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The Magnuson-Stevens Fishery Conservation and Management Act: Reauthorization Issues

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Summary

Fishery policy, guided by the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA), originally focused on mandates to identify fisheries, encourage underdeveloped fisheries, and establish databases for socioeconomic variables. Since that time, new issues have emerged, including a recognition of the need to identify, measure, and respond to overfishing and to incorporate an ecological perspective in fishery management through increased attention to habitat. The MSFCMA was last reauthorized and extensively amended in 1996. Although the authorization of appropriations under the MSFCMA expired at the end of FY1999, the Act's requirements continue in force. At issue for Congress are the terms and conditions of any provisions designed to reauthorize and amend the Act to address the concerns of various interest groups.

To identify potential reauthorization issues, CRS queried commercial harvesters, recreational fishermen, fishery managers, fishery scientists, fish processors, fishery unions, and environmental organizations to identify matters that they would like to see discussed during a reauthorization debate. Identified issues include (1) whether to further specify the approaches to address bycatch and bycatch mortality; (2) how to define, manage, and protect unique habitats; (3) whether to legislate the designation of marine protected areas; (4) how to assure that necessary data are collected; (5) how to manage marine ecosystems; (6) how to assure that regional council decisions are fair and balanced; (7) how to implement and finance fishing capacity reduction programs; (8) whether to establish national standards for individual fishing quota management programs; and (9) whether to authorize user fees and other charges that could be used for conservation, management, and enforcement. Other prominent issues may include how to define *fishing community*, whether to revise the fishery management plan review process, and how best to manage highly migratory species. Because of the major changes that have occurred in marine fisheries since the MSFCMA originated in the mid-1970s, some suggest that the underlying management structure of U.S. fisheries should be reviewed to reassess whether fisheries should be managed at the regional or national level. In addition, both the Pew Oceans Commission and the U.S. Commission on Ocean Policy have recommended major changes in U.S. fishery management policy.

Potential participants in the reauthorization debate anticipate extended negotiations on some of these issues and on concerns that have arisen as the 1996 MSFCMA amendments in the Sustainable Fisheries Act have been implemented. In the House, the Committee on Resources has jurisdiction over any MSFCMA reauthorization legislation. In the Senate, the Committee on Commerce, Science, and Transportation has jurisdiction on this issue. Oversight field hearings have been held and MSFCMA reauthorization bills have been introduced. Most of the issues discussed in this report are not time-sensitive, and early attention to many of these issues is not anticipated. This report will be updated as this issue evolves.

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The Magnuson-Stevens Fishery Conservation and Management Act: Reauthorization Issues

Introduction

The Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA) (P.L. 94-265, as amended; 16 U.S.C. §§1801, et seq.) provides authority for federal fishery management in the waters of the U.S. Exclusive Economic Zone.[1] It was reauthorized and extensively amended in the 1996 Sustainable Fisheries Act (P.L. 104-297). Although the MSFCMA's authorization for appropriations expired at the end of FY1999, the Act's requirements remain in force and funding has continued, even without reauthorization. At issue for Congress are the terms and conditions of any provisions designed to reauthorize and amend the Act to address the concerns of various interest groups. Congress will be asked to review the direction and criteria provided by the MSFCMA for allocating fish and shellfish harvest among domestic interests in an era of mounting private and public demands for these resources.

To identify the breadth of issues that might be brought before Congress during the ongoing reauthorization debate, CRS asked commercial harvesters, recreational fishermen, fishery managers, fishery scientists, fish processors, fishery unions, and environmental groups about their concerns and expectations for the debate. This report discusses the concerns of a broad cross-section of federal marine fishery management and conservation interests, to facilitate understanding the differing positions and to outline options for addressing policy concerns.[2]

Congress has been active in and supportive of fishery conservation and management issues for many years, responding primarily to concerns of environmental interests, Native Americans, and commercial and recreational fishing groups. Congress generally seems to view the MSFCMA as working well, while possibly needing certain changes to address concerns that have arisen since the 1996 amendments were enacted. In the House, the Committee on Resources has jurisdiction over MSFCMA reauthorization legislation. In the Senate, the Committee

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[1] The MSFCMA defines this zone as contiguous to the territorial sea of the United States and extending seaward 200 nautical miles measured from the baseline from which the territorial sea is measured. Generally, the federal government, through the National Marine Fisheries Service/NOAA Fisheries, has jurisdiction in waters from the outer boundary of state waters out to 200 nautical miles offshore.

[2] Respondents were guaranteed anonymity to facilitate a candid discussion of issues. Presentation of constituent opinion in this report represents a sampling, not a quantitative assessment.

on Commerce, Science, and Transportation has jurisdiction over legislation on this issue. Since the enactment of the Sustainable Fisheries Act in 1996, these committees have held numerous oversight hearings to review MSFCMA implementation and issues. Reauthorization bills were introduced in the 106th and 107th Congresses, and one was reported in the House during the 107th Congress, but no further action was taken. Action on reauthorization legislation introduced in the 108th Congress is discussed in CRS Issue Brief IB10109, *Fishery, Aquaculture, and Marine Mammal Legislation in the 108th Congress*, by Eugene H. Buck.

Constituencies

An array of groups and individuals hold common and conflicting interests in our nation's fisheries. Despite their diversity, they generally share the goals of ensuring sustainable fisheries and maintaining healthy ecosystems. These groups, however, often disagree about how best to achieve these goals and use our common resources, and conflicts arise. The following descriptions are general characterizations. There is enormous variability and crossover of membership among these groups, which often blurs the distinction among the concerns within each group. For example, fishery scientists may act as objective independent analysts or serve as advocates for a specific sector, with the same scientist performing multiple roles on different issues. As Congress considers reauthorization of the MSFCMA, these diverse groups will advocate a wide variety of policies.

Recreational Fishing Interests.[3] In 2002, more than 10.5 million anglers fished in marine recreational fisheries, accounting for 73 million fishing trips.[4] The marine finfish catch was estimated to be 421 million fish, of which more than 55% were reported to have been released alive.[5] The estimated weight of the total harvest was 228 million pounds.[6] The overall economic impact of marine recreational fishing in 1996 was $25.1 billion.[7] In 2001, marine angler expenditures totaled $8.4 billion.[8] Components of the recreational sector include extractive (e.g., individual fishermen) and non-extractive users (e.g., divers who do not spear, gather, or

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[3] Many marine recreational fisheries occur entirely within state waters. Therefore, depending on the fishery, federal management under the MSFCMA may not be an issue.

[4] U.S. Dept. of Commerce, National Marine Fisheries Service, *Fisheries of the United States, 2002*. Current Fishery Statistics No. 2002 (Sept. 2003), p. 26 (hereafter "NMFS Fishery Statistics"). A different estimate (9.1 million anglers accounting for nearly 72 million fishing trips) is provided by U.S. Dept. of the Interior, Fish and Wildlife Service and U.S. Dept. of Commerce, Bureau of Census, *2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation* (Oct. 2002), p. 6 (hereafter "FWS Fishing Survey").

[5] NMFS Fishery Statistics, p. 26. The National Marine Fisheries Service (now NOAA Fisheries) does not provide an estimate of mortality after release. Several respondents note that, in some instances, mortality after release may be quite high.

[6] NMFS Fishery Statistics, p. 26.

[7] U.S. Dept. of Commerce, National Marine Fisheries Service, *Accomplishment Report under the Recreational Fishery Resources Conservation Plan* (1997). See [http://www.nmfs.noaa.gov/irf/recaccmp97.html], visited Aug. 11, 2004.

[8] FWS Fishing Survey, p. 8.

otherwise harvest marine life) as well as charter and other commercial operations catering to sport anglers.

A principal objective of this group is to receive equal consideration (relative to the commercial fishing sector) in decisions affecting access to and participation in U.S. fisheries. They are concerned that the substantial economic benefits to the nation of recreational fishing are not adequately recognized. Moreover, for fish conservation and habitat protection, recreational interests would like federal managers to distinguish between the impacts of recreational fishing and those of commercial fish harvesting. The balance between commercial and recreational interests varies widely among issues, species, and regions, with many regulations that restrict the activities of commercial fishermen, such as closed areas and quota restrictions, having little parallel for the recreational sector.

Commercial Fishing Sector. In 2001, there were more than 64,000 commercial fishing boats and vessels operating in U.S. marine fisheries,[9] and 3,410 processing and wholesale plants, employing 71,533 individuals.[10] In 2002, the total catch of marine fish in the 50 states was 9.4 billion pounds, with an estimated ex-vessel value[11] of $3.1 billion.[12] For 2002, the overall economic contribution of commercial fishing to gross national product (in value added) was estimated to be $28.4 billion.[13]

This sector is chiefly concerned with ensuring sustainable fisheries that balance environmental protection with the continued viability and sustainability of their industry and communities. This sector includes a diverse group of interests, each with specific concerns regarding the rational use of living marine resources and the equitable allocation of resources among user groups. These sectors divide according to scale of operation; type of activity (fishermen, catcher-processor, processor); type of fishing gear used (trawl, longline, gillnet, pots, seine); and location (inshore or offshore), with most of these subdivisions represented by an association that seeks to communicate constituent values and influence policy.

Environmental Groups. More than 50 national and many more regional and local U.S. environmental organizations focus primarily or largely on marine fishery issues or some aspect thereof. Membership in these groups ranges into the millions, including many recreational and commercial fishermen. Relative to the MSFCMA, environmental groups are principally concerned with overfishing of certain fish

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[9] NMFS Fishery Statistics, p. 94. This number is a significant underestimate since estimates are not available for nine coastal states.

[10] NMFS Fishery Statistics, p. 95. This number represents individuals employed by processors and wholesale plants, an indeterminate portion of which are employed on floating processors at sea. It does not include catching, transporting, or retail marketing of commercially-caught fish, nor does it include jobs supported by commercial fisheries.

[11] Ex-vessel value is the money paid to the harvester for fish, shellfish, and other aquatic plants and animals (i.e., the dollar value of the harvest when it is off-loaded from the vessel).

[12] NMFS Fishery Statistics, p. iv.

[13] NMFS Fishery Statistics, p. v.

stocks, the lack of assessment data for many managed stocks, the direct and indirect harm to other marine species (including marine mammals, sea turtles, and sea birds), the failure of current methods to report bycatch[14] accurately, the protection of marine biodiversity, and the continuing loss of habitat. They frequently maintain that there has been a nationwide failure to protect habitat from fishing and non-fishing harm.

Native Americans. Because of their cultural, traditional, and subsistence[15] needs, many tribes and indigenous groups are deeply concerned about the management of marine fisheries. Some tribes and indigenous groups are guaranteed access to certain fishery resources by treaty, with the federal government obliged to protect and maintain these rights.[16] Some tribes and groups are represented by Fishery Commissions that coordinate fishery management with federal agencies. The long-term goals of tribes and indigenous groups generally include safeguarding cultural traditions, promoting economic stability, encouraging resource sustainability, and attaining regulatory certainty. Of particular concern during MSFCMA reauthorization will be cooperative management of marine fisheries (i.e., partnership with the federal government in establishing policy and determining management goals), which they believe fosters economic vitality, environmental health, and rational management of natural resources.

Fishery Scientists. Scientists from academia, the private sector, and state and federal agencies are principally involved in analyzing the ecological/biological, social, cultural, and economic effects of MSFCMA provisions and fishery management policy. Like the other groups, they are concerned with the health and integrity of marine ecosystems, the rational use of marine resources, and community sustainability. Specifically, they are interested in the availability of adequate funding and accurate data to perform the necessary analyses. Many fishery scientists, at some point in their careers, may be employed as fishery managers, since sound management is promoted by scientific understanding of the resource.

Fishery Managers. Federal and state fishery managers are charged with implementing the MSFCMA and complementary state programs. Because of this responsibility, their interests and concerns are more keenly focused on the pragmatic aspects of the MSFCMA. Specifically, they are interested in clarity in the intent of management requirements and in authorizations and requirements for data collection and research.

Fish and Seafood Consumers. Individuals and families seek to maintain access to a wide range of fish and seafood products in the marketplace in response

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[14] Bycatch is the incidental catch of non-targeted fish species, which are typically discarded (often dead) because they are either illegal to retain or of an undesirable species, size, or sex.

[15] Critics contend that subsistence is a non-issue, because no groups or communities in the United States are starving or are likely to starve as a result of fishery harvest restrictions. Others, however, point out that a subsistence lifestyle refers to traditional and customary use and encompasses more than nutritional concerns.

[16] For an example of how Native American treaty fishing rights have been interpreted by the courts, see the summary provided by the Center for Columbia River History at [http://www.ccrh.org/comm/river/legal/boldt.htm], visited on July 16, 2004.

to perceptions that these products are tasty, nutritious, and healthy sources of protein. The stability, sustainability, safety, and diversity of supply, including international trade relationships, are important issues for these consumers.

The Magnuson-Stevens Act

Background

On September 28, 1945, President Truman issued a proclamation aimed at implementing conservation measures outside and adjacent to American territorial waters.[17] The 1945 Truman Proclamation, claiming U.S. jurisdiction over U.S. continental shelf resources adjacent to the U.S. coast, has been viewed as the advent of coastal nations extending territorial seas and declaring fishery and economic zones.[18] President Truman did not declare an "exclusive economic zone" nor claim rights to exclusive fishing, but his unilateral proclamations (on the seabed, its subsoil, and certain "conservation zones") served as the conceptual underpinnings of subsequent extensions.[19]

In the late 1940s and early 1950s, several Latin American nations proclaimed marine jurisdictions extending 200 miles off their Pacific coasts. This action was denounced by those within the United States[20] and other distant-water fishing nations who sought to preserve and expand access for far-ranging fishing vessels.

Beginning in the 1950s (Atlantic) and 1960s (Pacific), increasing numbers of foreign fishing vessels steamed into waters offshore of the United States to catch the substantially unexploited living marine resources.[21] Since the United States then claimed only a 3-mile jurisdiction (a 12-mile U.S. contiguous fishery zone was proclaimed in 1966), foreign vessels could fish many of the same stocks caught by U.S. fishermen. U.S. fishermen deplored this "foreign encroachment" and alleged that overfishing was causing stress on, or outright depletion of, fish stocks. Complex and inconclusive Law of the Sea Treaty negotiations in the 1970s provided impetus for unilateral U.S. action on ocean management jurisdiction.

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[17] Proclamation No. 2667, *Policy of the United States with Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf*, 3 C.F.R. §67 (1943-1948).

[18] CRS Issue Brief IB95010, *The Law of the Sea Convention and U.S. Policy: Issue Brief*, by Marjorie A. Browne.

[19] Jamison E. Colburn. "Turbot Wars: Straddling Stocks, Regime Theory, and a New U.N. Agreement," *Florida State University Journal of Transnational Law & Policy*, vol. 6, no. 2 (1997), note 73.

[20] Particularly commercial fishing interests seeking tuna.

[21] For example, the increase of foreign fishing off Alaska is discussed in Eugene H. Buck, *National Patterns and Trends of Fishery Development in the North Pacific* (Anchorage, AK: Arctic Environmental Information and Data Center, Univ. of Alaska, 1973), 65 pp.

The enactment of the Fishery Conservation and Management Act (FCMA) in 1976 (renamed in 1980[22] to honor the late Senator Warren G. Magnuson, and in 1996[23] to include Senator Ted Stevens) ushered in a new era of federal marine fishery management. After several years of debate, the FCMA was signed into law on April 13, 1976, as P.L. 94-265. Under the FCMA, on March 1, 1977, marine fishery resources beyond state jurisdiction but within 200 miles of all U.S. coasts came under federal jurisdiction. A new regional management system began allocating fishing privileges, with priority given to domestic enterprise. Primary federal management authority was vested in the National Marine Fisheries Service (NMFS, now NOAA Fisheries) within the National Oceanic and Atmospheric Administration (NOAA) of the Department of Commerce. The FCMA's 200-mile fishery conservation zone was superseded by an Exclusive Economic Zone (EEZ) proclaimed by President Reagan on March 10, 1983.[24]

The FCMA created eight regional fishery management councils and their associated advisory committees. Based on provisions in the FCMA and guidelines provided by NMFS/NOAA Fisheries, the regional councils prepare fishery management plans (FMPs) for those fisheries that they determine require active federal management.[25] After public hearings, revised FMPs and draft implementing regulations are submitted to the Secretary of Commerce for approval. Approved plans are implemented through regulations published in the *Federal Register*. Together these regional councils have implemented 40 FMPs for various fish and shellfish resources, with 9 additional plans in various stages of development.[26] Some plans are created for single species or for several closely related species (e.g., FMPs for red drum by the South Atlantic Regional Council and for shrimp by the Gulf of Mexico Regional Council). Others are developed for multi-species assemblages inhabiting a similar habitat (e.g., FMPs for Gulf of Alaska groundfish by the North Pacific Regional Council and for reef fish by the Gulf of Mexico Regional Council). Many of the implemented plans have undergone subsequent amendment (one more than 30 times), and three plans have been developed and implemented jointly by two regional councils.

Initially, a substantial portion of fishery resources in federal offshore waters was allocated for foreign fishing. However, foreign allocations diminished as domestic fishing and processing industries expanded. Under the FCMA, foreign catch from the U.S. EEZ declined from about 3.8 billion pounds in 1977 to zero since 1992. Triggering this decline of foreign catch, domestic offshore catch increased

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[22] P.L. 96-561 §238.

[23] P.L. 104-208 §208.

[24] Proclamation No. 5030, *Exclusive Economic Zone of the United States of America*, 3 C.F.R. Comp. (1983), p. 22. Although this proclamation implemented one of the Law of the Sea (LOS) provisions, the United States has not yet ratified the LOS Convention.

[25] Pursuant to the 1996 revisions of the MSFCMA, FMPs for Atlantic highly migratory species are prepared by the Secretary of Commerce (NMFS/NOAA Fisheries) with consultation by the relevant regional councils, advisors to international agreements, and advisory panels. See MSFCMA, §304(g).

[26] See [http://www.nmfs.noaa.gov/sfa/domes_fish/FMPS.htm], visited July 16, 2004.

dramatically, from about 1.6 billion pounds (1977) to more than 5.9 billion pounds (2002). Thus, the share of fish caught by foreign nations from the U.S. EEZ declined from 71% in 1977 to zero in 1992; foreign fishing has not been permitted in the U.S. EEZ since 1992. For combined inshore and offshore domestic harvest in 2002, the marine recreational finfish catch was 0.2 billion pounds, while the commercial sector landed 9.4 billion pounds of finfish and shellfish.

The Sustainable Fisheries Act

In 1996, Congress approved and President Clinton signed the Sustainable Fisheries Act (SFA; P.L. 104-297),[27] amending the MSFCMA with new requirements to (1) conserve fish stocks and restore overfished populations, (2) assure that membership on regional councils is fair and balanced, (3) impose a moratorium on creating new individual fishing quota programs, (4) increase emphasis on social benefits that might better preserve traditional small-scale fishermen, and (5) strengthen provisions to minimize bycatch and restore and protect habitat.

