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THE FLIPPER PHENOMENON: PERSPECTIVES ON THE PANAMA DECLARATION AND THE "DOLPHIN SAFE" LABEL

Nina M. Young, Wm. Robert Irvin,** Meredith L. McLean****

I. INTRODUCTION

During the past twenty years, few marine conservation issues have aroused as much public interest as the drowning of dolphins in purse seine nets.¹ For a generation that grew up watching the playful antics of Flipper

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1. This article focuses primarily on the use of purse seine nets to harvest yellowfin tuna

on television, graphic video footage of dolphins hauled to their deaths in tuna nets was simply too much to stomach. Led by American school children and their "baby-boomer" parents, consumer boycotts of tuna spurred tuna harvesters and Congress to adopt measures requiring "dolphin safe" labeling² and prohibiting the importation of non-dolphin-safe tuna into the United States.

Since the adoption of these measures, the number of dolphins killed in the ETP tuna fishery has dramatically declined.³ Curiously, however, encirclement of dolphins by tuna fishers occurs as frequently today as it did before the adoption of "dolphin safe" restrictions.⁴ In a remarkable display of innovation and commitment to solving an environmental problem and a public-relations nightmare, ETP tuna fishers have perfected fishing methods that allow the encirclement and safe release of dolphins while tuna are caught. Despite this progress, however, tuna caught in this manner are still not considered "dolphin safe." Moreover, tuna from other nations which allow encirclement and safe release are still embargoed under U.S. law.

Faced with this situation, on October 4, 1995, twelve nations adopted the Panama Declaration.⁵ This blueprint for developing a legally binding and enforceable agreement within the Inter-American Tropical Tuna Commission (IATTC) is intended to further reduce and eventually eliminate dolphin deaths caused by tuna fishing operations. The Panama Declaration forms the basis for an international agreement that will provide protection for individual dolphin stocks and species to ensure their

in the eastern tropical Pacific Ocean (ETP). The ETP is the area of the Pacific Ocean bounded by forty degrees north latitude, forty degrees south latitude, 160 degrees west longitude, and the coasts of North, Central, and South America from Chile to Southern California, with an area of approximately five to seven million square miles. Regulations Governing the Taking and Importing of Marine Mammals, 50 C.F.R. § 216.3 (1995).

2. A tuna product considered "dolphin safe" is defined under the Marine Mammal Protection Act as one that contains tuna caught by a vessel approved by the Secretary of Commerce and that is accompanied by written certification and endorsements. 16 U.S.C. § 1385(d)(2) (1994).

3. See *infra* Parts II and III, and accompanying notes (discussing U.S. regulatory measures to reduce dolphin deaths in the eastern Pacific Ocean).

4. See *infra* notes 216-219 and accompanying text (reviewing relative rates of sets made on dolphins).

5. *Declaration of Panama, Oct. 4, 1995*. The full text of this international agreement was reprinted in CONG. REC. S. 397 (daily ed. Jan. 21, 1997) [hereinafter Panama Declaration]. The signing parties were the governments of Belize, Colombia, Costa Rica, Ecuador, France, Honduras, Mexico, Panama, Spain, United States of America, Vanuatu, and Venezuela. *Id.*

continued growth and recovery. It will also help reduce the incidental capture of other marine life, such as sea turtles, sharks, and billfish. Finally, the Panama Declaration adopts measures designed to guarantee the sustained health of the tuna fishery and the marine ecosystem of the ETP.⁶

Impeding implementation of the Panama Declaration, however, is the definition of "dolphin safe." The implementation of the Panama Declaration calls for "dolphin safe" to be re-defined from its current meaning of "no encirclement of dolphins" to a more meaningful definition of "no dolphin mortality."⁷ Legislation introduced in Congress to implement the Panama Declaration, which proposes to change the definition of "dolphin safe," has resulted in a heated debate—one which pits the Clinton Administration, the fishing industry, several national environmental groups, and a bipartisan coalition in Congress against an array of animal welfare and environmental organizations, Hollywood stars, and their congressional allies.⁸ Consequently, quick passage of this pivotal legislation has been hampered.

This Article explores the history of efforts under the Marine Mammal Protection Act⁹ (MMPA or "the Act"), to reduce dolphin mortality, including the development and implementation of the "dolphin safe" label, international efforts to reduce dolphin mortality, and the genesis of the Panama Declaration. This Article concludes by examining the impact that implementation of the Panama Declaration would most likely have on dolphins and other marine life in the ETP.

II. THE TUNA DOLPHIN PROVISIONS OF THE MARINE MAMMAL PROTECTION ACT

A. *The Tuna Dolphin Issue in the 1970s: The Development of Regulations to Reduce Dolphin Deaths in the U.S. Tuna Purse Seine Fishery*

Congress enacted the Marine Mammal Protection Act in 1972 for the purpose of protecting marine mammals, including dolphins, from the

6. *Id.*

7. *Id.*

8. See *infra* Section V(a) and accompanying notes.

9. Marine Mammal Protection Act of 1972, Pub. L. No. 92-522, 86 Stat. 1027 (codified as amended at 16 U.S.C. §§ 1361-1421(h) (1994)).

adverse effects of human activities.¹⁰ Although whaling was the issue that initially brought about the enactment of the MMPA,¹¹ the incidental take of dolphins in the ETP tuna purse seine fishery has become symbolic of the problems confronting marine mammals.¹²

For unknown reasons, schools of yellowfin tuna swim beneath pods of various dolphin species.¹³ Since the late 1940s, tuna fishermen have increasingly taken advantage of this association and have caught tuna by setting their nets around schools of dolphins.¹⁴ In the 1970s, approximately 200,000 to 400,000 dolphins were killed each year during tuna purse seine operations,¹⁵ despite efforts by fishers to release encircled

10. See H.R. REP. NO. 92-707 (1971), *reprinted in* 1972 U.S.C.C.A.N. 4,144 (reporting on H.R. 10420, proposed legislation for marine mammal protection).

11. Discussing the background and need for new legislation, Senator Hollings revealed "the committee has learned that man's dealings with marine mammals have in many areas resulted in over-utilization of this precious natural resource. Many of the great whales which once populated the oceans have now dwindled to the edge of extinction and although they have been placed on the U.S. endangered species list, are still being hunted by other nations. . . . The commercial hunting of whales has reduced these great mammals to the point that many may never be able to return to their original population size and balance in nature." S. REP. NO. 863, 1-2 (1972) (quoting supplemental individual report of Sen. Hollings on S. 2871). In addition, "the number of dolphins killed in the ETP was one of the driving factors behind the passage of the MMPA in 1972." S. REP. NO. 746, 102d Cong., 2d Sess. 7 (1992).

12. The major tuna species in the ETP are yellowfin tuna, skipjack, bluefin tuna, bigeye tuna, black skipjack, and bonito, with purse seiners targeting primarily yellowfin and skipjack. The major target fish species in the fishery on dolphins is the yellowfin tuna, though small quantities of skipjack and bigeye tuna are also taken in this way.

13. One theory suggests that the association results from the similar diet of yellowfin tuna and certain dolphin species. "Preliminary analyses indicate that yellowfin tuna feed primarily during the day while spotted and spinner dolphins are mainly nocturnal or twilight feeders. The study suggests that feeding habits may contribute to the formation of the tuna-dolphin association, but they are probably not the major factor." MARINE MAMMAL COMMISSION, 1995 ANNUAL REPORT TO CONGRESS 103 (1996).

14. During a purse seine fishing operation, when tuna fishers sight schools of dolphin and yellowfin tuna, they set mile-long purse seine nets around dolphins or encircle dolphins. Prior to the development of "backdown" procedures, dolphins became entangled in the net, and were trapped as the bottom or "purse" portion of the net was closed to capture the tuna. Ultimately, unable to escape or surface to breathe, the dolphins drowned. NATIONAL RESEARCH COUNCIL, DOLPHINS AND THE TUNA INDUSTRY 13, 34-37 (1992) [hereinafter NRC REPORT]; see *infra* note 35 and accompanying text (discussing backdown procedure).

15. The National Marine Fisheries Service (NMFS) estimated in 1992 that more than six million dolphins have been killed in the course of purse seine fishing operations by the United States and foreign fleets in the ETP since 1959. Taking and Importing of Marine Mammals; Listing of Eastern Spinner Dolphin as Depleted, 57 Fed. Reg. 27,010, 27,014 (1992) (to be codified at 50 C.F.R. pt. 216). See also Tim Gerrodette & Paul R. Wade,

dolphins. Throughout the 1960s and into the early 1970s, the U.S. fleet dominated this fishery and was responsible for more than eighty percent of dolphin deaths.¹⁶

The purpose of the MMPA is to protect marine mammal species¹⁷ of "great international significance, esthetic and recreational as well as economic."¹⁸ Marine mammal species should be "protected and encouraged to develop to the greatest extent feasible commensurate with sound policies of resource management."¹⁹ Another of the Act's purposes is to maintain the "health and stability of the marine ecosystem."²⁰ 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,"²¹ or "diminish below their optimum sustainable population."²² Through the MMPA, Congress sought to achieve broad protection for marine mammals by establishing a moratorium on importation and taking.²³ The Act also states a goal 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."²⁴

Status of Dolphin Stocks Affected by the Tuna Purse-Seine Fishery in the Eastern Tropical Pacific: A 36-Year Summary, Abstract, ELEVENTH BIENNIAL CONFERENCE ON THE BIOLOGY OF MARINE MAMMALS 43 (1995) [hereinafter Gerrodette & Wade, *36-Year Summary*].

16. MARINE MAMMAL COMMISSION, 1995 ANNUAL REPORT TO CONGRESS 99 (1996).

17. The marine species protected under the MMPA are whales, dolphins, porpoises, seals, sea lions, walruses, sea otters, manatees, dugongs, and polar bears. See generally 16 U.S.C. § 1362(6) (1994).

18. 16 U.S.C. § 1361(6) (1994).

19. *Id.*

20. *Id.*

21. *Id.* § 1361(2).

22. *Id.* Optimum sustainable population (OSP) means, "with respect to any population stock, the number of animals which 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).

23. "The term 'take' means harass, hunt, capture or kill, or attempt to harass, hunt, capture, or kill any marine mammal." 16 U.S.C. § 1362(13) (1994). The statute further provides that "[t]here shall be a moratorium on the taking and importation of marine mammals and marine mammal products . . . during which time no permit may be issued for the taking of any marine mammal and no marine mammal or marine mammal product may be imported into the United States except in [enumerated] cases." *Id.* § 1371(a).

24. *Id.* § 1371(a)(2).

To address the problem of incidental take in fisheries generally, and the tuna purse seine fishery in particular, Congress included in the MMPA a "general permit" requirement.²⁵ Initially, the MMPA gave commercial fisheries a two-year exemption from the moratorium and the general permit system.²⁶ During this period, U.S. vessels in the tuna purse seine fishery killed 368,600 dolphins in 1972 and 206,697 dolphins in 1973.²⁷ Foreign fisheries killed an estimated 55,078 and 58,276 dolphins in those years.²⁸ In 1974, the National Marine Fisheries Service (NMFS), which is responsible for administering the MMPA for these species, issued a general permit allowing the U.S. tuna purse-seine fleet to take an unlimited number of dolphins until December 31, 1975.²⁹ This permit prompted litigation that invalidated the permit and required population-specific quotas.³⁰

Amended emergency regulations for 1976 set an aggregate incidental take quota of 78,000 dolphins.³¹ The quota was reached and, after the

25. *Id.* § 1371(a)(1).

