regional fishery management councils composed largely of appointed fishing industry representatives, as well as state and federal regulators. The councils recommend fishing management measures to the National Marine Fisheries Service (NMFS), which then can either approve or disapprove those recommendations. This structure remains in place today. A recent study of this system showed that in a vast majority of cases, NMFS approved the councils' recommendations,<sup>1</sup> thus making the industry dominated councils the *de facto* regulators of U.S. ocean fisheries.

By 1996, it was clear that the system was not ensuring sustainable management. Overfishing, high levels of bycatch (the catching and killing of non-target ocean birds, fish, and mammals) and destruction of fish habitat over the prior twenty years had pushed many marine fish populations to unsustainably low levels. At the behest of a coalition of environmentalists, fishermen and marine scientists, Congress took bold action to change the focus of what was then called the Magnuson Fishery Conservation and Management Act (Magnuson Act) from promoting fishing to conserving fish. In a unanimous vote in the Senate and a nearly unanimous vote in the House, Congress passed a series of amendments to the Magnuson Act, known as the Sustainable Fisheries Act, that were intended to end overfishing, rebuild overfished populations, and minimize bycatch and fish habitat destruction by requiring the regional fishery management councils to implement specific provisions to address these major threats.

This report reviews the requirements to protect fish habitat that were included in the Sustainable Fisheries Act (SFA)

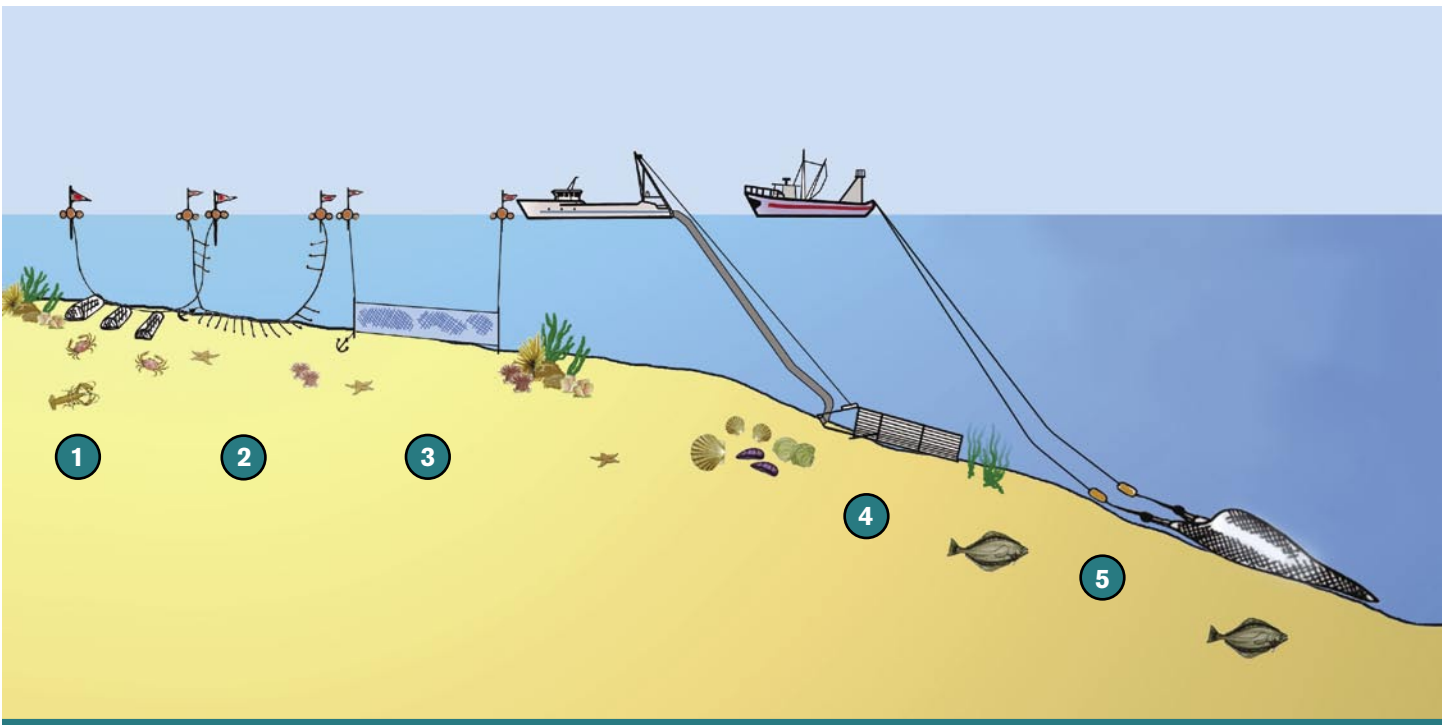


and provides an assessment of the progress made by the councils in implementing those requirements from 2001 through the present. For reviews of the implementation of the SFA's conservation requirements from 1996 through 2000, please see earlier Marine Fish Conservation Network reports entitled: *Missing the Boat – An evaluation of fishery management council response to the Sustainable Fisheries Act*; *Lost at Sea – A Review of National Marine Fisheries Service Implementation of the Sustainable Fisheries Act*; and *Caught in the Act – The Devastating Effect of Fisheries Mismanagement After Five Years of the Sustainable Fisheries Act* (please go to [www.conservefish.org](http://www.conservefish.org) to view copies of these reports).

## Habitat Protection

When amending the Magnuson Act to include new requirements for the protection of fish habitat, Congress addressed a fundamental biological principle that previously had not been adequately considered in law: fish, like all wild living creatures, need sufficient habitat to survive and reproduce. Essential fish habitat provides the food and shelter (whether from the elements or from predators) that fish need at each stage in their life cycles. Scientists know that seafloor habitats support much of the oceans' productivity, including commercially important fish species.<sup>2</sup> Approximately 75 percent of all commercial fish species in federally-managed waters live primarily in association with the seafloor. The remainder live in the water column or move between these two habitat areas.<sup>2</sup> Numerous scientific studies have demonstrated that fishing gears such as heavy bottom trawls and dredges that are dragged along the seafloor can destroy habitat by pulling up everything in their path. Other fishing gear, like gillnets, traps, and bottom longlines, can snag on seafloor structures such as rocks, plants, and corals and also cause damage.<sup>2</sup> Typically, areas with corals and hard bottoms with seafloor structures are the most sensitive to damaging gear.<sup>2,3</sup>

As American seafood consumption continues to rise, we will need a strong and productive fishing industry to support this growing demand. Scientific studies have shown, however, that specific fishing gear should be restricted in sensitive habitat areas to ensure that fish populations continue to thrive.