The SFA established requirements that each FMP include a definition of overfishing, a plan for rebuilding overfished stocks (including stopping overfishing within two years and developing a plan to rebuild overfished fisheries within 10 years), conservation and management measures to minimize bycatch, and a description of essential fish habitat (EFH) for the species involved (including conservation and management measures to protect habitat).

Bycatch is the incidental catch of non-targeted fish species. These species are typically discarded (often dead) either because they are illegal to retain or because they are of an undesirable species, size, or sex. Such discards trigger concerns about environmental harm and economic waste. The SFA mandated that FMPs include standardized reporting to assess the amount and type of bycatch in managed fisheries. The SFA also mandates conservation measures to minimize bycatch and the mortality of unavoidable bycatch to the extent practicable.

Based on concerns that certain fish stocks had declined due to habitat loss,[28] the SFA established a national program to facilitate long-term protection of EFH.[29] The SFA requires regional councils to identify and describe EFH for each managed fishery; identify and assess the harm and potential harm caused by fishing and non-fishing activities; minimize as much as possible the harm caused by fishing, which may include gear restrictions or time/area closures; identify harm to habitat of proposed fishing and non-fishing activities requiring federal or state approval or permits; and assist NMFS/NOAA Fisheries in recommending measures to conserve, enhance, and restore EFH.

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[27] For a summary of the evolution and passage of this law, see archived CRS Issue Brief IB95036, *Magnuson Fishery Conservation and Management Act Reauthorization*, by Eugene H. Buck.

[28] See MSFCMA §2(a)(2)(C); 16 U.S.C. §1801(2)(a)(2)(C).

[29] See MSFCMA §305(b); 16 U.S.C. §1855(b).

NMFS/NOAA Fisheries and the eight regional councils were responsible for implementing the provisions and requirements mandated in the SFA. Regional councils were given two years (until October 11, 1998) to revise or write FMPs to meet all the new requirements. To comply with SFA requirements, NMFS/NOAA Fisheries drafted a strategy detailing the necessary implementation tasks.[30] Through this process, NMFS/NOAA Fisheries and the regional councils have addressed most of the SFA requirements. The NMFS/NOAA Fisheries *Implementation Activity List* indicates what has been accomplished.[31]

Implementation. The provisions and requirements of the SFA reflect significant changes to the goals and objectives of the MSFCMA, and full implementation of these provisions has been of great concern to many groups. Accordingly, there has been considerable interest in the actions of regional councils and NMFS/NOAA Fisheries in implementing the SFA.

Of particular concern to environmental groups and some Members of Congress is the progress of NMFS/NOAA Fisheries and regional councils in implementing SFA requirements. In their review of proposed FMP amendments, some of the more critical interests suggest that regional councils have instituted only incremental changes to current management practices. These critics contend that regional councils have satisfied only the minimum requirements and, in some cases, failed to comply with the law, rather than fully embracing the new goals and objectives. Moreover, they suggest that NMFS/NOAA Fisheries precipitated the poor performance of regional councils by delaying implementation guidance and by allowing substantial latitude in how regional councils implement the SFA provisions.

Some commercial fishermen contend that the standards established by NMFS/NOAA Fisheries guidelines are unrealistic, given the dearth of scientific information. They contend that this has resulted in assumption-based and model-based goals that are at odds with implementing meaningful protection. Moreover, some commercial fishing interests contend that, given the magnitude of tasks set before regional councils and NMFS/NOAA Fisheries, the timetables established by the SFA were unrealistic and hence delays were inevitable.

NMFS/NOAA Fisheries has not formally commented on the criticisms. They indicate that their efforts have focused on accomplishing the myriad tasks set forth in the SFA and implementing the law, rather than on addressing the concerns of citizens who disagreed with their strategy or progress.

Subsequent Enactments

The MSFCMA has been amended and modified a number of times to address specific concerns since the last comprehensive reauthorization in 1996. On October 23, 1998, President Clinton signed into law modified language from S. 1221 (the

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[30] U.S. Dept. of Commerce, National Marine Fisheries Service, *Sustainable Fisheries Act Implementation Plan* (1996). Many NMFS/NOAA Fisheries SFA implementation documents are available at [http://www.nmfs.noaa.gov/sfa/], visited Aug. 11, 2004.

[31] Available at [http://www.nmfs.noaa.gov/sfa/activity/index.html], visited Aug. 11, 2004.

American Fisheries Act, or AFA) as part of the Omnibus Consolidated and Emergency Supplemental Appropriations for Fiscal Year 1999 (Title II of P.L. 105-277, 112 Stat. 2681-616). These provisions (1) require owners of all U.S.-flag fishing vessels to retain at least a 75% U.S.-controlling interest; (2) identify eligible participants for the Bering Sea and Aleutian Islands walleye pollock fishery; (3) include a vessel buy-back program for nine catcher/processor vessels financed by federal and private sector funds; (4) establish pollock allocations for three separate industry sectors; and (5) establish protocols for fishermen's and fish processor's cooperatives in the Bering Sea and Aleutian Islands walleye pollock fishery. The AFA prohibits any new fishing vessel exceeding 165 feet in length, or 750 tons, or with engines that produce greater than 3,000 horsepower from entering any MSFCMA managed fishery, unless the Secretary of Commerce and the relevant regional council approve the use of the vessel.[32]

In the 106th Congress, P.L. 106-31 included language in §3025 making permanent a one-year moratorium (included in P.L. 105-277) on operating large fishing vessels in the North Atlantic herring and mackerel fisheries until regional action is taken. In addition, Title VI of P.L. 106-450 authorized the Secretary of Commerce to acquire and equip fishery survey vessels, and P.L. 106-557 prohibited shark finning in U.S. waters.

In the 107th Congress, §10107 of P.L. 107-171 (the Farm Security and Rural Investment Act of 2002) appropriated "such sums as are necessary" to support a voluntary fishing capacity reduction program for the New England multispecies commercial fishery, within one year of enactment. P.L. 107-206 included (1) language to make Fisheries Finance Program Account funds available to subsidize gross obligations for the principal amount of direct loans not to exceed $5 million for individual fishing quota loans, and not to exceed $19 million for traditional loans; (2) $11 million in economic assistance to New England fishermen and fishing communities (§210); (3) $5 million of direct economic assistance to New England fishermen and communities to support port security (§211); and (4) a $0.5 million loan guarantee for a $50 million capacity reduction program for the West Coast groundfish fishery (§212). Section 624(a) of P.L. 107-77 extended state authority to manage the West Coast Dungeness crab fishery through FY2006. In addition, several enactments amended the AFA to address specific concerns:

- Section 2202 of P.L. 107-20 altered provisions relating to the applicability of U.S. ownership standards to banks holding commercial fishing vessel mortgages;
- Section 211 of P.L. 107-77 deleted a sunset provision, effectively making permanent a prohibition on direct pollock fishing by non-AFA catcher/processors; and
- Section 205 of P.L. 107-117 made the entire $100 million for the AFA's fishing capacity reduction program available as a loan under Title XI of the Merchant Marine Act, 1936.

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[32] Except for vessels fishing in the U.S. EEZ under the authority of the Western Pacific Regional Council or purse seine vessels engaged in tuna fishing in the Pacific Ocean outside of the U.S. EEZ; see §202(a)(5) of P.L. 105-277.

Action taken by the 108th Congress is discussed and summarized in CRS Issue Brief IB10109, *Fishery, Aquaculture, and Marine Mammal Legislation in the 108th Congress*, by Eugene H. Buck.

Oceans Commissions

Two ocean commissions recently released reports relating to marine fisheries. The Pew Oceans Commission report[33] was released June 4, 2003, and the U.S. Commission on Ocean Policy's preliminary report[34] was issued on April 20, 2004. Fishery issues are only one aspect of the comprehensive ocean policy issues discussed in these reports; the larger context includes governance, education, coastal development, human health, environmental quality, energy resources, and ocean science, among others. For background on the reports and the larger context of these issues, see CRS Issue Brief IB10132, *Ocean Commissions: Ocean Policy Review and Outlook*. A table in the Appendix to this report compares the reports' recommendations relating to marine fisheries. As is normally the case, CRS takes no position with respect to either report's recommendations.

Issues for Congress

The remainder of this report discusses issues that may be considered during any reauthorization debate on the MSFCMA. However, few fishery issues are national in scope, and regional concerns vary greatly; what may be a major concern in one region may be inconsequential or entirely different in character in another.[35] Thus, many of these issues are likely to be debated in a regional, rather than national, context. Some of the more controversial issues that may be addressed during reauthorization include (1) whether to further specify the approaches to address bycatch and bycatch mortality; (2) how to define, manage, and protect unique habitats; (3) whether to legislate the designation of marine protected areas; (4) how to assure that necessary data are collected; (5) how to manage marine ecosystems; (6) how to assure that regional council decisions are fair and balanced; (7) how to implement and finance fishing capacity reduction programs; (8) whether to establish national standards for individual fishing quota management programs; and (9) whether to authorize user fees and other charges that could be used for conservation, management, and enforcement. Many of these issues were addressed in 1996. Additional issues have been prompted by the recommendations from the Pew Oceans

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[33] The Pew Oceans Commission, *America's Living Oceans: Charting a Course for Sea Change*, available at [http://www.pewoceans.org/oceans/index.asp] on Apr. 27, 2004.

[34] U.S. Commission on Ocean Policy, *Preliminary Report of the U.S. Commission on Ocean Policy*, available at [http://oceancommission.gov/documents/prelimreport/welcome.html] on Apr. 27, 2004.

[35] An example can be seen with the bycatch issue, where concerns for sea turtle survival (although turtles are not bycatch, as defined in the MSFCMA) and, more recently, finfish bycatch reduction in shrimp trawls make this issue much more controversial in the Gulf of Mexico and South Atlantic regions.

Commission and the U.S. Commission on Ocean Policy (see "Oceans Commissions," above.)

Another matter of likely debate is the current management structure of regional councils and agency regulation and how they affect fisheries management. The issue before Congress is whether fisheries management could be improved through increased legislative control over regional council decision-making or by providing regional councils greater autonomy over their management activities. Those in favor of increased legislative control argue that it could quiet criticisms that fishery managers misinterpret the intent of Congress and decrease perceived conflict of interest in regional council decision-making. Conversely, local communities would likely be concerned that national management would lose sight of local issues. Others contend that increased congressional involvement in managing fisheries could lead to increased politicization and further increase the time it takes to respond to problems and concerns.

Other prominent issues may include whether and how to increase fishery management data collection efforts, how to define *fishing community*, whether to revise the FMP review process, how best to manage highly migratory species, and whether to increase emphasis on preserving ecosystem health and long-term resource productivity. These issues have arisen repeatedly, and the MSFCMA often has been amended in attempts to address them.

To increase the usefulness and readability of this report, the issues and concerns that follow are grouped according to similarity in subject matter, although aspects of many issues transcend this artificial grouping. The order in which this information is presented does not represent a ranking or hierarchy of importance.

Biological Issues

Various constituencies have voiced concern regarding the need to clarify and/or modify how the fishery resource is viewed under the MSFCMA. These concerns range from narrow suggestions for improving aspects to reflect increasing understanding in fishery science to broad commentary on what actions are necessary to achieve the overall MSFCMA goal of sustainable resource productivity.

Bycatch. Bycatch is fish harvested in a fishery, but not sold or kept for personal use, and includes economic discards and regulatory discards.[36] Economic discards are fish that are targeted by the fishery, but are not retained because they are of an undesirable size, sex, or quality, or for other economic reasons.[37] Regulatory discards are fish harvested in a fishery that fishermen are required by regulation to discard whenever caught, or to retain but not sell.[38] The MSFCMA's definition of bycatch explicitly excludes fish released alive under a recreational catch-and-release fishery management program. Section 2(c)(3) of the MSFCMA encourages

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[36] 16 U.S.C. §1802(2).

[37] 16 U.S.C. §1802(9).

[38] 16 U.S.C. §1802(33).

development of measures to minimize bycatch to the extent practicable and avoid the unnecessary waste of fish. Section 301(9) establishes a national standard that requires conservation and management measures to minimize bycatch and bycatch mortality.

Environmental groups assert that many regional councils' draft FMPs generally do not meet the SFA requirements related to bycatch.[39] They charge that, at best, regional councils have concentrated their efforts on developing strategies and procedural measures, rather than taking direct action to minimize bycatch and bycatch mortality. Environmental interests also contend that many regional councils (e.g., New England, Mid-Atlantic, Gulf of Mexico, and Caribbean Regional Councils) neglected to submit FMP amendments that addressed SFA bycatch requirements.

Some environmental groups contend that most regional councils have failed to assess the adequacy of current bycatch reporting methods and identify what is necessary to establish standardized bycatch reporting methods. Specific recommendations include accurately quantifying bycatch of target species (fish discarded because they are not marketable) and non-target species (fish caught incidentally), accounting for catch and bycatch before catch is sorted, and expanding the use of NMFS/NOAA Fisheries observers to measure total catch.

Some fishery managers suggest that the MSFCMA's definition of bycatch may need to be reviewed, as it is important to the practical implementation of bycatch controls in the MSFCMA. These managers assert that, while these definitions may seem clear, in practice they are quite problematic. Bycatch, in essence, pertains to fish that are discarded.[40] Thus, one direct way for regional councils to reduce discards would be to require retention and utilization of all catch. However, these managers and environmental groups suggest that this does not address the incidental catch of non-targeted species. Moreover, these individuals suggest that the definition of economic discards is of little practical use, contending that it might better be described as "any discard that is not a regulatory discard." They also note that in many fisheries it is difficult to accurately determine the amount of regulatory discards. For example, NMFS/NOAA Fisheries fishery observers in North Pacific groundfish fisheries collect data on total catch weights and estimate the percent of catch retained (the difference being an estimate of the amount discarded). The accuracy and reliability of these estimates are often questioned. As a means to better estimate total fishing mortality, the SFA mandated standardized reporting to assess bycatch. Many fishery managers assert, however, that collecting accurate data may pose a substantial financial burden and may be infeasible.

As an alternative, these managers suggest that the MSFCMA definition of bycatch should be amended to include retained and discarded incidental catch of fish and non-fish species (e.g., sea birds), and that the terms *economic* and *regulatory*

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[39] The Marine Fish Conservation Network and The Center for Marine Conservation, *Missing the Boat* (Washington, DC: 1999), p. 2.

[40] Bycatch, by its MSFCMA definition, does not include incidentally caught sea turtles, sea birds, and other non-fish organisms.

discards should be eliminated. Additionally, congressional consideration of how best to discourage bycatch might also include initiating and monitoring full retention of catch, with requirements for donating prohibited species to charitable organizations.

Similarly, some commercial fishing interests contend that the concept of regulatory discards needs to be addressed, to better encourage the commercial sector to support fishery management strategies. They assert that the principle that "fish are better discarded dead than brought to market" undermines any possibility of industry support for management actions. They point to the summer flounder fishery, where as much as half of the total allowable catch quota has been discarded because of minimum fish size limits and quota/trip limits.

Despite the legislative and regulatory efforts of Congress, NMFS/NOAA Fisheries, and the regional councils to address bycatch and waste, these issues are still of great concern to the public, environmental organizations, recreational anglers, and commercial fishermen. During reauthorization, these groups may suggest that Congress consider:

- creating additional incentives for commercial and recreational fishermen to avoid bycatch or reduce bycatch mortality of incidentally caught species (e.g., individual or vessel bycatch allowances);[41]
- directing NMFS/NOAA Fisheries to implement increasingly stringent regulations that close fisheries or penalize individuals for high levels of bycatch and bycatch mortality, and to increase funding for enforcement;
- funding research for innovative fishing gear that reduces bycatch and/or bycatch mortality;
- creating tax incentives for using bycatch reduction devices;
- allowing nonprofit utilization of fish that would otherwise be discarded; and
- increasing funding for NMFS/NOAA Fisheries to research and develop bycatch reduction measures.

Some additional options to create incentives for avoiding bycatch might be to:

- increase funding to place more NMFS/NOAA Fisheries observers on board vessels to obtain reliable bycatch data;
- strengthen the definition of bycatch to directly address the problems of non-selective fishing practices, and correct the misinterpretation

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[41] Concerns about vessel bycatch allowances (VBAs) include the following: (1) some fishermen contend that VBAs are both efficient (they provide the proper incentives for reducing bycatch) and equitable (they reward individuals who avoid bycatch or reduce bycatch mortality); (2) conversely, some environmental groups and other fishermen assert that VBAs provide no guarantee that bycatch will be reduced below what is currently allowed because the allocated bycatch effectively becomes a right to continue taking bycatch; and (3) some scientists point out that individual observer data can be highly variable, with a potentially disparate effect on fishermen with VBAs who may be saddled with incompetent, lazy, or dishonest observers.

that equates dead discards of non-target fish with voluntary release of target fish; and
- require that all sources of mortality, including dead discards, be counted against total allowable catch quotas.

Some fishery scientists suggest that the use of new fishing gear could greatly reduce bycatch and bycatch mortality. Currently, the use of new gear is regulated by the *List of Fisheries and Gear* (50 C.F.R. §600.725(v)) and *Notification Guidelines* (50 C.F.R. §600.747(H)).[42] The *Notification Guidelines* establish a process for notifying regional councils (or NMFS/NOAA Fisheries, in the case of Atlantic HMS) of the intent to use new gear[43] and guidelines for approving new gear.[44] Some fishery scientists are concerned that this process is burdensome and discourages the development and use of new fishing gear. They may suggest that Congress review the process by which regional councils authorize the use of new fishing gear, and consider ways to encourage the development and use of innovative fishing technologies.[45] Specific to the development of innovative fishing gear, these scientists may suggest that Congress require regional councils to discuss several additional concerns in FMPs, including:

- requirements for developing and implementing bycatch reduction plans;
- specific funding to study gear that reduces bycatch;
- harvest access incentives for fishermen participating in the development of bycatch reduction devices; and
- technical assistance programs to help design and conduct statistically valid studies for assessing the effectiveness of bycatch reduction devices.

Essential Fish Habitat. Section 305(b) of the MSFCMA establishes requirements for identifying, describing, conserving, and enhancing EFH. Section 303(a)(7) requires FMPs to minimize the harm to EFH caused by fishing. Section 303(a)(8) establishes requirements for scientific data needed to implement FMPs. Section 3(10) defines EFH. Regulations provide some guidelines as to how EFH is

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[42] 64 *Federal Register* 4030, Jan. 27, 1999.

[43] No person or vessel may use fishing gear or participate in a fishery (commercial and recreational) not included in the list without giving 90 days advance notice to the appropriate regional council or the Secretary (64 *Federal Register* 4031, Jan. 27, 1999).

