1997

Blueprint For Whale Conservation: Implementing The Marine Mammal Protection Act

Nina M. Young

Suzanne Iudicello

Follow this and additional works at: http://digitalcommons.mainelaw.maine.edu/oclj

Recommended Citation
Available at: http://digitalcommons.mainelaw.maine.edu/oclj/vol3/iss1/6

This Article is brought to you for free and open access by the Journals at University of Maine School of Law Digital Commons. It has been accepted for inclusion in Ocean and Coastal Law Journal by an authorized administrator of University of Maine School of Law Digital Commons. For more information, please contact mdecrow@maine.edu.
BLUEPRINT FOR WHALE CONSERVATION: IMPLEMENTING THE MARINE MAMMAL PROTECTION ACT

Nina M. Young* and Suzanne Iudicello**

I. INTRODUCTION

Over its twenty-four year history, the Marine Mammal Protection Act of 19721 (MMPA) has had both its successes and its failures, yet it remains one of the cornerstones of marine conservation and one of the most effective mechanisms to protect marine mammals. Marine mammals now face threats, however, that are global in scope and involve humans and our shared use of the marine environment. Diminishing marine resources and diminishing federal funds force fishers and conservationists to develop creative initiatives to conserve marine mammals, marine habitats, and species diversity, while still promoting economically viable fisheries.

Marine mammals often compete with humans for the same fish, or occur in areas where fishing is conducted. As a result they are sometimes incidentally taken during commercial fishing operations. The regulation

---

* Nina M. Young has been the Marine Mammalogist for the Center for Marine Conservation for more than eight years. In that position, Ms. Young leads the Center's efforts to conserve great whales, dolphins, pinnipeds, and sea otters. She has investigated and documented the incidental take of marine mammals in commercial fisheries in CMC's The Incidental Capture of Marine Mammals in U.S. Fisheries, Problems and Solutions. Before joining the Center, she was a researcher at Battelle Ocean Sciences and the field task leader for the National Oceanic and Atmospheric Administration's Mussel Watch Program. Her work in marine mammalogy includes population assessment, physiological, anatomical, and behavioral studies. Her publications include papers on whales, dolphins, and sea lions, and reports on organic and trace element contaminants found in bivalves in U.S. coastal areas. Ms. Young represents the Center at international societies that study marine mammals, and before federal agencies, Congress, and the general public. Ms. Young holds an M.S. degree (Major: Physiology; Minor: Zoology and Veterinary Science) from the University of Florida.

** Suzanne Iudicello is special counsel for fisheries at the Center for Marine Conservation. She has been with the Center since 1987, serving as a legal intern, program counsel, and as vice president for programs and general counsel from 1993 to 1997.

of such operations to protect marine mammals has become a critical, and often volatile, issue. Since its enactment, the MMPA has prohibited the take of marine mammals incidental to commercial fishing unless authorized by an incidental take permit or a small take exemption.

The problem of the incidental take of marine mammals in commercial fishing reached a climax in 1988, when it became apparent that the National Marine Fisheries Service (NMFS) was unable to make the necessary determinations that would enable it to authorize takes for affected marine mammal stocks. The resulting *Kokechik Fishermen's Association v. Secretary of Commerce* court decision uncovered the permit-issuing system's inherent flaw: the fact that the information upon which permit-issuing decisions were being made was not sufficient to be certain that incidental takes would not harm marine mammal stocks. This discovery brought together representatives of the environmental community and the fishing industry in 1988 to find a way to enable fishers to fish, while minimizing the impact of their activities on marine mammals. These representatives agreed on a series of points which they subsequently presented to the Senate Commerce Committee and the House Merchant Marine and Fisheries Committee. Based on these points, Congress passed the MMPA Amendments of 1988, which established an information gathering program and an Interim Exemption Program for Commercial Fisheries.

After analysis of the Interim Exemption Program and after NMFS proposed a long-term regime to authorize incidental takes in commercial fisheries in 1993, the environmental community and the fishing industry met again. They developed amendments that resulted in sweeping changes to the MMPA's provisions governing the incidental take of marine mammals in commercial fisheries, which were adopted by Congress in 1994. Today, representatives of the fishing industry, the conservation community, and federal and state agencies continue their work through incidental take reduction teams to develop measures reducing the incidental mortality and serious injury of marine mammals in commercial fisheries.

Part II of this Article explores the history of the MMPA and explains why this type of cooperative approach promises to be effective for marine

---

mammal conservation. Part III examines the benefits of developing conservation strategies using facilitated negotiations versus traditional adversarial tactics, and how these strategies expedite efforts to reduce or eliminate marine mammal mortality in commercial fisheries. Part IV provides an update on the status of the implementation of the 1994 Amendments to the MMPA, and Part V evaluates the effectiveness of using take reduction teams to develop management strategies to reduce marine mammal incidental mortality and serious injury. Finally, this Article concludes by identifying areas of potential conflict between the fishing industry and the conservation community in the next reauthorization of the MMPA.

II. BACKGROUND ON THE MARINE MAMMAL PROTECTION ACT

A. Legislative History

The Marine Mammal Protection Act is perhaps the most comprehensive marine mammal conservation and management legislation in the world.\(^4\) Passed to rectify the consequences of "man’s impact upon marine mammals [which] has ranged from what might be termed malign neglect to virtual genocide,"\(^5\) the Act governs all harassing, catching, and killing of marine mammals by U.S. citizens or within U.S. jurisdiction.\(^6\) Its purpose is to protect marine mammal species of "great international significance, esthetic and recreational as well as economic."\(^7\) The species included under the Act are whales, dolphins, porpoises, seals, sea lions,


\(^6\) Id.

walruses, sea otters, manatees, dugongs, and polar bears. The Act is enforced by the U.S. Departments of Commerce and Interior.

B. The MMPA’s Moratorium on Taking

The goal of the MMPA is to "protect and encourage marine mammals to develop to the greatest extent feasible commensurate with sound policies of resource management." Another of the Act’s purposes is to "maintain the health and stability of the marine ecosystem." Congress also mandated that whenever consistent with these goals, marine mammals are to be protected and managed so that they do not "cease to be a significant functioning element of the ecosystem of which they are a part" or "diminish below their optimum sustainable population (OSP)." A species or population stock that is determined to be below its OSP level, or is listed as endangered or threatened under the Endangered Species Act (ESA), is designated as "depleted" under the MMPA.

8. Id. § 1362(6). As explained in § 1362(6):
The term "marine mammal" means any mammal which—(A) is morphologically adapted to the marine environment (including sea otters and members of the orders Sirenia, Pinnipedia and Cetacea), or (B) primarily inhabits the marine environment (such as the polar bear); and, for the purposes of this chapter, includes any part of any such marine mammal, including its raw, dressed, or dyed fur or skin.
9. Id. § 1361(6).
10. Id.
11. Id. § 1361(2).
12. Id. "[O]ptimum sustainable population’ means, with respect to any population stock, the number of animals that will result in the maximum productivity of the population or the species, keeping in mind the carrying capacity of the habitat and the health of the ecosystem of which they form a constituent element." Id. § 1362(9). See also 50 C.F.R. § 216.3 (1996), stating:

[O]ptimum sustainable population is a population size which falls within a range from the population level of a given species or stock which is the largest supportable within the ecosystem to the population level that results in maximum net productivity. Maximum net productivity is the greatest net annual increment in population numbers or biomass resulting from additions to the population due to reproduction and/or growth less losses due to natural mortality.

The term "depletion" or "depleted" means any case in which—

(A) the Secretary, after consultation with the Marine Mammal Commission and the Committee of Scientific Advisors on Marine Mammals established under subchapter III of this chapter, determines that a species or population stock is below its optimum sustainable population;
Congress sought to achieve broad protection for marine mammals by establishing a moratorium on importation and taking.\[14\] The MMPA states that the "incidental kill or incidental serious injury of marine mammals permitted in the course of commercial fishing operations be reduced to insignificant levels approaching a zero mortality and serious injury rate.\[15\]"

The MMPA allows the Secretary of Commerce\[16\] to waive the moratorium by issuing a general permit for taking a marine mammal species. A waiver is allowed if the best available scientific evidence reveals that the take would not disadvantage a specific marine mammal population.\[17\] Actions that may be governed under a general permit include the incidental taking of marine mammals in commercial fisheries,\[18\] the taking and importation for the purpose of scientific research,\[19\] public display,\[20\] enhancing the recovery of a marine mammal population,\[21\] and the importation of polar bear parts taken from sport hunts in Canada.\[22\]

---

14. Id. § 1371. "The term ‘take’ means to harass, hunt, capture, or kill, or attempt to harass, hunt, capture, or kill any marine mammal." Id. § 1362(13).
15. Id. § 1371(a)(2). See also Mary M. Sauer, Comment, Balancing Marine Mammal Protection Against Commercial Fishing: The Zero Mortality Goal, Quotas, and the Gulf of Maine Harbor Porpoise, 45 ME. L. REV. 419 (1993) (presenting a more detailed review of the legislative history of the zero mortality rate goal).
16. 16 U.S.C. §§ 1371(a)(2), 1373, 1374 (1994); 50 C.F.R. § 220 (1996) (stating general permit procedures). The MMPA gives the Secretary of Commerce, National Oceanic and Atmospheric Administration (NOAA) the authority to issue permits and regulations governing the taking of marine mammals under the order Cetacea (including whales, dolphins, and porpoises) and members, other than walruses, of the order Pinnipedia (including sea lions and seals). Responsibility of all other marine mammals covered by the MMPA is given to the Secretary of Interior. 16 U.S.C. § 1362(12) (1994).
18. Id. § 1374(a).
19. Id. § 1374(e)(1)-(3).
20. Id. § 1374(c)(2).
21. Id. § 1374(c)(4).
22. Id. § 1374(c)(5).
A general permit is obtained through a procedure based on the following elements: First, the permit is issued with regulations, developed after notice and opportunity for comment and an on-the-record agency hearing. Second, the record must describe the evidence presented to the Secretary by the permit applicant (e.g., the fisher), who must meet the burden of proof. Third, the applicant must demonstrate that the take level authorized will not disadvantage the species or be inconsistent with MMPA purposes and policies (e.g. the population is at OSP). Fourth, the permit is to be based on the best scientific information available. Further, all relevant factors are to be given full consideration by the Secretary, including take levels, treaty obligations, marine ecosystem and related considerations, the conservation, development, and utilization of fishery resources, and the economic and technological feasibility of implementation. Finally, when applying these factors, a conservative bias is to be applied in favor of the well-being of marine mammals. Once the Secretary determines that the applicant has met this burden, a general permit to take marine mammals in the course of commercial fishing is issued.

In 1981, after recognizing that the general permit system was burdensome and required more flexibility, Congress amended the MMPA to create a simplified procedure for "small takes" of marine mammals incidental to commercial fishing operations. This exemption is limited to taking small numbers of non-depleted marine mammal species by U.S. citizens engaged in commercial fishing operations. This exemption can be issued for terms of five years if, after an opportunity for public

23. The general permit procedure, although providing a mechanism to allow takes in commercial fisheries, reaffirms the Act's goal to reduce incidental take to "insignificant levels approaching a zero . . . rate." 16 U.S.C. §§ 1374(d)(3), 1371(a)(2) (1994).
24. Id. § 1373(d).
25. Id. § 1374(d)(3).
26. Id. § 1373(d)(2).
27. Id. § 1373(a).
29. Id. § 1373(d)-(f).
31. 16 U.S.C. § 1371(a)(3)(B) (1994) (denying the National Marine Fisheries Service the ability to issue a general permit for incidental take in commercial fisheries of species or populations designated as "depleted" under the MMPA).
32. Id. § 1383a(b)(2)(B), (C).
comment, the Secretary finds that the total take will have a "negligible impact" on the stock\textsuperscript{33} and the Secretary issues guidelines for a cooperative monitoring system for those involved in such take.\textsuperscript{34} The exemption can be withdrawn if the take becomes more than negligible.\textsuperscript{35}

\textbf{C. Analysis of Implementation—General Permits}

\textit{In U.S. and Foreign Fisheries 1974-1988}

Aside from the yellowfin tuna purse seine fishery, the general permit procedures of the MMPA have been applied through on-the-record proceedings regulating the operations of one fishery, the Japanese high seas salmon fleet inside the U.S. 200-mile exclusive economic zone.\textsuperscript{36} In 1981,\textsuperscript{37} after extensive on-the-record hearings,\textsuperscript{38} NMFS issued a

\begin{itemize}
  \item \textsuperscript{33} "Negligible impact is an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival." 50 C.F.R. § 228.3 (1994).
  \item \textsuperscript{36} MARINE MAMMAL COMMISSION, 1981 ANNUAL REPORT TO CONGRESS 45-46 (1982). On February 4, 1981, the National Marine Fisheries Service published a notice of a formal hearing to be conducted before an administrative law judge in order to determine whether the affected populations of Dall's porpoise were at the optimum sustainable population level, and, if so, to promulgate quotas and other provisions governing their incidental taking after June 9, 1981. Id. at 46.
  \item \textsuperscript{37} A protocol amending The International Convention for the High Seas Fisheries of the North Pacific Ocean (INPFC), renegotiated in 1978, permitted the Japanese to fish for salmon within and outside the United States' 200-mile exclusive economic zone (EEZ) subject to a coordinated U.S.-Japan research program on the incidental taking of Dall's porpoise and other marine mammals. The Annex to the Protocol and the amendments to the United States' North Pacific Fisheries Act, implementing the INPFC, exempted the Japanese salmon fishing vessels from the incidental take permit requirements of the MMPA until June 9, 1981. After June 9, 1981, Japanese salmon fishing operations within the U.S. EEZ would be subject to the general permit requirements of the MMPA. Protocol Amending the International Convention for the High Seas Fisheries of the North Pacific Ocean, Apr. 25, 1978, 30 U.S.T. 1095. See MARINE MAMMAL COMMISSION, 1981 ANNUAL REPORT TO CONGRESS 45 (1982).
  \item \textsuperscript{38} Hearings were held in Seattle, Washington on March 5 and 6, 1981. For a summary of the findings of the ALJ and the comments of the Marine Mammal Commission, see MARINE MAMMAL COMMISSION, 1981 ANNUAL REPORT TO CONGRESS 46 (1982).
\end{itemize}
Cooperative Association (Federation) to take, incidental to its salmon drift gillnet fishery, up to 5,500 Dall’s porpoise, 450 northern fur seals, and twenty-five northern sea lions each year.\textsuperscript{39} This permit required observers, gear research, innovation,\textsuperscript{40} and was extended until 1987 by the 1982 amendments to the North Pacific Fisheries Act.\textsuperscript{41} These amendments placed a heavy emphasis on the use of new fisheries gear that would reduce take and advance the MMPA zero mortality rate goal.\textsuperscript{42}

In 1987, after on-the-record hearings, the Administrative Law Judge (ALJ) presiding over the Federation’s application recommended that a permit be issued for five years with initial annual quotas of 1,750 for Dall’s porpoise and forty-five for northern fur seals.\textsuperscript{43} To advance the zero mortality goal, the ALJ recommended an annual five percent reduction in the quota and directed additional research on gear improvement.\textsuperscript{44}

The final NMFS decision set larger annual quotas, but limited the aggregate Dall’s porpoise take over the three year permit term to 5,250 from the North Pacific Ocean stock (1,750 average annual take) and 789 from the Bering Sea stock (263 average annual take).\textsuperscript{45} NMFS denied the permit request to take northern fur seals and sea lions because the Federation failed to meet its burden to show that the affected stocks were within their optimum sustainable population levels and that the projected

\begin{footnotesize}
\begin{itemize}
\item[\textsuperscript{40}] Id.
\item[\textsuperscript{42}] Pub. L. No 97-389, § 201, 96 Stat. at 1949-51.
\item[\textsuperscript{44}] MARINE MAMMAL COMMISSION, 1987 ANNUAL REPORT TO CONGRESS 145-46 (1988).
\end{itemize}
\end{footnotesize}
levels of take would not disadvantage those stocks. Observer coverage and gear modification requirements were included.  