### 1 TRAPS

Traps, constructed out of metal, wire, nylon, and/or wood are left in place on the ocean floor for up to several days. Setting and hauling traps may cause damage to the ocean floor, corals, and other living organisms.

### 2 BOTTOM LONGLINES

A bottom longline is a stationary line to which shorter lines with weighted and baited hooks are attached. While habitat damage is limited, hauling the lines from the bottom may cause the hooks to snag on rocks and living organisms.

### 3 BOTTOM GILLNETS

Bottom gillnets are weighted and/or anchored to maintain contact with the ocean floor. Bottom gillnets become tangled and snagged on rocks and living organisms in strong ocean currents or when hauled out of the water.

### 4 DREDGES (HYDRAULIC CLAM DREDGE PICTURED)

Dredges, including scallop and hydraulic clam dredges, are towed behind a fishing vessel and commonly dig into the seafloor several inches. Dredging causes severe habitat damage by scraping all structures off the bottom, which reduces habitat complexity, especially in areas with hard bottoms and gravel.

### 5 BOTTOM TRAWLS

Bottom trawls are cone-shaped nets that are towed by one or two boats on the bottom of the ocean floor. Trawl nets can scrape structures off the bottom, causing long lasting damage to bottom habitats.

## Sustainable Fisheries Act Requirements

When passing the SFA amendments to the Magnuson Act, Congress recognized that “one of the greatest long-term threats to the viability of commercial and recreational fisheries is the continuing loss of marine, estuarine, and other aquatic habitats.”<sup>4</sup> With the SFA amendments, Congress set out clear steps that the regional fishery management councils were expected to take to protect “essential fish habitat” (EFH), defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.”<sup>5</sup> As a first step, councils had to amend all fishery management plans (FMPs) to include a description and identification of EFH for each managed species. According to NMFS regulations, councils are expected to review and update EFH descriptions and identifications every five years. In an effort to focus EFH protection, NMFS’ regulations encourage councils to identify “habitat areas of particular concern” (HAPC). HAPCs highlight specific habitat areas that are important ecologically, sensitive to degradation, being stressed by development, or rare.<sup>6</sup>

For the first time, the SFA amendments required councils to minimize, to the extent practicable, adverse effects of fishing on EFH.<sup>7</sup> The NMFS regulations further define these as impacts that are “more than minimal and not temporary in nature.”<sup>8</sup> To do so, councils must assess the adverse impacts of all fishing gear used in their regions, and consider practicable alternatives for minimizing those impacts. Alternatives include prohibiting harmful gear such as bottom trawls and dredges in sensitive locations, modifying gear to reduce impacts, or reducing catch if it will protect habitat.<sup>9</sup>

The SFA amendments also required NMFS, and authorized the councils, to make recommendations to minimize the adverse impacts that federally funded, authorized, or conducted non-fishing activities may have on EFH.<sup>10</sup> Such activities may include dredging channels, filling wetlands, building docks, or pollution discharges. Other federal agencies are required to respond to NMFS’ or the councils’ recommendations within 30 days of their receipt. While this consultative authority to minimize non-fishing impacts on EFH gave NMFS and the councils important new tools, the requirement to minimize fishing impacts was the most significant EFH protection

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### ***A History of Inadequate Action***

Despite the requirements of the SFA, the councils initially took almost no action to protect EFH from fishing activities. By 1999, three years after passage of the SFA, only two of the 38 existing management plans included specific regulatory actions to increase habitat protection — and those actions affected only small areas.<sup>11</sup> In fact, most councils even failed to conduct a comprehensive assessment of fishing gear impacts on habitat to examine possible measures to reduce those impacts.<sup>11</sup> These councils claimed that there was no scientific evidence of negative impacts and that existing council management provisions were sufficient.<sup>11,12</sup> They then issued environmental assessments (EAs) that did not even consider the alternative of taking new actions to protect seafloor habitat from fishing gear damage. NMFS was complicit in much of this failure. While it disapproved a few inadequate amendments — particularly from the Mid-Atlantic Fishery Management Council — it approved many more that were just as bad.<sup>11</sup>

In response, conservation and fishing groups from around the country — American Oceans Campaign (AOC, now merged with Oceana), Cape Cod Commercial Hook Fishermen’s Association, the Center for Marine Conservation (now The Ocean Conservancy), Florida Wildlife Federation, Institute for Fisheries Resources, National Audubon Society, Natural Resources Defense

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Council, Pacific Coast Federation of Fishermen's Associations, and Reefkeeper International — filed a lawsuit in 1999.<sup>13</sup> The suit claimed that five of the eight regional fishery management councils — New England, Gulf of Mexico, Caribbean, Pacific, and North Pacific — refused to regulate damaging fishing practices in violation of the SFA amendments and the National Environmental Policy Act.<sup>13</sup>

In 2000, a federal court ruled that the government failed to analyze the environmental impacts of fishing gear on habitat. The court found that the EAs contained “no substantive discussion of how fishing practices and gear may damage corals, disrupt fish habitat, and destroy benthic life that helps support healthy fish populations.”<sup>14</sup> The court also found that the EAs “fail[ed] to consider all relevant and feasible alternatives and fail[ed] to fully explain the environmental impact of the proposed action and alternatives.”<sup>14</sup>

In a subsequent December 2001 settlement, the Government agreed to prepare environmental impact statements (EISs) for the affected fisheries that would assess both the environmental impacts of current fishing practices and alternatives for regulating current fishing practices to protect habitat. The government also agreed to regulate damaging fishing practices, as appropriate, based on the results of the EISs.

Now, almost ten years after passage of the SFA, these EISs are essentially complete, and most councils have finally adopted or proposed new provisions for protecting EFH from fishing activities. Unfortunately, even these measures still fall far short of what is truly needed to protect EFH.

All councils have described and identified EFH for their managed fisheries in a precautionary fashion and have, or are in the process of, designating HAPCs. Additionally, many councils have recently reviewed and updated their EFH descriptions and identifications. Where councils continue to falter is in providing actual protection for these important areas from the adverse impacts of fishing. Large gaps in protection remain, allowing damaging fishing activities to continue degrading or destroying important habitat throughout U.S. waters.

At the same time, there is growing recognition among marine scientists that an ecosystem-based approach to management is needed to sustainably manage marine resources. As President Bush's U.S. Commission on Ocean Policy stated in its landmark 2004 report, ecosystem-based management “looks at all the links among living and non-living resources, rather than considering single species in isolation. This system of management considers human activities, their benefits, and their potential impacts within the context of the broader biological and physical environment.”<sup>15</sup> The Ecosystem Principles Advisory Panel, established by the SFA in 1996, noted that the fishery management councils were not adequately applying ecosystem principles. It recommended in 1999 that the regional fishery management councils develop “fishery ecosystem plans” (FEPs) to begin incorporating these principles into their fishery management decisions, and called for amendments to federal fisheries law to require FEPs.<sup>16</sup> Most councils, still failing to satisfy the basic mandates of the SFA, have made little movement in this direction beyond preliminary scoping. A few have taken more meaningful steps in this direction.