[44] If a regional council finds that the new gear or fishery would not compromise the effectiveness of conservation and management efforts under the Magnuson-Stevens Act, the regional council will recommend to the regional administrator that the authorized list of fisheries be amended (64 *Federal Register* 4031, Jan. 27, 1999).

[45] Experimental fisheries are regulated under 50 C.F.R. §679.6, which allows regional administrators to authorize experimental fisheries for groundfish in a manner that would be otherwise prohibited. Some note that NMFS's/NOAA Fisheries' centralized control of scientific, experimental, and exempted permits has resulted in long delays in processing applications. They recommend making permits available on a regional basis.

to be identified in FMPs,[46] including provisions for designating habitat areas of particular concern (HAPC) that may be especially important to the long-term productivity of populations of one or more managed species.[47]

Fishery scientists, environmental groups, and commercial and recreational fishing interests are concerned about how NMFS/NOAA Fisheries, the regional councils, and others have interpreted these EFH provisions. Additionally, the paucity of tangible scientific data has been widely viewed as a hindrance to identifying, describing, and conserving EFH. Environmental groups commend the regional councils for their success in identifying and describing EFH. However, these groups suggest that, while there have been some strides in addressing the harm caused by fishing and non-fishing activities, most regional councils have yet to establish measures to reduce the harmful effects of fishing activities on habitat. Some environmental groups view this lack of action as a major shortcoming of EFH implementation, and suggest that congressional action might be required to force regional councils to act.

The MSFCMA defines EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity." There is considerable debate about how to distinguish between essential and non-essential habitat.[48] The aquatic environment has few clearly defined boundaries. Thus, habitat necessary to support fisheries is not easily recognizable or quantifiable. For example, salmonids use a wide range of aquatic environments, from open ocean to estuaries to inland rivers and lakes. It has been argued that each of these areas is essential to salmon during some point in their life. Therefore, any activity that occurs in this range of habitats could harm "those waters and substrate necessary to fish," including fishing, shipping, farming, timber harvesting, and hydropower production. Others contend that only portions of these environments may be essential to salmon.

The distinction between essential and non-essential habitat, however, is problematic. Managing an unbounded natural environment often necessitates drawing imaginary lines to regulate human activities within that environment. To protect fish and other marine life from harmful human activities, the MSFCMA required regional councils to describe and identify EFH. However, the unlimited ocean environment combined with limited scientific information about fish life histories and habitat needs can result in somewhat arbitrary definitions of *essential*. This ambiguity raises concerns among constituents about how regional councils are distinguishing EFH.

Some fishery scientists express concern that regional councils have defined EFH for some species in overly broad terms. For example, the Pacific Regional Council defines EFH for salmonids to include all waters of the EEZ and all freshwater areas that contain or have contained salmonids. These scientists are concerned that

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[46] 50 C.F.R. §600.815.

[47] 50 C.F.R. §600.815(a)(8).

[48] However, critics of this approach suggest that any distinction between "essential" and "non-essential" is substantially based on a highly anthropogenic view of animal behavior.

regional councils have not distinguished between *essential* and *non-essential* parts of a range of habitat, choosing instead to define all habitat as essential. These scientists suggest that by perhaps modifying the definition of EFH, Congress could better direct how regional councils are to make EFH determinations. Some scientists suggest modifying §305(b) to include a simple statement that fish habitat is divided into areas that are essential and those that are non-essential; that an explanation be included in the FMP of the criteria by which these determinations are made; and that actions that damage EFH be described. Other scientists believe that attempts to divide habitat into essential and non-essential components would be unworkable (most notably because of the lack of scientific data) and create further delays in implementing EFH provisions. They support EFH designations based on available data and believe that NMFS/NOAA Fisheries and regional councils have appropriately used a precautionary approach in identifying EFH. In their opinion, regional councils did not define EFH arbitrarily; rather, regional councils used fish distribution as a proxy for EFH in defining the EFH boundaries. They assert that the controversy lies in where, within the bounds of EFH, fish distribution should be defined as *essential*. Because data are not available to ascertain the exact relationship between fish and habitat, they believe that most regional councils have correctly used stock distribution and density data to identify EFH. Moreover, they note that, as more and better data become available, EFH can be narrowed by revising the EFH provisions in FMPs.

Other suggestions for identifying and describing EFH include the following: (1) because of its critical importance to fish survival, include all substrate areas that a demersal[49] or non-demersal species uses during any part of its life history as EFH, and, where possible, divide into primary, secondary, and tertiary habitats; (2) distinguish between EFH and critical habitat, with critical habitats defined as those areas where significant ecological harm could imperil the species or stock in question;[50] and (3) increase the strength of EFH provisions relating to state waters, non-fishing activities, and land-use practices that influence EFH.

In addition to addressing the definition of EFH, some commercial fishing interests recommend that Congress define the context for judging *harm*. They note that, in North Pacific Regional Council discussions about EFH, each species may be viewed as part of the *habitat* for other species (because of predator-prey relations and other life history needs). Thus, they contend that plankton is part of the habitat for herring, herring is part of the habitat for salmon, salmon is part of the habitat for sea lions, etc., and the harvest of any species might constitute *harm* to another species. Moreover, they note that successful predators inevitably modify their environment to some degree, and fishermen function as predators in the marine environment. Fishing is not a benign activity — it causes change within the marine environment. In their opinion, these changes inevitably harm some species and benefit others. These commercial fishing interests believe that sustainability of the overall system should be the goal, and that Congress might consider clarifying the definition of

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[49] Living near, deposited on, or sinking to the bottom of the sea.

[50] As noted above, the EFH regulations encourage regional councils to identify Habitat Areas of Particular Concern (i.e., rare or ecologically important areas of EFH) to focus EFH protection efforts.

harm, especially in terms of harm to EFH caused by fishing, as referred to at §307(a)(7).

While not specifically addressed in the MSFCMA, data are critical for identifying and describing EFH. Whether constituencies perceive the EFH provisions as beneficial to fishery management or as restricting fishing opportunities, virtually all believe more research is required to better define the linkages between habitat and fishery productivity, determine the extent of harm caused by fishing and non-fishing activities, and assess the need for "protected areas" to protect habitat and conserve fish stocks.

Various interests commend ongoing efforts to describe and identify EFH, but note that additional research is needed to understand the habitat requirements of fish at various life history stages; the role of submerged aquatic vegetation, reefs, and "cover" in salmon streams, mangrove forests, and wetlands; and the linkages between habitat, fishery production, and ecosystem health; as well as to map different habitats. Thus, it is likely that fishery scientists, environmental groups, and commercial and recreational fishing interests will ask Congress to consider authorizing research focused on habitat and its role in ensuring sustainable fisheries.

Marine Protected Areas.[51] A marine protected area (MPA)[52] can be considered to be any part of the marine environment that is selectively managed to offer enhanced protection of the plants, animals, and/or cultural features in that area.[53] An MPA could include underwater areas close to the coast or offshore; reefs and seagrass beds; and shipwrecks and archaeological sites. MPAs could also include estuarine and intertidal areas, including tidal lagoons, mudflats, saltmarshes, mangroves, and rock platforms. Different types of U.S. MPAs include national marine sanctuaries, fishery management zones, national seashores, national parks, national monuments, critical habitats, national wildlife refuges, national estuarine research reserves, state conservation areas, state reserves, and many others. The MSFCMA neither specifically addresses MPAs nor prevents regional councils from designating MPAs. Under the MSFCMA, MPAs could be used in combination with

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[51] For more detailed information on this topic, see CRS Report RL32154, *Marine Protected Areas: An Overview*, by Jeffrey Zinn and Eugene H. Buck; and National Research Council, *Marine Protected Areas: Tools for Sustaining Ocean Ecosystems*, Committee on the Evaluation, Design, and Monitoring of Marine Reserves and Protected Areas in the United States, Ocean Studies Board, Commission on Geosciences, Environment, and Resources (Washington, DC: National Academy Press, 2001), 272 pp.

[52] The creation of MPAs was promoted by President Clinton's signing of Executive Order 13158 (May 26, 2000) on Marine Protected Areas. For the text of this order, see [http://www.mpa.gov/executive_order/execordermpa.pdf], visited Aug. 11, 2004. This order also established a National MPA Center to provide federal, state, territorial, tribal, and local governments with the information, technologies, and strategies to support an MPA system. For general background on federal MPA activities, see also [http://www.mpa.gov], visited Aug. 11, 2004.

[53] See [http://www.mpa.gov/information_tools/archives/what_is_mpa.html#varying], visited July 2, 2004.

traditional fishery management tools as one approach to rebuilding fisheries and protecting EFH. (See §§304(e) and 305(b), respectively, of the MSFCMA.)

MPAs may enhance fisheries by protecting fish spawning aggregation and nursery areas, such as seagrass beds, mangrove communities, and reefs. MPAs may play a role in rebuilding fish stocks by providing a haven for fish to grow and reproduce. Adult fish may then move from MPAs into adjoining areas, enhancing fishery production. Proponents of MPAs claim that protected areas may be beneficial in curbing overfishing, rebuilding depleted stocks, preserving ecosystem integrity, and protecting EFH. Specifically, they suggest that MPAs can prevent overfishing by providing a hedge against uncertain stock assessments, rebuilding depleted stocks by allowing older and more reproductive individuals to survive, alleviating the impacts of fishing on habitat, providing reference sites to assess fishing and non-fishing impacts, and providing a refuge for bycatch species.[54]

Some environmental groups believe that MPAs are a promising management tool, but one highly subject to political manipulation. These interests assert that, for MPAs to be effective, a significant portion of EFH should be included in a protected area. They contend, however, that commercial and recreational fishing interests will use political pressure to restrict MPA classification to *suboptimal* habitat. To ensure that MPAs provide real benefits for fish production and habitat protection, some of the more vocal MPA proponents recommend that exploitation of fish stocks in protected areas be eliminated or limited to catch-and-release sportfishing.

Other respondents suggest that all seagrass beds, mangrove areas, and reefs should be considered for listing as MPAs. They believe that "core" areas can be identified and should be closed to all activities, except carefully monitored scientific investigation.[55] For coral reefs, some respondents contend that one of the most detrimental activities to fish populations is spear fishing with the aid of scuba gear. They recommend that this activity be eliminated if heavily fished coral reefs are to recover.

Some commercial and recreational fishing interests are likely to counter proponents' claims by noting the weakness of scientific proof that MPAs accomplish what their supporters contend. They and other opponents are likely to ask Congress to consider the economic losses that may result from designating MPAs and closing areas to fishing and other uses. These groups will likely ask for more scientific research before closing areas, reducing fishing opportunity, and imposing economic

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[54] Some fishery scientists note that the scallop closed-area on Georges Bank highlighted the potential benefits of one approach to MPAs. After fishing was prohibited in this area for several years, bottom trawl survey data indicated a buildup of yellowtail flounder and large numbers of scallops.

[55] Certain areas of the marine environment have been closed to all or specific activities for a variety of reasons (e.g., marine sanctuaries designated under the Marine Protection, Research, and Sanctuaries Act (16 U.S.C. §§1431, et seq.); regulatory closures in the Bering Sea and Aleutian Islands to protect crab, salmon, herring, and marine mammals; the Oculina Banks Experimental Reserve established by the South Atlantic Regional Council; and the Tortugas Shrimp Sanctuary).

costs on users. These groups also are concerned about the permanence of MPA designations and desire the flexibility through adaptive management to change MPA boundaries and regulations in response to an evolving understanding of MPAs. They also note that while MPAs may be a useful tool within a traditional management system, regional councils should not be mandated to use MPAs.

Moreover, some critics of MPAs contend that, while establishing a reserve to protect and maintain sessile or largely non-mobile stocks or species may be prudent in certain circumstances, highly mobile animals do not recognize protected area boundaries. Thus, they argue that extreme protective measures, such as no-take zones, may be ineffective for migratory fish.

Finally, some scientists note that although MPAs may initially benefit depleted stocks by allowing rebuilding, additional research is needed on the management problems created by overcrowding and increased density of concentrating fishing vessels in the remaining smaller open areas when fishing grounds are closed for an extended period of time. They note that scientific studies already suggest that overcrowded and high-density fishing can lead to health problems and poor reproduction in marine species. They conclude that periodic and monitored fishing in closed areas may be appropriate after rebuilding has occurred.

Other comments include the following: (1) managers should also consider the broad array of economic benefits and costs, including the potential growth of non-extractive ecotourism in association with MPAs (e.g., displaced fishermen might become involved in non-extractive dive trips); (2) closures should affect all sectors equally (some commercial fishermen assert that current closed areas have resulted in highly unequal treatment among gear sectors); (3) MPAs and their regulations should be carefully evaluated for their potential to displace subsistence/traditional and customary use fishermen; and (4) designations of MPAs should be made by regional councils, not Congress (i.e., local decisions, not national control).

Discussions about EFH include continuing debate over situations where MPAs might be an appropriate means to conserve stocks and protect habitat. The level of protection can vary among different types of MPAs. Some MPAs allow a wide range of activities (including fishing) while others are more stringently regulated, possibly prohibiting all human activities. The size of an MPA depends on its intended purpose. MPAs created to protect shipwrecks can be quite small, while those that aim to protect whole ecosystems may be much larger.

Issues that Congress may face include whether the MPA concept should be codified in law, the rationale for creating MPAs and methods for selecting which areas to protect, the types of activities that would be permitted or prohibited and why, a review of existing closed areas (including assessing their effectiveness), and research to determine the sociocultural and economic benefits and costs of creating MPAs.

The difference between *no-take* marine reserves (areas closed to all resource extraction) and *multiple-use* areas (areas with gear-type or time/area restrictions, but where limited fishing is permitted) is one of the more controversial issues in the debate over the merits of designating MPAs. Fishing groups would be likely to ask

for consideration of the differences between recreational and commercial fishing, and the relative effects of various types of commercial gear and operational characteristics.

Overfishing. Environmental groups have expressed concern over regulatory exemptions to the national standard that requires conservation and management measures to prevent overfishing.[56] They suggest that, by allowing overfishing to continue, NMFS's/NOAA Fisheries' interpretation weakens the law and endangers depleted stocks, and that economic returns are being valued over ecological concerns. Congressional concern has also been expressed over what is perceived as NMFS/NOAA Fisheries permitting regional councils to miss deadlines and delay actions to end overfishing and rebuild stocks.[57] Environmental groups contend that, rather than using 10 years as an upper limit on stock recovery, regional councils have uniformly adopted 10 years as a standard recovery period. Environmental groups also suggest that fishery rebuilding plans, in some instances, do not account for overfishing caused by recreational harvest.[58] The Mid-Atlantic Regional Council's FMP for summer flounder, for example, contains no additional management measures to address overfishing in the recreational fishery. NMFS/NOAA Fisheries has taken public comments on proposed regulatory revisions to guidelines on overfishing,[59] but no final rule has been published. In light of the continued struggles

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[56] 50 C.F.R. §600.310(d)(6). NMFS/NOAA Fisheries explains that, because harvesting one species in a mixed-stock complex at its optimum yield may result in overfishing of another stock in the complex, regional councils may permit overfishing only if all of the following conditions are satisfied: (i) it will result in long-term net benefits to the nation; (ii) mitigating measures have been considered and a similar level of long-term net benefits cannot be achieved by modifying fleet behavior, gear selection/configuration, or other technical characteristic in a manner such that no overfishing would occur; and (iii) the resulting rate or level of fishing mortality will not cause any species or evolutionarily significant unit thereof to require protection under the ESA. NMFS/NOAA Fisheries, however, reports that this exception has never been applied and, for that reason, has not been successfully challenged in court by environmental interests (*Natural Resources Defense Council v. Evans*, 243 F.Supp.2d 1046 (N.D.Cal., 2003); *Natural Resources Defense Council v. Evans*, 168 F.Supp.2d 1149 (N.D.Cal., 2001)).

[57] For example, the Pacific Regional Council proposed a groundfish fishery FMP that would arguably have perpetuated overfishing the mixed-stock groundfish fishery. Proponents of this management approach state that criticism oversimplifies a complex management plan, contending that substantial harvest reductions have been made for two of the three species designated as overfished. The third (Pacific ocean perch) is a long-lived species, whose biomass estimate is uncertain, and may take more than 10 years to rebuild. Thus, these proponents argue that the Pacific Regional Council's harvest policy complies with the national standards (16 U.S.C. §1851) under the MSFCMA.

[58] Some contend that, in certain South Atlantic and Gulf of Mexico fisheries, sport anglers far outfish commercial harvesters for those species targeted by sportfishermen. See F. C. Coleman et. al., "The impact of United States recreational fisheries on marine fish populations," *Science*, Aug. 26, 2004.

[59] See [http://www.nmfs.noaa.gov/sfa/domes_fish/NS1/recommendations.version3.pdf], visited Sept. 1, 2004.

with this issue, Congress may ultimately decide to review the MSFCMA's requirements for rebuilding and recovery of overfished stocks.[60]

Other concerns include (1) continued fishing above the rate that produces maximum sustainable yield; (2) lack of status assessments for many managed species; (3) failure of some regional councils to establish criteria to identify when a stock is overfished; (4) failure of some regional councils to ensure overfished stocks will be rebuilt within the time frames established by the MSFCMA; (5) delay of rebuilding plans for stocks needing immediate protection; and (6) lack of overfishing definitions that are based on the biology of each stock. Additional comments include (1) the only way to rebuild a stock is to declare a moratorium and wait for the natural rebuilding cycle to occur, and then resume fishing; and (2) regional councils should be penalized for failure to meet targets to curb overfishing.

Harmful Non-Native Species. Because of the potential for harm to fishery resources, some believe that prevention and control of harmful aquatic non-native species, such as the European green crab (*Carcinus maenas*), should be given some consideration during reauthorization of the MSFCMA. For example, potential invasive species concerns might be identified as a discretionary issue for discussion in FMPs. For more information on non-native species, see CRS Report RL30123, *Harmful Non-Native Species: Issues for Congress*, by M. Lynne Corn, Eugene H. Buck, Jean Rawson, and Eric Fischer.

Management Issues

Commercial and recreational fishing interests, environmental groups, and fishery scientists voiced concern regarding the need to clarify and/or modify the scope and goals of fishery management under the MSFCMA. These concerns range from narrow suggestions for improving aspects of fishery management to broad commentary on the overall goals of MSFCMA management.

Data Collection and Management. Section 402 of the MSFCMA provides authority for regional councils to develop and implement information collection programs that would be beneficial in developing FMPs or determining if a fishery needs to be managed.

Recreational and commercial fishing interests express an interest in more data, including sociocultural data, to improve fishery management. In their view, more information would promote a better understanding of the economic and sociocultural contributions of commercial and recreational fishing enterprises as well as the businesses and industries that support both sectors.[61] The absence of adequate data makes it difficult for fishery managers to arrive at fair and equitable decisions about matters that affect commercial and recreational fishing.

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[60] 16 U.S.C. 1854(e).