**D. Implementation—The Kokechik Decision and Other Cases**

Shortly after fishery operations began in 1987, the general permit was legally challenged in the U.S. District Court for the District of Columbia, by the Kokechik Fishermen's Association.  

On June 15, 1987, the district court preliminarily enjoined the general permit, because the Federation had not met its burden to show that the inevitable take of fur seals would meet MMPA standards. As such, no fishing could be authorized. The Kokechik Fishermen’s Association and the Center for Environmental Education successfully demonstrated that the permit would unlawfully allow the taking of one species, Dall’s porpoise, even though it was known that other species would be taken by the same fishing operations.  

The Federation and the Secretary of Commerce appealed the decision, which was upheld by the Court of Appeals for the District of Columbia Circuit. This effectively invalidated the permit and prohibited the Japanese fleet from operating within U.S. waters. The appeals court stated that the Secretary of Commerce had no authority to disregard incidental takings of certain species or stocks in issuing a permit that authorizes the take of another species or stock, without first determining whether the population of each species was at the OSP level, even if the impact on the species was negligible. The decision meant that NMFS could not issue general permits in the absence of definitive findings that the take of all marine mammals expected to occur in a particular fishery would pass the "will not disadvantage the species" and "consistency with

46. *Id.*  
47. Federation of Japan Salmon Fisheries Coop. Ass’n v. Baldridge, 679 F. Supp. 37 (D.D.C. 1987). The suit was brought by the Kokechik Fishermen's Association, representing Alaskan subsistence fishermen, the Center for Environmental Education, now known as the Center for Marine Conservation, Greenpeace, and other environmental groups.  
48. *Id.* at 46-47, 49.  
49. *Id.* at 46. See also MARINE MAMMAL COMMISSION, 1987 ANNUAL REPORT TO CONGRESS 147 (1988).  
51. *Id.* at 802-03.
MMPA purposes and policies' tests of section 103 of the MMPA. Of particular significance was the court's conclusion that the agency could not issue a permit that would result in the take of a depleted species. Finally, the court stated that '[t]he MMPA does not allow for a Solomonic balancing of the animals' and fisheries' interest such as the Secretary attempted.'

E. Effect of the Kokechik Decision

Other than the tuna/dolphin and salmon/Dall's porpoise issues, no fisheries have been required to obtain incidental take authorizations through formal general permit procedures. Although NMFS issued numerous general permits to domestic fisheries from 1974 on, and to foreign fisheries operating within U.S. waters since 1977, none of these were developed through on-the-record rulemaking proceedings. In fact, for most of these permits, the permittees and NMFS recognized that NMFS lacked sufficient information on the status of affected populations, take rates, fishing effort, and other factors necessary to make the determinations required by section 103 of the MMPA. These serious deficiencies caused

52. Id.
53. Id. at 802.
54. Id. See Sauer, supra note 15, at 441-47.
55. See generally KATHRYN O' HARA ET AL., CENTER FOR MARINE CONSERVATION, MARINE WILDLIFE ENTANGLEMENT IN NORTH AMERICA 173-75 (1986). NMFS's failure to apply the general permit requirement in an even-handed manner was attributable, according to the agency, to the fact that all its resources were focused on the tuna/dolphin and Dalls porpoise/salmon fishing permits. There were no recognized serious interactions in other fisheries that would have merited re-programming funding and effort, said an agency official. Further, the agency pointed out, the inability to gather the extent of information necessary for formal rulemaking to waive the moratorium was one reason for the small take exemption enacted in 1981. Bo Bricklemeyer & Suzanne Iudicello, The Reasons for the Fix: Background to the Conservation/Fishing Community Joint Agreement to Recommend Amendments to the MMPA 12-14 (Sept. 22, 1988) (unpublished manuscript, on file with the Ocean and Coastal Law Journal).
56. See O'HARA ET AL., supra note 55 at 181-82. Ten countries held five-year general permits for U.S. waters, allowing them to take thousands of porpoises, dolphins, whales, seals, and sea lions. No formal proceedings were held on any, except the Japanese salmon driftnet application. In addition, two U.S. umbrella organizations representing hundreds of fishing vessels on the West Coast and North Pacific applied for and received general permits allowing takes of 6,425 marine mammals. Id. at 174, 181-82.
57. See Bricklemeyer & Iudicello, supra note 55, at 14.
58. Id. at 3-8.
the Marine Mammal Commission (MMC), after several attempts to require more complete general permit applications, to advise NMFS that it would no longer review these requests or make the MMPA findings required under section 101(a)(1)(B). As the MMC explained, until such information is provided, there simply was an insufficient basis upon which to make the findings required to support the issuance of a general permit.

After years of allowing general permits to be issued without rigorous review or adequate information, it became apparent in the late 1980s that little was known about how fisheries were affecting marine mammals. In January 1988, NMFS announced its intention to prepare an Environmental Impact Statement on the proposed reissuance of domestic general permits that authorized commercial fishers, primarily in West Coast waters, to take marine mammals incidental to commercial fishing operations. In preparing the draft EIS, NMFS determined that it had insufficient information to determine whether most of the marine mammal stocks that interacted with commercial fishing were within their OSP, and that collecting the necessary data to determine OSP would require many years and the commitment of large resources.

The significance of this problem became clear after the Kokechik decision and when the lack of adequate information on affected marine mammal species made it unlikely that any general permits could meet the

59. 16 U.S.C. § 1371(a)(1) (1994) (requiring that, before permits are issued, NMFS must consult with the MMC, which must make recommendations as to whether the taking is consistent with the purposes and policies of the Act). See also MARINE MAMMAL COMMISSION, 1985 ANNUAL REPORT TO CONGRESS (1986) (letter from Marine Mammal Commission to National Marine Fisheries Service, July 1, 1985).

60. MARINE MAMMAL COMMISSION, 1988 ANNUAL REPORT TO CONGRESS (1989).

61. Brickleymer & Iudicello, supra note 55, at 2-3. Arguing that the result of lax application of the general permit requirement over the period from 1974, when the two-year moratorium exemption for commercial fisheries expired, to 1988, when Congress amended the MMPA to require the development of a comprehensive incidental take program, has been the emergence of a tremendous data gap. As of 1988, far too little information was available to allow for meaningful application of the general permit requirement. Which populations were affected by which fisheries and to what extent was generally not known. Even when such information was available, not enough was known about marine mammal population size, discreetness, and take levels to provide the basis for effective management and protection. Id.


63. Id.
MMPA's "disadvantage" test. Without the OSP determinations, NMFS could not make the findings required to waive the MMPA moratorium and promulgate regulations authorizing the incidental take of marine mammals. The implication of this interpretation of the MMPA and the Kokechik decision was to render "de facto depleted" status for all marine mammals for which population determinations have not been made.


The Kokechik decision brought together representatives of the environmental community and the fishing industry during the spring and summer of 1988 to find a way to allow fishing to continue and minimize the harm it caused marine mammals, while gathering the necessary information to fulfill the purposes of the MMPA. Most of the participating fishing groups were Alaskan fishing associations concerned about the implications of takes of Stellers sea lions and Northern fur seals by the salmon, groundfish, and other fisheries in the Gulf of Alaska, Bering Sea, Bristol Bay, and Prince William Sound. A cross section of environmental groups also attended the talks.

During the spring and summer of 1988, the groups met several times without a facilitator, although each side appointed a principal negotiator to speak and represent joint views. Much of the process was conducted

64. See supra Part II.D and accompanying notes.
66. Id.
67. Id.
69. The fishing industry was represented by Dr. Dayton Lee Alverson of Natural Resource Consultants, Terry Wright of the Northwest Indian Fisheries Commissions and Guy Thornburgh of the Pacific States Marine Fisheries Commission; the environmental community spokesmen were George Mannina of O'Connor and Hannan retained by the Center for Marine Conservation, Bo Bricklemeyer of Greenpeace, and Michael Bean of the
through frequent caucusing; exchange of written proposals; and subsequent comment, discussion, and revision. The major issues involved the lack of information concerning marine mammal populations, the frequency of interactions between marine mammals and fishing operations, and, the level of takes associated with certain fishing gear. Both sides were critical of NMFS, and the agency was not invited to participate in the discussions.

G. The Negotiated Proposal and Interim Exemption Program

By June 1988, twenty-five environmental organizations and seventeen commercial fishing organizations had agreed to a proposed five-year regime that they presented as a joint proposal to the Senate Commerce Committee and the House Merchant Marine and Fisheries Committee.

The proposal outlined suggestions for a program to maintain protection for marine mammals while allowing continued commercial fishing operations. The goal of the proposal was to provide for improved collection, reporting, and analysis of information to assess and reduce interactions between marine mammals and fishing gear. Principal elements of the agreement included:

(1) Exemption for fishermen. The proposal called for a limited exemption for a three-year period from the permit requirements of the MMPA for domestic fisheries which had a continuing, documented interaction with specified marine mammals and which did not qualify for either a small take exception or a general permit.

(2) Assessment of fishery-marine mammal interactions. The agreement also called for improved information regarding incidental take

---

Environmental Defense Fund.

70. Personal observations of the author compiled during the negotiations.
73. S.REP. No. 100-592, at 5-6 (1988).
74. Id. at 5.
75. Id.
of marine mammals, an industry-wide education program, an observer program for specified fisheries that included a verification system through limited observer placement, . . . monitoring and reporting requirements, and a centralized non-federal data management and analysis system.  

(3) Conservation measures. Procedures would be established to implement emergency protection measures for marine mammals, develop recovery plans, establish habitat protection zones, and implement mitigation measures for the program as a whole. In addition, the proposal called for a research program focused on specific problems and modifying the population status review process for marine mammals to establish a timetable and facilitate participation by fishers, environmentalists, and State resource managers.

In November 1988, President Bush signed into law the MMPA Amendments of 1988 establishing an information gathering program and an Interim Exemption Program for Commercial Fisheries. The 1988 Amendments to the MMPA included a five-year program exempting commercial fisheries from the incidental taking prohibitions of the Act. This limited exemption allowed incidental takes of marine mammals in fishing gear ranging from coastal gillnets in New England to massive trawls in the Bering Sea, which included interactions between thirty-eight different fisheries and forty species of marine mammals (except those in the eastern tropical Pacific yellowfin tuna purse seine fishery and California sea otters). The exemption was designed to allow commercial fishing to continue while NMFS increased its data gathering, observations,

78. Id.
80. Id. § 1383(a)(1). The amendments prescribed that from November 28, 1988 to October 1, 1993, section 114 of the MMPA rather than sections 101, 103, and 104 of the MMPA, governed the incidental taking of marine mammals by commercial fishermen other than tuna fishermen. The exemption was only available to domestic fishermen or foreign fishermen with valid permits issued under the Magnuson Fishery Conservation and Management Act; all other foreign fisheries, such as the Japanese high seas salmon fishery, were not exempted. H.R. REP. No. 100-970, at 21 (1988), reprinted in 1988 U.S.C.C.A.N. 6154, 6161.
and research on marine mammal/fishing interactions, and completed conservation and recovery plans.\(^{82}\)

The commercial fishing industry was to participate in the data-gathering program by carrying mandatory on-board observers, compiling log books, and reporting marine mammal interactions in return for the temporary exemption from incidental take regulations.\(^{83}\) The MMPA Interim Exemption Program (Interim Exemption) allowed the incidental take of all marine mammals, except California sea otters, but did not allow the "intentional lethal taking of Steller sea lions, cetaceans, or any marine mammal from a stock designated as depleted."\(^{84}\)

Under the Interim Exemption for commercial fisheries, operations were placed in one of three categories based on the fisheries’ likelihood to incidentally take marine mammals.\(^{85}\) For each of the three categories,\(^{86}\) NMFS was required to publish an annual list of fisheries, along with the marine mammals and number of vessels or persons involved in each fishery.\(^{87}\)

All vessels in Category I and II fisheries were required to register, pay a fee, and obtain an Exemption Certificate from NMFS.\(^{88}\) NMFS then issued each vessel owner an exemption certificate, a fishing logbook,\(^{89}\) and a decal to display visibly on the vessel.\(^{90}\)

The 1988 Amendments required each vessel in these fisheries to compile information regarding incidental takings of marine mammals and to acquire data on marine mammal commercial fisheries interactions.\(^{91}\)

\(^{82}\) U.S. DEP’T OF COMMERCE, PROPOSED REGIME TO GOVERN INTERACTIONS BETWEEN MARINE MAMMALS AND COMMERCIAL FISHING OPERATIONS, DRAFT LEGISLATIVE ENVIRONMENTAL IMPACT STATEMENT. 1.3.3 at 1-4. (1991) [hereinafter DLEIS].


\(^{84}\) Id. § 1383a(b)(2)(C).

\(^{85}\) Id. § 1383a(b)(1)(A)(i)-(iii).

\(^{86}\) Id.

\(^{87}\) Id. § 1383a(b)(1)(B),(C).

\(^{88}\) Id. § 1383a(b)(2)(A). See also 54 Fed. Reg. 21,918 (1989) (stating that category III fisheries are not required to register with NMFS, but are required to report all lethal incidental take of marine mammals, make all reasonable efforts to release animals unharmed, and use all practicable non-injurious methods before any lethal intentional take of a marine mammal to protect gear, catch, or lives in accordance with these regulations).

\(^{89}\) 16 U.S.C. § 1383a(b), (c) (1994).

\(^{90}\) Id. § 1383a(b)(3)(A)(ii). Alternatively, the decal could be in the possession of the master of the vessel. Id.

\(^{91}\) Id. § 1383a(c).
Category I and II fisheries were required\(^{92}\) to submit incidental takings report logs to NMFS at the close of the fishing season or as prescribed by the Secretary.\(^{93}\) Upon receipt of the prior year's logbooks, NMFS would reissue an exemption certificate and an annual decal.\(^{94}\)

The 1988 Amendments additionally required NMFS to place observers on Category I vessels to monitor between twenty and thirty-five percent of the fishing operations by vessels in the fishery.\(^{95}\) The purpose of this observer program was to obtain statistically reliable information on the species and number of marine mammals incidentally taken in a fishery and to verify the accuracy of vessel logs.\(^{96}\) Although observers were not required on Category II vessels, the 1988 Amendments gave the Secretary authority to place them in any fishery with the vessel owner's consent.\(^{97}\) The 1988 Amendments also called for establishment of alternative observation programs where, for reasons of vessel size or safety, onboard observers were not practicable.\(^{98}\)

Congress directed NMFS to promulgate regulations implementing the program\(^{99}\) and inform the industry about the exemption.\(^{100}\) Congress noted that "representatives of commercial fishing organizations have agreed to undertake and fund . . . an educational effort to inform fishermen of their rights and responsibilities under the MMPA."\(^{101}\)

**H. Analysis of the Implementation of the MMEP**

The Interim Exemption was to scheduled to begin in the 1989 fishing season with the creation by NMFS of the Marine Mammal Exemption Program (MMEP).\(^{102}\) Administrative delays and the slowness of developing a mechanism to register vessels and enter data received from fishers resulted in the publication of categories of fisheries in April 1989, too late

---

92. Id.
94. Id.
96. Id. See also Interim Exemption for Commercial Fisheries, 54 Fed. Reg. 21,910 (1989).
98. Id. § 1383a(f).
99. Id. § 1383a(k).
100. Id. § 1383a(b)(5)(B).
for that year's fishing season. The first registrations occurred in time for the 1990 fishing season.