26. This exception states that "[m]arine mammals may be taken incidentally in the course of commercial fishing operations . . ." *Id.* § 1371(a)(2). *See also* Marine Mammal Protection Act of 1972, Pub. L. No. 92-522, § 101(a)(2), 86 Stat. 1030. As explained in the Senate report for the Marine Mammal Protection Act,

[Section] (a)(2) provides another exception allowing the incidental taking of marine mammals in commercial fishing operations. This exception would apply to the killing of porpoises in the course of tuna fishing as well as killing of seals or sea lions when they interfere with salmon or other commercial fisheries. During the first 2 years after effectiveness of the Act, these takings would be governed by regulations issued under section 111. Thereafter, they would be permitted under the usual regulations and permit provisions of section 103 and 104.

S. REP. NO. 92-863, at 13 (1972).

27. MARINE MAMMAL COMMISSION, 1991 ANNUAL REPORT TO CONGRESS 94 (1992).

28. *Id.*

29. *See* General Permit Issued, 39 Fed. Reg. 38,403 (NOAA 1974) (announcing issuance of general permit).

30. *See* Committee for Humane Legislation, Inc. v. Richardson, 414 F. Supp. 297 (D.D.C.), *aff'd*, 540 F.2d 1141 (D.C. Cir. 1976). In 1976, several environmental groups challenged the legality of the regulations that permitted purse-seine fishing for yellowfin tuna "on dolphins," in an action brought in the District Court for the District of Columbia. On May 11, 1976, Judge Charles R. Richey issued an opinion and order declaring the Commerce regulations, general permit, and certificates of inclusion issued to tuna fishermen void, as contrary to the provision of the MMPA that requires the NMFS to determine and publish reasonable estimates of the existing population levels of each species affected by the regulations, the optimum sustainable population level of each species, and the impact of those regulations on the species' ability to reach its optimum sustainable population. *Id.* at 312-14.

31. Incidental Taking in the Course of Commercial Fishing Operations, 41 Fed. Reg.

tuna industry obtained a temporary restraining order against enforcement, the kill surpassed 108,000 animals.³² In 1977, NMFS again conducted general permit procedures. After a lengthy on-the-record hearing, NMFS issued a three-year general permit with annual quotas set on a sliding scale (1978-51,945; 1979-41,610; 1980-31,150).³³ Accompanying this quota was a requirement that NMFS observers be placed on fishing vessels. Also, several fishing gear and procedural restrictions were implemented, such as requiring use of the Medina Panel³⁴ and the backdown procedure in tuna purse seine fishing operations.³⁵ During these three years, incidental killings of dolphins in the ETP dropped substantially (1978-19,366; 1979-17,938; 1980-15,305).³⁶ This was due in large part to the use of fishing gear and procedures that reduced dolphin mortality.

*B. The Tuna Dolphin Issue in the 1980s—
Further Regulation of the U.S. Tuna Fleet*

On December 1, 1980, after another on-the-record hearing, NMFS issued a general permit through 1984 with a static, total annual incidental take quota of 20,500 dolphins for all species combined.³⁷ The permit also imposed additional observer requirements and other regulations governing

23,680 (1976) (to be codified at 50 C.F.R. § 216.24(d)(2)(i)(A)).

32. 1980 NOAA, NATIONAL MARINE FISHERIES SERVICE, ENVIRONMENTAL IMPACT STATEMENT 4.

33. *Id.* at 1.

34. A Medina Panel is comprised of strips of fine-mesh sections of net that are about thirty-three feet in length. These panels "are placed adjacent to the backdown area and below the corkline. The fine mesh is small enough to prevent the entanglement of the corkline. The fine mesh is small enough to prevent the entanglement of the snouts and flippers of dolphins in the net." NRC REPORT, *supra* note 14, at 19-20.

35. 1980 NOAA, NATIONAL MARINE FISHERIES SERVICE, ENVIRONMENTAL IMPACT STATEMENT 2. The backdown process consists of pulling the seine out from under the herd of dolphins. NRC REPORT, *supra* note 14, at 36. Backdown was developed because, although capable of doing so, the dolphins were not jumping over the corkline of the net and escaping. *Id.* In the backdown process, "the seiner is put into reverse after about one half of the net has been rolled aboard. This has the effect of forming the net into a long, narrow channel and causing the corkline at the apex of the channel to sink. The dolphins are herded towards the apex where they can then swim over the sunken corks." *Id.* See also *id.* at 82-86 (discussing modifications to improve escape of dolphins from nets).

36. MARINE MAMMAL COMMISSION, 1991 ANNUAL REPORT TO CONGRESS 94 (1992).

37. Taking of Marine Mammals Incidental to Commercial Fishing Operations, 45 Fed. Reg. 72,178, 72,196 (1980) (to be codified at 50 C.F.R. § 216.24).

fishing gear and techniques, including a ban on "sundown sets."³⁸ NMFS was also directed by the NOAA Administrator to monitor the fleet to determine whether it was feasible to further reduce the quota within the next five years, and to conduct a complete assessment of the affected dolphins by no later than 1984.³⁹

In 1980, 15,305 dolphins were killed by the U.S. tuna fleet.⁴⁰ Although the U.S. tuna fishery had made substantial progress in reducing dolphin mortality, it was clear that a level of deaths "approaching zero," as required by the MMPA, was not likely to be achieved by the tuna industry.⁴¹ Consequently, Congress amended the MMPA by specifying that the goal of the Act in approaching zero "shall be satisfied in the case of the incidental taking of marine mammals in the course of purse seine fishing for yellowfin tuna by a continuation of the application of the best marine mammal safety techniques and equipment that are economically and technologically practicable."⁴²

In 1984, Congress continued the general permit requirements for this fishery for an indefinite period, thereby effectively legislating an incidental take authorization.⁴³ The 1984 amendments retained the static

38. Sets on dolphin made around the time of sundown at the completion of a fishing day, referred to as "sundown sets," were found to cause higher mortality rate of dolphins. See 58 Fed. Reg. 63,536, 63,537 (1993) (giving sundown set background). In recognition of the higher mortality rates found in sundown sets, the Commerce Department proscribed regulations to prevent the high rates of mortality. *Id.* at 72,187-96. The prohibition on sundown sets is as follows:

On every set encircling porpoise, the backdown procedure must be completed and rolling of the net to sack-up must be begun before one-half hour after sundown . . . *sundown* is defined as the time at which the upper edge of the sun disappears below the horizon or, if view of the sun is obscured, the local time of sunset calculated from tables developed by the U.S. Naval Observatory.

50 C.F.R. § 216.24(d)(1)(vii)(C) (1995).

39. 1980 NOAA, NATIONAL MARINE FISHERIES SERVICE, ENVIRONMENTAL IMPACT STATEMENT 9.

40. MARINE MAMMAL COMMISSION, 1991 ANNUAL REPORT TO CONGRESS 94 (1992).

41. Because Congress did not want to shut down or significantly curtail the activity of the tuna fleet so long as the fleet was adhering to the regulations, Congress had to adopt another mechanism to enable the tuna fleet to achieve the zero mortality rate goal. H.R. REP. NO. 97-228, at 13-14 (1981).

42. 16 U.S.C. § 1371(a)(2) (1994).

43. The 1984 amendments to the MMPA amended subsection (h) of Section 104, which authorized the issuance of general permits for the taking of marine mammals. The amendments added a new paragraph that would extend the permit in force, which was granted to the American Tunaboat Association, on December 1, 1980, for an indefinite period subject to a number of specific conditions. H.R. REP. NO. 98-758, at 8 (1984). See

quota of 20,500 and continued the various fishing gear, technique, and observer requirements of the regulations. In doing so, the status quo under the 1980 permit was preserved.⁴⁴ Although the 1984 amendments ensured a mortality level that was deemed to be acceptable at the time,⁴⁵ the "legislated permit" also removed the on-the-record hearing requirement and the regulatory mechanism that had provided the means to apply continually more stringent requirements and lower quotas during each permit renewal cycle.⁴⁶ Because a quota was legislatively set, there was no longer a regulatory tool available, other than an amendment to the MMPA, for NMFS to further reduce quotas. In combination with the preceding congressional action to waive the zero mortality rate goal, the 1984 legislative permit slowed research and gear improvement, as well as reductions in dolphin mortality.

Although it is difficult to say whether take levels would have been reduced further had the tuna fishery been required to apply for additional general permits, it is clear that legislating the zero mortality goal in 1981 and the quota in 1984 did little to improve the status quo. In the four years from 1977 to 1980, under a general permit issued through the regulatory process, the average annual number of dolphins killed by U.S. vessels in the ETP tuna fishery was 19,515.⁴⁷ The kill dropped from 108,740 in 1976 to 15,305 in 1980.⁴⁸ From 1980 to 1984, under another regulatory general permit, the average annual kill was 16,719.⁴⁹ It should be noted that this average was affected by a substantial drop in mortality (to 8,513) in 1983, attributable to an El Niño event.⁵⁰ After the general

also Modification of General Permit, 50 Fed. Reg. 1099 (1985) (modifying permit).

44. H.R. REP. NO. 97-228, at 9. In addition, the amendments provided a limited quota for two species for which no quotas are provided for under the general permit. The provision allowed the incidental take of up to 250 coastal spotted dolphins and up to 2,750 eastern spinner dolphins. These quotas were to be included within the overall annual quota of 20,500 dolphins in the general permit. H.R. REP. NO. 98-758, at 9.

45. The Committee on Merchant Marine and Fisheries reported that: "This level of take is not viewed by scientists for NMFS, the tuna industry, or major environmental groups as likely to significantly adversely affect the porpoise stocks in question." *Id.* at 5.

46. *Id.*

47. See MARINE MAMMAL COMMISSION, 1995 ANNUAL REPORT TO CONGRESS 100 (1996) (reviewing estimated incidental kill of dolphins in ETP tuna purse seine fishery, 1972-1995).

48. *Id.*

49. *Id.*

50. *Id.* See also NRC REPORT, *supra* note 14, at 58 (discussing El Niño event disrupting ETP fishery). An "El Niño" event changes oceanographic conditions, especially

permit was "legislated," the average annual kill increased over the 1984 to 1988 period to 18,400.⁵¹

Because of the continuing controversy surrounding determinations of historic and current population estimates in relation to OSP,⁵² Congress directed NMFS to conduct a five-year program to monitor abundance trends in dolphin populations.⁵³ Such studies were not required prior to 1984. Although NMFS had continued to count and assess stocks in preparation for a formal permit proceeding in 1984, this work was halted by the 1984 amendments. The studies eventually took place from 1986 to 1990.⁵⁴

C. The Tuna Dolphin Issue in the Mid-1980s— The Transition to Regulating the Foreign Fishery

In the late 1970s and 1980s, the United States fleet in the ETP declined while the number of foreign vessels participating in the purse seine fishery grew.⁵⁵ Specifically, by 1984, the U.S. fleet had declined from ninety-four vessels in 1980 to approximately forty-two vessels.⁵⁶ This decline was due, in part, to U.S. vessels fishing under the flags of other nations⁵⁷

patterns in temperature fields and thermocline depth, which may drive tuna deeper, making them less available to surface fishing gear, or shifting the location of productive fishing grounds to areas not normally fished by the ETP fleet. *Id.*

51. H.R. REP. NO.97-228, at 13-14 (1981) (reviewing mortality data).

52. *See supra* note 22. Determining OSP requires an estimation of historic stock size in order to numerically define the upper and lower limits of OSP. In addition, NMFS must also estimate the current stock size to determine whether this estimate is above the lower limit of OSP and is, therefore, sufficient to allow for an incidental take under the MMPA. However, NMFS was unable to precisely determine these estimates due to a lack of mortality data for the period 1959-1972, variable estimates of net recruitment, and technical problems inherent in estimating stock size. H.R. REP. NO.98-758, at 5 (1984).