[61] However, socioeconomic data collection may have a disparate impact upon small entities, while larger companies can spread such costs over diversified operations. In this respect, data collection efforts may conflict with the MSFCMA's National Standard #8 relative to protecting communities.

Some environmental groups believe that the present state of knowledge regarding catch in recreational fisheries and bycatch in all fisheries is poor and needs to be greatly improved to prevent overfishing and to minimize bycatch. These groups assert that many regional councils use the lack of data to justify postponing action in a number of areas such as identifying maximum sustainable yield (MSY) or optimum yield (OY); determining the status of many stocks; and proposing measures to minimize bycatch and the harm caused by fishing gear on EFH. These groups suggest that additional funding is necessary to support these research efforts so that the MSFCMA can be properly implemented and fisheries can be sustainably managed. These groups are specifically concerned with identifying and quantifying the amount and type of bycatch occurring in all fisheries.

Fishery managers suggest that if more information is going to be collected, particularly on sociocultural and economic aspects, creative ways will need to be developed to collect useful information with minimal additional burden. They believe that programs that collect unverified data from the industry are likely to impose a high burden but result in low-value information (i.e., data of questionable validity).[62] They assert that the Paperwork Reduction Act (44 U.S.C. §§3501-3520) often hinders efficient collection of information. Moreover, in their opinion, because the MSFCMA ties data collection to a specific FMP, fragmented and inconsistent data result. They posit that future versions of the MSFCMA should encourage interagency and inter-regional cooperation on data collection, satisfying specific FMP needs within an overarching plan that results in useful information.

Another source of information, suggested by some commercial fishermen, is fishermen themselves. They believe that fishermen offer a largely untapped source of data, especially about how many of what species are found when and where. They contend that these anecdotal data are just as useful as annual or triennial trawl surveys, and that fishermen should be integrated into data collection and management efforts.

The types of information collection and analysis that all of these groups may request include (1) a needs assessment of the types of data required to manage recreational and commercial fisheries; (2) a needs assessment of the types of economic and social data (including data on industries that support recreational and commercial fisheries) needed to make management decisions;[63] (3) increased collection of commercial and recreational fish harvest data (including bycatch); and (4) increased collection of information to support development, implementation, and management of individual fishing and bycatch quota programs. Moreover, a variety of fishing interests are likely to ask Congress for increased attention to collecting information on the indirect but significant impacts of fishery management policy on such related businesses as gear manufacturers, local restaurants, ice houses, and other businesses that support recreational fishing. Contrary to these suggestions, some

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[62] However, sociocultural and economic scientists are well aware of potential problems with data bias and have developed methods for dealing with these concerns.

[63] Others argue that a multitude of these needs assessments have been completed in the last decade, and the types of information needed are well known; any additional needs assessments would simply delay needed data collection.

commercial and recreational fishermen may object to expanded data collection, citing their belief that fishing is already heavily regulated and that increased reporting requirements would add unnecessary costs and other burdens.

The Scientific Basis for Policy. Commercial fishing interests suggest that weak fishery data hinder decision-making and result in flawed regulations. While protecting habitat and ecosystems are reasonable objectives, they assert that there is no way to implement management objectively with inconclusive scientific information about ecosystems and the impacts of fishing on habitat. They suggest that Congress modify the MSFCMA to focus on gathering more tangible information upon which to base regulations. The environmental community would likely use this same argument to promote even more stringent fishery regulations, noting that the "precautionary approach" prescribes more conservative management in the face of uncertainty.[64] The crux of the issue is, what is meant by this phrase, and how "precautionary" management ought to be when dealing with imprecise data and variable fish stocks.

Some in the environmental community agree that there is a serious lack of fishery data and that steps should be taken to obtain more and better data. However, they generally are concerned that this lack of data not be used as an excuse to delay conservation measures. In their opinion, delays to obtain more data have caused declines of some managed fish and other marine species to population levels requiring Endangered Species Act protections. They believe that inaction premised on lack of information is unsound, contending that the data are sufficient for NMFS/NOAA Fisheries and regional councils to take steps to protect EFH and ecosystems, and concluding that a precautionary approach makes the use of the best available scientific information. Others contend that NMFS/NOAA Fisheries currently advocates risk-averse decision-making; nonetheless, they recommend that Congress specifically endorse risk-averse decision-making, especially where limited data and information are available.

Finally, other scientists note that best available scientific information should also include sociocultural information. However, in their opinion, there are no rigorous social and culture impact assessments in current FMPs. They assert a critical need for sociocultural and socioeconomic data, that must be collected before social impact analyses can be conducted. Therefore, these scientists might ask Congress to consider authorizing research programs to collect and analyze sociocultural information.

Reliability of Management Models. Section 404(c)(1) of the MSFCMA establishes requirements for the Secretary to initiate and maintain fishery research to carry out the purposes, policy, and provisions of the Act.

Some fishery managers note a concern regarding the need for additional data to verify the assumptions used in stock assessment models. Particularly, they assert that the management analyses garnered from Virtual Population Analysis (VPA) models

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[64] Others argue that the time has come to shift the burden of proof to the resource users and away from fishery managers and scientists.

could be improved by expanding the use of age-growth[65] information. To address these concerns, some fishery managers suggest that Congress might consider authorizing funds for expanded age and growth research. For example, regional age and growth research centers could coordinate information among state and federal agencies. Fishery managers suggest that a central data clearinghouse would provide consistent fishery data, avoid duplication of effort, and reduce costs.

Some environmental groups are concerned that fishery managers do not have the necessary information to determine valid MSY values and the status of many stocks. They are concerned that assumptions made by regional councils may not be scientifically justifiable and may, therefore, result in risk-prone management that increases the likelihood of overfishing. In addition, some fishery scientists note that it is not just biological or population dynamic models that are problematic, but that social and economic impact assessment models also have serious deficiencies.

The National Academy of Sciences' Committee on Fish Stock Assessment Methods reviewed existing stock assessment methods and considered alternative approaches.[66] The Committee found that, while simple models are useful, more complex models are needed to better quantify unknown aspects of the system and to address the long-term consequences of specific decision rules. Their retrospective analyses showed that persistent over- or under-estimation can occur over a number of assessment years, regardless of the assessment model. In their simulations, model performance became more erratic as more variability or errors were introduced into the data. They recommended that different assessment models be used to analyze the same data as a means to identify poor quality data. In addition, the Committee suggested that greater attention be devoted to including independent estimates of natural mortality and its variability in assessment models. Specifically, they recommended (1) using Bayesian methods and other statistical techniques to incorporate realistic uncertainty into stock assessment models; (2) developing better assessment models for recreational fisheries and methods to evaluate the impacts of the quality of recreational data on stock assessments; (3) accounting for effects of directional changes in environmental variables (e.g., climate change) in new models; and (4) developing new means to estimate changes in average "catchability," selectivity, and mortality over time, rather than assuming that these parameters remain constant.

Ecosystem vs. Single-Species Management. Fishery scientists suggest adopting ecosystem-based management, notably for defining EFH. They argue that habitat use by various species is a composite and involves more than the life cycle

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[65] Age-growth analysis uses fish scales and otoliths ("ear" bones used for balance and orientation) to assess age relative to length. These hard structures have annual growth rings, much like rings in a tree trunk, that can be used to estimate the age of a fish. However, some fishery scientists note that traditional age-growth research, using hard parts to discern fish age, is not applicable in tropical regions because fish growth is not subject to discrete seasonal changes. In tropical regions, "length-based" methods are used.

[66] National Research Council, Committee on Fish Stock Assessment Methods, *Improving Fish Stock Assessments* (Washington, DC: National Academy Press, 1998; hereafter "Stock Assessments").

of a single species. These scientists see the need to develop fundamentally new concepts for dealing with trans-boundary fishery management and EFH issues. In moving toward ecosystem management, scientists suggest that Congress transform EFH regulations into national guidelines for instituting ecosystem-based management.

Currently, the MSFCMA divides the U.S. EEZ into eight regional management areas. These areas generally extend from 3 miles off the coast out to 200 miles offshore and are managed by the eight regional councils. Fisheries within 3 miles of the coast are managed under state authority. Fishery scientists suggest that, because of the difficulty in subdividing ecosystems for management purposes, Congress should redefine these management zones. These scientists suggest that unifying fishery management across state and federal waters is the most important step in moving toward ecosystem-based management.[67] Additionally, they suggest that artificial boundaries, such as those dividing the Atlantic portion of the nation's EEZ into three regional fishery management areas, impair management of trans-boundary stocks. Redefining regional fishery management areas to reflect an ecosystem-based approach would require major amendment of the MSFCMA. Sections applicable to such amendment would likely include §303(a) on FMPs and §305(b) on EFH.

A more formal approach for introducing ecosystem considerations into fishery management is described in the final report of NOAA Fisheries' Ecosystem Principles Advisory Panel.[68] In 1996, Congress requested an assessment of the extent to which ecosystem principles are currently applied in fishery research and management, and recommendations for how best to integrate ecosystem principles into future fishery management and research.[69] The panel noted that:

> a comprehensive ecosystem-based fishery management approach would require managers to consider all interactions that a target fish stock has with predators, competitors, and prey species; the effects of weather and climate on fishery biology and ecology; the complex interactions between fishes and their habitat; and the effects of fishing on fish stocks and their habitat.[70]

The panel considered full implementation of the overfishing, bycatch, and EFH provisions of the Sustainable Fisheries Act to be prerequisites to ecosystem-based fishery management.

In their report, the panel described the enormous task of managing at the ecosystem level and recognized that, in most cases, then-current data were insufficient. However, it stressed that there are practical ways to use the information

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[67] On the other hand, unifying management may mask a simultaneous need to recognize the many small ecotones that would benefit from being considered as semi-separate units rather than simply parts of a great whole.

[68] Ecosystem Principles Advisory Panel, *Ecosystem-Based Fishery Management: A Report to Congress*, Nov. 1998 (hereafter "Ecosystem Management"). The text of this document can be viewed at [http://www.nmfs.noaa.gov/sfa/EPAPrpt.pdf], visited Aug. 11, 2004.

[69] Mandated by the 1996 SFA amendments to the MSFCMA, §406, fishery systems research.

[70] Ecosystem Management, p. 1.

that is available and recommended the use of fishery ecosystem plans (FEPs) to further incorporate ecosystem principles into FMPs. The FEP would document the structure and function of the ecosystem in which fishing activities occur as well as provide information to managers about the effects of their decisions on other components of the ecosystem and the effects of other ecosystem components on fisheries.[71] The primary purpose of the FEP would be to allow regional councils to prescribe how fisheries will be managed from an ecosystem perspective.[72]

The panel recommended that Congress require NMFS/NOAA Fisheries to develop FEP guidelines and each regional council to develop an FEP for the ecosystem(s) under its jurisdiction. It stated that each FEP should require, at least, eight actions by regional councils:

1. Delineate the geographic extent of the ecosystem, including the biological, chemical, and physical dynamics, and use a zone-based management approach to designate geographic areas for prescribed uses;
2. Develop a conceptual model of the food web;
3. Describe the habitat needs of different life history stages for all plants and animals that represent the "significant food web" and how these habitat needs are considered in conservation and management measures;
4. Calculate total removals (including incidental mortality) and show how this relates to standing biomass, production, optimum yields, natural mortality, and trophic structure;
5. Assess how uncertainty is characterized and what kind of buffers against uncertainty are included in conservation and management actions;
6. Develop indices of ecosystem health as targets for management;
7. Describe available long-term monitoring data and how they are used; and
8. Assess the ecological, human, and institutional elements of the ecosystem which most significantly affect fisheries, both within and outside Regional Council/Department of Commerce authority. Included should be a strategy to address those influences to achieve both FMP and FEP objectives.

Panelists suggest that FEPs could also facilitate learning about the ecosystem and provide for iterative and adaptive management to promote long-term sustainable harvests. The FEP concept might not be marine ecosystem management; rather, it could be a way to formally include ecosystem knowledge and document how this information is used to manage living marine resources. According to panelists, FEPs could also help achieve the requirements of the Sustainable Fisheries Act to develop a comprehensive understanding of the limits of a renewable resource, and use that knowledge to design a socially and economically stable fishery, balancing short-term minuses with long-term pluses. Recognizing that a great deal of knowledge about how fisheries function within an ecosystem may be currently underused, FEPs may offer ways to better use what is known and to incorporate new knowledge.

The panel believed that, while much of what it recommended could be accomplished under current mandates, directives from Congress would hasten

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[71] Ecosystem Management, p. 3.

[72] Ecosystem Management, p. 28.

application of these principles and ensure universal application by the regional councils. The panel concluded that:

> if fishery management is to further incorporate ecosystem principles, Congress must provide a specific mandate to NMFS and the regional councils to do so and must fund the scientific infrastructure required to support the decision-making process. Requiring regional councils to prepare FEPs provides a mechanism to focus and inform fishery management, to measure progress toward implementation of ecosystem-based fishery management, to identify research needs and ultimately to insure healthy and productive ecosystems.[73]

Some environmental groups believe that ecosystem-based management of fish stocks, rather than single-species management, is necessary to promote sustainable fisheries and to protect non-commercial species that may be affected by fishing. As a means to protect marine ecosystems, these groups might request that Congress require regional councils to prepare ecosystem management plans and to ensure that FMPs are consistent with ecosystem plans.

Critics of current management contend that single-species management, especially with different daily allowable catch rates, increases regulatory discards. They also suggest that the definition of *fishery*[74] could be amended to "one or more stocks, *or inter-related species*, of fish which can be treated as a unit." Some believe that this modification would facilitate the shift from single-species to ecosystem-based management.

It should be noted that the National Academy of Sciences concluded that single-species assessments currently provide the best approach for assessing population parameters and providing short-term forecasting and management advice.[75] The NAS committee stated that recent interest in bringing ecological and environmental considerations and multi-species management interactions into stock assessments should be encouraged, but not at the expense of reducing the quality of stock assessments.[76]

Decision-Making by Regional Councils. Section 302 of the MSFCMA establishes eight regional fishery management councils, and defines requirements for membership, regional council functions, transaction of business, and disclosure of financial interest and recusal.

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[73] Ecosystem Management, p. 37.

[74] MSFCMA §3(13)(A) defines the term *fishery* as one or more stocks of fish which can be treated as a unit for purposes of conservation and management and which are identified on the basis of geographical, scientific, technical, recreational, and economic characteristics. However, several other uses of fishery (e.g., MSFCMA §§303(2), 303(5), and 303(b)(6), and more indirectly MSFCMA §§3(9) and 305(a)(3)) broaden this definition to include elements of the fleet such as gear and vessels. These inconsistencies could merit attention during reauthorization.

[75] Stock Assessments.

[76] Stock Assessments, p. 4.

Subsection 302(j) describes the requirements for council members to disclose financial interest and recuse themselves from decisions in which they have a financial stake. As in previous reauthorizations of the MSFCMA, perceived conflicts of interest by regional council members is cause for concern among recreational and commercial fishermen. Some groups believe that because of the close relationship with the fishing industry, regional councils are unable to take the necessary steps to prevent overfishing, rebuild stocks in a timely manner, and properly regulate gear that catches large amounts of bycatch and damages EFH. At issue is whether decision-making by individuals with a vested financial interest in a fishery can be impartial.

In addition to current disclosure and recusal requirements, Congress may be asked to consider other measures to minimize conflict-of-interest concerns. Suggestions for preventing financial conflicts-of-interest range from prohibiting individuals with related financial interests from making fishery management decisions to requiring regional council members to swear compliance with federal tax and banking laws. Commercial fishermen suggest that regional council membership be limited to individuals with practical knowledge of fishing operations, specifically excluding industry representatives such as executive directors, lawyers, and lobbyists. However, increasing financial disclosure requirements or limiting the type of individual allowed to serve on regional councils could make it difficult to obtain knowledgeable and willing nominees for regional council membership.

Some fishery scientists contend that conflict of interest is not the problem; rather it is that private and public interests are in conflict. Instead of mandating an unattainable impartiality, they suggest empowering decision-makers who share the public interest. That is, decision-makers should bear the consequences of their decisions in ways consistent with the public interest. This can be achieved, they suggest, by reconfiguring the incentive structure for decision-makers. In their opinion, the misalignment of public and private interests is, in large part, due to (1) shortsightedness on the part of resource users, elected representatives, and agency heads; and (2) the decoupled costs and benefits of fishery policies and programs. They contend that shortsightedness on the part of resource users can only be overcome by giving them more secure claims to future outcomes in fisheries (i.e., some form of property rights). The effects of shortsightedness by politicians and agency heads, they contend, can be overcome by insulating fishery decision-making from political influence. Finally, they suggest that the benefits and costs of fishery policy can be more closely coupled by the use of cost-recovery mechanisms, such as fees and taxes.

Some also support a review of MSFCMA provisions relating to regional council membership to ensure that all parties interested in U.S. fisheries are adequately represented. Specifically, environmental groups expressed concern that their interests are inadequately represented on most regional councils, and suggest that Congress should consider legislative changes to the MSFCMA to ensure that regional councils are more broadly representative of the public interest in making fishery management decisions that benefit the nation. Others suggest that there is a need for greater representation of non-fishing interests, such as seafood consumers and environmentalists, as well as increased oversight by independent scientists. The

Bureau of Land Management's Resource Advisory Councils may provide an alternative model for balancing various constituencies and their influence.[77]

Closely related to the issue of financial conflict of interest is the issue raised by some commercial fishermen who questioned whether regional council members, who work only part-time on regional council matters, are able to make impartial and knowledgeable decisions affecting management of the nation's marine fisheries. They contend that regional council members who work in the fishing industry are likely to make decisions that favor the interests of their employers. To prevent this bias, they suggest making regional council membership a full-time position, with members solely dedicated to managing fisheries.

Conversely, other fishermen argue that regional councils already have full-time administrative and professional staff to assist and support council members, and that council membership should not be a full-time position. They assert that individuals actively employed in the fishing industry tend to be the most knowledgeable. Concern was also expressed regarding who the pool of potential regional council members might include if membership became a full-time profession. It was suggested that successful fishermen and businessmen would not be as interested in becoming regional council members were it a full-time job. Another concern is that the judgment of full-time regional council members could become clouded if they were constantly worried about keeping their position on the regional council. Furthermore, some social scientists suggest that there is greater likelihood of compliance if user groups participate in the regulatory process. They suggest that making regional council membership a full-time position would preclude user groups from participating on the regional council. Moreover, regional council membership is currently limited to a term of three years. This term-limit, some suggest, provides sufficient means for different perspectives and experience to be involved in the fishery management process.

The MSFCMA provides for NMFS/NOAA Fisheries to have a voting seat on each regional council, with the NOAA General Counsel participating in regional council business. However, the MSFCMA lacks provisions for independent legal advice or counsel for regional councils. Some commercial and recreational fishermen express concern that the NOAA General Counsel, who represents the interests of NMFS/NOAA Fisheries, often dictates fishery policy in its legal advice to regional councils on measures under consideration. They contend that the public interest would be better served by independent legal advice, and suggest that Congress amend the MSFCMA to authorize independent legal counsel for regional councils.