The MMEP undertook its task with some problems built in from the start. First, the program was based on a negotiated agreement that NMFS was not a party to, which often made implementation challenging. Second, the way in which fishing is conducted in the United States generally does not lend itself to statistically accurate oversight, a key element in management. As a result, NMFS could never get a clear picture of the first element upon which the MMEP revolved: how many vessels are fishing in a given fishery?

NMFS attempted to use landing data to determine the number of vessels in a particular fishery, but the nature of the "universe" for many fisheries was never determined. Additionally, there were vessels that never registered and were unaccounted for in the estimated number of vessels in a fishery as well as vessels that registered that never reported. Another issue that exacerbated the problem of determining the number of fishing vessels in a fishery was the lack of a uniform standard for determining total fishery effort in the MMEP.

---

106. Id.
107. Id.
108. Id. at 14.
109. Id.
110. Id. at 14-25. In 1990, 18,820 vessels registered for the program, and 13,099 submitted reports at the end of the season. Overall percentage of those reporting averaged 64 percent of those registering. However, the participation varied from fishery to fishery from as low as 1 percent of the vessels in the Washington Coastal River Set Gillnet Fishery to 100 percent in the California Klamath River Salmon Gillnet Fishery. In 1991, NMFS monitored 39 fisheries, with 13,756 vessels registered for the program, and 10,487 submitting reports. Overall percentage of those reporting averaged 72 percent of those registered. However, the participation varied from fishery to fishery from as low as 15 percent of the vessels in the Southern New England/Mid-Atlantic Foreign Joint Venture Mackerel Trawl Fishery to 100 percent in the California Klamath River Salmon Gillnet Fishery, Alaska Prince William Sound Set Gillnet Fishery, and the Washington and Oregon Salmon Net Pen Fishery. Id.
111. YOUNG ET AL., supra note 105, at 15.
This initial inaccuracy over the numbers of vessels was then compounded because not all vessels registered, not all those registering reported, marine mammals were misidentified, and logbook entries were not accurately recorded. Self-reporting by vessel captains was criticized by NMFS, environmental groups, and the fishing industry itself, even though it was a major component of the MMEP. Logbooks were an inaccurate source of information because marine mammals were often not identified to species, or were misidentified, and takes were under-reported.

Another criticism of the MMEP was its lack of current information. Agency verification, data entry, receipt of logbooks from captains, receipt and analysis of observer data, all fell far beyond expected schedules. These delays and the data gaps had a number of consequences. It was difficult for NMFS to correct any perceived errors with the vessel owner. This caused NMFS to reclassify fisheries based on an incomplete picture of marine mammal incidental take and prevented NMFS from conducting trend analysis on effort, registration, and reported marine mammal takes.

To correct some of the inherent problems with self-reporting, the 1988 Amendments called for a twenty-five to thirty-five percent level of observer coverage. In the five years the exemption program was in effect, the actual observer coverage ranged from one to ten percent.

112. Id. at 14-24.
113. Id. at 25.
114. Id.
115. Id. at 166. Reports from observers indicate that the data generated by fishery participants are likely to significantly underestimate mortality levels. For example, the estimated total lethal mammal take in the Gulf of Maine sink gillnet fishery for 1990 alone based on observer reports (3,013) was nearly twelve times greater than the 259 deaths reported by logbook participants in that fishery. In 1991, observers reported 1,929 marine mammals killed while logbooks tallied only 206. Id.
117. Id. at 32.
118. Id.
119. Id.
120. Id.
121. Id.
123. Id.
124. YOUNG ET AL., supra note 105, at 28 (noting that observers have monitored eleven fisheries. In 1990 and 1991, 73 percent and 54 percent, respectively, of the Category I
The result was an underestimate of marine mammal interaction, injury, and mortality, and an overall inability to estimate accurately the level of MMEP participation by the fishery.\textsuperscript{125} Thus, NMFS had no idea what proportion of total fishing effort the logbooks represented, nor an accurate estimate of effort for the various fisheries.\textsuperscript{126}

Although the MMEP was not nearly as successful as had been hoped in generating data, it began to define the magnitude, frequency, nature, and effects of marine mammal interactions and incidental take in fishery operations. "Based on observer reports . . . and vessel owner logbooks . . . 8,672 and 6,199 marine mammals were killed in commercial fisheries in 1990 and 1991 respectively."\textsuperscript{127} Vessel owner logbooks (no observer reports) also reported that 76,473 and 51,678 marine mammals were harassed during 1990 and 1991.\textsuperscript{128}

In summary, the MMEP provided a broad overview of incidental take sufficient to identify the specific marine mammal stocks for which incidental take was a problem, and the commercial fisheries that contributed to the problem. The MMEP also revealed some of the flaws in the exemption program. For example, the pitfalls associated with implementing and enforcing a universal registration and reporting requirement, and the questionable nature of self-reported data from vessel logs. Finally, the MMEP demonstrated that targeted management and enforcement efforts, industry endorsement and participation, and education are critical to the success of any regulatory regime. Although the MMEP had its difficulties, it accomplished what it was supposed to do—gather information on the extent of marine mammal fisheries interactions and identify mechanisms to reduce them.

III. 1994 AMENDMENTS

A. MMC Comments and Recommendations

In addition to enacting the exemption in 1988, Congress directed the MMC to develop a regime that would replace the exemption provision

\textsuperscript{125} Id. at 13-14.
\textsuperscript{126} Id. at 14, 16.
\textsuperscript{127} Id. at 37.
\textsuperscript{128} Id.
after its scheduled expiration on October 1, 1993.\textsuperscript{129} Congress stated that the suggested regime should include:

(A) [T]he scientific guidelines to be used in determining permissible levels of incidental taking;\textsuperscript{130}
(B) a description of the arrangements for consultation and cooperation with other Federal agencies, the appropriate Regional Fishery Management Councils and States, the commercial fishing industry, and conservation organizations;\textsuperscript{131} and,
(C) a summary of such regulations and legislation as would be necessary to implement the suggested regime.\textsuperscript{132}

As directed by Congress,\textsuperscript{133} on July 12, 1990, the MMC issued initial guidelines to NMFS to govern the incidental take of marine mammals after 1993.\textsuperscript{134} The MMC recommended that the basic regulatory framework and MMPA goals be retained.\textsuperscript{135}

\begin{itemize}
\item \textsuperscript{129} 16 U.S.C. § 1383a(l)(1) (1994).
\item \textsuperscript{130} Id. § 1383a(l)(3)(A).
\item \textsuperscript{131} Id. § 1383a(l)(3)(B).
\item \textsuperscript{132} Id. § 1383a(l)(3)(C).
\item \textsuperscript{133} Id. § 1383a(l)(1).
\item \textsuperscript{134} MARINE MAMMAL COMMISSION, 1990 ANNUAL REPORT TO CONGRESS 95 (1991).
\item \textsuperscript{135} See id. at 96. The MMC specifically reaffirmed the MMPA's zero mortality and serious injury rate goal for commercial fishing, and recommended that NMFS reinstate the substantive requirements of the general permit and small-take provisions of the MMPA and allow the incidental take of marine mammals listed as depleted under the MMPA when: (a) recovery or conservation plan and implementation of the plan is in place; (b) the level of take is consistent with the plan and will not contribute to further decline or delay the amount of time for the population to recover by more than 10 percent; (c) there is an adequate monitoring and enforcement of the authorized levels of take; and (d) the take will be reduced to levels as close to zero as practicable. The MMC recommended that NMFS authorize for three to five years, on an experimental basis, the incidental take from marine mammal stocks of unknown status when (1) the take would have a negligible effect on the population size and productivity; and (2) when assessment, monitoring, and enforcement programs are adequate to ensure authorized take levels are not exceeded, NMFS would determine the status of the stocks within that time-frame, and identify methods to reduce the take. Other recommendations included streamlining and continuing vessel registration and reporting initiated under the MMEP; granting explicit authority to the Secretary of Commerce to place observers onboard any commercial fishing vessel operating in U.S. waters; providing necessary funding to authorize collection of user fees sufficient for observer and monitoring programs; considering the impact of takes by fisheries alone and in combination with other forms of taking and human-caused habitat degradation when setting take levels; and
\end{itemize}
B. DLEIS and Scoping Meetings

NMFS announced on May 10, 1990 that it would prepare a detailed proposal, as well as a Draft Legislative Environmental Impact Statement (DLEIS). The purpose of the DLEIS would be to provide a thorough analysis of the potential environmental and economic impacts associated with implementing the long-range plan. The DLEIS would compare four management options: the MMPA prior to the 1988 Amendments; the Interim Exemption; the Marine Mammal Commission Guidelines; and the NMFS Proposal, or long-range plan.

The major issues that NMFS presented in a scoping issues paper were: scientific determinations (OSP determinations, stock definition, allowable mortality, treatment of depleted species, etc.); process (registration, permits, allocation of take, fishery categories, user fees, etc.); and monitoring (stock and take monitoring, reporting, observers, etc.). NMFS held public scoping meetings from May 1990 through February 1991, proposing a framework built around scientific guidelines for taking, including allowable takes of depleted and endangered species. A detailed proposal, as well as the Draft Legislative Environmental Impact Statement, were released on May 24, 1991.

The NMFS proposal reaffirmed the goals and objectives of the MMPA, including goals to maintain or restore marine mammal stocks to their OSP levels and reduce incidental kill and serious injury of marine mammals to insignificant levels approaching a zero rate. The NMFS proposal was designed to: (1) reduce incidental mortality and serious injury of marine mammals to insignificant levels with minimum hardship to fisheries involved; (2) establish conservative total allowable biological removal (ABR) levels for each marine mammal stock, such that the stock could
reach an equilibrium within its OSP level; (3) establish ABR levels so that limited takings from stocks of uncertain status would not pose significant risk to these stocks; (4) allow incidental mortalities from stocks that are depleted, consistent with conservation plans; (5) allocate ABRs among user groups and fisheries, and create regional quota boards to establish fishery quotas; (6) monitor incidental takes and compliance with established quotas, and charge fishers an administrative fee to recover monitoring costs; (7) take actions such as stopping fishing operations to prevent quotas from being exceeded; and (8) provide for long-term monitoring marine mammal stocks to provide the missing OSP data over time.\textsuperscript{143}

NMFS received comments from eighty-four entities during the public comment period on various components of its proposal.\textsuperscript{144} The commenters included numerous federal and state agencies, national and regional commercial fishing and environmental organizations, research and public display organizations, and many individuals.\textsuperscript{145} NMFS also solicited feedback at several consultation meetings held in various coastal areas.\textsuperscript{146} Although NMFS received comments on all aspects of the initial proposal, most commenters reflected concerns "about the complexity of the proposal and its application to a broad range of fisheries rather than focusing on those with significant incidental takes of marine mammals."\textsuperscript{147} Some commenters were specifically concerned that the term "allowable biological removal" implied that the entire calculated ABR would be allocated to user groups.\textsuperscript{148} In addition, there was general concern about the establishment of regional quota boards for allocating ABRs.\textsuperscript{149} Finally, a number of commenters were concerned that the proposed recovery factors were unnecessarily conservative.\textsuperscript{150}

\begin{itemize}
\item \textsuperscript{143} Id. § 2.0 at 2-12 to 2-74.
\item \textsuperscript{144} See generally U.S. DEP'T OF COMMERCE, PROPOSED REGIME TO GOVERN INTERACTIONS BETWEEN MARINE MAMMALS AND COMMERCIAL FISHING OPERATIONS (Nov. 1992) [hereinafter PROPOSED REGIME].
\item \textsuperscript{145} Id.
\item \textsuperscript{146} Id.
\item \textsuperscript{147} Id. at v.
\item \textsuperscript{148} Id. at v-vi.
\item \textsuperscript{149} Id. at v-vi.
\item \textsuperscript{150} Id. at vii-viii.
\end{itemize}
C. The Interim Proposal

After reviewing the comments and consulting with the Regional Fishery Management Councils,151 scientific experts, the environmental community, and the fishing industry, NMFS revised its proposal and issued a Revised Draft Interim Proposal on November 20, 1991.152 The revised proposal contained a number of significant changes. First, "the proposal focuses research, monitoring, and management efforts on the fisheries responsible for the most significant removals of marine mammal stocks" and fisheries in which endangered, threatened, or depleted stocks are taken.153 Second, the term "allowable biological removal" was changed to "potential biological removal" (PBR) to indicate that it was a measure of how many takes a population could withstand, not necessarily the number of takes that would be authorized by NMFS.154 Third, the concept of regional quota boards was abandoned; PBR allocations would be made based on recommendations made by Regional Fishery Management Councils and state fishery agencies after public comment.155 Finally, recovery factors for estimating maximum removals from various population levels were reduced, unless a higher factor was specified in a recovery or conservation plan.156

D. NMFS Final Proposed Regime

Following two comment periods, workshops, and ongoing consultations with affected parties, NMFS delivered its proposed new regime (Proposed Regime) to Congress in November 1992.157 The Proposed Regime retained as its cornerstone the MMPA’s goal of maintaining marine mammal stocks within their OSP level while allowing the incidental take in commercial fisheries when such take would not interfere with marine

151. Regional Fishery Management Councils are created by § 1852 of the Fishery Conservation and Management Act. 16 U.S.C. §§ 1801-1882 (1994). There are eight regional councils, which prepare fishery management plans for fisheries within their respective zones. Id. § 1852(h).
153. PROPOSED REGIME, supra note 144, at 2.
154. Id. at vi.
155. Id. at 56-67.
156. Id. at 20-26.
157. Id. at i.
mammal stocks meeting that goal. Additionally, it reaffirmed and incorporated some basic objectives of the MMPA, such as prohibiting the taking of marine mammals except under a permit/authorization and keeping the zero mortality and serious injury rate goal. Further, the Proposed Regime would amend the MMPA to allow incidental takes from threatened, endangered, and depleted species, and marine mammal stocks of unknown status, all of which were prohibited by the MMPA prior to the 1988 Amendments.

The Proposed Regime applied to all commercial fishing under U.S. jurisdiction (except eastern tropical Pacific yellowfin tuna fishery); it affected marine mammal stocks that interact with fisheries; and it replaced the general permit and small take provisions of the pre-1988 MMPA. The Proposed Regime stated that wherever possible NMFS would make OSP determinations. However, NMFS proposed a fundamental change in the way OSP would be determined, using current carrying capacity rather than historic carrying capacity to determine OSP. Moreover, the method used to determine the PBR level resulted in authorizing takes without precise data and regardless of status of stock while allowing

158. Id. at iii.
159. Id. The Proposed Regime applied the Zero Mortality Rate Goal to all fisheries by implementing a monitoring program, performance standards, educational programs, and research into alternative gear and fishing practices. The Proposed Regime recommended identifying high rates of interactions and determining whether such interactions are correlated to particular areas, times, or seasons; and implementing mechanisms to "ratchet down" PBR, and coordinated solutions to reduce mortality and serious injury. Id. at 50-52.
160. Id. at iii.
161. Id. at ix. See also Sauer, supra note 15 (giving a more detailed discussion of (1) allocating quotas for incidental take to commercial fisheries; (2) allowing the removal of depleted, endangered, and threatened species; and (3) retaining the zero mortality rate goal as it relates to the proposed regime and the history and goals of the MMPA).
162. PROPOSED REGIME, supra note 144, at 10.
163. Id. at 11. Carrying capacity (K) is the upper limit of OSP, and refers to an equilibrium population level before impact by man, either direct or indirect. Typically, K has been determined based on historic carrying capacity derived by a back calculation method that requires birth and natural mortality rates, recruitment rate, and direct or indirect human-related mortality estimates to project the population backwards in time. Id. at 2-16; see also Tim Gerrodette & Douglas P. DeMaster, Quantitative Determination of Optimum Sustainable Population Level, in MARINE MAMMAL SCIENCE, 6(1), 1, (1990). NMFS proposed using current carrying capacity absent human exploitation, and factoring in habitat degradation. PROPOSED REGIME, supra note 144, at 2-24 to 2-25.
marine mammal stocks to equilibrate to OSP. Once PBR was calculated, NMFS proposed allocating PBRs annually among user groups.