53. *Id.*

54. *See* Tim Gerrodette & Paul Wade, ESTIMATES OF CETACEAN ABUNDANCE AND DISTRIBUTION ON THE EASTERN TROPICAL PACIFIC, 43 REP. INT'L WHALING COMM'N 477-93 (1993) [hereinafter Gerrodette & Wade: ESTIMATES OF CETACEAN ABUNDANCE].

55. NRC REPORT, *supra* note 14, at 17, 19, 70.

56. *Id.* at 19.

57. "A significant fraction of the reductions in the number of vessels in the U.S. eastern tropical Pacific tuna fleet since the 1970s can be traced to the re-flagging of vessels. Since 1979, fifty-eight U.S. purse seiners have been transferred to foreign flags, with seventeen going to Venezuela, ten to Vanuatu, ten to the Republic of Korea, four to Mexico, and seventeen to eight other countries." MARINE MAMMAL COMMISSION, 1990 ANNUAL REPORT TO CONGRESS 99 (1991).

to evade MMPA regulations and to avoid the high operating and labor costs in the United States.⁵⁸ By the late 1980s, the foreign purse seine fleets in the ETP—primarily those of Mexico and Venezuela—numbered more than ninety vessels.⁵⁹ In addition, the proportion of the catch taken by the U.S. vessels decreased from ninety percent in 1960 to thirty-two percent in 1988 and eleven percent in 1991, while the Latin American nations catch increased from ten percent in 1960 to forty-seven percent in 1988 and fifty-seven percent in 1991.⁶⁰

The international tuna fleet, now larger than the U.S. fleet, began to contribute heavily to dolphin mortality in the ETP. In fact, the combined U.S./foreign estimated kill levels for most of the 1980s exceeded the combined kill estimates of the late 1970s.⁶¹ In 1986, more dolphins were killed in the combined U.S./foreign tuna fishery (133,174) than in any year since 1976.⁶² United States fishers, noting the level of dolphin kills by these foreign fleets in the ETP, requested that Congress focus on limiting foreign fleet dolphin mortality as an issue of equity.⁶³ This request, in conjunction with widespread public concern over the protection of dolphin stocks, led Congress to amend the MMPA in 1984 and 1988.⁶⁴

To address foreign take, Congress in 1984 amended the MMPA to require that each nation exporting tuna to the United States had to adopt a program comparable to that of the United States and that the average rate of take by its fleet must be comparable to that of the U.S. fleet.⁶⁵ The law required foreign fleets to satisfy two conditions: (1) to adopt a regulatory program governing the incidental taking of marine mammals

58. NRC REPORT, *supra* note 14, at 17, 19, 70.

59. See MARINE MAMMAL COMMISSION, 1991 ANNUAL REPORT TO CONGRESS 93 (1992) (recounting decline in U.S. fleet and growth of foreign fleets).

60. NRC REPORT, *supra* note 14, at 17.

61. See MARINE MAMMAL COMMISSION, 1991 ANNUAL REPORT TO CONGRESS 94 (1992) (summarizing estimated kill levels in ETP fishery, 1972-1991).

62. *Id.* The foreign fishery caused 112,482 estimated dolphin deaths while the U.S. fleet caused 20,692 estimated deaths. *Id.*

63. "During the March 15, 1984, Subcommittee hearing, and in discussion with concerned domestic interests, concerns were also expressed about the degree to which foreign nations engaged in the tuna purse seine fishery in the eastern tropical Pacific Ocean are taking appropriate steps to minimize the incidental taking of porpoises." H.R. REP. NO. 98-758, 6 (1984).

64. "The Subcommittee determined that it was necessary to strengthen the requirements of the Act with respect to documentation of compliance by foreign nations with the essential features of the MMPA." *Id.*

65. Act of July 17, 1984, Pub. L. No. 98-364, 98 Stat. 440.

in the course of tuna fishing that is comparable to that of the United States; and (2) to assure that the average rate of that incidental taking by the vessels of a fishing nation is comparable to the average rate of incidental taking of marine mammals by United States vessels in the course of tuna purse seining.⁶⁶ Because the agency lacked guidance on what the Congress meant by "comparability," NMFS did not issue regulations until March 1988.⁶⁷

Clarification of the term "comparability" was provided in the 1988 amendments. These amendments also required intermediary nations⁶⁸ exporting tuna to the United States to provide proof that they have acted to prohibit the importation of tuna from those nations prohibited from exporting tuna directly to the United States.⁶⁹ In order for a foreign nation to export tuna and tuna products to the United States, that nation's government had to provide reasonable documentation that it met the following specific comparability standards:

(1) that by 1990 the foreign nation would have in place a regulatory program that contained prohibitions against encircling pure schools of dolphin species other than spotted, striped, or common dolphins, conducting sundown sets, and other activities as are made applicable to U.S. vessels;⁷⁰

(2) an average rate of incidental taking no greater than 2.0 times that of U.S. vessels during the same period by the end of the 1989 fishing season, and no greater than 1.25 times that of U.S. vessels by the end of the 1990 fishing season and thereafter;⁷¹

(3) a level of incidental take for eastern spinner dolphins and coastal spotted dolphins that does not exceed fifteen and two percent respectively of the total number of all marine mammals taken by that nation during that year;⁷²

66. *Id.*

67. *See* 53 Fed. Reg. 8910 (1988) (establishing regulations governing importation of tuna in association with marine mammals).

68. The term "intermediary nation" means, "a nation that exports yellowfin tuna or yellowfin tuna products to the United States and that imports yellowfin tuna or yellowfin tuna products that are subject to a direct ban on importation into the United States pursuant to section 1371(a)(2)(B)." 16 U.S.C. § 1362(5) (1994).

69. *Id.* § 1371(a)(2)(C). *See also* H.R. REP. NO. 100-970, at 30 (1988); S. REP. NO. 100-592, at 25 (1988).

70. 16 U.S.C. § 1371(a)(2)(B)(ii)(I) (1994).

71. *Id.* § 1371(a)(2)(B)(ii)(II).

72. *Id.* § 1371(a)(2)(B)(ii)(III).

(4) an observer program, implemented by IATTC or other international program, with coverage comparable to that achieved by the United States during that same period unless the Secretary of Commerce finds and approves an alternative observer program that will give reliable estimates of the average rate of incidental take.⁷³

The 1988 MMPA amendments also called for a skipper performance standard and supplemental training program;⁷⁴ an observer program;⁷⁵ a prohibition on sundown sets;⁷⁶ and, a prohibition on the use of certain explosives.⁷⁷

Another amendment focused on identifying appropriate new methods of locating and catching yellowfin tuna without the incidental capture of dolphins.⁷⁸ In addition, the Secretary of Commerce was instructed to have the National Academy of Sciences convene a National Research Council (NRC) panel to "identify new alternative tuna fishing techniques designed to reduce or eliminate the incidental mortality of porpoise and, within one year, to submit a research, development, and implementation plan of alternative fishing techniques to Congress."⁷⁹ Upon completion of this study, the NRC recommendations included skipper education and monitoring; research to improve current fishing practices to eliminate dolphin mortality; scientific research on tuna and dolphin biology and behavior; research into alternative fishing techniques that do not depend on setting on dolphins and other scientific research and technological development suggestions.⁸⁰ The NRC also recommended that an assessment be made of the impact that discontinuation of purse seining would have on tuna populations.⁸¹

The NRC study concluded that "no methods of catching tuna without killing dolphins currently available or capable of rapid development are

73. *Id.* § 1371(a)(2)(B)(ii)(IV).

74. *See* Marine Mammal Protection Act Amendments of 1988, Pub. L. No. 100-711, 102 Stat. 4755, § 4(d)(vi) (codified at 16 U.S.C. § 1374(h)(2)(B)(vi) (1994)). *See also* 50 C.F.R. § 216.24(d)(2)(vi) (1995).

75. Pub. L. No. 100-711 § 4(d)(viii) (codified at 16 U.S.C. §§ 1374(h)(2)(B)(viii), 1383a(e) (1994)). *See also* 50 C.F.R. § 216.24(f) (1995).

76. 50 C.F.R. § 216.24(d)(2)(vii)(C) (1995).

77. Pub. L. No. 100-711 § 4(d)(vii) (codified at 16 U.S.C. § 1374(h)(2)(B)(vii)). *See also* 50 C.F.R. § 216.24(d)(2)(vii)(E) (1995); 55 Fed. Reg. 11,588 (1992).

78. 16 U.S.C. § 1380(a)(1) (1994).

79. *Id.* § 1380(a)(2).

80. NRC REPORT, *supra* note 14, at 110-19.

81. *Id.* at 117.

as efficient as current methods of catching large yellowfin tuna in the ETP."⁸²

III. THE HISTORY, DEVELOPMENT AND IMPLEMENTATION OF THE DOLPHIN SAFE LABEL AND POLICY

A. *The Dolphin Protection Consumer Information Act*

In 1988, over 60,000 dolphins died in the foreign yellowfin tuna fishery.⁸³ That number climbed to more than 84,000 in 1989, then dropped to approximately 47,000 in 1990, and around 26,000 in 1991, as nations began to implement the conservation programs and other requirements of the MMPA.⁸⁴ As dolphin mortality continued at fairly high levels, even after the 1988 amendments to the MMPA, Congress responded to the renewed public outcry⁸⁵ with a bill entitled the Dolphin Protection Consumer Information Act of 1990 (DPCIA).⁸⁶ Initially, the bill would have required that all tuna products caught using either purse seine nets on dolphins or drift gillnets⁸⁷ bear the statement: "The tuna in this product has been captured with technologies that are known to kill dolphins."⁸⁸ All other tuna products would be labeled "dolphin safe."⁸⁹

Faced with threatened consumer boycotts and recognizing the opportunity for a "green" marketing strategy, the major tuna canning companies took steps to preempt expected adverse market impacts of the proposed legislation.⁹⁰ On April 12, 1990, Starkist Seafood Company, a

82. See H.R. REP. NO. 102-746, at 10-11 (1992) (quoting 1992 report by National Academy of Sciences).

83. See *supra* note 27, at 117.

84. *Id.*

85. "Despite progress that has been made under the MMPA, many conservation and animal rights groups have continued to argue that the original purpose of the MMPA as it affects dolphin should be respected, and that the practice of intentionally deploying nets to encircle dolphins should be ended." H.R. REP. NO. 101-579, at 5 (1990).

86. 16 U.S.C. §§ 1371-1385 (1994).

87. The term "driftnet" means a gillnet composed of a panel of plastic webbing one and one-half miles or more in length. 16 U.S.C. §§ 1385(c) (1994). For the purposes of this section, the term driftnet has the meaning given to that term in section 4003 of the Driftnet Impact Monitoring, Assessment, and Control Act of 1987, Pub. L. 100-220, 101 Stat. 1477 (codified at 16 U.S.C. § 1822 note (1994)).