Others doubt that authorizing independent legal counsel would lead to better decision-making. They assert that this could unnecessarily delay decision-making and increase the involvement of the courts in fishery management. They also contend that it could be costly to change the process, and that the NOAA General Counsel provides objective legal interpretations. Some also noted that regional

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[77] For background on Resource Advisory Councils, see [http://www.blm.gov/rac/], visited on Aug. 26, 2004.

councils are not currently prohibited from hiring lawyers to work on the regional council staff, providing legal advice as necessary.

Additional comments concerning regional council decision-making include the following: (1) the role of state governors in the regional council appointment process should be reduced, and at-large nominations should be solicited through an application process directly to the Secretary of Commerce; (2) many user groups feel that they are under-represented on regional councils and that their expertise is under-used; (3) fishermen should act as paid consultants to the regional councils, providing advice, but not voting; and (4) regional councils are not adequately funded for their workload, and need more staff.

Highly Migratory Species. Section 304(g)(1) of the MSFCMA authorizes the Secretary of Commerce to prepare or amend FMPs for Atlantic highly migratory species.[78]

Currently, NMFS/NOAA Fisheries is responsible for implementing MSFCMA provisions that apply to highly migratory species (HMS). Management actions seek to "ensure conservation and promote the achievement of optimum yield of such species throughout their range, both within and beyond the exclusive economic zone."[79] FMPs for Atlantic HMS are developed by NMFS/NOAA Fisheries in consultation with advisory panels created by NMFS/NOAA Fisheries and composed of constituents from the recreational, commercial, environmental, and scientific communities.

Some recreational fishermen and environmental groups are concerned about the effectiveness of the current management system. They observe that Secretarial management has allowed continued declines in Atlantic HMS. This concern stems from the perception that NMFS/NOAA Fisheries lacks the funding and staff to properly manage Atlantic HMS, and that current management favors commercial fishing. These groups may suggest that Congress review the effectiveness of NMFS/NOAA Fisheries management of HMS. Others in the recreational fishing community may suggest returning management of all HMS fisheries, especially billfish, tuna, and swordfish, to regional council jurisdiction. Some fishery managers note that, if Congress decides to return HMS management to the regional councils, more efficient and effective guidelines for developing joint regional council FMPs might be needed.

Others suggest that Congress authorize a regional council-like process for managing HMS. They assert that NMFS/NOAA Fisheries routinely ignores the advice of its advisory panels and non-NMFS/NOAA Fisheries scientists. They also contend that giving authority back to the regional councils would be problematic as well, given how poorly the regional councils have worked together in the past.

Some recreational fishermen and environmental groups express the need for special management zones along the entire Atlantic and Gulf of Mexico coast, where

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[78] Highly migratory species include tuna, marlin, oceanic sharks, sailfishes, and swordfish.

[79] MSFCMA §102.

longline gear would be prohibited for a specific distance from shore. This is necessary, in their opinion, because longline fisheries have depleted Atlantic HMS. Moreover, they stress that the dimensions of the management zone should be set by fishery scientists, not fishery managers. Commercial fishermen would likely oppose such management zones, stressing that gear/area prohibitions could cause them economic harm; they believe that HMS fishery declines are the result of foreign fishing and environmental factors.

Recreational and commercial fishing interests note that an issue at NMFS/NOAA Fisheries HMS Advisory Panel meetings, and one that continuously seems to frustrate U.S. efforts to rebuild HMS stocks, was the lack of a clear relationship between the MSFCMA and existing international treaties (e.g., International Convention for the Conservation of Atlantic Tuna, the United Nations Convention of the Law of the Sea). Specifically, these groups question the practicality of domestic efforts to rebuild North Atlantic swordfish stocks in 10 years or less when the U.S. fisheries account for only 22% of fishing mortality.

They suggest that it would be beneficial to study international fishing treaties and their relationship, precedence, and impact on and with the MSFCMA, the National Standards, and the precautionary approach. Moreover, they contend that a definitive domestic fishery policy is needed to decide on actions to be taken in the period between recognizing that an international fishery is overfished and implementing international management to rebuild those stocks.

Review of Fishery Management Plans. Section 304(a) of the MSFCMA establishes the process whereby the Secretary of Commerce and NMFS/NOAA Fisheries review and approve FMPs.

Some fishery managers and commercial fishermen express concern about the accuracy and efficiency of the FMP approval process. They contend that frequent and lengthy delays in approving and implementing FMPs have damaged both the industry and fish stocks, and reflect poorly on the performance of NMFS/NOAA Fisheries. These groups may ask Congress to give regional councils final authority on FMP approval to streamline the process. Others counter that improving the review process is an administrative concern, and thus legislative action is not needed. Additionally, others suggest that it may be unconstitutional for regional councils, which are nongovernmental agencies, to have final decision-making authority about how best to use and manage the public's marine fishery resources.

Some federal fishery managers note that some of the delays in the approval process are the result of the regional council's failure to produce FMPs that satisfy all of the legal requirements. Specifically, they note that the time between regional council action and final rule publication can be attributed to (1) assuring compliance with other applicable laws; (2) inadequately prepared supporting documentation from regional council staff, primarily related to compliance with other applicable laws; and (3) insufficient legal review staff in NOAA General Counsel. Another problem, in their view, is NOAA Fisheries' review of FMPs and amendments separate from their review of the regulations that will implement these FMPs and amendments.

As possible solutions, these managers suggest (1) requiring regional councils to take final action votes only on fully completed analyses (including the preferred alternative) and draft proposed rule notices; (2) closer linking of NOAA Fisheries' review of FMP and plan amendments with the review of implementing regulations; and (3) providing more funding for NOAA's Office of the General Counsel.

Some environmentalists contend that a strong NMFS/NOAA Fisheries review of FMPs is crucial to statutory compliance and to balancing regional interests with national priorities. They suggest that NMFS/NOAA Fisheries be authorized to modify an FMP to bring it into compliance with the MSFCMA if a regional council has not acted within a reasonable period of time to revise their FMP. They assert that providing regional councils multiple opportunities to comply with the MSFCMA delays implementation, and note that currently the Act imposes no deadline for regional council revisions of FMPs that were partially approved or rejected, furthering delays.

Some suggest that FMPs should be exempt from many of the requirements of the National Environmental Policy Act (42 U.S.C. §§4321-4347), the Regulatory Flexibility Act (P.L. 96-354), and the Paperwork Reduction Act (44 U.S.C. §§3501-3520), which they believe delay the review process unnecessarily. Others, however, question such exemptions, expressing concern that the rights of fishermen might not be assured in such situations.

Management Based on Maximum Sustainable Yield. Currently, the MSFCMA requires FMPs to achieve the optimum yield (OY) from each fishery. Optimum yield is defined as MSY as "reduced" by economic, social, and ecological factors.[80] Some fishery scientists suggest that Congress modify this definition. They argue that the concept of MSY is ineffectual for management and decision-making, because MSY is a long-term average yield, while the politics of fishery management tend to focus on much shorter-term results.

As an alternative to MSY, some fishery scientists suggest that the MSFCMA incorporate the concept of an "ecosystem sustainable yield" (ESY). These scientists suggest that an ecosystem-based yield is preferable to attempting to simultaneously manage several species at their MSYs. At a minimum, Congress might acknowledge or recognize the multi-species tradeoffs in interacting food webs within marine and aquatic ecosystems.

Some in the commercial fishing industry suggest that Congress should return the term *optimum yield* to its pre-1996 definition.[81] This group believes that the current definition that "reduces" rather than "modifies" MSY hinders management, especially when contending with variations in stock size caused by environmental

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[80] MSFCMA §3(28).

[81] The term *optimum*, with respect to yield from a fishery, means the amount of fish (A) which will provide the greatest overall benefit to the nation, with particular reference to food production and recreational opportunities; and (B) which is prescribed as such on the basis of the maximum sustainable yield from such fishery, as modified by any relevant economic, social, or ecological factor. MFCMA §3(21) (Aug. 1994).

conditions. They state that, while MSY is difficult if not impossible to estimate, industry groups likely would support the use of long-term averages.

Conversely, some environmental groups and fishery scientists support the 1996 definition of OY, believing that linking OY to MSY ideally prevents overfishing. They assert that the prior definition allowed regional councils to set OY above MSY for short-term economic reasons, at the risk of overfishing. In their opinion, this approach led to "boom-and-bust" cycles and pulse fishing in many fisheries. Additionally, many environmental groups believe that linking OY to MSY would facilitate ecosystem-based management. However, they contend that many regional councils have not implemented the statutory requirements to reduce OY based on economic, social, and environmental factors (e.g., predator-prey relationships or the role of fish in the ecosystem). In their opinion, regional councils have set OY with little justification except for maximizing catch. This group may request that Congress require regional councils to consider ecosystem relationships in establishing optimum yield.

Other fishery scientists and managers suggest that neither MSY nor ESY are practical concepts for optimum yield. They suggest that OY be defined in terms of the optimum level of fish removal that takes into account the long-term reproductive capacity of the stock, species composition of the catch, ecosystem concerns, catch capacity of the fleet, operational characteristics of the fishery, economic concerns, and how the fishery is managed.

Coordination and Oversight of State-Managed Fisheries. Section 306 of the MSFCMA states that the Act neither extends nor diminishes the authority or jurisdiction of any state within its boundaries. Prior to 1976, states had management authority over all fisheries in waters adjacent to their states, and there was little or no federal jurisdiction over living marine resources in these waters. With enactment of the MSFCMA, marine fishery resources within the U.S. EEZ came under federal jurisdiction, while states retained jurisdiction of marine fishery resources from their coastline out to the U.S. EEZ, generally three nautical miles offshore. The MSFCMA attempts to balance state authority with federal conservation and management goals, principally through coordination activities and the advice of the Secretary and NMFS/NOAA Fisheries rather than direct oversight of state fishery management.

Fishery managers suggest strengthening the relationship between federal and state fishery management. They assert that greater federal oversight is needed to improve decision-making by interstate fishery commissions. Currently, the practice of managing interstate fisheries is based on *equivalency provisions*, wherein states choose management measures they prefer, as long as the measures comply with federal conservation requirements. Fisheries in which management is coordinated by interstate commissions are often very diverse, and management approaches vary from state to state. Commissioners from one state often know little about another state's fisheries. Fishery managers suggest that this hinders a state's ability to make informed decisions about its conservation plans. The result, they allege, is continued overfishing and delays in stock rebuilding. Some interests suggest that Congress authorize an independent entity either to oversee or to directly manage interstate fisheries. One suggestion for strengthening coordination with states is to delegate

FMP management authority to states, specifically, deleting the last sentence in §306(a)(3)(B), which states:

> For a fishery for which there was a fishery management plan in place on August 1, 1996, that did not delegate management of the fishery to a State as of that date, the authority provided by this subparagraph applies only if the Council approves the delegation of management of the fishery to the State by a three-quarters majority vote of the voting members of the Council.

Decentralized Fishery Management. Some commercial fishing interests would oppose more centralized management at the federal level. They perceive the need for increasingly decentralized management at the local level (consistent with federal objectives), because they believe local individuals are more knowledgeable about specific environmental and economic conditions. In this view, fishing communities are readily able to adapt management to prevailing conditions and often are best suited to manage local fisheries. These interests may suggest that Congress amend the MSFCMA's management authority to emphasize local management and decision-making.[82] Such a dramatic change from the current management structure likely would require major amendment to the MSFCMA, and additional funding at the state and local levels.

Some environmental organizations and other commercial and recreational fishing interests, while recognizing the need for local expertise, would oppose further decentralization of "the nation's fisheries." Generally, these groups oppose an increased emphasis on decentralized management, especially if it decreases the ability of those interested in fishery management, but unable to attend regional council meetings, to participate in the decision-making process. They are also concerned that management of fisheries could become a local issue, controlled and managed to maximize benefits to local interests, rather than benefits to the nation. Decentralized management, in their opinion, might put short-term local economic needs above long-term sustainability and productivity.

Co-Management and the Role of Native Americans. Previous reauthorizations of the MSFCMA added significant language to encourage exploration of the role of indigenous peoples in fishery management.

Fishery scientists suggest that a greater emphasis be placed on incorporating traditional ecological knowledge into fishery management. These scientists suggest that Congress consider ways to incorporate the wisdom of indigenous cultures into contemporary management protocols. Examples of this approach include the Community Development Programs, which benefit Native Alaskans and Hawaiians and create a role for them in their respective regional councils. These interests suggest that Congress add language to the MSFCMA to ensure the longevity and success of these ventures.

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[82] Additionally, some note that the jurisdiction over the 200-mile EEZ of some of the Pacific Island insular areas is disputed between federal and local governments. In some instances, federal jurisdiction spans the entire 200 miles, in contrast to other U.S. regions, where the first 3 miles of coastal water is generally under state jurisdiction. They contend that decentralization is the favored option in these disputed areas.

In considering co-management of marine fisheries, Congress could look to co-management provisions in the Marine Mammal Protection Act (16 U.S.C. §1361) as a model. These provisions authorize the Secretaries of Commerce and the Interior to enter into cooperative agreements with Alaska Native organizations to conserve marine mammals and co-manage Native subsistence use. Through these cooperative agreements, Native organizations may receive grants to facilitate data collection and analysis, monitor subsistence harvests, participate in research projects, and develop co-management arrangements with federal and state agencies.

Aquaculture. Some in the commercial fishing industry assert that public demand for fishery products is driving the exploitation of marine resources, contending that sustainability is not just a local or coastal problem, but rather that national, long-term solutions are needed. They suggest encouraging the development of a variety of methods to provide the required quantities of fishery products to meet U.S. demands, especially aquaculture and hatcheries. For example, they point to the production of salmon in Maine and oysters in Long Island Sound, contending that their production is almost equal in value to that of the offshore groundfish, scallop, and lobster fisheries. Moreover, they assert that aquaculture operations require a very small fraction of the area devoted to "wild" fisheries.

Another aspect is the development of offshore aquaculture, with concerns that the MFCMA may need to be amended to provide an appropriate framework for regional council consideration of these emerging fishery businesses in the EEZ. For more background on this issue, see CRS Report RS21914, *Open Ocean Aquaculture*, by Rachel Borgatti and Eugene H. Buck.

Review of American Fisheries Act Provisions. Some commercial fishermen may seek a review of the provisions of the American Fisheries Act aimed at protecting fishermen who do not belong to a cooperative from having their access to harvestable fish preempted by those who do. They suggest that Congress might consider instructing regional councils to modify, expand, or limit the role of cooperatives depending upon the results of this review.

National Research Agenda. Some suggest that a "national research agenda" is needed to effectively coordinate and fund fishery research. They suggest that Congress consider authorizing a "Research Council" specifically focused on marine resource issues. Others suggest that the recent work of the Pew Oceans Commission and the U.S. Commission on Ocean Policy (see "Oceans Commissions" previously) may be adequate to stimulate more attention to these concerns.

Observer Status. Although not an MSFCMA issue, this concern is relevant to MSFCMA activities. The uncertain status of fishery observers under the Jones Act[83] is reportedly causing insurance concerns for both observer contractors and fishing vessels, making it necessary for both parties to carry exorbitant insurance coverage. One approach may be to recognize observers such that they are covered by Workmen's Compensation.

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[83] This is the popular name for §27 of the Merchant Marine Act of 1920 (46 U.S.C. 883; 19 C.F.R. 4.80 and 4.80b).

Experimental Fishing Permits. The MSFCMA currently does not allow research to develop or improve fishing gear, even when conducted by state or federal scientists, to be considered as scientific research, thus requiring that scientists complete a lengthy process to receive an experimental fishing permit. If the MSFCMA were amended to remove this exclusion, a simple Letter of Acknowledgment might be adequate to authorize gear research.

Socioeconomic Issues

Commercial and recreational fishing interests, environmental groups, and fishery scientists voiced concern regarding the need to clarify and/or modify how socioeconomic decisions affecting the fishing industry are made. These concerns range from narrow suggestions for improving how the fishing industry operates to broad commentary on the degree that socioeconomic factors should affect and direct MSFCMA policy.

Fishing Capacity Reduction.[84] Section 312(b)-(e) of the MSFCMA describes the use of fishing capacity reduction programs as a means to prevent overfishing, rebuild stocks, or improve conservation and management. The objective of capacity reduction programs, as stated in §312(b)(2), is "to obtain the maximum sustained reduction in fishing capacity at the least cost and in a minimum period of time."

How best to reduce fishing capacity, especially using a vessel buy-back program,[85] is likely to be an issue during reauthorization. Some recreational and commercial fishermen as well as environmental groups want only buy-back programs that effectively and completely remove a vessel from all U.S. fisheries.[86] Without this, these groups fear that individuals or groups of individuals could be compensated for exiting one overcapitalized fishery and then entering another fishery in which entry is not limited. This movement from one fishery to another displaces current participants and could result in other overcapitalized fisheries. Other fishermen favor the buy-back of only fishing permits, allowing vessel owners to continue using vessels they own for other (non-buy-back) fisheries.

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[84] Excess fishing capacity decreases economic efficiency and often leads to overfishing and/or fishing derbies. Reductions in fleet capacity would help to reduce overfishing and greatly improve the ability to deal with uncertainty and unexpected events in fisheries. National Academy of Sciences, *Sustaining Marine Fisheries* (Washington, DC: 1999), p. 119.

[85] Vessel buy-back is one means to reduce capacity in fisheries. Harvesters are paid to surrender their fishing permits and/or withdraw their vessels from fishing. See archived CRS Report 97-441 ENR, *Commercial Fishing: Economic Aid and Capacity Reduction*, by Andrew G. Read and Eugene H. Buck, available from the author.

[86] Environmental groups argue that, to effectively reduce fishing capacity, "bought-out" vessels should also be prevented from entering fisheries outside the United States. In their opinion, exporting domestic capacity leads to global fisheries depletion, which ultimately affects U.S. interests beyond the U.S. border.

NMFS/NOAA Fisheries has been criticized for delays in developing guidelines for fishing capacity reduction programs. The proposed rule for fishing capacity reduction programs was published February 11, 1999 (64 *Federal Register* 6854), but has not been finalized; a U.S. National Plan of Action for the Management of Fishing Capacity was released in August 2004.[87] Critics suggest that these delays have resulted in the implementation of inconsistent fishing vessel and license buy-back programs, and that NMFS/NOAA Fisheries has a duty to provide an overall framework to guide capacity reduction programs. In contrast, other respondents note that (1) there is no statutory mandate requiring NMFS/NOAA Fisheries to produce capacity reduction guidelines, and that priority is given to producing statutorily mandated guidelines; (2) no buy-back programs have been implemented under MSFCMA §312, and therefore, delays could not have resulted in inconsistent implementation; and (3) the MSFCMA does not require national consistency and provides for a variety of mechanisms to fund capacity reduction programs. Additionally, some fishery scientists and environmental groups state that efforts should be made to reduce effort in fisheries before they reach overfished status. They suggest proactive reductions in capacity, aimed at preventing further declines, rather than waiting to react to stock collapse.