Prior to 1988 the MMPA prohibited takes of depleted marine mammal stocks incidental to commercial fishing. The Proposed Regime would have allowed some incidental taking of threatened, endangered, and depleted marine mammals to be regulated through a small take application process. Although NMFS could authorize such takes under the Endangered Species Act with the proposed change, takes would only be permitted if NMFS could determine that the total incidental take would have a negligible impact on the marine mammal species or stock, and would not further disadvantage the stock or significantly delay recovery

164. PROPOSED REGIME, supra note 144, at 11, 28-36. The PBR value is the maximum number of marine mammals that can be removed (killed or injured) from a stock by all forms of take while still ensuring the recovery of the stocks. Id. Potential Biological Removal level is calculated by: \( (N_{\text{min}}) \times (R_{\text{mapl}}) \times (F) \) where \( N_{\text{min}} \) is the minimum stock abundance, \( R_{\text{mapl}} \) is the rate of increase at the maximum net productivity level, and \( F \) is a recovery factor. Default values for unknown \( R_{\text{mapl}} \) are six percent for pinnipeds and sea otters and two percent for cetaceans and manatees. \( F \) are 1.0 for stocks at OSP, 0.5 for depleted and threatened stocks and stocks of unknown status, and 0.1 for endangered stocks. Recovery factors are in relation to current carrying capacity. The PBR value is the maximum number of marine mammals that can be removed (killed or injured) from a stock by all forms of take while still ensuring the recovery of the stock. Id. at 2-22 to 2-23.

165. Id. at 56-73. In the proposed allocation process, NMFS would publish annually a list of stocks and estimated total take by user groups, the PBR calculation for each stock, and the classification of stocks and fisheries. The two marine mammal stock classifications, alpha and beta, were based on the level of take or the stock status: depleted, threatened, or endangered. Fisheries were classified as either Category I, II, or III based on which stock they interacted with and the level of interaction. NMFS would then propose a PBR allocation for all fisheries interacting with alpha stocks to fisheries management councils and states to review, to allow for hearings, and to make recommendations to NMFS for allocations on a fishery by fishery basis. Once NMFS received the recommendations, they would then publish the final notice of allocations for all user groups and maintain a reserve of PBR for contingencies. The PBR for beta stocks would not be allocated. Id.


167. PROPOSED REGIME, supra note 144, at 55.

168. Id.
Further, NMFS proposed to allow intentional takes (lethal and non-lethal) of endangered and threatened species.\textsuperscript{170} The Proposed Regime included a monitoring program that included on-board observers, remote platform observers, vessel logbooks and indirect indices (e.g. stranding records).\textsuperscript{171} Also included was a registration system that required each vessel in a fishery interacting with marine mammal stocks to register and receive an authorization to fish,\textsuperscript{172} and mechanisms to enforce the allocations.\textsuperscript{173}

\section*{E. Summary Analysis of the Proposed Regime}

NMFS once again received a number of comments, and held numerous meetings with fishing industry and environmental groups to explain the revisions and to more directly gauge the responses to them. The final proposal addressed each of these issues. The scheme for classifying fisheries was revised to focus even more precisely on fisheries in which endangered, threatened, or depleted stocks are taken. The final proposal increased the level of protection afforded marine mammal stocks by providing for the more conservative recovery factors included in the original proposal. Finally, NMFS maintained the MMPA prohibition on taking marine mammals without authorization by requiring vessel owners to apply for and obtain an authorization to take marine mammals through the proposed registration process. To deal with "inconsistencies" between the Endangered Species Act and MMPA, NMFS proposed that the MMPA be amended to allow the taking of endangered and threatened marine mammals incidental to commercial fishing operations under the provisions of section 101(a)(5), and authorized under the ESA.\textsuperscript{174}

\begin{itemize}
\item \textsuperscript{169} \textit{Id.} at 55-57 (NMFS proposed calculating PBRs for depleted, threatened, and endangered stocks using conservative recovery factors and adjusting the PBR further based on information in the Stock Assessment Report, existing conservation/recovery plans, or other sources. In some cases that adjustment could mean that NMFS would not permit removals from a particular population (e.g. right whales)).
\item \textsuperscript{170} \textit{Id.} at 56.
\item \textsuperscript{171} \textit{Id.} at 80-90.
\item \textsuperscript{172} \textit{Id.} at 71-73. (Prior to the 1988 Amendments, the MMPA prohibited unauthorized incidental takes of marine mammals, but individual fishermen or vessels did not need an authorization under the MMPA to participate in commercial fisheries).
\item \textsuperscript{173} \\textit{PROPOSED REGIME, supra} note 144, at 51-52.
\item \textsuperscript{174} \textit{Id.} at 2-45 to 2-48.
\end{itemize}
The fishing industry remained concerned that fisheries with insignificant incidental takes were still being included within the management scheme. The environmental community thought that the interim proposal continued to under-protect marine mammals; specifically by: (1) reducing the conservatism provided by the originally proposed recovery factors; (2) proposing to use current carrying capacity to determine OSP; and, (3) removing the requirement from the MMPA that fishermen must apply for takes before being allowed to remove marine mammals.

F. Negotiation Process—Rationales and Participants

Reaction to the NMFS proposal from the conservation community and the fishing industry was mixed. The conservation community questioned NMFS' ability to enforce removal levels and raised questions regarding timing and the lack of clear procedural steps for both industry and the public in the various allocation and stock assessment processes. Conservationists also expressed concerns about the proposal's apparent departure from the ZMRG of the MMPA. Under the proposed NMFS system, as marine mammal stocks increased, PBR levels would also increase. Conservationists were similarly troubled by the fact that the Proposed Regime focused on allocating lethal takes rather than reducing them. Additionally, conservationists felt that research priorities should be directed, at least in part, to investigating alternative gear or fishing techniques to mitigate interaction between marine mammals and fisheries.

Commercial fishers also objected to many elements of the proposed NMFS regime. They were concerned with how PBRs would be calculated, how marine mammal takes would be allocated among competing sectors of the industry, and that their quota would be automatically

176. Id.
178. Id. (statement of Suzanne Iudicello, Counsel, Center for Marine Conservation).
179. Id. (statement of Suzanne Iudicello, Counsel, Center for Marine Conservation and statement of Sharon Young, Wildlife Consultant, International Wildlife Coalition).
180. Id.
reduced to account for lethal takes by other users. The fear of a quota-based management regime that depended on statistical extrapolations of potential lethal takes throughout all fisheries aggravated these concerns. Alaskan Native groups were concerned about the impacts of PBR allocations on their subsistence needs.

In an effort to draft an alternative management regime that would address these concerns, a coalition of environmental organizations, animal welfare groups, commercial fishing industry representatives, and Alaskan Natives began meeting in early 1993, assisted by a professional facilitator. The first meeting was held in February 1993 to discuss, generally, the MMPA reauthorization. Formal discussions took place in March and April with the specific goal of developing a management regime to protect all marine mammal stocks that have a record of, or a potential for, interacting with commercial fisheries.

181. Id. (statement of Dick Gutting, Blue Water Fishermen Ass'n).
182. Id. (statement of Alvin Osterback, Jr. Assembly Member, Aleutians East Borough, Anchorage, Alaska).
185. Id.
186. Id. at 2.
G. Role of Keystone as Facilitators

The initial February meeting made it clear that all the groups were interested in drafting an alternative proposal to what NMFS was going to present to Congress.\(^{187}\) The groups had a two-day meeting to hear presentations from NMFS on the progress of the interim exemption program\(^ {188}\) (see results of the reporting system) and hear a briefing on the agency's proposal.\(^ {189}\) At that session the groups agreed that ground rules were necessary for the talks to continue, and that a third-party facilitator would be helpful to keep the process on track.\(^ {190}\) The groups selected the Keystone Center to lead the talks.\(^ {191}\) The facilitator ensured adherence to ground rules, set dates and places for meetings, kept the group on schedule, provided a means to keep the discussions flowing and open to all participants, collected notes and materials, and circulated drafts of various elements of the proposals as they emerged from the group.\(^ {192}\) As the talks progressed to increasingly difficult issues, the facilitator identified obstacles and assisted the group in reaching several critical breakthroughs.\(^ {193}\)

H. Negotiation Process

The group developed criteria that would be used to identify marine mammal stocks, rank them by criticality, and set priorities for the stocks which, for a variety of reasons, deserved immediate attention.\(^ {194}\) The

\(^{187}\) Id.

\(^{188}\) Id.

\(^{189}\) Letter from Guy Thornburgh, Executive Director, Pacific States Marine Fisheries Comm'n, to Herb Kaufman, Office of Protected Species, NMFS (Mar. 3, 1993) (on file with the Ocean and Coastal Law Journal).

\(^{190}\) Facsimile from Suzanne Iudicello, Senior Program Counsel, Center for Marine Conservation, Request for Proposals to Facilitate (Mar. 20, 1993) (on file with the Ocean and Coastal Law Journal.)

\(^{191}\) Letter from Abby P. Dilley, Vice President, The Keystone Center, to Suzanne Iudicello, Senior Program Counsel, Center for Marine Conservation (March 29, 1993) (on file with Authors).


\(^{193}\) See telephone interview with Abby P. Dilly, supra note 192.

\(^{194}\) Negotiated Proposal, supra note 184, at 3.
group agreed that total lethal takes from all sources must be brought below the biological level at which the mammal population sustains itself, and that any management regime must be designed to achieve this result as quickly as possible. There were a number of intentions behind this proposed management system. The first was to recover stocks to OSP, to be accomplished by expediting reduction in lethal take to insignificant levels approaching a zero mortality and serious injury rate. A second intent was to take aggressive and quick action to avoid the point at which the marine mammal must be listed as "threatened" or "endangered" under the ESA or designated depleted under the MMPA. Finally, the group intended to ensure that fishing interactions do not significantly retard recovery.

The proposed process focused on incidental mortality of marine mammals in commercial fishing operations. The group agreed early on that their talks would not address other pending reauthorization issues such as public display, scientific research permits, tuna-dolphin interactions, or other issues. Their Negotiated Proposal was intended to replace the Interim Exemption Program enacted in the 1988 Amendments. Although the Negotiated Proposal recognized "instances where mortality from other sources [had to be] considered or accounted for, the negotiators did not intend . . . to replace existing MMPA (or other statutory) regimes for regulating, prohibiting or permitting non-fishing takes of marine mammals." The availability of money for federal marine mammal programs was a concern of both sides.

This concern, combined with the industry's desire to minimize regulatory burdens and the conservationists' desire to focus resources, programs, and management measures on marine mammal species needing the

---

195. Id.
196. Id.
197. Id.
198. Id.
199. Id.
200. Id.
201. Id.
203. Negotiated Proposal, supra note 184, at 3.
204. Id. at 194.
205. Id.
most protection, led the group to seek a priority-setting mechanism. Their Negotiated Proposal created an "immediate focus of management actions, especially those pertaining to commercial fishing, . . . on marine mammal stocks that [were] in decline or [were] at low population levels as a result of incidental lethal take by itself or in combination with other sources of mortality." The negotiators discussed, but did not address specifically, the issue of "abundant marine mammal stocks that interact with fishing operations and that may be at or near OSP." They recommended "direct[ing] those issues to the pre-1988 MMPA process for OSP findings, and rulemaking under sections 103 and 104 of the Act, which provide for incidental lethal takes of marine mammals at or above OSP."

I. Negotiated Proposal

During the negotiations, "the Conservation Community’s basic premise was that the MMPA imposed, and would continue to impose, a moratorium on taking marine mammals, with the goal of reducing incidental lethal take of marine mammals in commercial fishing operations to insignificant levels approaching zero mortality and serious injury rate." On the other hand, commercial fishers "wanted to avoid a burdensome management regime that applied across-the-board to all fisheries regardless of the known, or presumed, level of its impact on[,] or interaction with[,] marine mammals." Further, the negotiators believed that any proposal should have "all concerned parties actively involved in the entire [regulatory and management] process—from the review of the relevant science to the development of specific management measures." However, both sides agreed that limited funding would be a key factor in how much desired scientific and regulatory activity could be undertaken. Therefore, the group started with the working premise that all marine mammal stocks would be afforded protection, and that research and

206. Id.
207. Id. at 3.
208. Id. at 4.
209. Id. at 4.
210. Id. at 3.
211. Id.
212. Id.
213. Id.
management priorities would be set based on the status of the marine mammal stock and level of lethal take.\textsuperscript{214}

The Negotiated Proposal incorporated many of the concepts of NMFS's proposed regime, including PBR.\textsuperscript{215} However, NMFS's proposal allocated takes on a fishery-specific basis, while the Negotiated Proposal emphasized marine mammal stocks.\textsuperscript{216} The Negotiated Proposal set a ten-year time frame for attainment of the zero mortality rate goal of the MMPA.\textsuperscript{217} Further, it created new opportunities for participation by industry, conservation groups and the public in both reviews of the underlying scientific assumptions of marine mammal management, and on incidental take teams to work with NMFS to craft methods to reduce harmful interactions between fisheries and marine mammals.\textsuperscript{218} The objectives stated in the negotiated document are:

1. To involve all interested parties early in every aspect of research, conservation, and management;
2. To reduce immediately the lethal takes of marine mammals from all sources to a level that allows the recovery of stocks;
3. Within ten years, to reduce incidental mortality rates of marine mammals caused by commercial fishing to insignificant levels approaching zero.\textsuperscript{219}

The parties also agreed that fisheries that incidentally lethally take marine mammals from stocks that were at OSP, had to complete the pre-1988 process of findings, and general permit or small take permit authorizations of the MMPA.\textsuperscript{220}

The Negotiated Proposal called for a "designation of stocks known not to be at OSP or whose status [was] unknown[, to] be made as part of the publication of the Secretary's preliminary stock assessment."\textsuperscript{221} As part of the proposed final rules, the Negotiated Proposal recommended a "general authorization for the taking of marine mammals in the course of

\textsuperscript{214} Id. at 3.
\textsuperscript{215} H.R. REP. No. 103-439, at 6 (1994).
\textsuperscript{216} Id.
\textsuperscript{217} Negotiated Proposal, supra note 184, at 5.
\textsuperscript{218} Id. at 9-13.
\textsuperscript{219} Id. at 4-5.
\textsuperscript{220} Id. at 5.
\textsuperscript{221} Id.
commercial fishing," subject to criteria that incorporated the group's adherence to a biologically-based priority setting system focusing attention on marine mammal stocks of the most concern, or "critical" stocks. The Negotiated Proposal subjected takes of critical stocks to management measures adopted in a conservation plan. It also provided that takes from non-critical stocks would be subjected to regulation by the Secretary, and fishers would be required to report all lethal takes. After much debate fishers finally agreed that in no case would the general authorization permit intentional killing of marine mammals. The Negotiated Proposal recommended authorizing takes of endangered and threatened marine mammals pursuant to the Endangered Species Act, rather than under the MMPA, as recommended by the MMC and the NMFS.