88. H.R. REP. NO. 101-579, at 6 (1990).

89. *Id.*

90. U.S. INT'L TRADE COMM'N, PUB. NO. 2547, TUNA: CURRENT ISSUES AFFECTING THE

division of H.J. Heinz Co., announced that it would no longer purchase any tuna caught in association with dolphins.⁹¹ It further stated that it would begin labeling cans of Starkist tuna with "dolphin safe" symbols bearing the message: "No Harm to Dolphins."⁹² Van Camp Seafood (Chicken of the Sea) and Bumblebee announced, some hours later, that they would adopt the same "dolphin safe" purchasing practice and begin labeling their tuna as "dolphin safe." These three companies together supply approximately eighty-four percent of the canned tuna sold in the United States.⁹³ During the following weeks, several smaller suppliers of U.S. canned tuna, including Mitsubishi Foods, Mitsui Foods, Ocean Packing Corporation, Pan Pacific and Kraft General Foods announced they would no longer purchase tuna caught by methods considered unsafe for dolphin.⁹⁴

Following this voluntary action, the environmental community and the tuna canners worked cooperatively throughout the year to refine the DPCIA and secured its passage in November 1990. The version did not mandate a label stating the tuna was caught with methods known to kill dolphins, but instead required that all tuna caught in the ETP and labeled "dolphin safe" (1) must have been caught by a vessel too small to deploy its nets on dolphins; or (2) must be accompanied by a certification from a qualified observer that no dolphin sets were made for the entire trip on which the tuna was caught; or (3) cannot have been harvested using a large-scale driftnet.⁹⁵

Certification that tuna is "dolphin safe" by an observer, or the vessel captain, accompanies the tuna to the cannery where the product is labeled accordingly.⁹⁶ NMFS implemented regulations in September 1991 that firmly established a tracking and verification system codifying the volunt-

U.S. TUNA INDUSTRY, REPORT TO THE SENATE COMMITTEE OF FINANCE 3-1 (1992) [hereinafter ITC TUNA INDUSTRY REPORT].

91. 56 Fed. Reg. 47,418, 47,419 (1991).

92. *Id.*

93. H.R. REP. NO. 101-579, at 7 (1990).

94. *Id.* See also, Anita Manning, *The Net Effect on Dolphins—More Foreign Fishing Boats Pose a Risk*, USA TODAY, Aug. 6, 1990, at Life 1.

95. 16 U.S.C. § 1385(d).

96. *Id.* It is a violation of section 45 of Title 15 to affix a dolphin safe label to any tuna product harvested anywhere on the high seas by a vessel that uses driftnets, or in the ETP, if there is no accompanying documentation signed by the vessel captain, the Secretary's designee (typically an on-board observer), and each exporter, importer, and processor of the product, certifying that no purse seine nets were intentionally deployed on dolphins during the entire fishing trip on which the tuna were harvested. *Id.*

ary measures taken by the tuna canners.⁹⁷ This system enables the federal government to track tuna labeled "dolphin safe" back to the harvesting vessel in order to verify whether the product was properly labeled.⁹⁸

Domestically, the announcement resulted in the U.S. purse seine fleet shifting to overseas operations in the western tropical Pacific (WTP) where tuna and dolphins apparently do not associate as often as they do in the ETP.⁹⁹ This was the final blow to the U.S. domination of the ETP tuna fishery. The U.S. tuna fleet which had dwindled from 155 in 1976 to thirty-nine vessels in 1988,¹⁰⁰ fell to only thirteen in 1991.¹⁰¹

B. Impact of the Label on U.S. Tuna Market

The impact of the DPCIA on fishers, processors, and the canned tuna market was predicated on the assumption that the public would be willing to pay more for dolphin safe tuna.¹⁰² Supporters of the DPCIA expected that the increased cost to consumers would trickle back to processors to compensate them for the increased costs of compliance, or to fishers to create an incentive to harvest tuna caught without encircling dolphins. However, the exact extent to which this would actually occur was uncertain.¹⁰³ An economic analysis of the impact of the dolphin safe policies on the U.S. tuna industry was compiled by the U.S. International Trade Commission, and published in 1992. The study was commissioned in September 1991, and the time period since the policy's implementation was too short, at that time, to allow significant statistical evaluation of the policy effects on prices.¹⁰⁴ Furthermore, a number of events unrelated to

97. 56 Fed. Reg. 47,418 (1991).

98. *Id.*

99. See NRC REPORT, *supra* note 14, at 45-48 (discussing tuna-dolphin association).

100. MARINE MAMMAL COMMISSION, 1995 ANNUAL REPORT TO CONGRESS 102 (1996).

101. MARINE MAMMAL COMMISSION, 1991 ANNUAL REPORT TO CONGRESS 93 (1992). Of the thirteen U.S. vessels fishing for tuna in the ETP during 1991, only two to six fished for tuna by setting on dolphin. *Id.*

102. *Marine Mammal Protection Act Amendment: Hearings on H.R. 2926 Before the Subcomm. on Fisheries and Wildlife Conservation and the Environment of the House Comm. on Merchant Marine and Fisheries*, 101st Cong., 2d Sess. 5 (1989) (statement of Congresswoman Barbara Boxer); see also *id.* at 30-32, 116-134 (statement of Dennis M. King, Senior Resource Economist, ICF Incorporated).

103. *Id.* at 124 (statement of Dennis M. King).

104. ITC TUNA INDUSTRY REPORT, *supra* note 90, at 3-16. The Senate Finance Committee's request for the investigation came shortly after the implementation of the dolphin safe policies, in the early fall of 1991.

dolphins occurred simultaneously with the implementation of the dolphin safe policy which could not be easily distinguished from effects caused by the dolphin safe policies. These factors were taken into consideration when attempting to draw some conclusions on the effects of the dolphin safe policy on the tuna market.

The study found that the economic effects of the dolphin safe policy differed by sector (harvesting vs. processing) and by time horizon (the short term vs. the long term).¹⁰⁵ According to the report, the economic effects also differed for albacore (white meat) and tropical (lightmeat) tuna, with tropical tuna being the product directly affected by the dolphin safe policies.¹⁰⁶

In the short period following the implementation of the dolphin safe policies, the prices for tropical tuna declined, and at that time, were expected to remain lower than they would have been without the dolphin safe policies.¹⁰⁷ "The policies have forced vessels to move to the WTP, where tuna are more abundant and require lower variable costs of harvesting."¹⁰⁸ The price for skipjack, the species which is more abundant in the WTP than in the ETP and is caught without setting sets on dolphins, experienced a "significant but somewhat smaller" decline in price than yellowfin.¹⁰⁹ Yellowfin, the species most affected by the canners' policy, experienced a drop from a 1990 first-quarter level of \$968 per short ton to a low of \$740 in the last quarter of 1991.¹¹⁰ In the long term, however, tropical tuna prices were expected to increase again, as resource depletion increased variable harvesting costs.¹¹¹

The fishers' shift from the ETP tuna fishery to the WTP fishery led the International Trade Commission (ITC) to conclude that dolphin safe policies were at least partly responsible for the depressed short-term prices

105. *Id.*

106. *Id.*

107. *Id.* at 3-17. "The reduction in raw-tuna prices occurred quickly. May 1, 1990 was the effective date of the price contract between U.S. canners and the American Tuna Sales Association (the fishermen's marketing organization) that immediately followed the canners' implementation of their April 1990 dolphin safe policy. On that date contracted prices fell by 11 to 20 percent (depending on species and size)." *Id.* at 3-17, 18.

108. *Id.*

109. ITC TUNA INDUSTRY REPORT, *supra* note 90, at 3-18. Skipjack experienced a unit-value decline in price from a pre-policy level of \$864 to \$785 in 1991. *Id.*

110. *Id.* at 3-18.

111. *Id.*

and average unit values for raw tropical tuna.¹¹² Smaller tuna of any one species receive a lower price from the canner than do large tuna of the same species because the processing costs for small tuna are higher.¹¹³ The ITC concluded that:

[A]lthough the average unit value for a vessel's delivery of tuna from the ETP will probably be lower because of the policies, the total cost of a unit of canned tuna processed from that delivery (and therefore the wholesale price of canned tuna) is unlikely to be lower for all canners.¹¹⁴

Furthermore, depressed prices were expected to continue as long as the relatively high abundance of tuna in the WTP enabled fishermen to fill their vessel holds more quickly than in the ETP, thus increasing the supply of raw tuna available to canners.¹¹⁵

The wholesale price of domestic canned lightmeat (tropical) tuna declined immediately following the dolphin safe policy implementation.¹¹⁶ This was also the trend in prices for the raw-tuna market. The wholesale price of canned whitemeat (albacore) tuna followed a similar pattern after the dolphin safe policies were implemented, but did not decline like prices did in the canned lightmeat market in 1991.¹¹⁷ The ITC study noted that "the decline in prices in the mid-1990s appears to be largely attributable to the canners' policy announcement. According to industry sources it reflects the attempt by U.S. canneries to move the old dolphin unsafe inventory to make room for the new dolphin safe product."¹¹⁸ The ITC study also concluded that canned-lightmeat prices were expected to be slightly lower than they would have been without the policies, as long as

112. *Id.*

113. *Id.*

114. *Id.* at 3-18.

115. *Id.* The ITC report notes that according to industry sources, "the increase in the WTP has been so great that the waiting period for a vessel to unload at the canneries in American Samoa has lengthened significantly." *Id.*

116. *Id.* at 3-19.

117. *Id.*

118. *Id.* The canneries were compelled to get the tuna labeled dolphin safe on retail shelves quickly in light of the publicity generated by the announcement of their dolphin safe policy. Other factors contributing to the lower prices in the 1990 included a "heavy inventory overhang" existing at the year's end in 1989, which canners became aware of in 1990. *Id.*

the harvest rates in the WTP continue to be unusually high.¹¹⁹ The overall long-term effect on the U.S. supply of canned lightmeat tuna was determined to be uncertain under the ITC study, because imports were expected to be higher, and domestic production lower, than if the dolphin safe policies had not been implemented.¹²⁰

C. Consumer Reaction to the Dolphin Safe Label

The dolphin safe policies appear to have had both beneficial and detrimental effects on the marketing of canned tuna.¹²¹ According to one study, "some consumers appear to have returned to tuna after boycotting it while it was dolphin-unsafe, but others, who were unaware of the problem until the canners' announcement, appear paradoxically to have cut back or ceased their tuna consumption."¹²² According to the testimony of a tuna industry official, the canners were unable to fully pass on to the consumer the various costs caused by the policies.¹²³ At the time the ITC analysis of the impact of the dolphin safe policies was conducted, the ITC found the net effect of the policies on canned-tuna marketing to be unclear. It leaned toward a negative finding in light of the fact that between 1990 and 1991 retail sales of canned tuna fell by 2.5%.¹²⁴

Immediately following the implementation of the dolphin safe label, tuna canning companies launched a full-tilt marketing campaign for dolphin safe tuna.¹²⁵ Some in the industry asked whether these efforts

119. ITC TUNA INDUSTRY REPORT, *supra* note 90, at 3-19.

120. *Id.* at 3-22. If the increase in canned-tuna imports exceeds the decline in domestic production, prices will fall, and vice versa. *Id.*

121. This is according to some of the industry's marketing research, as reported in the ITC study. *See id.* at 3-19 (discussing short-term effects in market for canned tuna).

122. *Id.*

123. *See id.* at 3-19 n.65 (citing Michael McGowan, vice president, Bumble Bee Seafoods, transcript of the hearing, Feb. 4, 1992). The ITC study further notes that a reduction in the perceived quality of the canned tuna product, because of the increased proportion of skipjack from the WTP in the can, may have made it difficult for U.S. canners to maintain traditional price levels in the canned-tuna market, and thus to pass on any possible price increases. *Id.* at 3-19.

124. ITC TUNA INDUSTRY REPORT, *supra* note 90, at 3-19; *but see id.* at 3-19 n.66 (finding that drop in sales could also be explained by effects of U.S. recession).