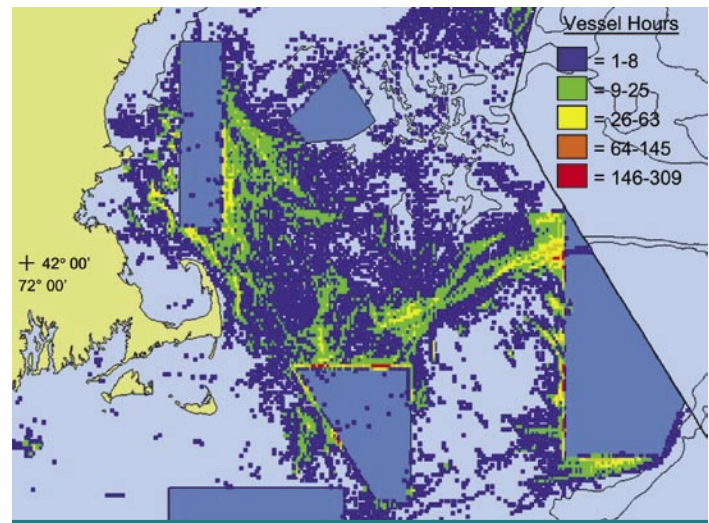
Because each regional council manages fisheries differently, this report outlines major actions — and inaction — taken by each of the regional councils to address EFH requirements from 2001 through 2005.

## New England

Faced with the collapse of economically vital cod and other groundfish in the late 1980s and early 1990s, the New England Fishery Management Council addressed the collapse with closures and other measures designed to reduce fishing mortality — not protect fish habitat. It identified EFH for its managed fisheries in 1998 and designated a small HAPC for juvenile cod, and an HAPC for endangered Atlantic salmon that covers areas where no fishing takes place. The council initially took no action to specifically protect EFH for the majority of its fish populations, concluding in its initial EFH amendment that existing and contemplated measures to address overfishing would also minimize fishing impacts on EFH.<sup>13,14,17</sup> However, most of these contemplated fishing measures were never designed to protect EFH, and many were subsequently modified, eliminated, or never took effect.<sup>13</sup>

Part of the council's current rebuilding plan for overfished groundfish populations includes the closure of some areas to harmful mobile fishing gear such as bottom trawls. The council established these closures primarily to protect groundfish stocks from overfishing and bycatch. They were not scientifically chosen or designed to protect habitat. In a 2004 amendment to its groundfish plan, however, the council relied almost exclusively on these closures to protect EFH, with only small additions to take into consideration some habitat concerns.<sup>18</sup> Combined, these areas protect on average only about 6 percent of the EFH for federally managed species in the council's jurisdiction that are moderately or highly vulnerable to the effects of bottom gear.<sup>18</sup> Although the HAPC for juvenile cod is included within these closed areas, nearly 85 percent of juvenile cod EFH remains outside the closed areas in vulnerable gravel and hard bottom habitat open

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Otter Trawl Fishing Vessel Effort off the Northeast USA, 2003.

year round to trawling and dredging. Meanwhile, cod population numbers remain dismal: despite significant reductions in fishing levels in recent years, the amount of Georges Bank cod has declined by 25 percent and Gulf of Maine cod has decreased by 21 percent since 2001.<sup>19</sup>

The inadequacy of the size and location of the closed areas is not the only concern. Over the years, the council has allowed equally harmful scallop dredges to enter portions of the groundfish closed areas, despite acknowledging that “[y]ear-round closed areas that are fished periodically or seasonally by bottom tending mobile gear ... offer significantly less protection for habitat than those that are not fished by mobile bottom gear.”<sup>20</sup> Similarly, scientists on the council's EFH Technical Team and Scallop Plan Development Team recommended that scallop dredges avoid gravel or hard-bottom areas to protect groundfish such as juvenile cod that rely on these habitats.<sup>21</sup> The council temporarily closed some additional areas to scallop dredges as part of a rotational management system to promote scallop growth. Yet many of these areas remain open to bottom trawling and the council has tried to scale back areas closed to scallop dredges to mimic existing groundfish closed areas.<sup>21,22</sup> Despite these deficiencies, NMFS approved all of these provisions.

To make up for this shortfall in EFH protection, the council continues to rely on reductions in fishing effort devised to rebuild overfished populations. While some gear modifications, adopted largely to reduce bycatch, may provide incidental habitat protection, these efforts alone will not adequately protect EFH. Scientists examining

the effects of fishing gear on marine habitats off the northeastern U. S. reported at a 2001 NMFS workshop that reducing fishing effort alone is not sufficient and should be used in combination with other measures such as modifying gear that damages seafloor habitat or closing an adequate number of areas to damaging fishing practices.<sup>23</sup>

The council did take some proactive steps in managing monkfish. (The New England Council manages this species in conjunction with the Mid-Atlantic Council, but it has lead responsibility in these efforts.) To conserve important deep-sea coral communities, the New England Council took the lead in closing two deepwater canyons (Oceanographer and Lydonia canyons, on the southern edge of Georges Bank in southern New England) to bottom trawls and bottom gillnets used by monkfish fishermen.<sup>24</sup> Under authority provided by the SFA to manage species throughout their range, the New England Council also placed size restrictions on some types of trawl gear in all Mid-Atlantic canyons and in significant amounts of the continental shelf so that boats fishing for monkfish do not fish in areas where habitats are more vulnerable.<sup>24</sup> Because the two closed canyons were not already being fished, the closure was a precautionary step to protect the canyons against potential expansion of the fishery. Taking such a precautionary, proactive approach is a positive step for the New England Council. However, the closures do nothing to protect the majority of EFH currently affected by fishing.

The New England Council is developing a new omnibus EFH amendment to reexamine its EFH and HAPC designations and is considering measures for minimizing the impacts of fishing on EFH. This process will be underway for at least the next two years until its scheduled completion in 2008. The same proactive attitude that led to the deep-sea closures must be applied in other areas currently impacted by fishing gear to promote healthy fish populations in New England and make up for existing habitat protection shortfalls.

## *Mid-Atlantic*

The Mid-Atlantic Fishery Management Council's EFH efforts were minimal from the start. Today, almost ten years after passage of the SFA, the council continues to maintain that no new actions are needed, despite growing evidence of the damage that certain fishing gears can cause.