The proposal set out detailed time tables for publication of stock assessments, peer review, public review, and Secretarial action to publish findings and convene conservation teams for critical stocks. The teams' primary purpose was to review the scientific information for a marine mammal stock or group of stocks within a region and identify problems and mitigation measures that could contribute to moving critical stocks to non-critical status and to develop a conservation plan. The teams were to serve in an advisory capacity to the Secretary and to have as their immediate task finding a suite of measures that would reduce lethal takes below the calculated removal level. Each conservation team was also to establish interim benchmarks to measure actual performance against the goal of reducing incidental fishing mortality to an insignificant rate approaching zero within ten years.

The Negotiated Proposal called for consideration of a variety of management measures. The measures ranged from traditional actions such as fishery-specific lethal take limits, time/area closures, observers

222. Id.
223. Id. at 3-5.
224. Id. at 5.
225. Id.
226. Id.
229. Id. at 10.
230. Id. at 10-11.
231. Id. at 11.
and permits, to innovative tools such as incentive programs for fishers, education, alternative gear techniques, and new technologies.\textsuperscript{232} Several of the environmental groups that participated in the negotiations chose not to sign onto the agreement after the talks concluded.\textsuperscript{233} They expressed concern that the proposal did not contain a central vessel registry, lacked a mandatory observer program, did not provide for sufficient funding of research into alternative fishing technologies, and was without a prohibition on the take of endangered species.\textsuperscript{234} These groups subsequently formed a coalition of fifteen environmental and animal welfare organizations to advocate more protective measures in the proposed legislation.\textsuperscript{235}

\textit{J. House and Senate Action}

The Subcommittee on Environment and Natural Resources of the House Merchant Marine and Fisheries Committee held three hearings on MMPA reauthorization: on April 20, 1993, to hear reactions to the NMFS proposed regime; on August 4, 1993 to take testimony on House Bill 2760, introduced in July by Reps. Studds, Young, Fields, Manton, and Saxton; and again on February 10, 1994, to review provisions on public display of marine mammals.\textsuperscript{236} House Bill 2760 incorporated many of the suggestions of the Negotiated Proposal, as well as elements from the NMFS Proposed Regime and issues raised by the MMC and others.\textsuperscript{237} The August 4, 1993 hearing elicited so many diverse views on the legislation that the Committee concluded that it could not reconcile the issues in the time remaining before the expiration of the Interim Exemption Program on October 1, and moved to extend the exemption for another six months.\textsuperscript{238} On September 13, 1993, sponsors of House Bill 2760 introduced House Bill 3049, to extend the interim exemption through
March 31, 1994, and it was enacted and signed into law on September 30, 1994. The Senate Commerce Committee held hearings on July 14, 1993 to consider a new regime to govern incidental take of marine mammals during commercial fishing operations, and held another hearing on July 28, 1993 to examine the process for obtaining permits for public display of marine mammals and for scientific research. On November 8, 1993, Senators Kerry, Stevens and Packwood introduced Senate Bill 1636, to reauthorize the MMPA. This bill incorporated much of the Negotiated Proposal, but was modified by comments from the MMC, NMFS, and from comments during a series of meetings among House and Senate staff and affected interest groups. At a November 9 Committee session, the bill was amended to allow vessels in Hawaiian waters to approach whales as close as 100 yards. It was also amended to authorize the Secretary to "remove lethally a nuisance pinniped if the animal was identified as habitually exhibiting dangerous or damaging behavior that could not be deterred by other means." The amendment further called for a task force to consult with the Secretary of Commerce about seals and sea lions considered "nuisance" animals, because of their predation of steelhead and salmon, species prized by commercial and recreational fishermen, at the Ballard Locks in Seattle and in the Columbia River. Proponents argued that the predation had contributed to declines in several species of fish. On January

240. S. REP. No. 103-220, at 5 (1994), reprinted in 1994 U.S.C.C.A.N. 518, 522 (1994). See also NUISANCE ANIMAL REPORT, in Memorandum from Suzanne Iudicello, Center for Marine Conservation, to Peigin Barrett et al (June 6, 1993) (on file with Authors) (a subgroup of the negotiating parties also had met to address this topic, and had proposed to Congress a multi-phased process that would have evaluated whether all feasible methods of non-lethal deterrence had been tried and whether the target marine mammals were responsible for the fish declines).
241. S. REP. No. 103-220, supra note 240, at 5.
243. Id.
245. Id.
246. UNITED STATES GENERAL ACCOUNTING OFFICE PROTECTED SPECIES, MARINE MAMMALS' PREDATION OF VARIETIES OF FISH, REP. TO SLADE GORTON, U.S. SENATE,
25, 1994, Senate Bill 1636 was reported to the Senate floor for consideration, and further discussion of issues including public display and scientific research continued.

After a Committee markup on March 16, 1994, House Bill 2760 came to the floor of the House on March 21, 1994, and passed under suspension of the rules. Senate Bill 1636 passed the Senate on the same day.

House and Senate leaders worked to resolve differences between the two bills. The House amended and passed Senate Bill 1636 on March 22. On March 24, the Senate added two more amendments to Senate Bill 1636 as approved by the House, and sent it back to the House.

K. Stumbling Blocks to Passage

Although incidental take of marine mammals in commercial fisheries fueled the momentum behind the reauthorization, several other issues arose during the reauthorization, including changes to permit procedures for public display and scientific research, and two topics that threatened to derail passage, protection of marine mammal habitat and the importation of polar bear pelts from Canada. It was these latter two issues that caused the bill to "bounce" back and forth between the House and the Senate in March and April.

As already stated, public display of marine mammals and scientific research permits merited a separate hearing before the House Subcommittee on February 10, 1994. Changes to procedures for these activities were incorporated as part of a committee substitute to House Bill 2760. These changes were adopted in the previously mentioned markup by the

GAO/RCED 93-204, (Sept. 1993).

247. S. REP. No. 103-220, supra note 240, at 5.
248. Id.
251. Id.
252. Id.
253. Id.
254. Id.
255. Id.
257. MARINE MAMMAL COMMISSION, 1994 ANNUAL REPORT TO CONGRESS 5-6 (1995).
Merchant Marine and Fisheries Committee on March 16, 1994 and reported to the House floor. The contentious issue outside the incidental take debate focused on a dispute over lifting the prohibition on import of polar bear trophies from Canada. When the House sent Senate Bill 1636 back to the Senate in March, it contained language that would allow American hunters to bring back to the United States the hides of polar bears killed legally in Canada. The two houses reached an impasse when Senator John Kerry indicated his unwillingness to see the ban lifted, and Representative Jack Fields reported he would oppose any MMPA reauthorization that did not contain the provision. The trophy issue galvanized elements of the animal welfare community that had either been quiescent on MMPA reauthorization or had objected to, but acquiesced in, most of the other elements of the 1994 Amendments. The polar bear trophy provisions elicited threats of filibusters, holds, and other tactics to prevent passage of MMPA reauthorization. Senator Kerry was able to persuade Representative Fields to accept additional protections, including a scientific study, to be sure that U.S. trophy hunting was having no effect on the Canadian polar bear population. It was hard selling the notion to the animal welfare groups. Kerry said, "with this additional polar bear protection language, I believe that the benefits of the overall MMPA package vastly outweigh the potential problems associated with the polar bear provision. If we fail to take action now, we sentence thousands of marine mammals to death and injury that could be avoided by our new regime."

259. Id.
263. Letter from Donna Hart, Chair, Marine Mammal Protection Coalition to Representative Gerry Studds (Feb. 22, 1994) (on file with Authors).
266. Id.
Another major disagreement arose within a day of the positive action in the House and Senate when the House, in an effort to place more emphasis on protection of marine mammal habitat, upset the property rights movement in the guise of the timber industry "for reasons which have nothing to do with marine mammals, nothing to do with fishermen." Claiming that the approach the House had used to give additional protection to habitats would affect litigation over "critical habitat" as that term was used in the Endangered Species Act, timber interests were successful in finding several Senators to put holds on the bill. This prevented it from coming to the Senate floor.

Approaching the April 1, 1994 (extended) expiration date of the Interim Exemption, House members introduced House Bill 4412 to extend the exemption for one more month, until May 1, 1994 but made it clear there would be no further extensions. The extension measure was adopted by both houses and signed into law on March 31, 1994. Both houses went on Easter break leaving sponsors and proponents to work out an agreement on habitat protection.

Environmental groups called the dispute meddling by elements of the wise use movement who had no interest at stake in marine mammal issues. "Timber's rhetorical fear-mongering campaign over a definition has completely stalled the passage of an important conservation law. A law in which they have no stake."

The floor manager of the bill in the House, sponsor Gerry Studds, stated the problem in the following way:

From the beginning of our negotiations on this legislation, one of our goals has been to provide adequate protection for the important habitats of marine mammals. Over the past 20 years, one lesson has been made clear: that we cannot protect the creatures of this world without protecting their essential habitats. For marine mammals, that

269. Id.
270. Id.
271. Id.
272. Id.
274. Id.
translates into protecting feeding grounds, rookeries, nursery grounds, migration paths and the like.

Originally we had amended the definition of "take" in the MMPA to include "harm"; we then defined "harm" to include destruction of significant marine mammal habitats. Unfortunately, some special interest attorneys feared that this change in the MMPA would affect pending litigation concerning the Endangered Species Act. . . . [I]t became quickly clear that we had to change our strategy to accomplish our goal.275

Eventually the two bodies agreed to language276 that clarified the Secretary's existing authority to protect areas of "special ecological significance" without affecting any other laws.277 With that settled, the House and Senate proceeded to voice their approval of the 1994 Amendments to the MMPA on April 26, 1994.

L. Analysis of the 1994 Amendments

The 1994 Amendments to the MMPA set out a new regime to govern incidental takes of marine mammals during commercial fishing operations. The underlying premise is taken from the NMFS proposal that decisions on allowable takes should be based on assessments of the status of the marine mammal stock and the operation of the fisheries, and conducted within biological limits that protect the marine mammal stocks.278 The

---

276. 16 U.S.C. §§ 1361(5), 1382(e) (1994). See also MARINE MAMMAL COMMISSION, 1994 ANNUAL REPORT TO CONGRESS 265-66 (1995). Provisions in the findings section: [W]ere amended to strengthen the Act's general policy statements to call for the protection of essential habitat and to recognize the need to protect and conserve marine mammal habitat in addition to the animals themselves. A habitat related amendment was also added to . . . authorize the Secretary to develop and implement conservation and management measures to alleviate impacts on rookeries, mating grounds, or other areas of similar ecological significance that may be causing the decline or impeding the recovery of a strategic stock of marine mammals.

Id.


major elements, described in detail below, add three new sections to the MMPA. One requires stock assessments, status determinations, and calculation of the stock's potential biological removal level.\textsuperscript{279} A second new section, section 118, sets out the requirements for fishermen, modeled largely after the Interim Exemption.\textsuperscript{280} A third new section, section 120, provides a process whereby states and NMFS can address interactions between pinnipeds and fishery resources.\textsuperscript{281} The approach to incidental takes includes required vessel registration, observer coverage, emergency regulatory authority, attainment of the zero mortality rate goal, convening of incidental take reduction teams and preparation of take reduction plans, and a prohibition on intentional killing of marine mammals by fishers.\textsuperscript{282}

The only change to the underlying policy declarations of the MMPA was the addition of habitat protection to the findings section of the Act. The 1994 Amendments call for efforts to protect "essential habitats" from "the adverse effect of man's actions," and add habitat protection to the list of necessary activities.\textsuperscript{283}

While the definition of the term "take" in the Act remained unchanged and still includes "harass" as a form of take, harassment is further defined as any act of pursuit, torment or annoyance of marine mammals in the wild. It distinguishes between levels that have the potential to injure and those that could disrupt behavior patterns.\textsuperscript{284} Additional new definitions cover terms and concepts in the new incidental take regime. The new definitions include "strategic stock," "potential biological removal level," "take reduction plan," "take reduction team," "net productivity rate," and "minimum population estimate."\textsuperscript{285}

The authorization to take marine mammals under the new incidental take regime is found in section 101 of the Act,\textsuperscript{286} which also delineates the moratorium on taking and exceptions.\textsuperscript{287} The 1994 Amendments require the Secretary to authorize incidental takes of marine mammals in

280. Id. § 1387.
281. Id. § 1389.
282. Id.
283. Id. § 1361(2), (5)(B).
284. Id. § 1362(18).
286. Id. § 1387.
287. Id. § 1371.
the course of commercial fishing operations, subject to regulations, but in lieu of permits prescribed under the Secretarial findings, waiver, and regulations procedures set out in section 103. Also added was language to describe the procedure for governing takes of marine mammals designated as depleted because of an endangered or threatened species listing. The measure requires a finding by the Secretary that the incidental mortality and serious injury from the commercial fishing take will have a negligible impact on the species; that a recovery plan has been developed under the ESA; and that a monitoring program has been established. A permit may be granted to an entire fishery, but reporting is required on a vessel basis. The Secretary may amend, modify or revoke such permits, and if during the course of the fishery the level of mortality or injury is likely to have more than a negligible impact on the affected marine mammal stock, the Secretary is directed to employ emergency measures to protect the stock.

For the first time, the Act grants any person the authority to deter marine mammals damaging private property or endangering personal safety, as long as the deterrence measures do not cause death or serious injury to the marine mammal. The authority fishers received in the 1988 Amendments to deter marine mammals from fishing gear or catch was modified to apply only to non-lethal actions. The 1994 Amendments also called for publication by NMFS of guidelines for deterrence, and an assessment of forms of deterrence, with authority to prohibit those that have a significant adverse effect on marine mammals.

