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Management of U.S. Fisheries for Highly Migratory Species

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ABSTRACT

This document provides general background and identifies current issues of concern in the domestic and international management of highly migratory fish species (*e.g.*, billfish, shark, and tuna). Also discussed are differences among species management in various U.S. coastal regions. Current legislation and related issues are summarized for proposals to modify management of sharks, to restrict finning and to ban or restrict pelagic longline fisheries. This document will be updated periodically as these issues evolve. Legislation on these issues is tracked in CRS Report IB10010, *Fishery, Aquaculture, and Marine Mammal Legislation in the 106th Congress*.

Management of U.S. Fisheries for Highly Migratory Species

Summary

Domestic and international management of highly migratory fish species (*e.g.*, marlin, sailfish, swordfish, shark, and tuna) is complex and controversial because these species migrate across many jurisdictions and are caught in various fisheries where commercial and sport fishermen compete for harvests. Increasing environmental concern and user competition for a shrinking resource have led groups to ask Congress to consider several initiatives that would modify how the United States manages these fisheries.

Domestically, the National Marine Fisheries Service and regional fishery management councils have developed management measures for highly migratory species (HMS) fisheries under the authority of the Magnuson-Stevens Fishery Conservation and Management Act. Internationally, the United States participates as a Party to several agreements for managing these species cooperatively. In addition, a Multilateral High-Level Conference on Conservation and Management of Highly Migratory Fish Stocks in the Central and Western Pacific is in the final stages of negotiation.

Swordfish management concerns include overfishing in the Atlantic, with proposals seeking to prohibit pelagic longline fishing in certain areas of the Atlantic and Gulf of Mexico and to finance a buyout of longline vessel permits. Legislation has been introduced in the 106th Congress to implement these proposals (H.R. 3331, H.R. 3390, S. 1911) or to prohibit all pelagic longline fishing in U.S. Atlantic waters (H.R. 3516). Shark finning (*i.e.*, removal of fins and discarding of the rest of the shark carcass) is controversial and currently is prohibited in the Atlantic but allowed in the Pacific. Legislation (H.R. 3535) in the 106th Congress proposes to prohibit this practice in the Pacific.

General management issues relate to establishing better means of monitoring the far-ranging fisheries for HMS, using a combination of satellite technology (*e.g.*, vessel monitoring systems) and onboard observers, and to minimizing incidental bycatch of non-target species, such as sea turtles and marine mammals, by HMS fishing gear.

This document will be updated periodically as these issues evolve.

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Background

Under the Magnuson-Stevens Fishery Conservation and Management Act (MSFCMA; 16 U.S.C. 1802(20)), highly migratory species (HMS) are defined as tunas, oceanic sharks, and billfishes — marlins (*Tetrapturus* spp. and *Makaira* spp.), sailfishes (*Istiophorus* spp.), and swordfish (*Xiphias gladius*). HMS are managed differently from most fish because their extensive migrations necessitate coordinated management across many jurisdictions. These fish are caught by U.S. sport and commercial fishermen in inshore state-managed waters, within the U.S. Exclusive Economic Zone (EEZ), in the EEZs of central and western Pacific island nations under treaty agreement, and in international waters. Most of the U.S. commercial catch of swordfish and sharks is taken within the U.S. EEZ. However, in the Pacific, the majority of tuna, sharks, and swordfish caught by U.S. commercial fishermen is taken in international or foreign waters.

Table 1: 1998 U.S. Commercial Landings of Highly Migratory Fish Species (metric tons)[1]

Species/Distance from shore	0-3 miles	3-200 miles	High seas or foreign
Swordfish	25	5,108	1,713
Tuna	221	21,486	195,769
Sharks (other than dogfish)	618	5,256	1,135

Because of concerns about coordination and logistics, HMS in the Atlantic Ocean, Gulf of Mexico, and Caribbean Sea are managed by the National Marine Fisheries Service (NMFS), within the National Oceanic and Atmospheric Administration, U.S. Department of Commerce, rather than by individual regional fishery management councils.[2] On May 28, 1999, NMFS published a final rule to begin implementing a new coordinated HMS fishery management plan (FMP) for

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[1]National Marine Fisheries Service. *Fisheries of the United States, 1998*. Washington, DC: National Oceanic and Atmospheric Administration, Department of Commerce, Current Fishery Statistics No. 9800, July 1999. p. 14-19.