Like most councils, the Mid-Atlantic Council designated EFH for its managed species, but failed to adopt any new measures to minimize the effects of fishing on these areas.<sup>25</sup> NMFS approved the council's EFH designations, but did not approve all of the measures the council proposed to reduce fishing impacts on EFH.<sup>26</sup> As a result, the council revisited some of its EFH provisions in subsequent amendments. However, it continues to claim that scientific information on the impacts of gear is insufficient and that no action is warranted, despite other council's incorporation of the same scientific information into their EFH protection plans.

The council's failure to take action despite growing evidence is most egregious for tilefish, a fish that creates burrows in the seafloor for shelter.<sup>27</sup> The council failed to protect tilefish EFH from the effects of trawls in its 2000 fishery management plan, maintaining that it needed additional research to understand the specific impacts trawls have on tilefish habitat.<sup>28</sup> The Mid-Atlantic Council's decision ignores numerous scientific reviews, including one conducted by the National Research Council, that have documented the adverse effects of fishing gear such as bottom trawls on seafloor habitat, and have consistently recognized trawls as one of the most damaging gear types to seafloor structures.<sup>5,29</sup> Since then, scientists and managers in New England have determined that otter trawls, a specific type of bottom trawl, have a high impact on both juvenile and adult tilefish. A scientific report to the Mid-Atlantic Council in 2002 identified trawl tracks on tilefish habitat and concluded that trawling causes a re-suspension of bottom sediments that fills burrows and causes physiological stress to tilefish that are present.<sup>18</sup> Managers in the South Atlantic region recognize this threat, and now require tilefish to be taken with gears that do not significantly disrupt tilefish habitat — such as hook and line gear, spear fishing gear, and traps.<sup>28</sup> Still, the Mid-Atlantic Council continues to take no action despite the council's recognition that tilefish share habitat with 17 other

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managed species, and that destruction of tilefish burrows affects the entire surrounding seafloor community.<sup>28</sup>

Similarly, in a 2002 amendment governing summer flounder, scup, and black sea bass, the council failed to adopt any new measures to protect EFH. It claimed that existing measures to reduce fishing pressure and eliminate overfishing would also decrease impacts on habitat, even though damaging fishing gear would still be used. It dismissed the negative impacts of fishing gear that impacts the bottom by stating that the majority of habitat in the Mid-Atlantic is sandy bottom that is less affected by bottom gear than hard bottoms. Yet the council failed to adopt additional gear restrictions, and even allows the use of bottom trawls with large rollers, which facilitate trawling in sensitive rough hard bottom seafloor.<sup>30</sup> Perhaps most notably, it failed to follow the New England Council's lead in banning harmful "street sweeper" gear. This gear attaches street sweeper brushes to the bottom of trawl nets to scour habitat and enter areas that previously were not fished. The Mid-Atlantic Council maintained for both these gears that there was insufficient information to take action and that "no additional information ....was received during the public comment period."<sup>30</sup>

The status quo in the Mid-Atlantic will not protect EFH or the fish populations that depend on it. Scientists examining the effects of fishing gear on marine habitats off the northeastern U. S. reported in a 2001 NMFS workshop that reduced fishing effort does not necessarily translate into reduced impacts on habitat. Instead it should be used in combination with other measures such as properly-

designed closures and gear modifications to effectively protect habitat. These same scientists concluded that otter trawls are a concern not only in gravel habitats, but in mud and sand also,<sup>23</sup> undercutting the council's assertion that these habitats do not require protection.

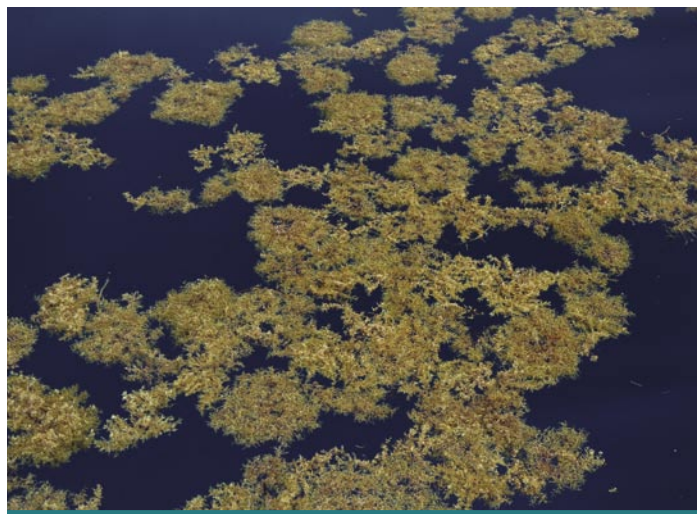
The council's failure to take decisive action is clear in its handling of HAPCs as well. It established two HAPCs — one for summer flounder and one for tilefish — but provided no protections for either. It rejected measures to protect the submerged aquatic vegetation beds in state waters that are HAPC for summer flounder because the measures would only affect federal permit holders: "While the Council can prohibit federal permit holders from fishing with bottom tending mobile gear in state waters, the majority of the trawlers operating in state waters are not federal permit holders."<sup>31</sup> Instead, the council encouraged state agencies to work together to restrict the use of mobile gear in this important habitat, while failing to take the same action itself. It also rejected measures to close the tilefish HAPC to hydraulic clam dredging, which uses pressurized water jets to wash clams out of the seafloor, typically penetrating eight to ten inches into the sediment. The council made this decision despite acknowledging that potentially vulnerable EFH for at least six species could benefit, and the impact on clam harvests would be minor.<sup>32</sup>

This inaction is likely to continue into the future. The council claimed in its early EFH amendments that it would establish an interagency scientific habitat monitoring committee to meet annually and recommend specific measures for protecting EFH, but it has failed to create such a committee.<sup>33</sup> Instead, ten years after passage of the SFA it continues to hide behind scientific uncertainty as an excuse for inaction.

## South Atlantic

The South Atlantic Fishery Management Council remains a prime exception to widespread noncompliance with the EFH mandates of the SFA. Its fishery management plans contain gear restrictions and HAPCs with meaningful EFH protections. For example, numerous gear restrictions help protect stocks in the snapper-grouper complex — many of which are overfished — and other species such as spiny lobster, dolphin, and wahoo.<sup>34</sup> These include prohibitions on bottom longlines in certain locations, on bottom trawls on live bottom coral habitat, and on fish traps and entanglement gear in HAPCs. In addition, special management zones limit the use of potentially habitat-damaging gear within these areas. A prohibition on the removal of corals throughout federally managed waters in the region also protects snappers and groupers, as well as other species that rely on coral habitats for prey or shelter.<sup>34,35</sup> However, few of these protections will be meaningful without consistent enforcement.