Section 104 of the Act governs the various permits required for taking or importing marine mammals. Although the new section 118 provides a mechanism in lieu of permits for takes in the course of commercial fishing, section 104 retains existing permits for authorizing takes of

288. Id. § 1371(a)(5)(E).
289. Id. § 1371(2).
290. Id. § 1387(a)(2).
292. Id. § 1371(a)(5)(E)(ii).
293. Id. § 1371(a)(5)(E)(iii),(iv).
294. Id. § 1371(a)(4)(A).
295. Id.
296. Id. § 1371(a)(4)(B).
298. Id. § 1374.
dolphins in the eastern tropical Pacific (ETP) tuna fishery and for small take permits for activities other than commercial fishing.\textsuperscript{299}

Section 110 requires ecosystem studies in the Gulf of Maine and the Bering Sea.\textsuperscript{300} The Gulf of Maine study assesses human caused factors affecting the health and stability of the ecosystem.\textsuperscript{301} The study includes a workshop, and recommendations for a research and management program to foster marine mammal protection, manage the ecosystem, ensure management options for the future, and permit the use of marine resources.\textsuperscript{302}

The Bering Sea study requires the Secretary of Commerce to consult with the Secretary of the Interior, the Marine Mammal Commission, and the State of Alaska and Alaskan Native organizations to conduct scientific research on the health and stability of the Bering Sea ecosystem.\textsuperscript{303} The program focuses on uncertainties surrounding the population declines of marine mammals, birds and other living marine resources in the region.\textsuperscript{304}

Section 112 requires the Secretary of Commerce, in consultation with the Marine Mammal Commission, to take action to alleviate impacts on strategic stocks by protecting marine mammal habitat.\textsuperscript{305} If a stock assessment reveals that impacts on rookeries, mating grounds or other significant habitat areas are causing declines or impeding recovery of a strategic stock, conservation and management measures are to be developed and implemented through notice and comment rulemaking.\textsuperscript{306}

The Interim Exemption for commercial fisheries described in section 114 in the 1988 Amendments was retained until September 1995 to allow the transition to the new regime governing incidental takes in commercial fishing.\textsuperscript{307} Section 115 of the Act requires status reviews of marine mammal stocks and for the preparation and implementation of conservation plans.\textsuperscript{308} It also adds new language that any conservation plan

\begin{itemize}
  \item \textsuperscript{299} Id. § 1374(a).
  \item \textsuperscript{300} Id. § 1380(c).
  \item \textsuperscript{301} Id. § 1380(c)(1).
  \item \textsuperscript{302} Id. § 1380(c)(1)(A)-(D).
  \item \textsuperscript{303} 16 U.S.C. § 1380(d)(1) (1994).
  \item \textsuperscript{304} Id.
  \item \textsuperscript{305} Id. § 1382(e).
  \item \textsuperscript{306} Id. § 1382(e).
  \item \textsuperscript{307} Id. § 1383(a)(1).
  \item \textsuperscript{308} Id. §§ 1386, 1383b.
\end{itemize}
prepared under this subsection must incorporate a take reduction plan required under section 118. 309

The most significant changes to the Act are new sections 117 and 118, which incorporate the new regime to govern incidental takes of marine mammals during commercial fishing operations. 310 Stock Assessments form the basis for the new regime, and section 117(a) directs the Secretary to consult with scientific review groups in preparing the assessments. 311

The assessments, which require public review and comment, are to include the best scientific information on affected marine mammal stocks including range, population estimates, mortality estimates, commercial fishery interactions, description of the fisheries interacting with the stock, categorization of the stock, and an estimate of the potential biological removal for the stock. 312 The Secretary is to prepare annual assessments for strategic stocks and for those for which significant new information is available, and every three years for other stocks. 313

Section 118 restates the zero mortality rate goal, and sets a seven year deadline to achieve the goal. 314 The new regime does not apply to commercial fishing takes of endangered marine mammals, dolphins taken during purse seine fishing in the Eastern Pacific Ocean tuna fishery or California sea otters. 315

Section 118 also requires the Secretary to submit a progress report to Congress by April 30, 1997. 316 Fisheries that keep mortality and injury to insignificant levels are not required to reduce their interactions further. 317 If the rate is not consistent with the zero mortality rate goal, the Secretary is directed to take action through emergency rules. 318

---

311. 16 U.S.C. § 1386(d) (1994) (the Secretary is to appoint three review groups representing Alaska, Pacific Coast, Atlantic Coast with “a balanced representation of viewpoints” from among affected coastal States, regional fish and wildlife managers, Alaskan Native organizations and Indian tribes, and environmental and fishery groups).
312. Id. § 1386(a)(1)-(6), (b).
313. Id. § 1386(c).
314. Id. § 1387(a)(1). The specific deadline is April 30, 2001. Id.
315. Id. § 1387(a)(2)-(4).
316. Id. § 1387(b).
318. Id. § 1387(b)(4).
The take authorization program in subparagraph (c) incorporates many of the elements of the Interim Exemption, including publication of a list of fisheries, categorization of fisheries, and vessel registration.\textsuperscript{319} Authorized vessels are required to display a decal, report takes, comply with take reduction plans and emergency regulations, and take observers when requested.\textsuperscript{320} The Secretary may suspend or revoke the authorization from vessels that do not comply with take reduction plans or emergency measures, exposing such vessel masters or owners to the penalties of the Act.\textsuperscript{321}

Subsection (d) of section 118 outlines a monitoring program to obtain estimates of mortality and serious injury, corroborate the reliability of reports, and identify changes in fishing methods or technology that could increase or decrease marine mammal mortality and serious injury.\textsuperscript{322} The measure sets out guidelines for placement of observers and places the highest priority on observation of fisheries that have takes of endangered marine mammals.\textsuperscript{323} All incidental mortality and serious injury is to be reported within forty-eight hours of the end of each fishing trip.\textsuperscript{324}

The Secretary is required to develop take reduction plans to "assist in the recovery or prevent the depletion of each strategic stock which interacts with a [listed] commercial fishery."\textsuperscript{325} Each plan is to contain measures that will reduce, within six months, incidental mortality in the fishery to levels less than the PBR for the affected stock.\textsuperscript{326} Within five years, the goal of each plan is to reduce mortality to insignificant levels approaching a zero rate.\textsuperscript{327} The plans are to be developed by teams drawn from federal agencies, coastal states, regional fishery management councils, interstate fisheries commissions, academic and scientific organizations, environmental groups, commercial and recreational fisheries groups, Alaska Native or Indian tribal organizations, and

\begin{footnotes}
\item[319] Id. § 1387(c).
\item[320] Id. § 1387(c)(3).
\item[321] Id. § 1387(c)(4).
\item[322] Id. § 1387(d).
\item[324] Id. § 1387(e).
\item[325] Id. § 1387(f)(1).
\item[326] Id. § 1387(f)(2).
\item[327] Id. § 1387(f)(2).
\end{footnotes}
Take reduction plans for stocks listed as endangered are to be consistent with ESA recovery plans.\textsuperscript{329}

The 1994 Amendments direct the Secretary to act in an emergency to reduce incidental takes in cases where the incidental mortality in fisheries is "having, or is likely to have, an immediate and significant adverse impact on a stock or species."\textsuperscript{330} The provision mandates prescription of emergency regulations, amendments to take reduction plans, or expedited approval and implementation of plans to address adverse impacts.\textsuperscript{331} The Secretary must also prescribe emergency regulations to mitigate adverse impacts where a plan does not exist or is not being developed, if a fishery–even one categorized as rarely interacting with marine mammals–is contributing to incidental mortality.\textsuperscript{332}


Commentators have suggested that the 1994 Amendments to the MMPA represented a retreat from the Act's protective stance on behalf of marine mammals.\textsuperscript{333} The MMC observed that the amendments "instituted a fundamental shift in the burden of proof applicable to taking marine mammals," and that this shift "would reverse one of the basic concepts built into the Act when it was passed in 1972."\textsuperscript{334}

How the MMPA's policies and requirements have evolved over the past two reauthorizations and whether those shifts run counter to the underlying conservation goals of the Act has been questioned. An examination of how several key issues emerged through the transition is useful in determining how well the Act has fared.

\begin{itemize}
\item \textsuperscript{328} \textit{Id.} § 1387(f)(6)(C).
\item \textsuperscript{330} \textit{Id.} § 1387(g).
\item \textsuperscript{331} \textit{Id.} § 1387(g)(1)(A), (B).
\item \textsuperscript{332} \textit{Id.} § 1387(g)(1)(C).
\item \textsuperscript{333} See George A. Chmael et al., \textit{The 1994 Amendments to the Marine Mammal Protection Act}, 9 NAT. RESOURCES AND ENV'T 19 (Spring 1995) (stating that "[t]his change reveals that the Act has moved away from the concept of protecting each and every marine mammal possible (a presumption of sacredness) to something akin to sustainable yield: protecting stocks of mammal populations at levels high enough to ward off extinction.").
\item \textsuperscript{334} MARINE MAMMAL COMMISSION, 1994 ANNUAL REPORT TO CONGRESS 5 (1995).
\end{itemize}
1. Optimum Sustainable Population

In each succeeding reauthorization, the MMC, NMFS, interested parties and Congress reaffirmed the underlying goal of the MMPA, which is to maintain marine mammals at their OSP. The Kokechik case brought to light the recognition that OSP could not be determined for many stocks of marine mammals. Therefore, the Interim Exemption created by the 1988 Amendments was used to gather information so that the agency could attempt to make such determinations. In the regime proposed by NMFS subsequent to the 1988 Amendments, the concept of PBR related directly to the policy of maintaining populations at OSP. The goal of the proposal—like the goal of the Act—was to have all marine mammal stocks reach their optimum sustainable population. This goal was retained in the 1994 Amendments as well, which anticipated that OSP determinations would be made as part of the stock assessment process, where possible. The goal was also stated in the purposes for the reauthorization.

2. Zero Mortality Rate Goal

The zero mortality rate goal of the MMPA has been attacked by fishermen as an impractical "zero tolerance" policy. Animal welfare groups have invoked it to attempt to stop all takes of marine mammals. In fact, the law mandates reductions in incidental takes to "insignificant levels approaching a zero mortality and serious injury rate." It does not mandate "zero takes." Not only was the zero mortality rate goal retained through the 1994 Amendments, but according to one of the bill's sponsors, "for the first time, the Secretary of Commerce [was] given regulatory authority to work toward achieving that goal . . . ."

---

336. Id.
338. "[E]nsuring that the incidental take of marine mammals by commercial fishing vessels does not reduce marine mammal populations below sustainable levels . . . ." S. REP. No. 103-220, at 10 (1994).
Act also sets a seven year time limit during which commercial fisheries are required to attain the goal. Also included is a provision mandating a progress review of all commercial fisheries by the Secretary of Commerce, commencing April 30, 1997.

3. Prohibition on Taking

It was argued throughout the reauthorization, and even after the 1994 Amendments, that changing the Act's permit requirements would weaken the MMPA's prohibition on takes of marine mammals. Before 1988, the Act prohibited takes of marine mammals, but allowed NMFS to issue "general permits" for large takes of marine mammals by both U.S. and foreign fishers, as well as "small take exemptions" for U.S. fishers. During the interim exemption, takes had to be reported under the registration and logbook regime, but no other prior authorization was required, nor was there a Secretarial finding. The prohibition on takes was not lifted, and any interaction with a marine mammal by a fishing vessel without registration and reporting exposed the vessel operator to prosecution and the full penalties of the Act. Observer coverage was mandated for portions of several fisheries.

A major change in 1994 was that authorization to incidentally take marine mammals could be made by the Secretary without the determinations formerly required by section 103, and the permit applicant's duty to perform stock assessments and determine the status of the stocks is now...

344. Id. § 1387(b).
General permits could be issued provided that (1) the takings were from a non-depleted marine mammal stock; (2) such takings would not disadvantage the stocks involved; and (3) issuance of the permit was consistent with the purposes and policies of the MMPA. Small take exemptions could be granted if (a) it was determined that the total authorized taking would have a negligible impact on the stock; and (b) the appropriate agencies provided guidelines for the establishment of a cooperative system among fishermen to monitor and report such taking.

Id.
348. Id. § 1383a(b)(3)(C). See also id. § 1375.
349. Id. § 1383a(e), (f).
350. Id. § 1387(e).
with the Secretary. The 1994 Amendments do retain the registration and reporting requirements of the Interim Exemption, and add oversight and monitoring details based on what did and did not work during the Interim Exemption.

Though some commentators state that this change is a step away from the protective stance of the MMPA, in reality the requirement that permit applications assess stocks and prove in a formal on the record proceeding that they were at OSP occurred in only two instances in nearly two decades. It is questionable whether any but the largest and best financed applicant fishing companies could afford the research and analysis necessary to meet the requirement to prove not only that stocks were at OSP, but that the proposed takes would be consistent with the purposes of the Act. Moreover, the exceptions to the moratorium and the required findings were structured such that they could be met with large, population level information and aggregation of many fisheries under one permit.

The 1994 Amendments retain the no take presumption. However, authorization relies on Secretarial assessment of stocks and biologically based determinations on a stock by stock and fishery by fishery basis of what level of takes will not cause harm.

Prior to 1988, intentional taking of marine mammals was allowed by government employees in cases where such removals were necessary to protect the welfare of the animal, or the public health and welfare. Removal of nuisance animals was through non-lethal means only. In 1988, intentional takes of some marine mammals were allowed to protect gear and catch. The 1994 Amendments eliminated this provision, but created a provision to allow intentional harassment, and called for Secretarial guidelines to describe non-harmful measures for deterring marine mammals from causing property damage.

---

351. Id. § 1386(a).
352. Id. § 1387(e).
353. See supra note 36 and accompanying text.
354. See supra notes 36-46 and accompanying text.
355. See supra Part II.E.
357. Id.
358. Id. § 1379(h)(1).
359. Id.
4. Permits, Conditions and Regulations

The evolution of the MMPA through the 1988 and 1994 Amendments changed from one of regulatory responses on all levels, with no distinction among stocks, fisheries, or circumstances, to a limited regulatory response through the decal and logbook requirements under the Interim Exemption, to a regulatory response on targeted, specific issues and circumstances that warrant it based on the status of the affected marine mammal stock.

One of the arguments during the reauthorization was that the proposed regime shifted the burden of proof from the applicant who wanted to take marine mammals, to the Secretary and NMFS. It is true that the Secretary is required to publish stock assessments, and through scientific peer reviews and status workshops, produce calculations and PBRs. Rather than an authorization to take marine mammals in an on-the-record rulemaking for a specific stock, the stock by stock authorizations occur through scientific calculation. The factors that are incorporated in the PBR build in protective assumptions that weigh on the side of the productivity of the marine mammal stock in question. It could be argued that this process, which relies on information assembled by the agency who has a duty to protect marine mammals, is in fact more protective than the adjudicatory process, which relied on information assembled by the proponent as to the status of the stock, and the degree to which the proponent argued to a judge that its proposed taking would not cause marine mammals any harm. As discussed above, the general permit process was applied loosely to allow incidental takes across an array of marine mammal populations, and the waiver of the moratorium occurred, with two exceptions, in the absence of any definitive information from either the agency or the permit applicants.

The 1994 Amendments changed the policy assumption to one that recognizes that the agency is better equipped to assess marine mammal

364. Id. § 1386(a).
365. Id. § 1386.
stocks, their status and trends. That job is more focused because it categorizes stocks as meeting OSP or being strategic stocks. Because science and information gathering by NMFS is then exposed to several levels of scientific review, by the time an authorization to take marine mammals occurs, scientific interests among all stakeholders are based on the same level of information.

a. Observers

Although the MMPA made no mention of observers prior to the 1988 Amendments, NMFS had authority to place observers on foreign vessels through international agreements that opened U.S. waters to their fishing fleets. Most of the information on incidental take of marine mammals came not through programs authorized under the MMPA, but under salmon driftnet agreements and other foreign fishing allowances.

For the first time, in the 1988 Amendments, Congress established an extensive program for observation of fishing operations that required coverage on certain portions of the fleet for the express purpose of assessing marine mammal takes. The 1994 Amendments, while not mandating a specific level of observer coverage, anticipate use of observers, and provide Secretarial authority to require it.

b. Vessel Registration

A mandatory vessel registration program was one of the most hotly contested issues in the 1994 Amendments. Registration for purposes of receiving an authorization to take marine mammals in the course of fishing is a required element in the new regime. For the first time, the Secretary has authority to revoke that authorization if the vessel owner or

366. The Authors base this assumption on 16 U.S.C. § 1386 (1994), which authorizes the Secretary to make stock assessments.
368. Id. § 1821(h).
369. Id. § 1822.
370. Id. § 1383a(c)(1). See also 54 Fed. Reg. 21,910 (1989).
372. August 4 Hearing, supra note 362 (statements of Suzanne Iudicello, Center for Marine Conservation; Brad Gilman, Gulf of Alaska Coalition; Sharon Young, International Wildlife Coalition).
operator does not comply with the conditions of the authorization and take reduction plan elements.\textsuperscript{374} The Interim Exemption required a vessel registration program, but there was no revocation of the right to fish and take marine mammals if a participant failed to report takes or complete log books. Although the earlier permit process was harder to complete, once the applicant received the authorization, the permits did not require registration, reporting, observers, or any other oversight.\textsuperscript{375} As discussed above, such oversights were required sporadically, and letters of authorization were made only to large associations, not individual vessels.

c. Secretarial Authority

The 1994 Amendments provided more authority to the Secretary with regard to emergency authority to take action to protect marine mammals than existed in previous revisions to the MMPA. The Secretary may reduce takes in instances where interactions pose immediate adverse harm, or the likelihood of such harm, to a strategic stock.\textsuperscript{376} Although the 1988 Amendments provided some guidance for emergency action, it was not used. For example, in the case of harbor porpoise takes in the sink gillnet fishery in New England, NMFS argued it was unclear that they could act under the MMPA to protect harbor porpoises, despite the fact the animals were proposed to be listed as threatened under the ESA and it was clear that incidental takes in the fishery were causing significant mortalities.\textsuperscript{377}

N. Scientific Research and Conservation Planning

Although the MMPA has called for conservation plans since its enactment, none have been completed. Furthermore, the process was entirely within NMFS with no mechanism for advocacy groups or the regulated community to participate in development of management

\textsuperscript{374} Id. § 1387(c)(4).
\textsuperscript{375} Id. § 1374.
\textsuperscript{376} Id. § 1382(e).
measures. NMFS did stock assessments as money and research platforms were available, but the status of most stocks was unknown. This led to the problems that arose in the Kokechik case.