[2]Under the MSFCMA, eight regional fishery management councils generally develop plans and recommendations for regional fisheries, which NMFS then implements.

tuna, sharks, and swordfish in the Atlantic Ocean and Gulf of Mexico.[3] Regulations implementing amendments to a separate FMP governing billfish management in the Atlantic and Gulf were published at the same time. More recently, NMFS completed a *Stock Assessment and Fishery Evaluation for Atlantic Highly Migratory Species* (SAFE 2000)[4] providing updated background information for managing all Atlantic HMS fisheries.

In the central and western Pacific (*e.g.*, Hawaii and U.S. Pacific islands), the Western Pacific Fishery Management Council has a "pelagic" (*i.e.*, open ocean) FMP for managing HMS, while the Pacific Fisheries Management Council is in the process of developing an FMP for HMS fisheries along the U.S. west coast. The Pacific Council's FMP will likely bring together Washington, Oregon, and California state regulations relevant to HMS, and may consider limiting entry to control capacity and effort in west coast HMS fisheries to enhance the economic position of the existing fleet.[5] The Pacific Council's plan has raised concerns about possible capacity shifts among HMS fishermen.[6]

The International Commission for the Conservation of Atlantic Tunas (ICCAT) coordinates international management of tuna and swordfish in the Atlantic.[7] In the eastern tropical Pacific (east of 150°W longitude), the long-established Inter-American Tropical Tuna Commission (IATTC) sets quotas for two tuna species (yellowfin and bigeye), has work groups dealing with important management issues (*e.g.*, fleet capacity, bycatch, management of fisheries on fish aggregating devices), and is addressing major administrative concerns (*e.g.*, financing, compliance, renegotiation of its convention). Renegotiating its convention will bring the IATTC into line with the provisions of the United Nations Convention on Law of the Sea and its Implementing Agreement (Agreement on Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks).[8] If the renegotiated IATTC convention involves major changes and is signed by the United States, the Senate may consider its consent to ratification.

In the central and western Pacific (west of 150°W longitude), the Multilateral High-Level Conference (MHLC) on Conservation and Management of Highly Migratory Fish Stocks in the Central and Western Pacific[9] is in the last stages of its

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[3]64 *Federal Register*, p. 29089-29160, May 28, 1999.

[4]NMFS documents are available at [http://www.nmfs.gov/sfa/hmspg.html].

[5]The west coast states already limit entry to most fisheries, including the driftnet fishery for swordfish and sharks off California and Oregon.

[6]Continued restrictions on groundfish could prompt fishermen to shift to the albacore fishery. Such a move might exacerbate existing economic concerns arising from too much product being available without added markets for this seasonal fishery.

[7]See: [http://www.iccat.es/].

[8]The Department of State's Bureau of Oceans and International Environmental and Scientific Affairs is coordinating U.S. involvement in these renegotiations.

[9]Material related to negotiation of the MHLC are available at
(continued...)

negotiations, focusing primarily on tunas.[10] The MHLC likely will implement a vessel monitoring system (VMS) and national quotas as well as limiting both effort and capital investment by nation. Since the late 1980s, U.S. purse seine vessels have been authorized to fish in the exclusive economic zones of many Pacific Island nations under a treaty between those nations and the United States.[11] Many of the principles and measures (*e.g.*, VMS, observers, and regional vessel registry) of the South Pacific Tuna Treaty are being adopted into the MHLC, reflecting the favorable experience with the United States under this Treaty. If the MHLC convention is signed by the United States, the Senate may consider its consent to ratification.

The United States has ratified the Agreement on Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.[12] When this Agreement comes into force, the United States and its flag fishing vessels will be bound by the decisions of ICCAT and IATTC as well as any MHLC Convention or similar agreement which enters into force, even if the United States does not sign the MHLC Convention or even join the international organization.

HMS Management Issues

Monitoring. Monitoring of fleet activities is necessary for good data collection and effective enforcement over the extensive range of HMS fisheries. Due to the multi-jurisdictional and far-ranging nature of HMS fisheries, there is increasing interest in using satellite technology and naval/coast guard resources to regulate HMS fisheries and apprehend "flag of convenience" vessels catching HMS fish illegally. To better manage the pelagic longline fishery in the Atlantic and identify where individual vessels are fishing, NMFS is implementing a vessel monitoring system (VMS) for U.S. pelagic longliners in the Atlantic beginning September 1, 2000.[13] In the Pacific, NMFS conducted a Hawaii longline pilot VMS study between January 1, 1996, and March 15, 1997. VMS is seen by many as the most effective way to enforce the closing of fishing areas and monitor where vessels fish. However, issues such as proprietary interests (since fisherman make their living by knowing where to fish) and who should pay (since VMS is fairly expensive) make VMS implementation controversial. Indeed, a lawsuit challenging the VMS requirement in the Atlantic is

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[9](...continued)
[http://imina.soest.hawaii.edu/PFRP/pdf/mhlc5_rpt.pdf].