Additional considerations for vessel buy-back programs include:

- benefits may be minimal if only marginal operations (i.e., least-efficient operators or fishermen who fish only occasionally) are bought out, but the buyout cost would likely be lower;
- individuals who hold fishing permits but do not currently use them (latent effort) may enter a fishery as others exit, offsetting reductions in capacity;
- social and economic costs to the community as well as other requirements under the Regulatory Flexibility Act (P.L. 96-354) may outweigh the benefits to the resource;
- compensation for boat owners may financially harm the captain or crew, who lose a source of income;
- appropriate educational and vocational programs for the newly unemployed or bought-out maritime personnel may not be readily available;[88]
- broader unemployment and other economic implications for the community (e.g., marine businesses that may suffer substantial income loss as the number of fishing vessels and processing plants declines) may become evident; and
- buy-back programs may be criticized as ineffective if they are inefficient at reducing fishing capacity.

NMFS/NOAA Fisheries notes that capacity reduction costs could be paid by harvesters who remain in a post-reduction fishery, or by taxpayers or others. In

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[87] See [http://www.nmfs.noaa.gov/sfa/reg_svcs/npoa.capacity.8.4.04.pdf], visited Aug. 25, 2004.

[88] Fishermen's reasons for choosing fishing, including being on the water, independence, income potential, and other factors should be considered in proposing possible alternatives.

essence, three funding options could come before Congress for capacity reduction programs: (1) government funding (taxpayers), (2) industry funding, or (3) joint government-industry funding.

Some in the fishing industry strongly believe that, because government subsidy programs in the late 1970s and 1980s encouraged vessel construction (which lead to the overcapitalized fishery), the government should subsidize the buy-back.[89] That is, fishermen should not have to pay to remove capacity (effort) that the government was partly responsible for creating. Fishermen are divided as to whether buy-back programs should be industry- or government-funded. Fishermen who support an industry-funded program argue that more control would then have to be given to the industry regarding the procedures for a vessel-reduction program. Fishermen who support a government-funded program argue that it "adds insult to injury" to make fishermen pay for programs designed to "put them out of business."

Other respondents posit that, because harvesters reap benefits from improving the fishery and contributed to the depletion of some stocks, harvesters should bear the brunt of the cost for reducing fishing capacity. These observers contend that many of the vessels used to exploit U.S. marine resources were subsidized through the Capital Construction Fund. As such, the government should not be expected to pay for vessels a second time by paying owners not to fish.[90] They assert that, because buy-back programs chiefly benefit those who remain in the fishery after capacity is reduced,[91] post-reduction harvesters should fund the buy-back.

Recreational fishing interests suggest that, in considering the capacity reduction issue, the law should distinguish between commercial and recreational fishing. They contend that recreational fishing is distinctly different from commercial fishing in that recreational fishing is tied to the experience of fishing rather than catching fish.[92] Reducing fishing mortality and bycatch in recreational

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[89] Some believe that this argument is counterintuitive, contending that the commercial fishing industry lobbied in favor of the subsidy programs, and that these subsidies were not foisted on an unwitting industry.

[90] Some argue that fishermen are largely responsible for overcapitalization, contending that, while NMFS/NOAA Fisheries did administer the Capital Construction program, the decisions to build or modify vessels were business decisions of the owners. These critics argue that blaming the government for overcapitalization is nonsense, particularly for overcapitalization in the New England fleet. New England's groundfish fishery was declared a "conditional fishery" in the early 1980s, and vessels participating in this fishery were no longer eligible for the Fisheries Obligation Guarantee program authorized by Title XI of the Merchant Marine Act of 1936 (archived CRS Report 95-460 ENR, *Summaries of Major Laws Implemented by the National Marine Fisheries Service*, by Eugene H. Buck; available from the author). They also contend that fewer than 3% of New England's groundfish vessels benefitted from this loan program.

[91] For example, harvesters in a post-reduction fishery will benefit from (1) increased catch, both as a percent of the total allowable catch and a larger total catch for their vessel, and (2) the likely increased value of their permit or license.

[92] However, subsistence/traditional and customary use fishermen are also currently reported (continued...)

fisheries might be better achieved through public education and outreach initiatives, such as catch-and-release programs, use of hooks that ease release of fish and increase survivability (e.g., barbless, wide-gap, circle), and other ways of reducing harm and stress to fish (e.g., hook extractors and handling techniques that minimize harm by avoiding removal of the protective mucous layer and scales and by eliminating pressure on internal organs). Other respondents believe that owners of recreational fishing vessels (e.g., charter boats) are under enormous pressure to provide their customers with successful experiences and that recreational fishing does have a significant impact on sustainability in some fisheries. They contend that reductions in recreational capacity, funded by the recreational industry, also should be considered, at least in fisheries where recreational harvest is significant.

Individual Fishing Quotas. Individual fishing quotas are management tools that grant fishermen the privilege of catching a certain percentage of the total allowable catch. Section 303(d) of the MSFCMA established a moratorium, until October 1, 2000, on creating new individual fishing quota programs. Section 108(f) of the SFA, directed the National Academy of Sciences (NAS) to report on a national policy for individual fishing quota programs. The moratorium was extended an additional two years, to October 1, 2002, by P.L. 106-554 (114 Stat. 2763A - 238) after which it was allowed to expire with no further legislation enacted to establish national standards to guide new IFQ programs.[93]

The NAS report[94] recommended that the moratorium on individual fishing quota (IFQ) programs be lifted and suggested that Congress consider:

- allowing fees for initial quota allocations, first sale of IFQs, and leasing of initial shares, as well as an annual tax on quota shares;
- recognizing differences among regions and allowing regional councils flexibility in designing new (and adjusting existing) IFQ programs;
- requiring regional councils to define *excessive share* and to limit accumulating quota shares; and
- ensuring that funding is available to NMFS/NOAA Fisheries and the states for collecting relevant socioeconomic data.[95]

In detailing its recommendations to Congress, the NAS committee asserted that most decisions about IFQs are appropriately made at the regional level. The

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[92] (...continued)
under the "recreational" category, for whom catch may be as or more important than the "experience of fishing."

[93] National standards have been proposed in, for example, S. 1106 and H.R. 2621 in the 108th Congress.

[94] National Research Council, *Sharing the Fish: Toward a National Policy on Individual Fishing Quotas* (Washington, DC: National Academy Press, 1999), p. 189.

[95] In implementing IFQ programs, NAS notes that other factors include carefully developing management structure and initial allocation formula, involving stakeholders in program development, and including fishing communities in initial allocations.

committee recommended to Congress that the design of any limited entry program in relation to concentration limits, transferability, and distribution of shares will depend on the objectives of each specific FMP, which underscores their recommendation to provide flexibility to regional councils in designing IFQ and other limited entry programs.

Some commercial fishermen and fishery scientists are concerned that problems such as overcapitalization, waste, and bycatch can only be remedied through individual quota management. Meanwhile, recreational fishermen are likely to seek assurances that the recreational sector is considered in the development of IFQ programs, especially in initial quota allocation.

Other commercial fishermen suggest that Congress authorize regional councils to use alternative approaches to IFQs, such as cooperative arrangements.[96] Some commercial fishermen have formed fish harvesting cooperatives under the American Fisheries Act (P.L. 105-277, beginning at 112 Stat. 2681-616) for pollock in the Bering Sea and Aleutian Islands area) in an effort to address overcapitalization and to avoid the wasteful race-for-fish.[97] A fish harvesting cooperative represents a contractual agreement among eligible participants in a fishery to divide up the available harvest quota and to catch the fish in a tempered manner. While cooperative fishing is evidence of the benefits of individual quota management, there are significant differences between federally-mandated IFQ programs and private cooperative arrangements. As an alternative to IFQ programs, some commercial fishermen suggest that NMFS/NOAA Fisheries and regional councils be authorized to allocate quota to cooperatives.

Some environmental organizations assert that enhanced conservation measures must be incorporated into IFQ programs as they are developed. These groups do not wholly accept the belief that IFQs will result in enhanced conservation, and seek stricter measures. They posit that IFQ programs should be held to higher standards for monitoring and accountability to ensure that conservation is enhanced. Additionally, some environmental and fishing groups have several concerns with IFQ programs and argue that (1) the federal government should not award the right to exploit a national resource without appropriate compensation to the public; (2) allocation of an IFQ may engender a property right, which may be difficult to reduce or rescind in the future without compensating the quota holder (i.e., subject to the constitutional "takings" clause); (3) quota consolidation may drive smaller operators out of business; (4) IFQs may reward "dirty" fishermen (those with high levels of bycatch and discards) because initial allocations are often based on catch history; and (5) IFQs may encourage fishermen to high-grade their catch, keeping only the most valuable fish.

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[96] On the other hand, some fishery scientists suggests that Congress replace the list of vessels eligible to form cooperative arrangements under the American Fisheries Act (contained within P.L. 105-277) with a regular transferable license limitation or individual quota program.

[97] A 2002 report to Congress on the impacts of the American Fisheries Act is available from NOAA at [http://www.fakr.noaa.gov/npfmc/summary_reports/AFACongress202.pdf], visited Aug. 9, 2004.

Several respondents note that the nature of the rights available through IFQ programs should be carefully specified. For instance, if IFQs were issued for an area, would that mean that IFQ holders would become eligible for compensation for the loss of their rights to harvest if the area was reduced by the establishment of an MPA or through major port developments and reclamations? Would Native American fishery claims need to be settled before issuing IFQs? Should IFQs be permanent rights or temporary privileges? Similar questions have arisen about permits and leases for federal grazing lands. The federal government has explicitly stated that private livestock grazing on federal lands is a privilege and not a right nor interest in property. Nonetheless, ranches with access to federal forage often sell for a higher price than they would without access to federal rangeland. The resulting value of the grazing preference is capitalized into the net worth of the ranch base property and is considered an asset by the rancher.[98]

Other comments include the following: (1) IFQs could be a useful tool for managing certain recreational fisheries, such as Atlantic bluefin tuna, where a long history is available and the fishing constituency well known; (2) coastal communities should be given priority over corporate fishing and processing companies in initial allocation of quota shares; and (3) reductions in processing capacity may also be necessary to match reductions in fishing capacity; thus, fishing processors may seek a "processor quota" program and other means to allow paced reductions in processing capacity without a sudden or severe economic impact on local communities.[99] Individual processor quotas were specifically provided in §801 (Division B) of P.L. 108-199 as part of a Bering Sea and Aleutian Islands crab rationalization program. Whether to mandate the consideration or prohibition of processor quota in any IFQ program may be an issue during reauthorization, and the unfolding experience with processor quota in the Alaska crab fishery provides potentially useful background information.

In another development related to IFQs, the North Pacific Regional Council amended its halibut and sablefish IFQ program to allow specific Gulf of Alaska communities to purchase halibut and sablefish quota share and lease them to community residents on an annual basis. The council designated 42 communities within the Gulf of Alaska who are eligible to participate in this program.[100] Whether to specifically authorize the granting of IFQ shares to communities may be another issue for discussion during reauthorization.

Fees, Cost Recovery, and Economic Rent. Section 303(b)(1) of the MSFCMA establishes requirements for collecting fees for fishing permits. Section 304(d) authorizes the Secretary of Commerce to establish fees. The level of fees charged may not exceed the administrative costs of issuing fishing permits, except

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[98] CRS Report IB96006 (archived), *Grazing Fees and Rangeland Management*, by Betsy Cody and Pamela Baldwin, p. 8.

[99] Alternatively, in some cases, imports may be available to cover any reductions in locally available fish.

[100] For more information, see 69 *Federal Register* 23681-23694, Apr. 30, 2004.

in individual quota and community development quota (CDQ) fisheries, where fees recover management and enforcement costs.

The MSFCMA currently allows fees to be charged for (1) foreign fishing permits and NMFS/NOAA Fisheries observer costs; (2) administrative costs of issuing fishing permits; (3) enforcement and management costs in IFQ and CDQ fisheries; (4) administrative costs for limited access system registry; (5) fishery reduction program assessments (including vessel/permit buy-backs); and (6) the North Pacific observer program.[101] Other than for fisheries managed under IFQs and CDQs, the MSFCMA does not allow for management and enforcement cost recovery.

Cost recovery could be an important issue during reauthorization. The overall performance of a fishery is often influenced by how fishery management is financed. The typical practice — where 100% of management and enforcement costs are borne by the General Treasury[102] — is alleged to inefficiently use resources for research, decision-making, and enforcement. When resource users do not share some of the cost for resource management, they are allegedly less attentive to the need for efficiency. The cost of this inefficient use accrues to the management agency and increases the overall cost of managing the resource. Fishery economists suggest that such inefficiencies are reduced when users of natural resources, especially commercial users, bear some of the costs for managing these resources. Thus, they suggest that Congress consider user charges to recover a significant portion of fishery management and enforcement costs.

Some fishery managers assert that the cost recovery authority currently in the MSFCMA (§304(d); 16 U.S.C. §1854(d)) for IFQ and CDQ systems is too

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[101] Some commercial fishermen note that the North Pacific Regional Council has authority for a fee-based observer program, but has not yet implemented the program. The authority for a fee-based program includes a cap on observer fees of 2% of the unprocessed harvest value. Under the current "pay as you go" system, many smaller vessels are paying in excess of 2% of revenues, while other larger operations pay a fraction of that amount. This disparity undermines support for the observer program. They suggest that NMFS/NOAA Fisheries develop the best observer program they can within the budget constraints of a 2% fee, equitably distributed over the whole fleet. This might be a model for how user fees could function, but until this program is implemented and demonstrates success, authority for further fee-based programs will meet significant resistance from commercial fishermen.

[102] Government expenditures on U.S. fisheries currently run about $1 billion a year. These government expenditures are directed at an industry generating about $3.5 billion in ex-vessel revenue. That is, government expenditures are roughly 30% of landed value. At the federal level, the proportion of expenditures to landed value is 50%. The landings value of fish caught in federal waters (i.e., from 3 to 200 miles) averages $1.8 billion in recent years while the amount of federal government expenditures is approximately $0.9 billion. See P. Andersen, K. J. G. Sutinen and K. Cochran, *Paying for Fishery Management: Economic Implications of Alternative Methods of Financing Management*, presented to the IXth Conference of the International Institute of Fisheries Economics and Trade (Tromso, Norway: July 8-11, 1998; hereafter "Economic Implications"). By inference, these estimates imply that ex-vessel revenues from state waters are about $1.7 billion per year, while state government expenditures are roughly $100 million — approximately 7% of landed value.

restrictive. They contend that statutory specification of when, where, and how fees are collected introduces administrative inefficiencies that reduce the benefit of the fees, and actually prevent consolidation of fee collection with existing state fees. Further, any specific limitation of the fees to a percent of ex-vessel value and the specific deductions and exceptions, in their opinion, prevent NMFS/NOAA Fisheries from recovering reasonable management and enforcement costs. These managers suggest that the language at §304(d) could be amended to allow NMFS/NOAA Fisheries more flexibility in working with the industry to develop a simple, low-cost, effective fee collection system.

Some fishery scientists suggest that, beyond recovering the costs of management and enforcement, the public should receive a share of the economic rent garnered from private use of a public resource. These advocates maintain that Congress should consider imposing fees on quota or harvest to provide a source of revenue and compensate the public. They believe that establishing a fee system for harvesting fish would put fisheries on par with other public resources (e.g., timber and energy resources).[103] These funds could contribute to recovering management and enforcement costs (as discussed above). These scientists note that rent extraction, beyond cost recovery, could support fishery research or assist fishing communities or fishermen displaced by IFQ programs.[104] Those supporting this approach explain that, in an IFQ fishery, compensation could occur through capturing a portion of the "windfall gains" generated from the initial transfer of the public resource into private hands (i.e., the initial allocation of fishing quota shares).[105]

Some commercial fishermen claim that extracting economic rent from fisheries managed under open access will impoverish fishermen. Because there are no incentives to constrain effort, open-access fisheries tend toward overcapitalization, which dissipates economic rent and, on average, reduces profit. They suggest that economic rent should be extracted only from fisheries where access is limited and harvesters have a secure right to a certain quantity of the total allowable catch (e.g., individual fishing quota programs).

Additional comments about fees, cost recovery and economic rent include:

- NMFS/NOAA Fisheries has a history of using funds collected from a specific region or a specific purpose for general expenditures. Instead, fees, cost recovery, and economic rent should be used in the region that generates the funds, specifically, for data collection, management, and enforcement.[106]

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[103] National Research Council, *Sharing the Fish: Toward a National Policy on Individual Fishing Quotas* (Washington, DC: 1999), p. 208 (Hereafter "Sharing the Fish").

[104] Sharing the Fish, p. 209.

[105] Sharing the Fish, p. 207.

[106] Others perceive a danger in tying fees generated by a region to expenses in that region as this approach could create incentives for managers to keep catch limits artificially or inappropriately high to protect budgets. They feel it would be much better to assure that (continued...)

- User fees should be tied to co-management of the resource. If a user pays, the user should have a voice in how the money is used and how the resource is managed.[107]
- By tying user fees to research, those paying may have a stronger voice in how research is conducted, potentially reducing the independence and quality of the science.
- Quota sales typically underestimate the long-term value of resource rights and only a fraction of the discounted value of expected future economic profit is realized by the first transaction.
- Congress might consider fees and rent capture in discussions about IFQ program standards.

Fishery Subsidies. Section 312 of the Sustainable Fisheries Act of 1996 (P.L. 104-297, §312(b)(note)) directed the Secretary of Commerce to establish a task force to study and report to Congress on the role of the federal government in subsidizing the expansion and contraction of fishing capacity. The report of this Federal Investment Task Force was published in July 1999.[108] The Task Force concluded that any empirical analysis of capacity and capacity utilization needed to consider the fishing activity of recreational anglers and recommended that specific modifications be made to the Capital Construction Fund, Fisheries Obligation Guarantee, and other assistance programs.

Environmental organizations active in the federal investment study note that fishery subsidies have emerged as a significant fishery management issue. As evidence, they note that policymakers are increasingly recognizing the direct relationship between subsidies, fleet overcapacity, and overfishing, as well as their effects on international trade in fish products. For example, in February 1999, the United Nations Food and Agriculture Organization (FAO) adopted the International Plan of Action (IPOA) for the Management of Fishing Capacity, which recognizes fishery subsidies as an important driver of overcapacity.[109] Moreover, the need to address the problem of fishery subsidies has been recognized by the World Bank, the Asian Development Bank, the U.N. Commission on Sustainable Development, the World Trade Organization (WTO), the Organization for Economic Cooperation and Development (OECD), and the Asia-Pacific Economic Cooperation forum (APEC).