125. *See* Michael J. McDermott, *Charlie and the Mermaid Sing a Different Tuna*, FOOD & BEVERAGE MARKETING, Sept. 1990, at 24 (discussing marketing strategies used by major canners following implementation of dolphin safe policies).

were worth the trouble.¹²⁶ "Lowest-price" has been argued to be what drives consumption of canned tuna in the U.S. market. That price sensitivity caused marketing strategists of the new dolphin safe tuna to question whether dolphin safe was a viable marketing method, and whether consumers put aside concerns about dolphins when they hit the grocery aisles.¹²⁷ One grocery merchandiser and buyer commented on the dolphin safe marketing theme and its effect:

Tuna is a price item. If you run an ad for a two-for-a-dollar sale, I don't think the consumers will ever question whether or not they should buy the two-for-a-dollar ad item. I think if they were given the same price, say, if everybody was 79 [cents] on tuna, then the general public would be going toward the dolphin-safe tuna.¹²⁸

Others felt that there was a percentage of consumers, those not buying tuna because they were genuinely concerned about dolphin safety, who might be brought back into the market by the dolphin safe label.¹²⁹ In support of this view, research by one of the major canners done prior to the introduction of the label, showed that consumers strongly preferred the new dolphin safe logo and that it enhanced the product's image.¹³⁰

In the months following the introduction of tuna labeled dolphin safe, several merchants reported that they really hadn't seen an increase in sales, despite carrying tuna with the dolphin safe label, and despite using dolphin safe marketing in their ads.¹³¹ Some merchants felt that confusion over which tuna was dolphin safe contributed to an approximate three percent sales decline, because some consumers just stopped buying tuna

126. *Id.* at 25. Mitch Meyers, vice-president of sales and marketing for the company that handled the marketing of Chicken of the Sea tuna for Van Camp Seafood in the early stages of the dolphin safe policy is quoted as having said, "[w]e are spending money on marketing tactics that traditionally have not been used in this category, and we are paying more for our product. Because the category is so competitive, we have not been able to pass along the additional costs in the form of price increases." *Id.*

127. *See id.* (quoting Mitch Meyers, vice president of sales and marketing for company which handled marketing of Chicken of the Sea tuna for Van Camp Seafood in early stages of dolphin safe policy implementation).

128. *See* Gail Siragusa, *Consumer Awareness Called Crucial to Dolphin Safe Tuna*, SUPERMARKET NEWS, Sept. 17, 1990, at 45 (quoting Jack Paulk, grocery merchandiser and buyer for ABCO Markets' seventy-five Arizona stores).

129. *Id.*

130. Greg Johnson, *Tuna Canners Send Buyers a Message with Dolphin Safe Labels*, L.A. TIMES, Nov. 20, 1990 at 2A.

131. *See* Siragusa, *supra* note 128.

altogether.¹³² In fact, a recent article reports that “in a poll conducted by a major tuna processor, most of the consuming public appears to believe that the dolphin safe label on a can of tuna means that dolphins are no longer put in the can with the tuna.”¹³³

D. Enforcement of Existing Labeling Provisions

Concerns were expressed by some environmental groups about the enforceability of the labeling provisions.¹³⁴ United States canners’ practices are certified dolphin safe by observers from either the NMFS or the IATTC.¹³⁵ However, fears were expressed that there was no way to be confident that the tuna being bought or the canneries being dealt with were truly dolphin safe.¹³⁶ To address such concerns, Earthtrust, an international wildlife preservation group based in Hawaii, launched its own labeling scheme and verification program. It was designed to establish global dolphin safe practices and utilized a label called the “Flipper Seal of Approval.”¹³⁷ Under the new program, some of the canners voluntarily agreed to let their facilities and operations be monitored by program representatives, whose mission was to independently verify that processors were not buying tuna that were caught by fishers using methods harmful to dolphins.¹³⁸ In addition to complying with program rules, participating canners were also expected to help develop and fund educational programs designed to help protect dolphin and marine ecosystems.¹³⁹

132. Steve Weinstein, *Why are Tuna Sales Soft?*, PROGRESSIVE GROCER, Apr. 1991, at 145. Others, however, looked to the recession as a cause of sales declines. *Id.*

133. James P. Walsh, *With the Tuna-Dolphin Controversy Expected to Resurface, Congress Faces a Catch-22: Compliance with Gatt Provisions Could Infuriate the ‘Green’ Lobby*, NAT. L.J., June 12, 1995, at B6.

134. Anne Perry, *Starkist Allows Monitoring of Dolphin-Safe Claims*, SAN DIEGO UNION-TRIB., Nov. 14, 1991, at A-6. Don White, president of Earthtrust, an environmental group that developed an independent monitoring program for the dolphin safe label, claimed “[t]here was no legal meaning to the term dolphin-safe, it [meant] nothing at all.” *Id.*

135. See 16 U.S.C. § 1385(d)(2) (1994) (covering observer coverage for ETP). See also 16 U.S.C. § 1417(d)(3)-(4) (1994) (covering observer coverage for WTP).

136. Perry, *supra* note 134. “Because of the complex and international nature of the tuna industry, tuna canners can sell dolphin safe tuna in the United States but still export tuna for sale overseas that doesn’t meet U.S. standards.” *Id.*

137. *Id.*

138. *Id.*

139. *Id.*

Touted as "a structure for a new kind of extraterritorial accreditation program"¹⁴⁰ intended to achieve the "highest standards in the world,"¹⁴¹ the "Flipper Seal of Approval" program at the outset, did not see wide participation. The Bumblebee Seafood Company expressed support for dolphin safe fishing methods but claimed it was not going to participate in the Flipper certification program because "it would cost tens of thousands of dollars per year—money [he said] the environmental group requires to pay for the group's own shipboard monitoring program, as well as for fees."¹⁴² Of the large canners, Starkist was the only one licensed by Earthtrust,¹⁴³ and even it does not use the waving dolphin "Flipper Seal of Approval" symbol on its label.

Currently, the Marine Mammal Protection Act requires that tuna "harvested outside the eastern tropical Pacific Ocean by a purse seine vessel, be accompanied by a written statement executed by the captain of the vessel certifying that no purse seine net was intentionally deployed on . . . dolphins during the particular voyage on which the tuna was harvested."¹⁴⁴ However, according to the regulations implementing "dolphin safe" tuna labeling, written certification and documentation through the Fisheries Certificate of Origin are only required for tuna harvested in the eastern tropical Pacific.¹⁴⁵ Thus, it seems that current programs to track and verify tuna harvested outside the eastern tropical Pacific are incomplete, inadequate, and unenforceable.

Furthermore, while the current regulations state that the: "Assistant Administrator may request, in writing, any exporter, importer, processor, distributor, or seller of any tuna or tuna product labeled . . . to produce, within a specified time period, all documentary evidence concerning the origin of any product that is offered as dolphin safe."¹⁴⁶ NMFS has never requested this information, nor has it conducted spot checks to verify the documentation and the origin of any labeled product.¹⁴⁷ Without an

140. Steve Larue, *Flipper Symbol to Wave from Dolphin-Safe Tuna Cans*, SAN DIEGO UNION-TRIB., Nov. 18, 1991, at B3.

141. *Id.* (quoting Don White, CEO Earthtrust).

142. *Id.* (citing Michael McGowan, vice president of governmental affairs for Bumblebee Seafood).

143. *Id.*

144. 16 U.S.C. § 1417(d)(3) (1994).

145. 50 C.F.R. § 216.92 (1995).

146. *Id.*

147. *Id.*; Telephone Interview with Dana Wilkes, National Marine Fisheries Service, Southwest Fisheries Center, Long Beach, Cal. (April, 1996).

adequate tracking and verification system in place and a mechanism to conduct periodic spot checks to determine compliance, consumers can have no confidence in the dolphin safe label.

E. International Trade: Tuna Embargoes and the DPCIA

Beginning in 1990, U.S. courts ordered embargoes against various harvesting nations that did not have dolphin conservation programs comparable to those of the U.S. or which had average dolphin mortality rates that exceeded those prescribed by U.S. law.¹⁴⁸ Mexico's yellowfin tuna catch was embargoed under the comparability provisions of the MMPA.¹⁴⁹ In accordance with the procedures of the General Agreement on Tariffs and Trade (GATT),¹⁵⁰ Mexico then challenged the United States' embargo, the possible broadening of trade sanctions under the Pelly Amendment,¹⁵¹ the intermediary nation embargoes, and the tuna labeling provisions of the DPCIA, claiming that these were unfair trade

148. See *Earth Island Inst. v. Mosbacher*, 746 F. Supp. 964 (N.D. Cal. 1990). In *Earth Island Institute*, the district court ordered an interim embargo on August 28, 1990, enjoining the importation of yellowfin tuna products until comparability findings were issued by NMFS regarding foreign fishing fleets. The Secretary "ostensibly imposed the embargo" on September 6, 1990. The next day, however, the Secretary issued an unwarranted comparability finding for Mexico, based on NMFS's determination that Mexico was within its dolphin kill limits for the first six months of 1990. Earth Island Institute asked the district court for a temporary restraining order banning Mexican tuna imports on the grounds that the comparability finding of September 7, 1990 violated the procedures established by the MMPA. On October 4, 1990, the district court granted Earth Island Institute's request for the temporary restraining order. *Earth Island Inst. v. Mosbacher*, 929 F.2d 1449, 1451 (9th Cir. 1991) (affirming the district court). On October 19, 1990, the court, at the request of the government, converted the temporary restraining order into a preliminary injunction. *Id.* at 1452. The district court granted a rehearing to resolve whether federal agencies had obtained necessary certification that foreign nations were also prohibiting tuna barred from importation into the United States. *Earth Island Inst. v. Mosbacher*, 785 F. Supp. 826, 836 (N.D. Cal. 1992) (preliminary injunctive relief was still found appropriate).

149. See 56 Fed. Reg. 12,367-01 (1991). Recall that the comparability provisions under the 1984 and 1988 amendments require a foreign nation exporting tuna to the United States to document that it has adopted a dolphin conservation program equivalent to that of the United States, and that the average rate of mortality of its purse seine fleet is comparable to that of the U.S. fleet. See *supra* notes 68-73 and accompanying text.

150. General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-11, T.I.A.S. 1700, 55 U.N.T.S. 194.

151. See Pelly Amendment to the Fisherman's Protective Act of 1967, 22 U.S.C. § 1978 (1994) (authorizing President to ban all fish products from any country whose policies diminish the effectiveness of any international fisheries conservation program).

practices.¹⁵² In September 1991, a dispute panel convened by the GATT issued a preliminary report supporting Mexico's challenge.¹⁵³

A separate challenge to the embargoes associated with the intermediary nations was filed under GATT in 1992 by the European Community and the Netherlands (acting on behalf of the Netherlands Antilles), claiming that the intermediary embargo constituted an unfair trade practice.¹⁵⁴ The dispute panel proceedings were suspended to allow time for consultations under the International Dolphin Conservation Act (IDCA), with hopes that a resolution would ensue.¹⁵⁵ When the consultations failed to resolve the dispute, the European Community and the Netherlands proceeded with their challenge. In May 1994, the dispute panel issued a report supporting

152. MARINE MAMMAL COMMISSION, 99TH CONG., 1992 ANNUAL REPORT TO CONGRESS 112 (1993).

153. For a discussion of the GATT response to trade restrictions in the import of tuna caught with purse seine net and the comparability standards of the MMPA, see Stephen Fleischer, *The Mexico-U.S. Tuna/Dolphin Dispute in GATT: Exploring the Use of Trade Restrictions to Enforce Environmental Standards*, 3 TRANSNAT'L L. & CONTEMP. PROBS. 515 (1993); Robert F. Housman & Durwood J. Zaelke, *The Collision of the Environment and Trade: The GATT Tuna/Dolphin Decision*, 22 ENV'T. L. REP. 10268 (1992); Frederic L. Kirgis, Jr., *Environment and Trade Measures After the Tuna/Dolphin Decision*, 49 WASH. & LEE L. REV. 1221 (1992); Raul Pedrozo, *The International Dolphin Conservation Act of 1992: Unreasonable Extension of U.S. Jurisdiction in the Eastern Tropical Pacific Ocean Fishery*, 7 TUL. ENVTL. L.J. 77 (1993); Thomas E. Skilton, *GATT and the Environment in Conflict: The Tuna-Dolphin Dispute and the Quest for an International Conservation Strategy*, 26 CORNELL INT'L L.J. 455 (1993); Stanley M. Spracker & David C. Lundsgaard, *Dolphins and Tuna: Renewed Attention on the Future of Free Trade and Protection of the Environment*, 18 COLUM. J. ENVTL. L. 385 (1993).