The 1988 Interim Exemption attempted to create a mechanism to fill these data gaps and to get a handle on the nature and extent of the incidental take problem. The mechanism included enhanced scoping meetings, and consultations and comment periods with regard to development of the new regime. The increased communication was particularly evident between NMFS and the industry concerning reporting systems, data management, and availability.

During the development of the 1994 Amendments, notions about planning evolved into an integrated process that is inclusive, formalized, and focused. As noted above, each step is laid out, with a template for setting priorities, assessing stocks, assessing takes, calculating biologically based caps, and applying the best available information to the management process. The entire regime is built on scientific information and driven by inclusive planning and adaptive management.

O. Ecosystem and Habitat Protection

Although the MMPA has stated from its original enactment that its purpose was to maintain marine mammals as a "significant functioning element of the ecosystem," the Act did not provide any specific direction about habitat protection or ecosystem considerations. Nor did it give managers any tools to address general marine ecosystem problems beyond the actual taking of marine mammals. The 1988 Amendments did not address the issue and prior to the 1994 Amendments, there were no

379. See generally PROPOSED REGIME, supra note 144.
380. Id.
382. During the negotiating sessions, fishermen, scientists, managers, and conservation advocates each expressed a desire for more formalized access to both the scientific peer review process and the rulemaking or regulatory process. This preference for more planning and integration of stakeholder groups is reflected in both the Negotiated Proposal and the resultant amendments to MMPA. Personal recollection and notes of authors.
383. See supra Part III.L.
mechanisms to protect prey species or habitat areas essential to the conservation of marine mammals.

The 1994 Amendments give the Secretary, for the first time, discretionary authority to protect not just animals, but also their habitats.\textsuperscript{384} Congress called for (and provided funding authorizations for) three "ecosystem" studies: one for the Gulf of Maine, one for the Bering Sea, and one for the Pacific region pinniped-fishery interactions.\textsuperscript{385}

\section*{P. Public Participation in the Regulatory Process}

It is the Authors' view that the 1994 Amendments improved the MMPA by creating a more substantial role for public interest groups. The creation of a multi-tiered scientific peer review process, the notice and comment rulemaking elements of the regime at every step from publication of the list of fisheries to the open process of incidental take teams and publication of their proposed plans, all combine to provide much more access for public interests.

The formal, on-the-record rulemaking procedures of the pre-1988 Act required not only substantial investment of resources in legal procedures, but also necessitated that public interest groups make the case that they be granted standing in an adjudicatory process taking place between NMFS and the applicant.\textsuperscript{386} Threshold issues of standing and qualifications had to be addressed and met before any interest groups could participate.\textsuperscript{387} The hearing process, by its very nature, was formal and exclusive. While interest groups took opportunities to influence government bodies such as the Marine Mammal Commission or NMFS, in the final analysis, only those who appeared before the Administrative Law Judge in the formal hearing contributed to the decision making.\textsuperscript{388}

\textsuperscript{388} YOUNG, ET AL., supra note 105. But cf. Baur, New Approaches to Controlling Incidental Take: What Have We Learned from the History of MMPA Implementation? in YOUNG ET AL., supra note 105, at 73, 76 (discussing NMFS proposal for an informal rulemaking process).
During the Interim Exemption, NMFS used notice and comment rulemaking as well as a variety of meetings, briefings, and other venues to keep stakeholders informed, and engaged in the development of the overall regime, fishery identification, logbooks, reporting programs, and data analysis. This inclusive effort contributed to a better-informed set of players in 1994, during the amendment process, and added substantive understanding to both the negotiations and eventual legislative action.

While the revisions to the MMPA over the past decade have considered the interactions between marine mammals and fishing operations, they have not necessarily "weakened" the Act or the measures and tools it provides managers and the public for protection and conservation of these species. The changes in each subsequent proposal, as they have evolved over time, have built upon and contained elements of the prior regimes and ideas. The Interim Exemption retained the fundamental elements of the Act, and the MMC's guidance and proposal integrated prior legislative history as well as Congressional intent from the 1988 Amendments. The NMFS proposal incorporated much of the Interim Exemption (for example, lists and categories of fisheries) and advice from the Commission. The Negotiated Proposal based its biological and numerical analysis on the concepts of PBR and ABR that were developed in the NMFS proposal. Finally, the legislative outcome in the 1994 Amendments picked up the priority setting focus and inclusiveness of the Negotiated Proposal, as well as all the prior elements of the PBRs, the lists of fisheries, the cautionary approaches of the Commission, and the practical recommendations of NMFS and the fishing industry. Amending the MMPA has been a cumulative process, not a substitutional one.

Where the regimes differed, the result was based on a process of learning and modifying what worked during the Interim Exemption, what didn’t, and what would pass muster with scientists and agency managers. In taking into account the reactions to the 1993 NMFS proposal, Congress listened to comments of the fishing industry regarding the practicality of some proposals, contentiousness of allocation elements and their concern about cost. They also heard from those who opted out of the Negotiated Proposal. By continuing to push, these animal welfare interests moved Congress to adopt more protective approaches on several issues.
IV. IMPLEMENTATION OF THE 1994 AMENDMENTS TO THE MMPA

A. Regulations to Govern the Unintentional Taking of Marine Mammals Incidental to Commercial Fishing

Section 118 of the 1994 MMPA replaces section 114 of the 1988 MMEP. The process to develop the final regulations to implement section 118 was built upon the foundation established through the Negotiated Proposal in the 1994 reauthorization by including many opportunities for public participation. For example, NMFS conducted informal work sessions to discuss the draft proposed regulations and possible revisions to the draft regulations with individuals who had participated in the development of the Negotiated Proposal.

The proposed rule was published on June 16, 1995, and NMFS held public hearings in nine locations throughout the country to receive comments on the proposed rule. NMFS received comments from fishers, fishing industry groups, environmental groups, animal rights groups, state departments of fisheries, other executive branch departments, and members of the general public.

The final regulations have a number of requirements for fishers. Commercial fishers are required to annually register for an Authorization Certificate by filing specified information. NMFS must provide for the issuance of such certificates, and requires commercial fishers to report to NMFS the incidental mortality and injury of any marine mammals in the course of commercial fishing. Additionally, fishers are required to comply with certain observer or other monitoring requirements on the type of deterrence methods that can be used to deter marine

---

389. Working sessions were held in Silver Spring, MD, on November 30, 1994, and in Seattle, WA, on December 1, 1994. 60 Fed. Reg. 45,087 (1995).
390. Id.
392. Public hearings were held in Danvers, MA; Oceanville, NJ; Silver Spring, MD; Ocean City, MD; Long Beach, CA; Ronkonkoma, NY; Anchorage, AK; Beaufort, NC; and Seattle, WA. 60 Fed. Reg. 45,087 (1995).
393. Id.
395. 50 C.F.R. § 229.4(e).
396. 50 C.F.R. § 229.6.
397. 50 C.F.R. § 229.7.
mammals from damaging fishing gear, catch, or other private property,\textsuperscript{398} and any applicable take reduction plan and emergency regulations.\textsuperscript{399} The intentional lethal take of any marine mammal is prohibited.\textsuperscript{400}

The final regulations additionally permit takes of endangered and threatened marine mammals for a period of three years.\textsuperscript{401} However, these permitted takes are predicated on the Secretary determining that the take will have a negligible impact on the species or stock; that a recovery plan has been or is being developed for such stock; that a monitoring program has been established; and that a take reduction plan has been or is being developed.\textsuperscript{402}

\textbf{B. Take Reduction Teams and Take Reduction Plans}

Under the MMPA a take reduction plan is to be developed for each strategic stock\textsuperscript{403} that interacts with a fishery that frequently or occasionally kills or seriously injures marine mammals.\textsuperscript{404} Take reduction plans, among other things, are to include recommended regulatory and voluntary measures designed to reduce incidental mortality and serious injury, and recommend dates for achieving specific objectives.\textsuperscript{405} The immediate goal of a take reduction plan for a strategic stock is to reduce, within six months, incidental mortality and serious injury to levels less than the PBR calculated in the stock assessment.\textsuperscript{406} The long-term goal of the plan is to reduce incidental mortality and serious injury to insignificant levels approaching a zero mortality and serious injury rate within five years.

\begin{itemize}
\item \textsuperscript{398} 50 C.F.R. § 229.4(j).
\item \textsuperscript{399} 50 C.F.R. § 229.9, § 229.4(f).
\item \textsuperscript{400} 50 C.F.R. § 229.3(e) (1996) (the prohibition does allow for the lethal take of marine mammals if it is imminently necessary in self-defense or to save the life of a person in immediate danger, and such taking is reported in accordance with the requirements of 50 C.F.R. § 229.6).
\item \textsuperscript{401} 50 C.F.R. § 229.20(a).
\item \textsuperscript{402} Id.
\item \textsuperscript{403} 16 U.S.C. § 1362(19) (1994). A "strategic stock" is one for which the level of direct human-caused mortality exceeds the PBR, which is declining and likely to be listed as a threatened species under the ESA within the foreseeable future, or which is already listed as threatened or endangered under the ESA or designated as depleted under the MMPA. Id.
\item \textsuperscript{404} Id. § 1387(f).
\item \textsuperscript{405} Id. § 1387(f)(4).
\item \textsuperscript{406} Id. § 1386(f)(2).
\end{itemize}
taking into account the economics of the fishery, existing technology, and applicable state or regional fishery management plans.\textsuperscript{407}

To date NMFS has convened five Take Reduction Teams (TRTs): (1) the Gulf of Maine harbor porpoise take reduction team; (2) the Pacific offshore cetacean take reduction team; (3) the Atlantic offshore cetacean take reduction team; (4) the Atlantic large baleen whale take reduction team; and (5) the Mid-Atlantic take reduction team. All five of these teams have completed and submitted to NMFS draft take reduction plans that are now in various stages of finalization. The following is a description of two of these teams.

1. Harbor Porpoise Take Reduction Team

NMFS published the notice constituting the Gulf of Maine harbor porpoise take reduction team in February 1996.\textsuperscript{408} The purpose and goal of the harbor porpoise take reduction plan is to reduce immediately to PBR the incidental take of harbor porpoise in the Gulf of Maine and the Bay of Fundy Sink Gillnet Fisheries and to achieve insignificant levels of take within five years.\textsuperscript{409}

The harbor porpoise take reduction team was unique. It had a history of group efforts to define the extent of the incidental take and to reduce that take.\textsuperscript{410} The harbor porpoise working group and the New England Fishery Management Council under the Multispecies Fishery Management Plan all had attempted the task.\textsuperscript{411}

The harbor porpoise take reduction plan provides for an incidental take of 376 harbor porpoise in the U.S. portion of the Gulf of Maine, out of a PBR of 403 animals.\textsuperscript{412} The core management plan achieves this reduction through pinger use,\textsuperscript{413} acoustic devices that are meant to warn cetaceans of the presence of a net, and time/area closures. In addition, it prescribes an implementation plan that includes cooperation between fishers and researchers in estimating gillnet fleet effort; fisher outreach,

\textsuperscript{407} Id.
\textsuperscript{409} Harbor Porpoise Plan, supra note 377, at 2.
\textsuperscript{410} See id. at 3.
\textsuperscript{411} Id. at 3-4. See also FORDHAM, supra note 377.
\textsuperscript{412} Harbor Porpoise Plan, supra note 377, at 12.
\textsuperscript{413} Id. at 14.
training, and certification programs; and other mechanisms to strengthen the potential for successfully meeting the plan’s goals and objectives.414

2. Pacific Offshore Cetacean Take Reduction Team

The Pacific Offshore Cetacean Take Reduction Team (POCTRT) was charged with reducing the takes of strategic stocks, such as large toothed and baleen whales (sperm and humpback whales) and a variety of smaller whale species, in the drift gillnet fishery for swordfish and thresher shark along the Oregon and California coast.415

The POCTRT take reduction plan relies on four primary strategies with a strong contingency section in the event these strategies fail.416 The Plan calls for immediate commencement of a test on pinger effectiveness.417 It recommends that the fishery use nets that fish at least thirty-six feet below the surface.418 The Team recommended continuing permit attrition in California and conducting a thorough skipper education program.419 The conservation community was particularly gratified at the strong language on contingency measures if takes continue to exceed PBR levels.420 At the urging of the Center for Marine Conservation and other team members the draft plan states “[i]f . . . the take reduction plan’s objectives have not been met, the TRT will evaluate and recommend methods to reduce fishing effort in the upcoming season.”421

3. Analysis of the Take Reduction Team Process as an Extension of the 1988 and 1994 Negotiation Process

Despite difficulties in balancing the need to reduce marine mammal kills while minimizing the economic impact on fishers, the mediated process has been successful in producing three consensus take reduction plans and establishing better working relationships among the different interest

---

414. PROPOSED REGIME, supra note 144, at 4.
417. Id. at 28-29.
418. Id. at 24.
419. Id. at 38.
420. Id. at 46-51.
421. Id. at 46.
groups. However, the TRT process is a new procedure for NFMS, fishers and conservation groups, and the shift from adversarial advocacy to a participatory planning exercise has left some of the players off balance.\footnote{422} NMFS is still struggling with how to implement the take reduction plans in regulations, either under the MMPA or through fishery management plans developed by the regional councils.\footnote{423} Particularly for those participants who were not at the negotiating table in either 1988 or 1993, there are obstacles of familiarity, acceptance and trust that have yet to be overcome. Furthermore, each TRT is unique as it has its own complex dynamics. For example, the harbor porpoise TRT had a lengthy history together in its previous incarnation as the Harbor Porpoise Working Group.\footnote{424} In contrast, the Atlantic offshore team had several participants who were hearing terminology and concepts for the first time.\footnote{425} As a result, they were less willing to accept the basic premises, let alone the outcome.\footnote{426} Moreover, the debate was colored by pre-existing gear conflicts among the commercial fishing groups that had little to do with the marine mammal conflicts.\footnote{427} However, the facilitators have been essential in helping players get past these issues and move through posturing to substance. Where the participants have been successful in developing a consensus document, they look favorably upon the TRT vehicle as a favorable alternative to the traditional adversarial notice and comment rulemaking process.\footnote{428}


\footnote{423}{Id.}

\footnote{424}{Marine Mammal Protection Act Reauthorization: Hearings Before the Subcomm. on Env't and Natural Resources of the House Comm. on Merchant Marine and Fisheries, 103d Cong. (1993) (statement of Andrew J. Read, Ph.D., Woods Hole Oceanographic Institution).
}

\footnote{425}{Atlantic Cetaceans Plan, supra note 420.}

\footnote{426}{See supra note 422.}

\footnote{427}{Id. at 42-49.}

\footnote{428}{See supra note 422.}
V. Lessons to be Gained—Observations and Opinions of the Amendment Process

A. General Observations

As the reauthorizations of the MMPA have unfolded over the past eight years, not only have we learned more about the status of marine mammals and their interactions with the ecosystem and with humans, we have also learned about the process by which resource managers, users of the marine environment, and the public interact with each other, and about public policy and the decision making process. A question arises as to whether the lessons from succeeding MMPA reauthorizations may be applied to other marine resource management settings.