[10]The Western Pacific Fishery Management Council has coordinated U.S. involvement in the negotiation process along with the Department of State's Bureau of Oceans and International Environmental and Scientific Affairs.

[11]Treaty on Fisheries Between the Governments of Certain Pacific Island States and the Government of the United States of America, Port Moresby, 1987.

[12]See: [http://www.tufts.edu/fletcher/multi/texts/ilm1542.txt]. The Senate approved a resolution of ratification for this agreement (Treaty Doc. 104-24) on June 26, 1996.

[13]64 *Federal Register*, p. 29089-29160, May 28, 1999, with several subsequent delays in VMS implementation announced by NMFS.

pending in the courts.[14] The minimal guidance and apparent lack of authority in the Magnuson-Stevens Act has impeded the development of monitoring programs such as onboard observers and VMS, especially regarding the use of industry assessments to cover program costs so that an entire fleet bears the cost instead of only the vessels in the fleet that participate in the monitoring program.

Bycatch and Protected Species Interactions. Minimizing interactions with protected species (*e.g.*, marine turtles) is a concern in the management of fishing gear for several HMS fisheries. On November 23, 1999, a U.S. District Court judge ordered NMFS to close a large area off Midway Island to Hawaiian longline fishermen, to protect sea turtles. Since most of the affected waters are outside the U.S. EEZ, fishermen from other countries and even other U.S. states (particularly California) are allowed to fish in the area. Only Hawaiian fishermen are directly affected by regulations implementing this order.[15] The Atlantic longline fishery for swordfish has a similar problem with sea turtle interactions.

In the eastern tropical Pacific Ocean (ETP), changes to U.S. tuna/dolphin regulations[16] in response to the International Dolphin Conservation Program Act (IDCPA; P.L. 105-42) have modified the definition of "dolphin-safe," allowing yellowfin tuna caught using purse seine nets to be imported into the United States if no dolphins were observed[17] to have been killed or severely injured.[18] The IDCPA mandates that parties cooperate in the conservation and management of the fish stocks and deal with such issues as bycatch in the purse seine fisheries. Despite the continued relatively low mortality of dolphins in the ETP,[19] the new NMFS regulations are highly controversial and were challenged in federal courts by a coalition of animal protection groups as being insufficiently protective of dolphins. On Apr. 11, 2000, U.S. District Court Judge Thelton Henderson blocked NMFS implementation of more relaxed standards for what tuna might qualify to be labeled as "dolphin-safe," saying that NMFS had failed to assess whether the proposed labeling change would cause harm to dolphin populations. Judge Henderson concluded that NMFS failed to complete critical stress research testing of dolphins that were repeatedly captured and released.

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[14]Blue Water Fishermen's Association, *et al. v.* Daley, Civil Action No. 99CV2846 (RWR) (United States District Court for the District of Columbia).

[15]64 *Federal Register,* p. 72290-72291, December 27, 1999.

[16]65 *Federal Register,* p. 30-59, January 3, 2000.

[17]IATTC guidelines require all vessels harvesting tuna in the eastern tropical Pacific to carry IATTC-certified observers.

[18]For additional information, see archived CRS Report IB96011, *Dolphin Protection and Tuna Seining*.

[19]Combined U.S. and foreign dolphin mortality in 1999 was less than 1,500 animals, a fraction of the estimated several hundred thousand dolphins killed annually in the early 1970s.

Individual Fishery Concerns

Billfish. Other than the commercial harvest of swordfish, billfish are taken incidentally as bycatch in other commercial fisheries and are targeted and caught by sport fishermen, many of whom practice catch-and-release and tagging to allow fish to survive. The commercial catch of swordfish is landed primarily in California (21.4% of 1998 landings), Florida (11.5%), Massachusetts (9.1%), Louisiana (4.9%), and Hawaii (much of the remaining 53%).