The expansion and renewal of existing protections in the Oculina Bank coral HAPC provide additional protection for snapper, grouper, and other species. These area specific measures ban the use of harmful gear including bottom trawls, bottom longlines, dredges, fish traps, and fish pots, protecting sensitive coral and hard bottom habitat over a 300 square mile area.<sup>34,35</sup> Satellite coral HAPCs extend these protections to nearby areas. Regulations on fishing practices in other HAPCs provide additional habitat protections for other South Atlantic species. For example,



Sargassum mats off Cape Fear, North Carolina.

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fishermen are prohibited from tending lobster traps at night in spiny lobster HAPCs,<sup>34</sup> when poor visibility can make retrieval more damaging.

The council took an important step in protecting floating mats of *Sargassum* seaweed throughout the southeast United States. Many fish and other marine species, such as sea turtles, seek out *Sargassum* mats for shelter and food. *Sargassum* has been harvested in the U.S. for use in the farm animal feed supplement industry. The Council declared *Sargassum* essential offshore fish habitat for many of its managed species and enacted rules to protect it from significant harvest to ensure that sufficient quantities remain to support marine life. The plan includes a total prohibition on harvest south of the North Carolina/South Carolina border, or within 100 miles of the North Carolina coast.<sup>36</sup>

What's more, the South Atlantic Council is looking to the future by developing a comprehensive fishery ecosystem plan as its next step in habitat protection and fisheries management.<sup>37</sup> The development of such a plan is a first step in applying to fisheries management an ecosystem-based approach, which considers the entire ecosystem in management decisions. If done well, this plan could be a model for other regional councils, which are still largely considering EFH provisions in isolation from larger ecosystem questions.

## Caribbean

The Caribbean Fishery Management Council's failure with its initial EFH amendment was more egregious than most: even its EFH descriptions and identifications were inadequate and rejected by NMFS.<sup>13</sup> Most significantly, the Council took no action to minimize the impacts of fishing on habitat. Instead, it made "recommendations" that were not binding. Like other councils, it cited the lack of scientific information on the adverse impacts of fishing, and maintained that existing management measures were sufficient to protect EFH.<sup>14</sup>



Coral Grouper in coral habitat.

The disapproval of its initial EFH amendment by NMFS and the court decision in *AOC v. Daley* forced the Caribbean Council to develop new EFH measures. These changes, finalized in October 2005 are an improvement over its weak initial attempt, but critical holes remain. The protections include year-round prohibitions on many harmful gear types — including traps, gillnets, trammel nets, and bottom longlines — in sensitive coral and hard bottom habitat in documented reef fish spawning areas. Other provisions include requirements for buoys on all traps to ease their recovery, and anchor retrieval systems on vessels fishing for reef fishes to reduce contact with the bottom.<sup>38</sup> The council also identified EFH for its managed species and established additional HAPCs, for a total of 44 HAPCs. The council based new HAPCs for reef fish on confirmed spawning locations and areas having particular ecological importance in Puerto Rico, St. Croix, and St. Thomas. The Council also identified HAPCs for Caribbean coral species in Puerto Rico and St. Croix.<sup>38</sup>

Other gear and spawning season measures adopted to address overfishing could also help protect EFH, including a prohibition against the use of gill and trammel nets when fishing for Caribbean reef fish and spiny lobster throughout federal waters.

Unfortunately, the Council failed to designate HAPCs for two of its four managed fisheries: spiny lobster and queen conch. Restrictions on the use of the most harmful gear — traps, gill/trammel nets, and bottom longlines — are limited, leaving many vulnerable coral areas exposed to harmful gear impacts.<sup>39</sup> Other important habitat types, such as seagrass and benthic algae, receive little protection from shading from traps. The Council considered prohibiting traps not practicable, but did not consider other alternatives for addressing this threat.<sup>39</sup>

*The disapproval of its initial EFH amendment by NMFS and the court decision in AOC v. Daley forced the Caribbean Council to develop new EFH measures. These changes are an improvement over its weak initial attempt, but critical holes remain.*



## *Gulf of Mexico*

The Gulf of Mexico Fishery Management Council identified EFH and HAPCs in its 1998 EFH amendments like most other councils, but provided no new protections. For example, the vast majority of its designated HAPCs were in areas already identified as significant, such as marine sanctuaries.<sup>34</sup> The council provided no new meaningful protections in these areas despite the fact that the existing limited protections were not developed to protect fish habitat. As a result of the ruling in *AOC v. Daley*, the council proposed a new generic amendment. While an improvement over previous inaction, it still falls short of the requirements of the SFA.

The amendment, which went into effect on January 23, 2006, revises EFH identifications and establishes new HAPCs, predominantly in areas with coral reefs or hard bottoms with coral colonies. The amendment would protect many of these HAPCs from damage from bottom trawls, bottom longlines, buoy gear, and traps. However, these protections only apply to HAPCs that have coral reefs. The amendment fails to offer any additional protection for the numerous HAPCs that are not coral reefs, but are important hard bottom areas.<sup>40</sup> What's more, prohibitions on the use of these gears already existed in many of these coral areas that were within the Flower Garden Banks and Florida Keys National Marine Sanctuaries.

Almost all the proposed protections from damaging fishing gear address impacts on coral reefs, though coral reef habitat is a small portion of the total area fished in the Gulf. The amendment does almost nothing to protect other important habitats such as hard bottoms, and sand and soft sediments. The only protection proposed for habitat types other than coral is to require a weak link in the “tickler” chain of bottom trawls.<sup>40</sup> Shrimp trawls use tickler chains to increase the number of shrimp that enter the trawl net from the seafloor. When the tickler chain catches on a seafloor structure, a weak link in the chain allows the equipment to break off, rather than pull up or destroy the habitat.