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[106] (...continued)
science and management are objective by not connecting budgets with harvest levels. In addition, a low-revenue fishery may require significant research, perhaps because it affects other target fisheries. Such a situation could lead to irrevocable closures if funds for monitoring required to open a fishery were lacking.

[107] Collaborative management options for local research and management involving industry cooperation (e.g., stock assessment surveys conducted aboard commercial fishing vessels) might help shift some costs to industry, as well as engage those dependent upon management decisions, without impinging upon the objectivity of the science.

[108] See [http://www.nmfs.noaa.gov/sfa/ITF.html], visited Aug. 9, 2004.

[109] U.N. Food and Agriculture Organization, Fisheries Department, *The International Plan of Action for the Management of Fishing Capacity* (Rome, Italy, Feb. 1999). This document is available at [http://www.fao.org/DOCREP/006/X3170E/x3170e04.htm], visited Aug. 10, 2004.

In the months and years ahead, the management of fishery subsidies will likely be the subject of continuing technical and diplomatic discussions within FAO, OECD, WTO, and APEC. Environmental groups note that the United States has played a leading role in bringing attention to the fishery subsidies issue, and add that fishery subsidies in the United States are far smaller than in many other major fishing nations. In their opinion, Congress will likely be called upon to act on this issue, through U.S. domestic policy and international efforts to reduce fishery subsidies.

In addition, some fishery scientists suggest that a subtle relationship exists between subsidies and the collection of fees (as discussed below). By not recovering the costs of management and enforcement, the United States, in their opinion, is effectively subsidizing fishing operations. In essence, they define *subsidy* as a sale or transaction for a good or service by a government at less than the fair market price (where *fair market* is defined as a willing buyer and willing seller). Thus, they contend that, because the nation's fishery resources (managed by the federal government) are more easily available than if a private owner controlled access, the fishery "market" is by definition not "fair." Hence, a subsidy exists. Moreover, others note that the Uruguay Round of WTO negotiations defined subsidies as having three basic elements: (1) a financial contribution, (2) by a government or any public body within the territory of a Member, (3) which confers a benefit.

Fishing Communities. Section 3(16) of the MSFCMA (16 U.S.C. §1802(16)) defines *fishing community* as "a community which is substantially dependent on or substantially engaged in the harvest or processing of fishery resources to meet social and economic needs, and includes fishing vessel owners, operators, and crew and United States fish processors that are based in such community."

NOAA has further interpreted fishing community to mean "a social or economic group whose members reside in a specific location and share a common dependency on commercial, recreational, or subsistence fishing or on directly related fisheries-dependent services and industries (for example, boatyards, ice suppliers, tackle shops)."[110] NOAA's expanded interpretation of *fishing community* recognizes that more businesses depend on fishing activities than just fishing vessels, processors, and wholesale plants. For instance, businesses that sell supplies and gear and those devoted to marine services such as financial settlements and bookkeeping often depend totally on fishing activities and could be considered part of the fishing community. This interpretation recognizes that every change in mesh-size regulations changes the inventory value in ship supply stores; every reduction in the number of vessels reduces bookkeeping services. Such an interpretation recognizes that the fishing community extends beyond actual fishing activities and the processing of product, and that social and economic problems associated with the decrease in support services can seriously degrade the quality of life and economic health of communities.

Some commercial fishermen are concerned that the geographically-based interpretation of *fishing community* could harm fishing communities that are based

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[110] 50 C.F.R. §600.345(b)(3).

on shared interest rather than a shared place.[111] Congress may be asked to modify this definition to clarify how this term should be used in social and economic analyses of fishery management actions. Specifically, commercial fishermen and fishery scientists may suggest that Congress include "virtual communities"[112] in the definition of fishing communities.[113] Conversely, recognition of virtual communities may be opposed by rural communities, which are likely to favor a geographic definition. These groups, tied to a place and often with limited economic opportunities, may feel threatened if virtual communities displace what they perceive to be their traditional fisheries.[114]

Small Boat Fleets and Family Fishermen. Although small boat fleets and family fishermen are not given general consideration in the MSFCMA, these individuals are mentioned specifically in §303(d)(4)(A)(i) that governs aid in financing the acquisition of individual fishing quota.

The theme of "small" versus "large" fishing operations, whether vessels or service providers, is a very important issue in fishing communities and the industry, where many small operators perceive MSFCMA bias toward consolidation and large operations. To address these concerns, some commercial fishing interests suggest amending the MSFCMA to incorporate specific provisions to foster and support small-boat and family fishing operations. These interests are alleged to have a strong commitment to resource sustainability and possess culturally derived desires to pass along "their" fishery to future generations. One proposal to provide additional support for small boat and family fisherman is to restrict U.S. imports to fish harvested by fishing fleets that use conservation measures comparable to those required in the United States. However, some fishery scientists note that providing additional support to small fishermen by restricting access to U.S. markets might violate World Trade Organization obligations and international law, and violate U.S. commitment to remove subsidies that support overcapitalization.

Transfer Pricing. Commercial fishing interests are concerned about transfer pricing, especially in North Pacific fisheries. This is not currently addressed in the MSFCMA. *Transfer price* is the price charged by one company to a related company for allocating income and expenses among themselves. These "intra-firm transfers" are covered under the Internal Revenue tax code at 26 U.S.C. §482. Some U.S. fishing companies allegedly are not properly reflecting income attributable to

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[111] For example, fishing cooperatives in the Bering Sea walleye pollock fishery and in the Pacific whiting fishery may be considered communities of individuals who share an interest in these fisheries, but are drawn from a diverse geographic base. In addition, not all services, or even fishermen, for a given port community reside in that port.

[112] National Academy of Sciences, *Sustaining Marine Fisheries* (Washington, DC: 1999), p. 97.

[113] However, virtual communities may be difficult to marry to economic analysis, particularly when indirect impacts are to be analyzed. For limited access systems, 16 U.S.C. §1853(b)(6) does allow virtual communities to be assessed in conjunction with place-based communities, creating a more complete view.

[114] However, potential tools to protect place-based communities are being implemented (e.g., regionalization in the Bering Sea and Aleutian Islands crab rationalization program).

their operations within the United States, while some foreign parent companies may be using pricing strategies to avoid higher U.S. taxes. In addressing "abusive" transfer pricing, Congress could consider amending the MSFCMA to require full disclosure of all financial documents and transfer pricing criteria to U.S. authorities.

Others believe that this issue is not germane to reauthorizing the MSFCMA, and suggest that this "tax and trade" issue is more appropriate to the jurisdiction of other congressional committees — such as House Ways and Means and Senate Finance.

The Definition of Recreational Fishing. Some note that clarifying the definition of recreational fishing would be beneficial to fishery management. They suggest that Congress define recreational fishing as any fishery for which catch is not sold. In their opinion, this small change would clarify the distinction between commercial and recreational fisheries. Others, however, caution that defining recreational and subsistence fishermen who sell small amounts of catch to cover trip expenses as "commercial" might result in substantial administrative and enforcement expenses to deal with the potentially large number of individuals who sell small quantities of product.

The Private Cost of Resource Management. The MSFCMA requires that overfished stocks be restored within 10 years. Some assert that 10 years is a long time for an individual or company, dependent on a fishery, to endure substantially reduced earnings with no guarantee of recovering those losses and considerable uncertainty about their potential future earnings. A viable consideration, in their opinion, is the promotion of certainty for those vessel owners, operators, and crew who forgo earnings today for potential gains tomorrow. They note that current analyses examine the potential long-term yields and earnings streams, but that these analyses rarely incorporate risk assessment.

Federal Assistance to Fishermen. Some environmental groups believe that many commercial fishermen share their interest in rebuilding overfished stocks and promoting long-term resource sustainability. To rebuild fish stocks, these groups would like Congress to consider significant reductions in fishing effort, coupled with federal assistance for fishermen to relieve the economic burden of reduced fishing opportunities.

Fishing Vessel and Crew Safety. Some commercial fishermen contend that it is imperative that fishery management explicitly considers whether or not regulations will compel fishing captains and crew to work under unsafe conditions. Although one of the national standards (16 U.S.C. 1851(a)(10)) already requires that conservation and management measures "promote the safety of human life at sea," these fishermen suggest that additional congressional action may be necessary to more specifically address this issue.

Adequacy of Appropriations

An issue that NMFS/NOAA Fisheries might raise during reauthorization discussions is that, in an era of reduced federal appropriations and shifting federal priorities, its responsibilities and duties continue to expand. Specifically,

implementing the provisions of the Sustainable Fisheries Act is a major undertaking, requiring the coordination of NMFS/NOAA Fisheries headquarters and regional offices, the eight regional fishery management councils, and state agencies. NMFS/NOAA Fisheries may claim that delays in implementation were directly tied to budgetary constraints. Congress might consider a number of options to address these concerns. As noted previously, fees or other forms of rent extraction could be used to fund at least some management and enforcement. Congress might also consider increasing appropriations to NMFS/NOAA Fisheries or including specific instructions about how funds are to be used.

For FY2005, the National Oceanic and Atmospheric Administration requested about $735 million for fisheries. The U.S. Coast Guard is estimated to spend approximately $400 million on fishery law enforcement (mostly for domestic fishery regulations), and these expenditures are projected to grow rapidly. Expenditures on other federal fishery programs are conservatively estimated to be in the neighborhood of $50 million per year. While these other programs are not fishery management per se, they do indirectly affect management efforts (e.g., fishing vessel compensation, fishing vessel contingency fund, trade promotion). Coastal states are estimated to spend between $100 to $150 million annually on fishery management.[115]

Congressional Outlook

Interested constituencies feel that Congress has been generally very supportive of measures to conserve and manage living marine resources, including specifically the Magnuson-Stevens Fishery Conservation and Management Act. While the history of the Act includes court challenges to agency interpretation of congressional intent, these groups believe that Congress has been generally understanding of the difficulties in balancing resource conservation, sustainable resource use, and protection of the marine environment. The issues discussed in this report set before Congress a varied array of concerns, with little clear focus as to which will gain prominence in the reauthorization debate. Recent public sentiment, always a strong factor in fishery conservation and management issues, has focused on concerns for protecting fish habitat, restoring depleted fish stocks, minimizing bycatch and bycatch mortality, and reducing fishing capacity. Specific interests of environmental protection groups, Native Americans, and commercial and recreational fishing industries may call attention to additional issues. Although congressional oversight in the early stages of the reauthorization process focused attention on numerous issues, no issues appear to demand immediate action. Since the requirements of the MSFCMA did not expire when the authorization of appropriations was not extended beyond FY1999, the reauthorization process could be delayed until sufficient congressional will is mustered to deal with the various issues. It is possible that, in response to the recent recommendations by the Pew Oceans Commission and the U.S. Commission on Ocean Policy, Congress might address MSFCMA reauthorization in the context of broader ocean policy issues.

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[115] Economic Implications.