In late August 1999, the Billfish Foundation, the Coastal Conservation Association, the American Sportfishing Association, and the Blue Water Fishermen's Association signed a Memorandum of Understanding (MOU) wherein both sport and commercial interests agreed to closing certain areas of the Atlantic Ocean and Gulf of Mexico to commercial pelagic longline fishing for swordfish and to participating in financing a buyout of permits for pelagic longline vessels that are responsible for much of the incidental mortality to undersized swordfish and billfish (*i.e.*, bycatch). Legislation (H.R. 3331, H.R. 3390/S. 1911) introduced in the 106th Congress would implement this MOU.[20]

On December 15, 1999, NMFS published a proposed rule, differing from the MOU and the introduced bills, that would close different areas in the Gulf of Mexico to reduce billfish bycatch but would provide no permit buyout.[21] Some question the equity of both proposals because the closures in the South Atlantic leave few areas open to domestic swordfishermen in Florida. In addition, seafood processors in affected areas claim that, without commercial longlining in the winter months, they might face bankruptcy. Others are concerned that, without a buyout, the NMFS proposal might displace commercial vessels to other areas and fisheries. Some suggest possible benefits from the proposed longline closures for related species, recalling the improvements in the yellowfin tuna fishery after Japanese longline fishermen departed from the Gulf of Mexico.

In March 1999, NMFS banned the import of undersized Atlantic swordfish.[22] Those regulations assure accurate monitoring of swordfish imports by requiring the identification of the catching vessel flag (*i.e.*, country of vessel documentation), certifying that pieces are not from undersized Atlantic fish, and increasing dealer reporting requirements. Some question whether harvesting only larger swordfish might raise problems with meeting the U.S. Food and Drug Administration's maximum allowable level of 1.0 ppm of methylmercury for these fish. In an effort to address overfishing of Atlantic swordfish, SeaWeb and the Natural Resources Defense Council instituted the "Give Swordfish a Break" campaign to discourage consumers from eating swordfish.[23]

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[20]See: [http://www.billfish.org/dir/support/services/multimedia/educational/videos /ms56k.htm].

[21]64 *Federal Register,* p. 69982-69987, December 15, 1999.

[22]64 *Federal Register,* p. 12903-12907, March 16, 1999.

[23]See: [http://www.seaweb.org/campaigns/swordfish/].

In the Pacific, billfish are valuable for both commercial and recreational fisheries. Striped marlin are a prized gamefish off California and cannot be sold in the state. Blue marlin, wahoo, mahimahi, and the tunas are key gamefish in Hawaii and in some other parts of the western Pacific; however, all of these species are also valued as commercial products. Only one stock (blue marlin) is thought to be below the maximum sustainable yield level, although it probably is not overfished as that term is defined in the Magnuson-Stevens Act.

A major problem throughout the Pacific, including U.S. territories and Hawaii, is the general dearth of recreational catch and effort data for billfish. While there are some catch data from tournaments, there is a general lack of effort data, *e.g.*, how many boats are fishing on any day. Those data need to be linked to the catch data to provide effective catch per unit effort to better monitor the stock status for individual species.

Sharks. U.S. commercial shark fisheries occur primarily off Louisiana (19.2% of 1998 landings), Florida (19.0%), California (7.9%), North Carolina (7.5%), and Hawaii (much of the remaining 46%). Most sharks caught by sport anglers are released.

While NMFS prohibits shark finning[24] in the Atlantic and Gulf of Mexico, this practice is still permitted in the Pacific, where blue shark populations (the primary species finned) are considered to be robust. Shark finning is quite controversial, and several conservation and animal welfare groups are seeking to prohibit this practice in the Pacific. In the 106th Congress, HCon.Res. 189, H.R. 3078, and H.R. 3535 were introduced to address these concerns by studying Pacific shark fisheries and/or prohibiting shark finning. Early in 2000, the Hawaii legislature was also considering passage of state law to prohibit shark finning. More recently, NMFS received a petition for rulemaking to prohibit shark finning and require full utilization of sharks harvested in fisheries managed by the Western Pacific Fishery Management Council.[25]

In May 1997, some commercial shark fishermen filed suit against NMFS, challenging commercial harvest quotas for Atlantic sharks. A federal court injunction resulted in NMFS foregoing its more restrictive management measures, including lower quotas slated to take effect on July 1, 1999.[26] In June 1999, a coalition of sport fishing groups also filed suit against NMFS, charging that shark management focused inequitably on limiting recreational fishing. No final ruling has yet been made on either case.

In March 1999, the United Nations Food and Agriculture Organization (FAO) adopted a voluntary International Plan of Action for the Conservation and Management of Sharks, requiring participating nations to adopt by 2001 a national plan for reducing catch in shark fisheries as well as shark bycatch in other fisheries.

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[24]The practice of catching sharks to harvest only the fins for the lucrative Asian shark fin market, discarding the remainder of the shark carcass as waste.

[25]65 *Federal Register*, p. 19734, April 12, 2000.

[26]Southern Offshore Fishing Ass'n *v.* Daley, 995 F. Supp. 1411 (M.D. Fla. 1998).