In addition to trawls, the council determined that six other gear types impact hard bottom, most notably bottom longlines, and five additional gear types affect submerged aquatic vegetation (such as seagrass). Even soft and sandy

*The amendment fails to offer any additional protection for the numerous HAPCs that are not coral reefs, but are important hard bottom areas.*

bottoms can be adversely affected by trawls and bottom longlines.<sup>41</sup> While coral is particularly vulnerable and valuable, scientists and fishermen know the importance of these other habitats. Yet the council proposed no effective actions to address adverse fishing impacts on any of these habitats. It maintains that existing management measures already address most of the impacts to EFH, and that its proposed actions fill in the few remaining holes. According to the council, it lacked data to quantify the environmental benefits of new protections and the additional measures would hurt fishermen.<sup>40</sup> For example, the council rejected an alternative to limit the length of bottom longlines to protect hard bottoms because it would reduce overall catch. It also rejected an alternative to prohibit trotlines on traps that would significantly protect hard bottoms and submerged aquatic vegetation, even though fishing would still be allowed.<sup>41</sup>

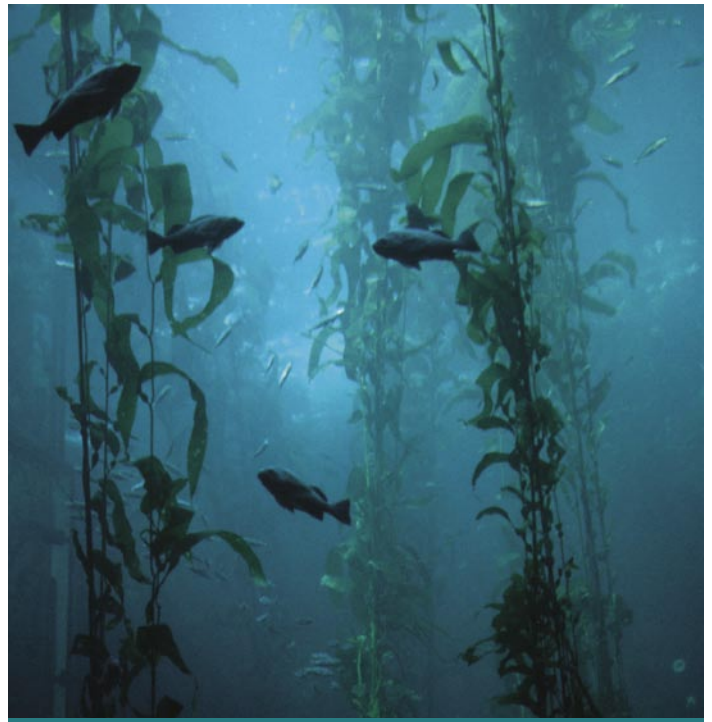
## Pacific

In its original 1998 EFH amendments to its groundfish fishery management plan, the Pacific Fishery Management Council took no action to minimize the impacts of fishing on EFH. It did this despite recommendations from NMFS, from its habitat committee, and from conservation groups to do so.<sup>14</sup> The council also designated no HAPCs. By 2000, it was apparent that a number of groundfish populations were vastly overfished, with several populations at such dangerously low levels the Secretary of Commerce declared a fishery disaster. While the council adjusted catch levels and closed large areas to reduce fishing pressure, it did not consider measures to protect EFH.<sup>42</sup> Not surprisingly, most of these depleted populations remain in an overfished condition and are subject to rebuilding plans.<sup>43</sup>

Fortunately, the requirements of the court decision in *AOC v. Daley*, and proposals developed by conservation groups and fishermen spurred meaningful action on protection of groundfish habitat. These efforts resulted in the council's 2005 proposed amendment for protection of groundfish EFH — its first serious effort to meet the SFA's EFH requirements. The council identified general habitat types such as estuaries, canopy kelp, seagrass, and rocky reefs and also specific areas, including seamounts in Oregon and California as HAPCs.<sup>44</sup>

Actions proposed by the council to minimize the impacts of fishing would freeze areas subjected to bottom trawling in all waters off the Pacific coast of the U.S. deeper than 700 fathoms. Historically, trawling has not occurred beyond this point. The council also proposed prohibiting bottom trawling and other bottom contact gear in some

*The result: habitat protections that move in the right direction, but do not go far enough to implement what scientists determined is necessary, and reflect instead what is acceptable to the fishing industry.*



Giant kelp forest found along Pacific coast.

ecologically important areas, including many HAPCs. The proposed amendment also places restrictions on the size of trawl gear used throughout federal waters,<sup>44</sup> because the smaller sized gear is less likely to snag on sensitive rocky habitats.

These actions are important steps for preventing the expansion of trawling into sensitive habitats. However, on their own, they do not sufficiently address the impacts of trawling in areas that are currently fished. Most of the areas set off-limits are not trawled and the gear restrictions largely formalized practices that were already in place. The council's habitat committee recommended a more comprehensive set of actions that included protecting sensitive habitats from all gear that impacts the bottom — not just trawls — and would ensure that at least a portion of each different habitat type would receive protection from damaging fishing.<sup>45</sup> Conservation groups also put forward a more comprehensive proposal. Unfortunately, the council bowed to industry pressure and implemented a habitat plan weaker than the recommendations of the council's habitat committee. The result: habitat protections that move in the right direction, but do not go far enough to implement what scientists determined is necessary, and reflect instead what is acceptable to the fishing industry.

## Failure to Protect Inland Salmon Habitat Threatens Ocean Fisheries

For Pacific salmon, much of the essential habitat, particularly that for spawning and juvenile rearing, is found in the watersheds of coastal streams and rivers where the council has no direct authority over activities such as dam building, dam operations and water diversions, logging, grazing, road building, and urbanization. These activities have taken a severe toll on salmon habitat, and as a result, on salmon populations during the past century. The Pacific Council, however, for many years chose to ignore the effects of this in-river habitat destruction, imposing increasingly severe restrictions on ocean salmon fishing, but remaining silent on the effects habitat losses were having on the fish. Only in the mid-1990's did the Pacific Council begin to speak out, writing letters of concern about actions affecting salmon habitat.

Although the Pacific Council during the past decade has become more vocal about salmon habitat protection, NMFS' record has gotten worse. Federal judges have consistently overridden NMFS' biological opinions to protect Endangered Species Act (ESA) listed salmon in the Columbia River. NMFS overrode its own scientists in the Klamath River basin in 2002, and the massive fish kill that resulted led to widespread closures of the ocean salmon fishery in 2005. These closures will likely continue into the future because Klamath River salmon developed disease brought on by the low water flows. In spite of this, NMFS again overrode its scientists to allow for more water diversions from California's Sacramento and San Joaquin rivers impairing two ESA listed salmon runs and threatening a large chinook salmon run that currently supports most of the ocean fishery off the Pacific coast.

Decades of Pacific Council and a past decade of NMFS complicity with hydropower operations and water diverters has put several salmon runs on the endangered species list and has restricted fishing opportunities on other salmon runs. Their negligence in protecting important salmon habitat has taken a huge toll on both the once magnificent Pacific salmon runs and the tribal, commercial, and recreational fishermen who rely on them.