154. The 1988 amendments to the MMPA require "the government of any intermediary nation from which yellowfin tuna or tuna products will be exported to the United States to certify and provide reasonable proof that it has acted to prohibit the importation of tuna and tuna products from [embargoed nations]." The Marine Mammal Protection Act Amendments of 1988, sec. 4, § 101(a)2, 102 Stat. 4755, 4765-4768 (codified as amended at 16 U.S.C. 1371(a)(2)(ii) (1994)). In *Earth Island Inst. v. Mosbacher*, 785 F. Supp. 826 (N.D. Cal. 1992), the court ruled on the meaning of the term "intermediary nation," which resulted in a secondary embargo of tuna products from more than twenty intermediary nations. *Id.* at 831. The court also ruled that it is insufficient for an intermediary nation to merely demonstrate that it does not import, or has discontinued importing, tuna subject to a primary embargo. Rather, the intermediary nation must show that it has acted to prohibit the importation of the offending tuna and tuna products. *Id.* at 832.

155. *Id.* For more information on the second GATT dispute panel on tuna/dolphin, see Steve Charnovitz, *Dolphins and Tuna: An Analysis of the Second GATT Panel Report*, 24 ENVTL. L. REP. 10567 (1994); Paul J. Yechout, Note, *In the Wake of Tuna II: New Possibilities for GATT-Complaint Environmental Standards*, 5 MINN. J. GLOBAL TRADE 247 (1996).

the European Community's challenge.¹⁵⁶ Neither panel ruling has yet been considered for adoption by the parties to the GATT.¹⁵⁷

F. The International Dolphin Conservation Program Act

In 1992, Congress again revisited the "legislated" general permit in the International Dolphin Conservation Act of 1992.¹⁵⁸ The impetus for the IDCA was to resolve the GATT trade issue of whether it was appropriate for a member nation to unilaterally impose its domestic conservation policies on other states by implementing embargoes.¹⁵⁹ Although Mexico did not bring the issue to the full GATT council for formal adoption, the panel decision called into question whether the MMPA's embargo provision could be used effectively to control foreign kill levels.¹⁶⁰ With GATT's decision coming down against U.S. use of embargoes in this field, it became clear that the United States had to work toward a multi-national approach to reducing dolphin deaths in foreign tuna fisheries.

In an effort to craft a mechanism that was compatible with international practice and still reach the goals of the MMPA and the DPCIA, the IDCA authorized the Secretary of State to enter into international agreements to establish a global moratorium (of at least five years duration) on the intentional encirclement of dolphins with purse seine nets during tuna fishing operations.¹⁶¹ The Act also amended the MMPA to limit the total number of dolphin mortalities in the U.S. fleet under the Act's permit¹⁶² to 1,000 for 1992 and 800 for 1993 and the first three months of 1994.¹⁶³ On March 1, 1994, the general permit for the U.S. fleet was to expire, provided that at least some countries entered into an agreement

156. See generally GATT: Dispute Settlement Panel, Report on United States Restrictions on Imports of Tuna (1994), reprinted in 33 I.L.M. 839 (1994).

157. See Yechout, *supra* note 155, at 259 n.80 (citing Mexico's failure to press for adoption of panel report). GATT panel decisions are not automatically binding. *Id.* at 269.

158. 16 U.S.C. §§ 1411-1418 (1994).

159. See H.R. REP. NO. 102-746, 11 (1992) (citing administration proposal aimed at promoting international dolphin protection and resolving GATT trade issue).

160. See *supra* notes 148-157 and accompanying text (discussing GATT dispute panels).

161. 16 U.S.C. § 1412(a) (1994).

162. The issuance of the general permit essentially modified the quota to reflect the decline in the number of U.S. vessels fishing for tuna by setting on dolphin, which was brought about by the cannery ban. See MARINE MAMMAL COMMISSION, 1992 ANNUAL REPORT TO CONGRESS 99-100 (1993).

163. 16 U.S.C. § 1416(a)(1) (1994).

establishing the moratorium. In the absence of a moratorium, the permit would remain in effect until the end of 1999, subject to declining quotas each year.¹⁶⁴

Other provisions in the IDCA called for international research programs to develop alternative fishing practices,¹⁶⁵ trade restrictions on non-dolphin safe tuna,¹⁶⁶ observers on all purse seine vessels,¹⁶⁷ and among other things, annual reports to Congress to report on research, economic impacts, and the impacts on dolphins, tuna, and other marine life from the fishery.¹⁶⁸

Some thought the 1992 MMPA amendments offered new hope for resolving the foreign dolphin mortality problem through the international moratorium.¹⁶⁹ By relying on direct negotiations, the moratorium would avoid the problem of a forced embargo, thereby raising questions of GATT consistency.¹⁷⁰ The moratorium would clearly "level the playing field" between U.S. and foreign tuna fleets. If joined by enough countries and adequately enforced, it would virtually eliminate the take of dolphins in purse seine operations for tuna.¹⁷¹ Although some of the foreign nations involved in the ETP fishery initially endorsed the concept,¹⁷² no tuna-fishing nation committed to the global moratorium after passage of the IDCA. Moreover, under the Clinton administration, the State Department has not actively pursued negotiations to secure commitments from foreign tuna-fishing nations to adhere to the global moratorium. Consequently, the IDCA by itself has failed to encourage a multilateral solution among ETP fishing nations. Without international commitment

164. *Id.* § 1416(a)(3)-(4)(D).

165. *Id.* § 1413(a).

166. *Id.* § 1417(a)(1).

167. *Id.* § 1415(a)(2).

168. *Id.* § 1414.

169. H.R. REP. NO. 102-746, at 6 (1992) (discussing legislation intended to establish international moratorium on encirclement on dolphins for harvesting tuna).

170. *Id.* See also, Yechout, *supra* note 155, at 261. "The Act [IDCA] nevertheless represents a significant effort by the United States toward resolution of the GATT problems through the use of multilateral agreements." *Id.*

171. *Hearing on Bush Administration's 3/3/92 Tuna/Dolphin Proposal before the Subcomm. on Fisheries, Wildlife Conservation and the Environment of the House Comm. on Merchant Marine and Fisheries*, 102d Cong., 2d Sess., (1992) (statement of John M. Fitzgerald, Counsel for Wildlife Policy, Defenders of Wildlife) (stating that Administration proposal limiting moratorium to five years would eliminate opportunity to achieve permanent end to practice of setting nets on dolphins by both U.S. and foreign fleets).

172. *Id.*

to a global moratorium, many provisions of the IDCA are, as a practical matter, ineffective.¹⁷³

IV. INTERNATIONAL EFFORTS TO REDUCE DOLPHIN MORTALITY

A. *The Inter-American Tropical Tuna Commission and the La Jolla Agreement*

In 1979, the IATTC¹⁷⁴ began its international observer programs, placing observers on both foreign and domestic vessels.¹⁷⁵ The observer program was perhaps the single most important factor leading to fleet-wide dolphin mortality reductions. Reports demonstrate that dolphin mortality was significantly higher on vessels not carrying observers than on vessels where observers were present.¹⁷⁶

The IATTC has been responsible for working with member nations¹⁷⁷ to implement the requirements of the comparability program since 1988.¹⁷⁸ The Commission is the source of foreign dolphin mortality data for the ETP.¹⁷⁹ The IATTC has also taken charge of the further research suggest-

173. *Tuna/Dolphin Issues: Hearings on the Provisions of the International Dolphin Conservation Act, How it is Affecting Dolphin Mortality, and What Measures Can Be Effected to Keep the Mortality to a Minimum and on H.R. 2823 Before the Subcomm. on Fisheries, Wildlife and Oceans of the House Comm. on Resources*, 104th Cong. 1st & 2d Sess. 64 (1995) [hereinafter *Hearings*] (statement of Suzanne Iudicello, Vice President for Programs, Center for Marine Conservation, made on behalf of the Environmental Defense Fund, Greenpeace, National Audubon Society, National Wildlife Federation, Whale and Dolphin Conservation Society, and World Wildlife Fund).

174. Convention for the Establishment of Inter-American Tropical Tuna Commission, May 31, 1949, 1 U.S.T. 230. See *id.* IATTC, the one international agreement that most tuna catching nations have endorsed, was developed under the auspices of the Convention for the Establishment of Inter-American Tropical Tuna Commission. The IATTC was established for the purpose of providing maximum yield of tunas and tuna-like fishes in the ETP on a sustained basis. In 1976, the IATTC established the goals of "maintain[ing] a high level of tuna production . . . and maintain[ing] porpoise stocks at or above levels that assure their survival in perpetuity, with every reasonable effort being made to avoid needless or careless killing of porpoise." IATTC, 1979 ANNUAL REPORT 51 (1981).

175. 54 Fed. Reg. 20,171 (1989).

176. 55 Fed. Reg. 42,235 (1990).

177. The membership of the IATTC consists of nations that either fish for, or purchase large quantities of ETP-tuna: United States, France, Japan, Venezuela, Panama, Costa Rica, Nicaragua, and Vanuatu. A number of nations involved in the ETP fishery are not IATTC members, including Mexico. Yechout, *supra* note 155.

178. See 56 Fed. Reg. 47,418 (1991); 53 Fed. Reg. 8910, 8913-16 (1988).

179. See 54 Fed. Reg. 20,171 (1989).

ed by the NRC study, such as testing fish aggregating devices (FADs),¹⁸⁰ research on catching tuna under logs and in schools, and assessment of both tuna and dolphin populations.¹⁸¹ Because of increased public scrutiny and U.S. embargoes on member nations, the IATTC has accelerated its program to reduce incidental dolphin mortality.

The 1984 and 1988 amendments to the MMPA resulted in the embargo of tuna from several of the foreign tuna fishing nations. The passage of the DPCIA provided a strong impetus for the foreign fleets to take action to reduce dolphin mortality which, during the time that the DPCIA was implemented, ranged from 84,000 animals in 1989, to 47,000 in 1990.¹⁸²

On June 18, 1992, IATTC adopted the La Jolla Agreement, a non-binding multilateral program designed to reduce dolphin mortalities in the ETP over a seven-year period to "levels approaching zero," while maintaining the present maximum tuna yield.¹⁸³ In addition to the member nations (the United States, Venezuela, Panama, Costa Rica, Nicaragua, and Vanuatu), four non-member nations that fish in the ETP ratified the agreement (Mexico, Colombia, Ecuador, and Spain). Two member nations (France and Japan) did not ratify the agreement.¹⁸⁴

The La Jolla Agreement encourages limiting dolphin mortalities in the ETP tuna fishery, from 19,500 mortalities in 1993 to fewer than 5,000 annual mortalities by 1999.¹⁸⁵ It also requires that these limits be assigned on a per-vessel basis,¹⁸⁶ and that a vessel cease fishing when it reaches its

180. Fish-Aggregating Devices, or FADs, are anchored or drifting artificial objects deliberately placed to attract tuna, and are used as an alternative to dolphin-associated fishing. NRC REPORT, *supra* note 14, at 93. "Purse seiners catch substantial amounts of tuna every year by setting nets on floating objects, but no one knows why tuna associate with floating objects or how strong or long-lasting the attraction is." *Id.* While catches using FADs can be large, the size of the tuna, on average, is smaller than the catches in dolphin sets. *Id.* The fundamental question pertaining to the testing and developments of FADs is "whether it is possible to develop FADs capable of attracting large yellowfin" in the ETP. *Id.* at 94. See generally, *id.*, at 93-98 (discussing history, status, and potential for use of FADs in ETP ocean).