NMFS is preparing, but has not yet published, a proposal for U.S. implementation of the FAO shark initiative.

Tuna. Commercially, 67% of the world's tuna harvest is taken in the Pacific. Because of this, some of the top U.S. ports for tuna landings are in the Western Pacific (*e.g.*, American Samoa, Guam).[27] However, Pacific tuna harvest statistics are often omitted from NMFS reports because much of the U.S. harvest is caught outside the U.S. EEZ and is landed in American ports in Samoa, Guam, and elsewhere, along with sizeable foreign landings. Mainland states with significant commercial tuna landings include California (7.5% of total 1998 U.S. tuna landings), Washington (2.9%), Oregon (2.2%), and Louisiana (0.6%). Recreational harvest estimates are available for yellowfin tuna, with 1998 catch primarily in the South Atlantic region (62.2% of estimated number of sport-caught fish in 1998), Mid-Atlantic (20.5%), and Southern California (15.3%).

The Atlantic bluefin tuna fishery is managed through the International Commission for the Conservation of Atlantic Tunas (ICCAT).[28] Rebuilding the population of this species is encouraged by strict harvest quotas. Current ICCAT concerns focus on minimizing illegal, unreported, and unregulated (IUU) harvests as well as ensuring that all parties to ICCAT abide by Commission guidelines and quotas. Unilateral U.S. efforts to rebuild Atlantic bluefin tuna populations have been frustrated by lax enforcement of ICCAT guidelines elsewhere.

Additional General Considerations

Additional general concerns relating to how NMFS and regional councils manage HMS fisheries include (not in any particular order): 1) integrating pelagic species fisheries management, especially when one fishery's bycatch is the target species of another fishery, and accounting for bycatch in quota calculations and fishing effort estimates; 2) incorporating diversity (*e.g.*, differences among commercial gear types and between sport and commercial users) within and among various user groups to achieve a sustainable fishery, maintain social equity, and estimate the effects of proposed regulatory plans, particularly their economic effects; 3) evaluating the need for a mandatory reporting system for economic data to adequately evaluate the effects of proposed regulatory changes; 4) determining the cumulative impacts of HMS regulations on the fishing industry; 5) improving the objectivity and transparency of NMFS scientific assessment procedures (*e.g.*, more field data collection and analysis involving stakeholders and independent scientists; less reliance on computer modeling) that support management and regulatory actions to enhance agency credibility and forestall litigation; 6) making the role and responsibility of NMFS's Atlantic HMS Advisory Panel comparable to that of a regional council to improve accountability for HMS management decisions; 7) assuring that U.S. fishermen who abide by international management guidelines are not denied a reasonable opportunity to harvest the shared resource; and 8) providing sufficient

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[27]See: [http://www.wpcouncil.org/reports/misc/value.doc].

[28]For additional information, see CRS Report 95-367 ENR, *Atlantic Bluefin Tuna: International Management of a Shared Resource*.

resources to NMFS and the Department of State to allow the United States to make a significant and lasting contribution to international organizations (*e.g.*, IATTC, MHLC, South Pacific Tuna Treaty) that are working to achieve compatible management regimes throughout the ranges of HMS stocks in the Pacific.

Congressional Focus

Environmental concern for declining HMS populations as well as increased competition between sport and commercial fishermen for preferential allocation of the less-abundant stocks have brought HMS issues before Congress. The 106th Congress may choose to address HMS issues when considering whether to close areas to pelagic longline fishing (H.R. 3331, H.R. 3390, H.R. 3516, S. 1911), whether to take action on shark finning in the Pacific (HCon.Res. 189, H.R. 3078, H.R. 3535), and whether to modify management of HMS fisheries during reauthorization and amendment of the Magnuson-Stevens Fishery Conservation and Management Act. HCon.Res. 189, expressing the sense of Congress regarding shark finning in Pacific waters, was the focus of a hearing by the House Subcommittee on Fisheries Conservation, Wildlife, and Oceans on October 21, 1999. This measure was reported (H.Rept. 106-428) and agreed to by the House on November 1, 1999. Pelagic longlining was the subject of two hearings held by the House Resources Subcommittee on Fisheries Conservation, Wildlife, and Oceans — a July 15, 1999 oversight hearing on NMFS's regulations implementing the FMP for HMS of Atlantic Tunas, Swordfish and Sharks, specifically as it affects yellowfin tuna; and a February 8, 2000 hearing on the three House bills addressing pelagic longline fishery issues.[29]

[29]For updated legislative action, see CRS Report IB10010, *Fishery, Aquaculture, and Marine Mammal Legislation in the 106th Congress*.