The adversarial litigation set the stage for the 1988 Amendments, under which the court, NMFS, Congress, and regulated industries recognized they lacked critical information for management. The 1988 Amendments created a structure for gathering information, through the MMEP, which set the stage for the 1993 process. Not only did the MMEP provide facts, figures, and statistical information, but the process by which it was developed and implemented provided important lessons for the 1993 negotiations. What worked and what didn’t in that program informed the development of the 1994 Amendments. Perhaps the most important of those lessons was that for any success, the agency charged with implementing the plan must be an active participant in discussions and negotiations. Another critical factor was Congressional support. If the negotiation leading to a proposed legislative action had not had the imprimatur of key committee leadership, enactment of both 1988 and 1994 Amendments would have been much more difficult.

It is important to state clear terms of reference from the onset of negotiations, so that participants know up front what topics are on the table. In both 1988 and 1994 external issues had the potential to block progress. In the former case, tuna-dolphin conflicts in the Eastern Pacific Ocean threatened to undo the entire deal struck on incidental take in U.S. fisheries. In the most recent authorization, not only did external issues arise independent of the negotiations (polar bear permits, public display of marine mammals), the participants agreed at the outset that several topics were taboo: pinniped management, so-called ecosystem impacts from pinnipeds, and tuna-dolphin interactions.

Once terms of reference are established, the use and role of a facilitator becomes apparent. In 1988, informal “conveners” and participants agreed
on a series of talks and designated principal negotiators. However, without formal ground rules, additional players continued to leave and enter the talks, raising new issues, creating dilatory avenues of discussion and impeding overall progress. They became their own independent spokesperson and did not honor the tacit agreement that there were four designated representatives who actually did the negotiating on behalf of the two sides. In the 1994 negotiations, the participants, with the help of the professional facilitator, established ground rules for the talks. The most important ground rule being an agreement not to denounce the process or the outcome, even if a group could not, in the final analysis, "sign on." Despite this general agreement on terms, not all participants adhered to every rule. The voluntary nature of processes such as these means that no enforcement mechanism exists against participants who do not agree to be bound by ground rules and terms. Furthermore, at some point in any negotiation where compromise takes place, proponents of a losing point of view may feel they can achieve better results by departing from the consensus framework and advocating individually with the decision makers. This occurred both in the 1994 legislative process, and has appeared several times in the context of the incidental take teams.

Both the 1988 and 1994 negotiation processes were driven by congressional deadlines. Expiration of provisions allowing commercial fishing operations to interact with marine mammals were looming in both cases. Not only this legal time frame, but self-imposed time limitations by the negotiating group, pushed players to come to closure. Time limits called for both facilitator and negotiators to set priorities, and identify what issues they were most likely to achieve consensus on early in the process. This establishes a foundation from which to attack the more contentious issues later in the process. At the same time, it is important to recognize that difficult issues require sufficient time, and any successful negotiation needs at least one opening session where parties do little more than "posture" and stake out territory before getting down to the business of compromise.

One element that contributed to a successful process was changing the traditional venue which allowed participants from outside Washington, D.C. to have access to meetings. One drawback that became apparent late in the negotiations was the lack of participation from regions of the country where fishing associations were less well organized. A west coast session would have provided access for participants there and a session in New England might have drawn more participation from the conservation and fishing communities there. In the long term, this would have benefit-
ted the take teams. Individual fishers now participating on the take teams do not recognize that there were stakeholders at the table from their region. As a result, many are not invested in the underlying regime, and are reluctant to buy off on what had already been agreed to by those representatives.

Closed venues where negotiators are not distracted by workday demands are important to enable them to focus on coming to agreement. This isolation provides participants the opportunity to spend time outside the negotiating room to foster relationships and create an atmosphere where breakthroughs can occur in informal settings when negotiators have dropped their "personae." It was apparent in the 1994 negotiations that personal familiarity among individuals and experience from prior talks in 1988 and other settings set a stage of trust between players on the two sides.

Another factor that contributed to trust and cooperation was the reliance by policy analysts and lawyers upon their respective scientists. Small group sessions, caucuses, and subject expertise groups assist movement toward consensus by taking discussions out of large, plenary type sessions. In the 1994 talks, breaking scientists away from the lawyers proved especially useful because they could focus on their respective areas of expertise, shared terminology, and objective approaches. By finding agreement on science, they were able not only to contribute to, but also to free up the lawyers for discussions of process.

A common element to the 1988 and 1994 negotiations and implementation of the 1994 Amendments has been lack of scientific information upon which to develop policy and make management decisions. Scientists play a vital role in developing management regimes in light of an imperfect science. Moreover, the importance of participation by scientists in the negotiations has implications for later action in the take reduction teams and subsequent implementation. By integrating scientists in policy formulation, the negotiation process insures that the players most likely to be engaged as resource managers are in on the process from the ground up.

In the 1994 negotiations, participants deliberately set out to separate the scientific assessment from the regulatory regime, by creating stock assessments, independent peer-reviews, and consultations. The goal of this approach was to create greater confidence in the science upon which management measures were based. This notion has proven accurate. The success of deliberations in the take reduction teams has correlated to each group's ability to accept the underlying stock assessments and PBRs, even
if they are "imperfect" science, and move forward to discuss conservation measures. Through participation in the peer reviews and consultations, scientists who then participate in the subsequent management discussions provide the context for the rest of the team and help bring fishers and conservationists to a better understanding of the origins of the calculations. Discussions appear to fare better if there is a person on the take team who was part of a regional scientific review group which reviewed the stock assessments and PBRs. Additionally, given the imperfection of our existing best available data, the take reduction plans often recommend further research and data collection. The scientist on the take team can then act as a liaison with the regional scientific peer review group to ensure that these recommendations are given attention. Finally, participation by scientists makes the scientific aspects of the management process more transparent. Because fishers tend to be skeptical and challenge data, the presence of a person with scientific expertise lends credibility to the underlying scientific information.

While many aspects of the negotiation process carry over to the take team planning process, there are several aspects of negotiation leading to legislative action that do not apply to the implementation phase. For example, interest groups who are mobilized for the legislative process disappear when it comes to implementation. There is only a small number of participants who are consistently available for implementation meetings; state representatives are hard pressed to fit commitment for ongoing negotiation into their schedules. Participatory regimes require a substantial amount of time, money, and committed participation to work.

Another difference between legislative advocacy and the "neg reg" mode is that in the legislative realm, a Congressional champion or proponent can provide significant impetus to the process. This not only helps push the group toward consensus, it can discourage "end runs" around the negotiation process if congressional leadership makes it clear they will favor the consensus document over adversarial attempts to strike separate deals. This aspect is missing from most administrative rulemaking.

It remains to be seen whether exempting the take teams from the Federal Advisory Committee Act (FACA)\(^\text{429}\) has helped the process by allowing for more creativity, spontaneity, and a broader selection of participants. The risk is that teams existing outside FACA are simply

"consultative," not formal advisors to the Secretary. On the other hand, although FACA status gives a group some credibility and stature, the appointment process is much more burdensome, and FACA committees are more restricted in that participants are treated as "federal officials" for purposes of ethics and other rules.

In the existing framework, the take teams have authority and influence to the degree that their recommendations are adopted by the Secretary in take reduction plans. Further, if the Secretary does not incorporate the take team’s recommendations, section 118 requires the Secretary to respond to the team and explain why not.

In at least some instances, the consultative nature of the teams has tended to create an atmosphere where dissatisfied members of the teams have expressed the view that they could do better outside the process. Facilitators have noted that fishers and advocates will only participate if they believe they will do better by building consensus than by lobbying their specific interests directly with the agency.

Finally, one aspect of the 1994 Amendments and the take reduction team process that has been uniformly expressed is the need for public outreach to stakeholder groups. Relationships between the regulated community and the regulating agency are not always cooperative. Sometimes too little trust exists between advocacy groups and the regulated community. Whether they agree to come together to work on building consensus to reduce incidental mortality of marine mammals in fishing operations is a matter of time, and experience with examples of approaches that work. One important recognition is that there are appropriate roles for government, advocacy groups and industry, and it may not be realistic for all to do each kind of activity.

**B. Can Comparable Negotiation Processes be Applicable in Other Settings?**

Recent amendments to the Magnuson Fishery Conservation and Management Act (FCMA) provide authority to fishery management councils to use negotiated rulemaking in development of fishery management plans. Some commentators have questioned whether the process applied during the MMPA reauthorization and underway now in the

incidental take reduction teams could be used in fisheries management as well.

There are some inherent obstacles. The MMPA and FCMA have different mandates; the first one being protective and the latter largely allocative. Even if the negotiation process were applicable, there may be other obstacles. "The use of dispute resolution techniques such as negotiation and mediation is hampered by the legal and institutional inertia that resists risking change and by the number and diversity of interests among participants in individual fisheries."431 Another obstacle is the diversity and large number of individual fishers, who each must be engaged and embrace a defined problem before beginning dispute resolution.

Introduction of dispute resolution into fisheries management will likely have greater success in discrete fisheries where the number of fishermen is relatively small and the management issues generally recognized. Experience in these less challenging circumstances will generate the awareness needed before undertaking dispute resolution in the majority of fisheries, where participants are more numerous and controversies and problems are more complex.432

VI. CONCLUSION

Undoubtedly, the overall regime governing the incidental take of marine mammals in commercial fishing will need further refinement. It is too soon to assess the effectiveness of the incidental take reduction teams, as many of the take reduction plans have yet to be published in final form. Furthermore, when comparing the timetables for implementation of the take reduction plans to the timing of 1997 assessment of progress toward reducing takes to below PBR and achieving progress toward the zero mortality rate goal, it is clear that NMFS may not be able to fully evaluate progress under this regime at that time.433

Authorization for appropriations runs through fiscal year 1999. Thus, the Act will need reauthorization or amendments in 1999.434 The MMPA

431. See Weber, supra note 422, at 3.
432. Id. at 6.
433. According to the harbor porpoise plan, the gillnet fishery must achieve PBR by August 1997, however, according to the MMPA they must achieve PBR by April 1, 1997. Harbor Porpoise Plan, supra note 377.
requires the Secretary to review the progress of all commercial fisheries who are moving toward reducing incidental mortality and serious injury to insignificant levels approaching a zero rate by April 30, 1997. The 1996 stock assessments indicate that pinniped populations on the west coast are increasing. These increases foreshadow the difficult issues for this upcoming reauthorization.

For example, the Fishermen's Alliance of Monterey Bay has petitioned Congress to reinstate the commercial fishing exemption provisions that allow fishers to use intentional lethal force to protect their gear and catch from damage by marine mammals, and to amend the MMPA to allow for a limited number of licenses to take (in this case kill) "six" pinnipeds per year at the discretion of the individual licensee. The Washington State Legislature tried unsuccessfully to enact legislation calling for lethal research on seals and sea lions. The Pacific States Marine Fisheries Commission is considering changes to the MMPA to allow lethal removals of pinnipeds. At this date, it is the Authors' view that it may be difficult to maintain the ban on shooting marine mammals that interfere with gear and catch.

In the same vein, ecosystem management continues to be a buzz word that may encompass anything from habitat protection to reducing populations of pinnipeds viewed as competitors to fishers. Not only is it unclear what the term means, no one has suggested how to do it, and whether we have the capacity to do it even if we knew what it was. According to one commentator at a Congressional symposium on ecosystem management, "there is not enough agreement on the concept to hinder its popularity." It is this vagueness about what "ecosystem management" is that makes it unclear whether the ecosystem studies called for in the MMPA will result in recommendations that call for integrated management and holistic

435. Id. § 1387(b)(3).
437. Petition from the Fishermen's Alliance of Monterey Bay to Senator Larry Pressler, Chairman, Commission on Commerce, Science, and Transportation (Sept. 5, 1995) (on file with Authors).
approaches in the marine environment, or whether they will produce proposals for removals of species that prey on fish in order to benefit humans who want to prey on the same fish.

Another concern that the industry voiced during the negotiations and the reauthorization was the "three-fold" conservatism of the elements making up the equation for setting PBRs. Through their scientists' participation on the various peer review groups, the fishing industry has continued its attacks on PBR as too conservative, and will likely want to reopen consideration of the calculation in the next reauthorization.

From the other direction, marine mammals continue to evoke emotional responses from the public. Some of the criticism that the 1994 Amendments were not protective enough, and that the shift of the burden of proof moved away from the Act's policy of protection, may engender efforts to turn back the clock. It is unclear whether the policy direction that has been moving away from protecting each individual animal toward protecting populations and systems will prevail, or whether the idea that marine mammals are "sacred" will re-emerge. For example, the agency continues to encounter problems with public interactions with marine mammals. Increasing populations of both humans and marine mammals along the nation's coasts have brought about not only competition for space on boats, docks and beaches, but have given rise to conflicts between a public which wants to feed and get close to these wild creatures, and wildlife management policy that argues against such interactions. Further complicating the picture are the complaints of property owners who suffer when marine mammals don't distinguish between robbing fish out of commercial gear and food from the hand of generous citizens. The same public that wants to protect individual animals doesn't want them sitting on their yachts and defecating.

The recent reforms in the Magnuson Fishery Conservation and Management Act, many of which reflect the kind of precautionary thinking that traditionally has informed marine mammal regimes (but not fisheries management), may indicate that the two approaches are converging. The 1996 Amendments to FCMA have moved that statute away from a focus on commercial utilization and more toward rebuilding and protection. In the Authors' view, there may be potential in thinking about a merger of regimes for protecting, conserving, and managing marine fish and wildlife.

From a scientific standpoint, we have over the past twenty years created a regime for mammals aimed at rebuilding stocks that had been severely depleted by commercial harvest. Now we are beginning to recognize that
our excessive capacity and technology for fishing, and our inability or unwillingness to limit this fishing power, has reduced between thirty and forty percent of our commercially valuable fish stocks to dangerously low levels, and we need to rebuild them. As we consider whether it is possible or desirable to bring marine mammals into equilibrium with their ecosystems when their numbers are abundant and increasing, it may also be time to consider whether more protective approaches, such as no take reserves, may be necessary to rebuild severely depleted fish populations.

Whether it is time to consider managing marine mammals and fish together requires a three-fold analysis that includes science, policy, and law considerations. What is the scientific basis for defining an ecosystem and whether and how it is functioning among its component parts? To what degree have humans already "reset" the system by reducing carrying capacity for marine mammals, fish, birds and other wildlife through increased population, coastal development, pollution, global climate change and a host of other anthropogenic effects? What are the human values that inform our policies with regard to marine mammals and fish? Where are the tradeoffs between our needs for food, economic development, and growth and our desire for abundant wildlife and clean oceans? How do we communicate those values among stakeholders and between interested parties so that they are at least understood, if not shared? And finally, how do we communicate consensus, as well as competing values, to decision makers? If we have the scientific information and we know what the public policy choices are, can the legal regimes be crafted to move what has been single species management into ecosystem management?

Based on groundwork laid with the 1994 Amendments to the MMPA, we have some critical components: enhanced public participation, peer review, alternative dispute resolution and underlying policy agreement that provide a basis for articulating and understanding the relative values of the differing user groups and stakeholders. The required stock assessments, status reviews, ecosystem studies, and biologically based check points provide much of the data that could be useful in making determinations about the status and role of marine mammals in their respective marine systems. Only after the science and the policy have met and been made clear to decision makers and the public is it time to call in the legislative drafters to find ways to merge living marine resource laws to create a legal regime for management that is multispecies, holistic, and ecosystem based.