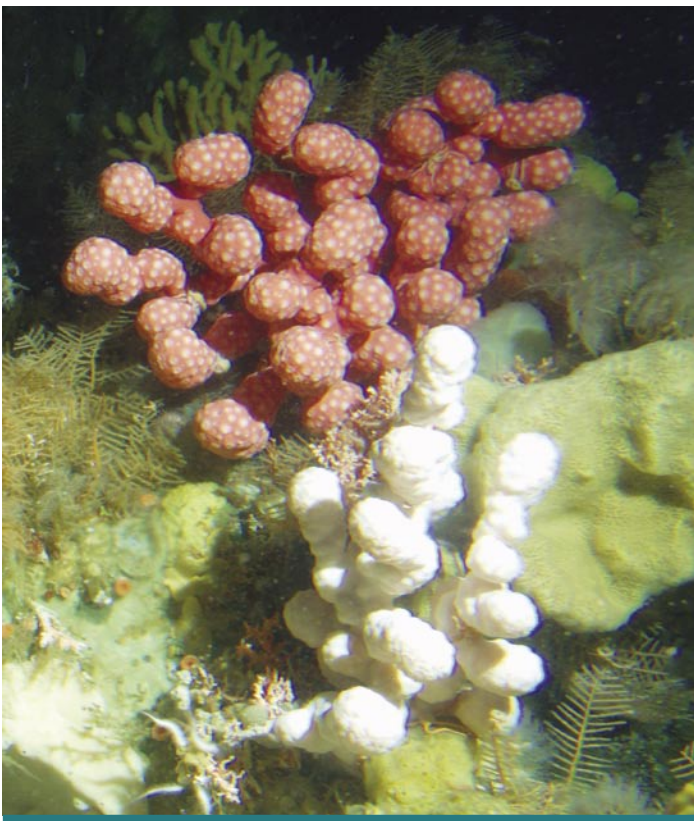
### *North Pacific*

The North Pacific Fishery Management Council recently completed its work in response to the *AOC v. Daley* ruling. Although bottom trawl closures established in the 1990s already protect some important and sensitive habitats in Alaska's vast continental shelf, the Council refined its original EFH designations, developed a more targeted approach for identifying specific HAPCs, and established new protected areas in the Aleutian Islands and Gulf of Alaska primarily to address impacts from bottom trawling.<sup>46</sup>

The growing recognition among scientists about the importance and vulnerability of seamounts and deep-sea coral areas led the Council to designate and protect new HAPCs. These HAPCs encompass 16 seamounts in the Gulf of Alaska and 5 small coral sites off Southeast Alaska, which are all closed to bottom contact fishing such as trawls, longlines, and traps. In addition, the council closed Bowers Ridge in the Aleutian Islands to mobile bottom gear such as scallop dredges and bottom trawls.<sup>47</sup> Taken together, these closures equal an area the size of Texas and California combined.

The new protections in the Aleutian Islands and Gulf of Alaska focus on the impacts of bottom trawl fisheries on corals, sponges, and other hard bottom habitats. They include six coral gardens in the Aleutians closed to all bottom contact gear and larger areas closed to bottom trawling. The Aleutian Islands closures were designed to "freeze the footprint" of bottom trawl fisheries by preventing those fisheries from expanding into new areas. The bottom trawl closures in the Aleutian Islands affect 39 percent of the shallow habitat and 59 percent of the deep water habitat in this region but would not affect the primary fishing grounds.<sup>46</sup> These are particularly important and sensitive habitats, taking decades or longer to recover from destruction by fishing gear. Although these closures cover a large area, other similarly valuable areas remain exposed and other important habitats exist throughout these waters.

For example, the NMFS' scientific evaluation showed expansive impacts from bottom trawling on seafloor life in the Bering Sea, including in slope habitats. It concluded that a combination of closures and gear modifications would have a positive effect on habitat, and determined



White and red bubblegum deep water coral, Alaska.

*The growing recognition among scientists about the importance and vulnerability of seamounts and deep-sea coral areas led the Council to designate and protect new HAPCs ... Taken together, these closures equal an area the size of Texas and California combined.*

that alternatives incorporating these protections would be possible.<sup>46</sup> Nonetheless, the council chose to postpone protecting habitat in the Bering Sea to a future date. What protections it will provide remain to be seen.

As with other councils, habitat conservation would be well-served by an ecosystem-based approach to management. Declines in marine life, including endangered or threatened seabirds and marine mammals, suggest that large scale fishing practices in Alaska could be harming other parts of the ecosystem.<sup>48</sup> An ecosystem-based approach to management would require more precaution in the face of these declines. As the North Pacific Council moves forward with additional protections, it needs to build on past conservation measures and take a more comprehensive approach to habitat protection.

### *Western Pacific*

The Western Pacific Fishery Management Council banned many gear types harmful to habitat, such as bottom trawls, prior to passage of the SFA. In its 1998 SFA amendments, the council designated EFH and HAPCs, but took no new action to protect these areas from the impacts of fishing, claiming that no additional action was needed. Yet the council recognized that some remaining fishing activities can harm habitat, including anchoring, line entanglement, and lost gear (such as traps).<sup>49</sup> In 2001, the council proposed additional HAPCs for coral reef species and proposed no-take marine protected areas around some of these HAPCs.<sup>50</sup> However, in general, the areas designated as no-take marine protected areas were not being fished and much of the area was in state waters outside the council's jurisdiction. Therefore, the marine protected area designations added little new benefit.

Since then, the Council proposed regulations for fishing in the pristine Northwest Hawaiian Islands Coral Reef Ecosystem Reserve (reserve).<sup>51</sup> President Clinton created this reserve in 2000 to provide long-term protection for the largest coral reef ecosystem in the U. S. and the thousands of marine species that depend on it.<sup>52</sup> It currently is undergoing designation as a National Marine Sanctuary to protect its resources in perpetuity. Under federal law, the councils can draft fishery management provisions for marine sanctuaries, as long as they are consistent with the goals and objectives of sanctuary designation.<sup>53</sup> Unfortunately, the Western Pacific Council's proposed regulations for the reserve actually weaken habitat protections already in place in some areas. The council proposed allowing fishing for crustaceans, precious corals,

and coral reef fishes once fishery ecosystem plans have been developed for these fisheries, and proposed provisions for fishing for bottomfish species in the interim.<sup>51</sup> In contrast, the Governor of Hawaii<sup>54</sup> and the reserve advisory council, composed of representatives from conservation, fishing, tourism, research, and native Hawaiian groups, recommend no fishing activity in the reserve.<sup>55</sup>