181. See *Taking and Importing of Marine Mammals; Listing of Eastern Spinner Dolphin as a Threatened Species*, 57 Fed. Reg. 47,620, 47,625 (1992) (Proposed Oct. 10, 1992).

182. MARINE MAMMAL COMMISSION, 1991 ANNUAL REPORT TO CONGRESS 95 (1992).

183. Agreement to Reduce Dolphin Mortality in the Eastern Pacific Ocean, *reprinted in* 33 I.L.M. 936 (1992) [hereinafter La Jolla Agreement].

184. *Id.*

185. The subsequent schedule for mortality limits are: 1994-15,500; 1995-12,000; 1996-9,000; 1997-7,500; 1998-6,500; 1999- fewer than 5,000. See *id.*

186. The La Jolla Agreement calls for a listing of all purse-seine vessels with a carrying capacity of over 400 short tons. These vessels are then assigned Dolphin Mortality Limits

limit of dolphin deaths. The Agreement further establishes an international research program and scientific advisory board¹⁸⁷ to coordinate, facilitate, and guide research directed at reducing dolphin mortalities. Additionally, it requires that observers accompany all purse seine vessels (exceeding a carrying capacity of 400 short tons).¹⁸⁸ Finally, it organizes an international review panel to monitor compliance by the international fleet with the annual dolphin mortality limits.¹⁸⁹

The success of the La Jolla Agreement can be traced to the International Review Panel and the Dolphin Mortality Limits. The International Review Panel, composed of five government representatives, two representatives of environmental organizations, and two representatives of the tuna fishing industry, reviews observer data to monitor compliance with the La Jolla Agreement.¹⁹⁰ This Review Panel establishes the DMLs each year, along with protective measures for individual dolphin stocks ensuring their survival, and recommends actions to be taken by governments to ensure compliance with the resolutions.¹⁹¹

The International Dolphin Conservation Program established under the La Jolla Agreement and implemented by the IATTC has been extremely effective. In 1993, the first year of the program, dolphin mortality for the international fleet was reduced to only 3,601 animals, almost 12,000 animals fewer than the 1992 mortality levels and well below the 1999 dolphin mortality target of 5,000 animals.¹⁹² The program experienced similar success in 1994, with dolphin mortality at 4,095 animals,¹⁹³ in

(DML). For example, in 1993, each DML would be equivalent to 19,500 divided by the total number of qualified vessels with an adjustment limit permitted for each nation. Any vessel reaching its DML is required to halt further fishing on dolphins in the Eastern Pacific Ocean and any vessel exceeding its DML for a given year will have the exceeded amount deducted from its assigned DML for the next year. *See id.* at 938-39.

187. Under the La Jolla Agreement, the responsibilities of the scientific advisory board are to monitor the status of both dolphin and tuna populations and to conduct research into various "dolphin safe" fishing procedures. *Id.* at 942.

188. According to the La Jolla Agreement, an observer must be on board to ensure the DML is not exceeded and at least fifty percent of these observers are to be trained by the IATTC. *Id.* at 939.

189. *Id.* at 938.

190. *Id.* at 938-41.

191. *Id.* at 940.

192. MARINE MAMMAL COMMISSION, 1994 ANNUAL REPORT TO CONGRESS 116-25 (1995).

193. MARINE MAMMAL COMMISSION, 1995 ANNUAL REPORT TO CONGRESS 100 (1996).

1995 with a mortality of 3,274¹⁹⁴ and 1996 with a mortality fewer than 2,700 dolphins.¹⁹⁵ The successful reduction in mortality rates is due to international cooperation by IATTC members and the development of fishing practices, pioneered by U.S. captains, which reduce dolphin mortalities. It is likely that the ETP purse seine fishery will be able to achieve further reductions through improved technology that avoids disaster sets.¹⁹⁶ In fact, some believe that dolphin deaths may at some point in the near future number fewer than 1,000 a year.¹⁹⁷

V. THE GENESIS OF THE PANAMA DECLARATION

A. A Necessary Change of Course: Reasons for the Panama Declaration

While substantial progress has been made under the MMPA and the La Jolla Agreement, more is needed to be done to further reduce and eventually eliminate dolphin mortality, and to ensure the health and stability of the ETP marine ecosystem. Action to strengthen the international dolphin protection regime was necessary as subsequent events, explored in depth below, threatened to undermine or undo all of the progress made to date on the tuna/dolphin issue.

1. International Commitments to the La Jolla Agreement Were in Jeopardy

The political durability of the voluntary legal agreement was in question as foreign tuna fishing nations were making preparations to abandon the

194. MARINE MAMMAL COMMISSION, 1996 ANNUAL REPORT TO CONGRESS (1997).

195. *Id.* The number 2,700 was a preliminary estimate in this report.

196. The term "disaster sets" or special problem sets refers to a set in which:

(a) the mortality exceeds 50% of the individual-vessel DML for 1994 and affects that vessel's DML for 1995;

(b) the mortality is not caused by or contributed to by: an infraction committed by the fishing captain, or a gear failure or malfunction resulting from a lack of proper maintenance of the vessel and its gear

See Agreement for the Conservation of Dolphins Summary Documentation of Decisions and Recommendations of the Inter-American Tropical Tuna Commission Intergovernmental Plenary and International Review Panel, April 1992 - Jan. 1995, app. 21, 25 (1995) [hereinafter IATTC Dolphin Summary].

197. Personal communication with Martin Hall, Inter-American Tropical Tuna Commission (on file with Authors).

commitments of the La Jolla Agreement and opt for a less restrictive multilateral agreement.¹⁹⁸

By 1995, the tuna fishery in the ETP was no longer dominated by U.S. vessels; it had become an international fishery that required international management.¹⁹⁹ Further modifications would be needed in order to achieve greater reductions in dolphin mortality, especially in light of the fact that the La Jolla Agreement mortality schedule, in its current non-binding form, only extended to 1999.²⁰⁰

The success of the La Jolla Agreement was due largely to the good faith efforts of the fishing nations participating in the agreement.²⁰¹ In 1995, all of the Latin American nations that fish for yellowfin tuna in the ETP were embargoed under section 101 of the MMPA.²⁰² As of June 1, 1994, the dolphin safe market access provision of Title III of the MMPA closed access to all tuna that was not dolphin safe.²⁰³ Even if a sizeable portion of a foreign nation's fleet was fishing in a manner considered dolphin safe, the encirclement of even one dolphin by that foreign nation's fleet fishing in the ETP was grounds for an embargo under the Act's comparability standards.²⁰⁴ Under the regime a large portion of dolphin safe tuna from the ETP were nevertheless barred from the U.S. market.

198. San Jose Declaration at the Intergovernmental Meeting of the La Jolla Agreement, July 14, 1995 (Costa Rica, Ecuador, Mexico, and Venezuela) [a copy of this declaration is on file with the *Ocean and Coastal Law Journal*] [hereinafter San Jose Declaration].

199. In 1995, the U.S. fleet had five purse seine vessels fishing in the ETP, while the foreign fleets had 95 vessels. MARINE MAMMAL COMMISSION, 1995 ANNUAL REPORT TO CONGRESS 102 (1996).

200. See La Jolla Agreement, *supra* note 183, at 938 (outlining mortality schedule).

201. See *Hearings*, *supra* note 173, at 45 (statement of James Joseph, Ph.D., Director, Inter-American Tropical Tuna Commission). See also, H.R. REP. NO. 746, *supra* note 168, at 324 (statement of James Joseph, Ph.D., Director, Inter-American Tropical Tuna Commission).

202. See 56 Fed. Reg. 12,367 (1993) (embargoing Mexican tuna); 56 Fed. Reg. 21,096 (1991) (embargoing Venezuelan tuna); 58 Fed. Reg. 3013 (1993) (embargoing Panamanian tuna); 59 Fed. Reg. 65,974 (1994) (embargoing Columbian and Vanuatuan tuna).

203. 16 U.S.C. § 1417(a)(1) (1994).

204. Prohibited from making sets on three of the ten stocks of eastern tropical Pacific dolphins, faced with a quota of 105 dolphins, and foreclosed from marketing in the United States any tuna caught by setting on dolphins, none of the five U.S. vessels remaining in the eastern tropical Pacific fishery initially requested a dolphin mortality quota for 1995 . . . no sets on dolphins were made and no dolphins were killed by the U.S. fleet in 1995.

MARINE MAMMAL COMMISSION, 1995 ANNUAL REPORT TO CONGRESS 101 (1996). Therefore, according to 16 U.S.C. § 1371(a)(2)(B)(ii)(II), the mortality rate for the foreign fleet also had to be zero (0 x 1.25).

The net effect of these policies was to cause a shift in the canned tuna market. For example, in the mid-1970s, the United States consumed about eighty-five percent of the yellowfin tuna caught in the ETP. By the end of 1992, that percentage had declined to less than ten percent.²⁰⁵ Much of the catch from the ETP was sold to Europe, the second largest market, and to Latin America, with Mexico increasing its tuna consumption fivefold between 1975 and 1992.²⁰⁶ Because these nations were developing markets for their tuna outside the United States, access to the U.S. markets no longer provided incentive for these nations to achieve further dolphin mortality reductions.²⁰⁷

The end result was a growing discontent among Latin American nations over the inconsistencies between the MMPA and the U.S. embargo provisions, on the one hand, and U.S. support of the La Jolla Agreement on the other.²⁰⁸ These countries began to make threats to abandon the existing La Jolla Agreement in favor of a less restrictive regime.²⁰⁹ This culminated with the governments of Colombia, Costa Rica, Ecuador, Mexico, Panama, and Venezuela signing the San Jose Declaration at the Intergovernmental Meeting of the La Jolla Agreement in Costa Rica on July 14, 1995.²¹⁰ It stated specifically that the nations wished to:

Reiterate their concern that the stability of the La Jolla Agreement is endangered if the United States fails during this Session of the U.S.

205. MARINE MAMMAL COMMISSION, 1994 ANNUAL REPORT TO CONGRESS 117 (1995).

206. *Id.*; see also *Hearings, supra* note 173, at 305 (statement of Timothy E. Wirth, Under Secretary for Global Affairs, U.S. Department of State) (discussing world market for canned tuna).

207. *Id.* at 304.

The fact is, Mr. Chairman, that after three years of adhering to the MMPA's current stringent dolphin protection program and seeing no prospect of relief in terms of access to the U.S. market, the foreign fleets and governments do not have a strong incentive to continue pursuing an effective compliance and penalty regime, and the United States has little leverage.

Id.

208. At the June 13-15, 1995 meeting of the IATTC, six nations—Colombia, Costa Rica, Ecuador, Mexico, Panama, and Venezuela—issued a joint statement urging the United States to lift the primary and intermediary tuna embargoes and alleging that U.S. embargoes of tuna that is not dolphin-safe are contrary to international law, lack a scientific basis, are counterproductive to broader conservation goals, and are incompatible with the United States signing the La Jolla Agreement. MARINE MAMMAL COMMISSION, 1995 ANNUAL REPORT TO CONGRESS 103 (1996).

209. *Id.* at 103-04.