Appendix:
Oceans Commissions' Recommendations

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Science:		
Strengthened role	Recommendation 19-1. Congress should amend the Magnuson-Stevens Fishery Conservation and Management Act and related statutes to require Regional Fishery Management Councils (RFMCs) and interstate fisheries commissions to rely on their Scientific and Statistical Committees (SSCs), incorporating SSC findings and advice into the decision-making process. In keeping with this stronger role, SSC members should meet more stringent scientific and conflict of interest requirements, and receive compensation.	Develop specific, measurable criteria and indicators for the health and integrity of marine ecosystems by conducting a Committee of Scientists process similar to that followed under the National Forest Management Act.
Management and allocation decisions	Recommendation 19-2. Scientific and Statistical Committees (SSCs) should be required to supply Regional Fishery Management Councils (RFMCs) with the scientific information necessary to make fishery management decisions. Such information could include reports on stock status and health, socioeconomic impacts of management measures, sustainability of fishing practices, and habitat status. In particular, the SSCs should determine allowable biological catch (ABC) based on the best scientific information available to them.	Conservation decisions should be based upon recommendations from regional science and technical teams — composed of federal, state, and academic scientists. Regional science groups should recommend ecologically safe catch limits and other conservation criteria for an FMP, informed by — and consistent with — goals, indicators, and targets of a regional ecosystem plan.
New fisheries	No similar recommendation.	Enact an emerging fisheries policy. The purpose of the policy should be to allow industry development of new fisheries in a manner that promotes sound scientific management and long-term conservation of the resources being developed and the relevant ecosystem.
Independent review	Recommendation 19-4. NMFS/NOAA Fisheries, working with the Regional Fishery Management Councils and the interstate fisheries commissions, should develop a process for independent review of the scientific information generated by the Scientific and Statistical Committees in all regions.	Create a mechanism that regularly provides independent scientific oversight. Establish a Marine Fisheries Oversight Commission along the lines of the Marine Mammal Commission, or require periodic scientific audits by the National Academy of Sciences, or both. The work of the regional science groups should be regularly subject to independent peer review.
International focus	Recommendation 19-24. The U.S. Department of State, working with the National Oceanic and Atmospheric Administration, should review and update regional and bilateral fishery agreements to which the United States is a party, to ensure full incorporation of the latest science and harmonize those agreements with the Fish Stocks Agreement.	No similar recommendation.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Harvests:		
Exploitation limits	Recommendation 19-3. Each Regional Fishery Management Council should be required to set harvest limits at or below the allowable biological catch (ABC) determined by its Scientific and Statistical Committee. The regional councils should begin immediately to follow this practice, which need to be codified at the next opportunity in amendments to the Magnuson — Stevens Fishery Conservation and Management Act.	Core conservation decisions should be made by the NMFS/NOAA Fisheries, or a revamped fishery service within a new independent oceans agency. These decisions should originate at the regional offices with oversight by the national headquarters office. At a minimum, these decisions include setting ecologically safe levels of exploitation (total catch and bycatch limits); specific habitat and area protections; and specific protected species requirements (threatened and endangered marine mammals, sea turtles, seabirds, and fish). Implement precautionary total allowable catches (TAC), or alternative fishing privileges that demonstrably control exploitation within ecologically safe limits. Allocate privileges in ways that properly align incentives, allow for the orderly operation of a fishery (e.g., individual or community fishing quota programs), and maintain flexibility, resilience, and adaptability within the industry and fishing communities.
Deadline for ABC determination	Recommendation 19-5. Each Regional Fishery Management Council should set a deadline for its Scientific and Statistical Committee (SSC) to determine allowable biological catch (ABC). If the SSC does not meet that deadline, the NMFS/NOAA Fisheries Regional Science Director should set the allowable biological catch for that fishery.	No similar recommendation.
Separation of conservation and allocation	No similar recommendation.	Separate conservation and allocation decisions. Create a clear separation between conservation and allocation decisions in the fishery-management planning process. The regional fishery management councils should make allocation decisions. Allow individual fisheries to develop their own allocation plans pursuant to approval and coordination of plans by the regional councils. Allow regional councils to improve upon or set higher conservation standards than those established in federal law or by NMFS/NOAA Fisheries, but ensure that established conservation standards are not undercut in the allocation process. NMFS/NOAA Fisheries should retain authority to review a regional council's allocation decisions for consistency with conservation. NMFS/NOAA Fisheries should retain responsibility for implementation after the conservation and allocation planning processes are completed.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Research:		
Regional council needs to NMFS/NOAA Fisheries	Recommendation 19-7. The Regional Fishery Management Councils and their Scientific and Statistical Committees should develop an annual, prioritized list of management information needs and provide it to NMFS/NOAA Fisheries. NOAA Fisheries should incorporate these needs to the maximum extent possible in designing its research, analysis, and data collection programs.	No similar recommendation.
Collaborative projects	Recommendation 19-9. Congress should increase support for an expanded, regionally based cooperative research program in the National Oceanic and Atmospheric Administration (NOAA) that coordinates and funds collaborative projects among scientists and commercial and recreational fishermen. NOAA should develop a process for external evaluation and ranking of all cooperative research proposals to ensure the most worthwhile projects are funded, the most capable performers are undertaking the research, and the information produced is both scientifically credible and useful to managers.	No similar recommendation.
Toxics	No similar recommendation.	Sufficient resources should be devoted to studying the effects of toxic substances in the marine environment. Needed research includes (a) studies on mercury in fish and other species that are located near offshore oil rigs and in other areas where species may be affected by drilling muds and contaminated sediments.
Gear modification	No similar recommendation.	Fund a gear-modification research program to redesign mobile bottom gear to reduce habitat damage in fisheries that cannot be viably fished without such gear.
Funding	No similar recommendation.	Funds received from allocating fishing privileges beyond cost recovery should go toward improved fishery research, management, and enforcement.
Saltwater angling license	Recommendation 19-8. NMFS/NOAA Fisheries, working with states and interstate fisheries commissions, should require all saltwater anglers to purchase licenses to improve in-season data collection on recreational fishing. Priority should be given to fisheries in which recreational fishing is responsible for a large part of the catch, or in which recreational fishermen regularly exceed their allocated quota.	No similar recommendation.
Citizen suits	No similar recommendation.	Allow citizen suits. Include a citizen suit provision in fishery conservation and management laws like those in most other major federal environmental statutes. Citizens must be allowed to hold fishery managers who violate the law accountable, or to force reluctant or negligent fishery management agencies to enforce the law.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Planning process:		
Timely	Recommendation 19-6. Once allowable biological catch is determined, whether by the Scientific and Statistical Committee or the NMFS/NOAA Fisheries Regional Science Director, the Regional Fishery Management Council should propose an FMP in time for adequate review and approval by NOAA Fisheries.	No similar recommendation.
Suspend fishing if not complete	Recommendation 19-6. If the plan is not presented in a timely fashion, all fishing on that stock should be suspended until NOAA Fisheries can review the adequacy of the management plan.	If a fishery or regional fishery management council fails to revise or update an implementation and allocation plan when required, a default plan should be imposed by the federal fishery agency.
Consistent state fishery management commission authority	Recommendation 19-10. Congress should develop new statutory authority, similar to the Atlantic Coastal Fisheries Cooperative Management Act, to support and empower the Gulf States and Pacific States Fisheries Management Commissions. All interstate management plans should adhere to the national standards in the Magnuson — Stevens Fishery Conservation and Management Act and the federal guidelines implementing these standards. States should participate in guideline development to ensure they are relevant to interstate plans.	No similar recommendation.
Transboundary stocks	Recommendation 19-11. When a fish stock crosses administrative boundaries, Congress should clearly assign fishery management jurisdiction and authority. For each FMP, a state, Regional Fishery Management Council (RFMC), interstate fisheries commission, or the National Oceanic and Atmospheric Administration (NOAA) should be established as the lead authority. That designation should be based primarily on the proportion of catch associated with each management authority. However, once designated, management authority should not shift based on annual changes in landings	No similar recommendation.
New regional council member training	Recommendation 19-14. NMFS/NOAA Fisheries should require all newly appointed Regional Fishery Management Council (RFMC) members to complete a training course within six months of their appointment. NOAA Fisheries should contract with an external organization to develop and implement this training course and Congress should provide adequate funding. Members who have not completed the training may participate in RFMC meetings, but may not vote.	No similar recommendation.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Dedicated access privileges:		
Authorize	Recommendation 19-15. Congress should amend the Magnuson-Stevens Fishery Conservation and Management Act to affirm that fishery managers are authorized to institute dedicated access privileges. Every federal, interstate, and state fishery management entity should consider the potential benefits of adopting such programs.	Allocate fishing privileges to align incentives, allow for the orderly operation of a fishery, and maintain flexibility, resilience, and adaptability within the industry and fishing communities. Individual or community fishing quotas (IQs or CQs), if properly monitored and enforced, appear to be among the more effective allocation mechanisms.
Guidelines and standards	Recommendation 19-15. Congress should direct NMFS/NOAA Fisheries to issue national guidelines for dedicated access privileges that allow for regional flexibility in implementation.	For instances where IQs or CQs are chosen to allocate direct catch limits, they should be implemented according to the following three national standards: (1) Periodically allocate quota using a combination of catch history records, bids in the form of offered royalty payments on the catch, and conservation commitments offered by the bidder. Partition quota into different categories for different types of fishing operations before being auctioned — some for large vessels and corporations, some for owner operators and smaller vessels, some for new entrants, etc. Quota should also not be transferable among these different categories. (2) Regularly review and evaluate quota programs to maintain flexibility in anticipation of changes within the industry and fishing communities resulting from the transition to adaptive, ecosystem-based management; assess the performance of the program to ensure it continues to meet the objectives of the national policy; and revise the program if it fails to meet clear conservation performance standards, timetables, and other evaluation criteria. (3) Prevent excessive consolidation and concentration of economic power by establishing an excessive shares cap to limit the amount of quota any one person or corporation can own.
Regional council appointments:		
Governor's nominations	Recommendation 19-12. Congress should amend the Magnuson-Stevens Fishery Conservation and Management Act to require governors to submit a broad slate of candidates for each vacancy of an appointed Regional Fishery Management Council seat. The slate should include at least two representatives each from the commercial fishing industry, the recreational fishing sector, and the general public.	No similar recommendation.
NOAA Administrator's responsibility	Recommendation 19-13. Congress should give the Administrator of the National Oceanic and Atmospheric Administration responsibility for appointing Regional Fishery Management Council members with the goal of creating regional councils that are knowledgeable, fair, and reflect a broad range of interests.	No similar recommendation.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Capacity reduction:		
Objectives	Recommendation 19-16. The National Oceanic and Atmospheric Administration (NOAA) should implement programs to permanently reduce fishing capacity to sustainable levels.	For some severely depleted fisheries, it will be necessary to develop a plan to reduce capacity initially and to provide a mechanism that allows appropriate increases in catching capacity as the stock rebuilds. Each plan should set a catch capacity and fishing power goal appropriate for the fishery and require mechanisms and schedules for achieving that goal if the fishery has excess capacity. Capacity goals should be based upon appropriate ecological, social, and economic analyses of the relevant fishery and ecosystem. The goal should be stated as a clear, measurable, and objective factor, or set of factors, that fairly represent the catching capacity or fishing power of the fleet.
Buyback programs	No similar recommendation.	Reduce fishing capacity, where necessary, with transitional buyback programs and provide other transition assistance for displaced fishermen and affected fishing communities. Such programs should retire capacity permanently rather than allowing it to shift to other fisheries; restrict activation of latent fishing capacity in the buyback fishery. Place royalty payments in a secure fund to be used initially for buybacks and community economic development and then for cost recovery.
Reduce subsidies	Recommendation 19-16. Congress should repeal the Fisheries Finance Program (formerly the Fishing Vessel Obligation Guarantee Program), the Capital Construction Fund, and other programs that encourage overcapitalization in fisheries.	Reduce the incentives and subsidies that could encourage remaining fishery participants to increase their fish catching capacity.
Limited access	No similar recommendation.	Limit access and entry to all fisheries. Subject all participants in U.S. fisheries to permitting or licensing, both a general fishing permit/license as well as fishery-specific permits/licenses. Require that limited access/entry programs be designed to keep the level of catching capacity and fishing power in any fishery slightly under the level that is ecologically sustainable.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Enforcement:		
Funding	Recommendation 19-17. Congress should increase funding for Joint Enforcement Agreements to implement cooperative fisheries enforcement programs between NMFS/NOAA Fisheries and state marine enforcement agencies. The U.S. Coast Guard should be included as an important participant in such agreements.	Funds received from allocating fishing privileges beyond cost recovery should go toward improved fishery research, management, and enforcement.
Unified plan	Recommendation 19-18. NMFS/NOAA Fisheries and the U.S. Coast Guard should strengthen cooperative enforcement efforts at the national level by developing a unified strategic plan for fisheries enforcement that includes significantly increased joint training, and at the regional and local levels, by developing a stronger and more consistent process for sharing information and coordinating enforcement.	No similar recommendation.
Vessel Monitoring System:		
Require for all commercial vessels and charter/party boats	Recommendation 19-19. NMFS/NOAA Fisheries, working with the Regional Fishery Management Councils, the U.S. Coast Guard, and other appropriate entities, should maximize the use of the Vessel Monitoring System (VMS) for fishery-related activities by requiring that VMS with two-way communication capability be phased in for all commercial fishing vessels receiving permits under federal fishery plans, including party and charter boats that carry recreational fishermen, incorporating VMS features that assist personnel in monitoring and responding to potential violations, and identifying state fisheries that could significantly benefit from VMS implementation.	No similar recommendation.
Coast Guard lead integration	Recommendation 19-20. The U.S. Coast Guard should be the lead organization in managing the integration of a fishery Vessel Monitoring System (VMS) database into the larger maritime operations database and should work with NMFS/NOAA Fisheries to ensure effective use of VMS data for monitoring and enforcement.	No similar recommendation.
New entrants to fisheries	No similar recommendation.	Each fishery should design a mandatory apprenticeship program to create a mechanism for new entrants to the fishery. These programs should foster improved stewardship through training in conservation and responsible fishing practices. Only those prospective new entrants who complete the program can receive a license.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Ecosystem management:		
Primary objective	No similar recommendation.	Redefine the principal objective of American marine fishery policy to protect marine ecosystems. The principal objective of American fishery policy should be to protect the long-term health and viability of fisheries by protecting, maintaining, and restoring the health, integrity, productive capacity, and resilience of the marine ecosystems upon which they depend. This objective should apply to all U.S. ocean waters. Establish an explicit statutory priority between ecological and socioeconomic objectives. In cases of conflict between objectives or in cases where information is uncertain or inconclusive, the principal ecological objective should always take precedence over the socioeconomic objective, for the simple reason that achieving social and economic objectives depends upon healthy ecosystems.
Habitat protection	Recommendation 19-21. NMFS/NOAA Fisheries should change the designation of EFH from a species-by-species to a multispecies approach and, ultimately, to an ecosystem-based approach. The approach should draw upon existing efforts to identify important habitats and locate optimum-sized areas to protect vulnerable life-history stages of commercially important species.	Implement ecosystem-based fishery management. Make marine ecosystems the organizing principle for fishery management. Require that FMPs are developed based upon consideration of how the entire ecosystem that supports the fishery will be affected by fishing. Redefine overfishing in an ecosystem context to consider the level of fishing that has detrimental effects in the ecosystem, even though it may not harm a particular target species.
Coordination among jurisdictions	Recommendation 19-21. NMFS/NOAA Fisheries should work with other management entities to protect EFH when such areas fall outside their jurisdiction.	Regional ocean ecosystem councils should coordinate with regional fishery management councils and other relevant entities. Regional ocean ecosystem councils should coordinate among these authorities to ensure that ecosystem health is taken into account at all levels of government. The regional ocean ecosystem councils' role would be to consult with these entities regarding ecosystem concerns related to fisheries management, and to periodically assess overall progress toward achievement of the goals and policies of the regional ocean governance plans.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Bycatch:		
Reduction plans	Recommendation 19-22. NMFS/NOAA Fisheries and Regional Fishery Management Councils should develop regional bycatch reduction plans that address broad ecosystem impacts of bycatch. Implementation of these plans will require NMFS/NOAA Fisheries to expand current efforts to collect data on bycatch, not only of commercially important species, but on all species captured by commercial and recreational fishermen. The selective use of observers should remain an important component of these efforts.	Require bycatch monitoring and management plans as a condition of fishing. The statutory goal of these plans should be to reduce bycatch to levels approaching zero. NMFS/NOAA Fisheries should establish by regulation national criteria that determine what constitutes an adequate and appropriate bycatch monitoring and minimization plan under different circumstances (e.g., minimum observer coverage levels). Only plans that meet these criteria and applicable federal laws should be approved. Each fishery should be allowed to develop its own plan. A tightly constructed stakeholder process modeled on the Marine Mammal Protection Act Take Reduction Teams should be the principal mechanism to develop these plans. The lobster zone councils used in the Maine lobster fishery provide another potential model.
Endangered species and marine mammals	Recommendation 19-25. The National Plan of Action should stress the importance of reducing bycatch of endangered species and marine mammals.	The statutory definition of bycatch should be broadened to include incidental mortality of all non-target species (fish and other living marine resources), and mortality by lost or abandoned gear.
Observer program and monitoring	No similar recommendation.	Bycatch plans should include, at a minimum, an observer program or other appropriate, effective monitoring scheme; total fishing mortality limits that include bycatch; and a requirement that bycatch mortality be factored into stock assessments.
Quotas	No similar recommendation.	Individual bycatch quotas for valuable fish species (except threatened and endangered species) could be used to manage bycatch. Conservative catch quotas should be set for species, accounting for intended and unintended catch. Fishermen should be allowed to keep fish they catch within conservative limits, rather than being forced to discard and waste one species because they are in a target fishery for another.
Endangered Species Act coordination	Recommendation 20-3. The National Ocean Council should improve coordination between NMFS/NOAA Fisheries and U.S. Fish and Wildlife Service with respect to the implementation of the Endangered Species Act, particularly for anadromous species or when land-based activities have significant impacts on marine species.	No similar recommendation.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
International Agreements:		
Ratification and incentives	Recommendation 19-23. The U.S. Department of State, working with other appropriate entities, should encourage all countries to ratify the Fish Stocks Agreement and the United Nations Food and Agriculture Organization's Compliance Agreement. In particular, the United States should condition other nations' access to fishing resources within the U.S. exclusive economic zone on their ratification of these agreements. Other incentives should be developed by the United States and other signatory nations to encourage all nations to ratify and enforce these agreements.	No similar recommendation.
Funding for international commissions	Recommendation 19-24. Congress should fully fund existing U.S. commitments to international fisheries management.	No similar recommendation.
Update agreements to harmonize	Recommendation 19-24. The U.S. Department of State, working with the National Oceanic and Atmospheric Administration, should review and update regional and bilateral fishery agreements to which the United States is a party, to ensure full incorporation of the latest science and harmonize those agreements with the Fish Stocks Agreement.	No similar recommendation.
Encourage Code implementation	Recommendation 19-26. The international committee of the National Ocean Council (discussed in Chapter 29), should initiate a discussion to determine the most effective methods of encouraging other nations to implement the United Nations Food and Agriculture Organization's Code of Conduct for Responsible Fisheries and other Plans of Action and provide its findings to the U.S. Department of State and the National Ocean Council.	No similar recommendation.
Derelict fishing gear:		
Plan	Recommendation 18-3. The U.S. Department of State and the National Oceanic and Atmospheric Administration, working with the United Nations Food and Agriculture Organization and other appropriate entities, should develop a detailed plan of action to address derelict fishing gear, to be implemented on a regional, multi-national basis.	No similar recommendation.
Coordination	Recommendation 18-4. The National Oceanic and Atmospheric Administration should promote a public-private partnership program and implement strong incentives for removal and disposal of derelict fishing gear.	No similar recommendation.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Permanent trust fund	No similar recommendation.	Establish a permanent Fishery Conservation and Management Trust Fund. The fund should be available without appropriation or fiscal year limitation. It should be used only for the purposes of improving fishery research, data collection, management, enforcement, and habitat restoration. In the first 5 to 10 years of operation, it should also be available for transitional buyback and community development programs. Revenues should be applied within the region where they were collected. Within regions, the fund should be shared fairly among the federal government and state programs for coastal fishery management. The Secretary of Commerce should appoint regional advisory panels with equal representation from members of the industry, scientific community, conservation community, and appropriate local governments to ensure that revenues are apportioned fairly and wisely. The fund should not be used to defray the general costs of government or to absolve the federal government of responsibility to fund fishery and ecological research and science. Potential revenue sources for the fund include, but should not be limited to, revenues generated by royalty payments on landed catch (calculated as a percentage of the value of the landed fish) and fees collected from fines and other penalties.
New fisheries	No similar recommendation.	Enact an emerging fisheries policy. The purpose of the policy should be to allow industry development of new fisheries in a manner that promotes sound scientific management and long-term conservation of the resources being developed and the relevant ecosystem. Potential development of new fisheries should be allowed through exploratory fishing permits. To obtain such a permit, applicants should work with the relevant fishery management authority to develop a research and management plan detailing how the necessary stock assessment and other research on and management of the stocks proposed for the new fishery will be funded and conducted. Matching grants should be available for the industry to assist with management and administrative costs. If approved, the new fishery should only be allowed to expand if accumulated knowledge shows the fishery can grow in an ecologically sustainable manner.
Socioeconomic objective	No similar recommendation.	The socioeconomic objective of American marine fishery policy should be to conserve and manage fisheries in order to support diversity, flexibility, resilience, and adaptability within the industry and fishing communities.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Zoning:		
Comprehensive	No similar recommendation.	Regional ocean governance plans should consider a full range of zoning options. This includes marine protected areas, areas designated for fishing, oil and gas development, as well as other commercial and recreational activities. Initially, area-based management should begin with coordinating existing zones in the ocean, such as areas closed to fishing, shipping lanes, and areas for oil and gas extraction.
Specifically for fishing	No similar recommendation.	Apply zoning in FMPs. Incorporate comprehensive zoning within FMPs to proactively partition planned areas into sections designated for specific uses. Areas not designated for particular uses should be closed to those uses. Managers should evaluate the life history and habitat requirements of species to determine the appropriate types of area management tools to employ, including spatial and temporal closures, spawning closures, habitat protection areas, bycatch reduction areas, and marine reserves. Closed areas should be a required element for any FMP in which there is substantial uncertainty or lack of information about the status of heavily exploited major fishery stocks.
Especially bottom trawling	No similar recommendation.	Over a five-year transition period, implement a zoning regime that (a) limits bottom trawling and dredging to only those areas where best available science indicates that such gear can be used without altering or destroying important or significant amounts of habitat; and (b) closes all other areas to these fishing practices.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Ocean governance:		
Participation	No similar recommendation.	Participation in regional ocean ecosystem councils by the broadest possible range of stakeholders — including fishermen and other ocean resource users — should occur through a robust and influential advisory process. Regional ocean governance plans need to be informed by the expertise and latest thinking of regional fishery management councils, metropolitan planning organizations, national estuary and watershed councils, and other local and regional authorities.
Fisheries	No similar recommendation.	Regional ocean councils should leave day-to-day management to the appropriate authorities. For example, federal fisheries management would remain the purview of NMFS/NOAA Fisheries and the appropriate regional fishery management council. NMFS/NOAA Fisheries and the regional fishery management councils must ensure that their actions are consistent with applicable regional ocean governance plan(s). Regional ocean councils should review proposed state, federal, and regional government actions and advise the agencies proposing these activities on consistency with regional ocean governance plans.
National Policy and Plan	Recommendation 19-25. The National Oceanic and Atmospheric Administration, working with the U.S. Fish and Wildlife Service and the U.S. Department of State, should design a National Plan of Action for the United States that implements, and is consistent with, the International Plans of Action adopted by the United Nations Food and Agriculture Organization and its 1995 Code of Conduct for Responsible Fisheries.	Require comprehensive access and allocation planning as a condition of fishing. Establish a mandatory national policy to guide development of fishery allocation plans. Each allocation plan should, at a minimum, limit access and entry to all fisheries to help shape and match the size of fishing fleets and their catching capacity to the health of exploited populations and the integrity, productive capacity, and resilience of marine ecosystems. Recover an appropriate share of the continuing costs of fisheries management, enforcement, and research as well as additional funds to mitigate potential adverse effects of fishery allocation plans on individuals and communities. Be subject to a double referendum where a super majority of the permit/license holders in a fishery approves the initial development as well as implementation of the plan. Be reviewed at least every five years. If appropriate, the plan should be revised to ensure it continues to meet the objectives of this policy, the public interest, other relevant laws and regulations, and fishery participants. Implement affirmative planning and management. Prohibit fishing without an approved plan. Require management of core problems such as bycatch, habitat damage, and overcapacity as a condition of fishing. Require a cooperative data-collection and planning program for existing fisheries where information is inadequate to determine whether overexploitation is occurring.

Issue	U.S. Commission on Ocean Policy	Pew Oceans Commission
Mobile fishing gear impacts:		
Regulation	No similar recommendation.	Regulate the use of fishing gear that is destructive to marine habitats. Create a fishing-gear zoning program designed to protect seafloor habitats from the adverse impacts of fishing practices. The program should have an immediate and a transition phase. Regulations should be developed immediately to prohibit the use of mobile bottom fishing gear in habitat areas known to be especially sensitive to disturbance from such gear, including but not limited to coral-reef and deepwater coral habitats, complex rocky bottoms, seamounts, kelp forests, seagrass beds, and sponge habitats. Prevent expansion of mobile bottom gear into geographical areas where it is not presently employed. Prevent expansion of the numbers of vessels employing mobile bottom gear by restricting the numbers of licenses, permits, or endorsements to no more than current fleet sizes; allowing transfers of licenses only to gears that are documented to have lower impacts on habitats; and allowing reentry of latent mobile gear effort only with gears documented to have lower impacts on habitats. Convene an independent panel to develop rigorous scientific criteria and implement a science-based process for designating zones open to mobile bottom gear fishing. Implement a gear-substitution program to reduce the use of mobile bottom gear by conducting a viability assessment to determine fisheries dependent on such gear; and providing funding to replace gear in fisheries that cannot be viably conducted without mobile bottom gear. Close areas to mobile bottom gear fishing if NMFS/NOAA Fisheries fails to implement the zoning regime by the end of five years, unless and until it has been determined that the best available science indicates such gear can be used without altering or destroying important or significant amounts of habitat or reducing biodiversity.
Specifically, coral reefs	Recommendation 21-2. Congress should codify and strengthen the U.S. Coral Reef Task Force, placing it under the National Ocean Council. The task force should coordinate the development of regional ecosystem-based plans to address the impacts of nonpoint source pollution, fishing, and other activities on coral resources.	No similar recommendation.