## Conclusions

Recent council actions to protect essential fish habitat are a significant improvement over past inaction, but they still fall far short of what is required to ensure sustainable fish populations. Much of this progress came about only in response to the court ruling in *AOC v. Daley*, which forced regional fishery councils to follow the National Environmental Protection Act requirements and develop environmental impact statements that examine a full range of alternatives for minimizing the impacts of fishing on essential fish habitat. Without the National Environmental Policy Act's requirements for full analysis, it is unlikely that the National Marine Fisheries Service or the councils would have altered their claims that no additional action was needed. Despite recent improvements, however, councils continue to use several tactics to keep essential fish habitat protection levels below what is needed. These tactics include:

- **Hiding behind scientific uncertainty.** Fishery managers will often require site specific or quantifiable information on the environmental impacts of fishing practices and proposed solutions before taking action. This tactic flies in the face of scientific warnings to take a precautionary approach to management and often delays necessary habitat protections. With the precautionary approach, fishery managers apply the best available science, but a lack of full scientific certainty does not postpone action when threats of serious or irreversible damage exist. The U.S. Commission on Ocean Policy recommended using a precautionary approach in all ocean management.
- **Maintaining that existing management measures are sufficient.** While some measures recently adopted to minimize overfishing, such as reducing fishing effort, can help protect habitat as well, some councils rely too heavily on these measures

and neglect other critical tools for protecting habitat such as closed areas and gear modifications specifically designed for habitat protection.

Of all the councils, the **Mid-Atlantic Council** is most guilty of continuing to use scientific uncertainty to avoid new essential fish habitat protections. The council ignores numerous scientific studies from a wide spectrum of habitat types, and instead requires specific evidence that gear used on the bottom damages tilefish and other Mid-Atlantic species' habitats before taking action. A good first step away from this inadequate approach would be for the council to establish its once-proposed scientific habitat monitoring committee to make recommendations for addressing habitat issues.

The **New England Council** continues to rely heavily on management measures designed to address overfishing and bycatch problems, not habitat protection. This approach leaves the vast majority of New England's essential fish habitat largely unprotected. Most of the essential fish habitat falls outside the areas closed to end overfishing and minimize bycatch, and reductions in fishing effort alone will not sufficiently protect many of these sensitive habitats. Cod numbers continue to decline, despite measures to address overfishing, and cod populations seem unlikely to recover until juvenile cod have safe places to feed and grow. The council needs to address this in its current omnibus habitat amendment process, and develop new management measures designed for habitat protection.

Ironically, past criticism and *AOC v. Daley* have actually led to two new council approaches for sidestepping full protection. While councils have taken steps in the right direction, these approaches still limit protection. They include:

- **Prohibiting gear where it currently is not a threat.** Councils should be commended for proactive and precautionary efforts to limit the footprint of damaging fishing gear in sensitive habitats and for recognizing that prevention is easier than recovery. These types of measures, however, do little to protect essential fish habitat currently impacted by damaging fishing gear.
- **Providing some protection for the most vulnerable habitat types, but ignoring other important areas.** Recent protections for essential

fish habitat reflect growing scientific recognition of the importance of coral reefs, deepwater corals, and hard bottom surfaces, and need to be more widely adopted. Other habitat types, such as gravel bottoms, however, are important to a variety of managed species, but they receive little or no protection.

The **Pacific Council**, in particular, has relied heavily on prohibiting gear where it currently is not a threat, halting the expansion of destructive activities into new areas, but has not sufficiently addressed existing fishing impacts. Much of the recent action by the **North Pacific Council** also protects areas that are largely not currently trawled. The North Pacific Council has focused these efforts on important coral, sponge, and hard bottom habitats, yet so far has failed to protect other important areas such as slope habitats. Similarly, the **Gulf of Mexico** and **Caribbean Councils** have focused their recent actions on coral reefs, while important habitat such as submerged aquatic vegetation receive little protection. While recent actions are a welcome step in the right direction, they leave many important areas unprotected. In many cases, councils fail to take additional actions because of perceived costs to the fishing industry and claims that they need more scientific information. Councils need to move beyond adopting the easiest and most obvious measures, and provide the thorough levels of protection needed to promote healthy fisheries.

The **Western Pacific Council** has taken a more confusing approach. Although it prohibited many harmful gears from federally-managed waters, it inexplicably is trying to move protection backwards in the pristine Northwest Hawaiian Islands — an area that includes 70 percent of U.S. coral reefs.

The **South Atlantic Council** is the primary exception to these trends, adopting essential fish habitat protections in all its managed fisheries and taking meaningful steps towards an ecosystem-based approach to management. These actions are evidence that the essential fish habitat provisions of the Sustainable Fisheries Act are a workable and valuable tool for protecting fish habitat in U.S. waters. The essential fish habitat provisions must remain a central component of U.S. fisheries management into the future to ensure that other councils move forward with adequate levels of protection. The council's fishery ecosystem plan is still under development, but if done well,

it could serve as a model of ecosystem-based management for other councils to follow. To date, most councils have taken few meaningful steps in this direction. Doing so would not only improve fisheries management under the Sustainable Fisheries Act, but would also address the widely accepted recommendations of the U.S. Commission on Ocean Policy, the National Marine Fisheries Service Ecosystem Principles Advisory Panel, and marine scientists throughout the world.

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- <sup>7</sup> 16 U.S.C. §1853 (a)(7)
- <sup>8</sup> 50 CFR 600.815 (a)(2) (ii)
- <sup>9</sup> 50 CFR 600.815 (a)(2) (iv)
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## Photo Credits

### Page 1: Smallmouth Grunts in coral habitat.

Photo Courtesy Marine Fish Conservation Network

### Page 2: Deep water habitat, Alaska.

Photo Courtesy of: NOAA/Department of Commerce

### Page 4: Habitat Damaging Fishing Gear.

Photo Courtesy of Marine Conservation Biology Institute (from Morgan, L.E. and R. Chuenpagdee. 2003. Shifting Gears: addressing the collateral impacts of fishing methods in US waters. Pew Science Series. Island Press, Washington D.C.)

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### Page 10: Sargassum mats off Cape Fear, North Carolina.

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### Page 11: Coral Grouper in coral habitat.

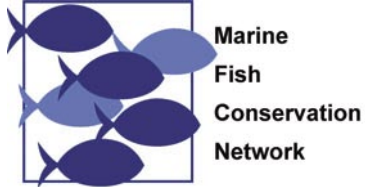
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### Page 13: Giant kelp forest found along Pacific coast.

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### Page 15: White and red bubblegum deep water coral, Alaska.

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Network**



## **Marine Fish Conservation Network**

600 Pennsylvania Ave. SE, Suite 210

Washington, DC 20003

P: 202-543-5509

F: 202-543-5774

[network@conservefish.org](mailto:network@conservefish.org)

[www.conservefish.org](http://www.conservefish.org)