210. See San Jose Declaration, *supra* note 198.

Congress to resolve these U.S. policy inconsistencies by implementing the following three indivisible acts: lifting of the primary and secondary embargoes; codifying the La Jolla Agreement; and redefining "dolphin safe" to include all tuna and tuna products harvested in accord with the regulatory measures embodied within the framework of the La Jolla Agreement.²¹¹

Many of these countries were also investigating other international management bodies and mechanisms such as Organización Latinoamericana de Desarrollo Pesquero that could be substituted for the La Jolla Agreement.²¹² Given the concern expressed by these nations, the conclusion was inescapable. If nations abandoned the La Jolla Agreement, dolphin mortality would increase and the management of the fishery would suffer.²¹³

2. *The "Dolphin Safe" Policy Did Not End the Practice of Setting on Dolphin and Current Dolphin Safe Fishing Practices Have a Substantial Bycatch of Other Marine Species in the ETP*

The "dolphin safe" policy did not achieve all of its goals, and data taken from IATTC observers indicated that "dolphin safe" fishing practices have a greater bycatch—including deaths of vulnerable marine species such as sharks, sea turtles, and billfish—associated with these fishing methods.²¹⁴

211. *Id.* at 2.

212. Article 3 in the Statement of the Conference of Ministers on Article 14 of the Articles of Agreement of the Organización Latinoamericana de Desarrollo Pesquero. The Organización Latinoamericana de Desarrollo Pesquero includes fishery representatives from Latin America and Caribbean and includes: Belize, Colombia, Costa Rica, Cuba, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, and Venezuela.

213. *See Hearings, supra* note 173, at 51 (statement of James Joseph, Ph.D., Director, Inter-American Tropical Tuna Commission) (discussing the merits of the La Jolla Agreement and its success); *id.* at 295-96 (statement by Timothy E. Wirth, Under Secretary for Global Affairs, U.S. Department of State) (discussing success of fishery management under La Jolla Agreement); *id.* at 41 (statement of Ambassador David A. Colson, Deputy Assistant Secretary for Oceans in the Bureau of Oceans and Environmental and Scientific Affairs, U.S. Dept. of State) (suggesting that loss of the IATTC program would be a step backward for dolphin protection).

214. *See generally* INTER-AMERICAN TROPICAL TUNA COMMISSION, 1995 PEER REVIEW OF THE IATTC BYCATCH DATA BASE 13 [hereinafter IATTC Bycatch Database Peer Review].

Despite the dramatic progress made under the MMPA, dolphins have continued to die in the ETP. At the individual species or stock level the fishery has not met the MMPA's zero mortality goal.²¹⁵ Although Congress recognized that dolphin mortality was the driving force for the DPCIA, the stated goal of the DPCIA was to end the practice of intentionally deploying nets to encircle dolphins.²¹⁶ In adopting the DPCIA, however, Congress recognized that "[a] major obstacle to such a change [(the end of encirclement)] has been the difficulty of imposing it [(the DPCIA)] upon the fishing fleets of nations other than the United States."²¹⁷ Unfortunately, the DPCIA did little to change the fishing practices of international fishers in the ETP. Fishers continued to encircle dolphins at approximately the same rate as before 1990.²¹⁸ In fact, as a percentage of total sets, sets made on dolphins represented fifty-two percent of the total sets made between 1980 and 1990, and about fifty-four percent between 1990 and 1995.²¹⁹

On the other hand, although the relative rate of sets made on dolphins did not decrease significantly after the passage of the DPCIA, dolphin mortality *per set* did decrease from 5.0 in 1990 to 0.46 in 1995.²²⁰ Moreover, the percentage of sets that involved *no* dolphin mortality increased from fifty-four percent to eighty-five percent during that same

215. The great majority of independent and government marine mammal scientists consider mortality levels of less than 0.1% of the minimum population size for a dolphin stocks to have a "negligible impact" on the dolphin stocks and to meet the MMPA's zero mortality rate goal. See National Marine Fisheries Service, Office of Protected Resources, 1994 Report of the PBR (Potential Biological Removal) Workshop. See also 50 C.F.R. § 228.3 (1996) (definition of "negligible impact").

216. H.R. REP. No. 101-579, at 5 (1990).

217. *Id.*

218. See *Hearings, supra* note 173, at 325 (statement of James Joseph, Ph.D. Director, Inter-American Tropical Tuna Commission).

219. M.A. Hall & S.D. Boyer, *Estimates of Incidental Mortality of Dolphins in the Purse-Seine Fishery for Tunas in the Eastern Pacific Ocean in 1990*, 42 REP. INT'L WHALING COMM'N. 529 (1992); see also Personal Comments of Martin Hall, Inter-American Tropical Tuna Commission (estimating 1995 dolphin set data) (on file with Authors).

220. Hall & Boyer, *supra* note 219, at 530.

time period.²²¹ Both of these measures demonstrate that fishers²²² are releasing greater numbers of dolphins.

Hence, the DPCIA did not eliminate or ban the practice of encirclement. Fishers continue to set on dolphins in the ETP. The MMPA and the DPCIA were, however, influential in achieving the substantial dolphin mortality decrease in the ETP.

Not surprisingly, since the passage of the DPCIA, consumers have become confused as to the exact definition of "dolphin safe." Some are under the false impression that dolphins are no longer encircled or drowned in tuna nets in the ETP.²²³ In truth, the dolphin-safe label never guaranteed that no dolphins would be killed by tuna fishermen. In fact, under current law, fishing methods deemed dolphin-safe such as school and log sets²²⁴ could still result in dolphin deaths and the tuna caught could still be labeled "dolphin safe."²²⁵

Besides causing some dolphin deaths, recent data indicate other serious problems may result from using fishing methods that do not involve setting nets around dolphins. For example, setting nets on logs and floating objects or on schools of juvenile tuna, may involve substantial bycatches of non-target species and juvenile tuna.²²⁶ Specifically, log sets result in 100 times more juvenile tuna bycatch than dolphin sets and school sets result in ten times more juvenile tuna bycatch than dolphin

221. *Id.*

222. These were primarily Latin American fishers. In response to the DPCIA, the U.S. fleet moved to the western Pacific to fish for tuna not in association with dolphins and the major canneries all but stopped purchasing tuna from the ETP. H.R. REP. NO. 101-579, at 6-7 (1990); *see also*, MARINE MAMMAL COMMISSION, 1994 ANNUAL REPORT TO CONGRESS 117 (1995).

223. *See supra* section III.C, and notes 116-128 and accompanying text (describing consumer reaction to introduction of dolphin safe label).

224. There are three methods of fishing for tuna with purse seines: setting on or encircling dolphins, logs (floating objects and debris), and schoolfish (schools of tuna not associated with dolphins). The latter two methods, because they do not involve intentionally encircling a school of dolphins to capture tuna, are considered "dolphin safe" under the DPCIA. NRC REPORT, *supra* note 14, at 37.

225. *See Hearings, supra* note 173, at 69 (statement of Suzanne Iudicello, Vice President for Programs, Center for Marine Conservation); *id.* at 317-18 (statement of Elizabeth Edwards, Ph.D., Leader, Dolphin Safe Research Program, Nat'l Marine Fisheries Service, Southwest Fisheries Science Center) (discussing the bycatch of other marine life in "dolphin safe" sets).

226. *See Hearings, supra* note 173, at 317-18 (statement of Elizabeth Edwards, Ph.D., Leader, Dolphin Safe Research Program, National Marine Fisheries Service, Southwest Fisheries Science Center).

school sets result in ten times more juvenile tuna bycatch than dolphin sets. These rates are similar for the bycatch of other marine species.²²⁷ Of particular concern are species that reproduce slower than other species such as sharks, billfish, and sea turtles.²²⁸ Since the latter part of 1992, the IATTC has been using observers to collect data on the species and number of animals captured by vessels with capacities greater than 400 tons.²²⁹ These data, which constitute one of the largest and most complete bycatch data sets in the world, provide the basis for examining the quantities and types of animals taken by the various fishing methods.²³⁰

There is also growing concern about the discard of dead juvenile tuna.²³¹ Data collected by the IATTC during 1993 and 1994 indicate that the average tons of juvenile yellowfin tuna discarded per set for dolphin, schoolfish, and log sets was 0.17, 0.58, and 8.3 tons respectively.²³² These estimated average weights of discarded juvenile yellowfin tuna reasonably correspond to those estimated by NMFS of 0.06 tons per set on dolphins, 1.0 to 1.2 tons per set on schoolfish, and 7.0 to 15.0 tons per set on logs, with variations depending on the geographic area.²³³ Further, the IATTC estimates that, overall, 7.4% or 31,660 tons of all species of

227. *Id.* at 318 (statement of Elizabeth Edwards, Ph.D., Leader, Dolphin Safe Research Program, National Marine Fisheries Service, Southwest Fisheries Science Center); *see also* Hall & Boyer, *supra* note 219.

228. *See Hearings, supra* note 173, at 318-19 (statement of Elizabeth Edwards, Ph.D., Leader, Dolphin Safe Research Program, National Marine Fisheries Service, Southwest Fisheries Science Center); *see also* response of James Joseph, Ph.D., Director, Inter-American Tropical Tuna Commission to questions from Congressman Jim Saxton, April 1996 (on record at the Subcomm. on Fisheries, Wildlife, and Oceans).

229. IATTC Bycatch Database Peer Review, *supra* note 214, at 6.

230. *Id.* at 13.

231. *See Hearings, supra* note 173, at 317-19 (statement of Elizabeth Edwards, Ph.D., Leader, Dolphin Safe Research Program, National Marine Fisheries Service, Southwest Fisheries Science Center); *id.* at 326 (statement of James Joseph, Ph.D., Director, Inter-American Tropical Tuna Commission).

232. MARTIN A. HALL ET AL., INTER-AMERICAN TROPICAL TUNA COMM'N, THE ASSOCIATION OF TUNAS WITH FLOATING OBJECTS AND DOLPHINS IN THE EASTERN TROPICAL PACIFIC OCEAN II: THE PURSE-SEINE FISHERY FOR TUNAS IN THE EASTERN TROPICAL PACIFIC OCEAN (1992); *see also*, Elizabeth F. Edwards & Peter C. Perkins, SOUTHWEST FISHERIES SCIENCE CENTER, NATIONAL MARINE FISHERIES SERVICE, ESTIMATED TUNA DISCARD FROM DOLPHIN, SCHOOL, AND LOG SET IN THE EASTERN TROPICAL PACIFIC OCEAN 1989-1992 (forthcoming date) (draft on file with the *Ocean and Coastal Law Journal*).

233. SOUTHWEST FISHERIES SCIENCE CENTER, NATIONAL MARINE FISHERIES SERVICE, ADMIN. REP. L.J. 94-05, DIRECTOR'S REPORT TO THE 45TH TUNA CONFERENCE ON TUNA AND TUNA-RELATED ACTIVITIES AT THE SOUTHWEST FISHERIES SCIENCE CENTER FOR THE PERIOD MAY 1, 1993 TO APRIL 30, 1994.

tuna caught in the fishery during 1993 and 1994 were discarded.²³⁴ According to IATTC reports for 1993 and 1994, the total tons of yellowfin tuna discarded by the international fleet ranged from 448 to 916 tons from dolphin sets, 606 to 2,108 tons from school sets, and 3,802 to 4,150 from log sets.²³⁵

These data leave no doubt that action is necessary, not only to reduce dolphin mortality, but also to reduce overall bycatch of other species in the fishery and to avert a large-scale shift to log and school sets.²³⁶ Indeed, a scientific peer review of the IATTC bycatch data found:

[T]hat the various bycatch summaries allowed it to conclude that substantial differences in discard levels occurred for different set types [(log, school, and dolphin sets)]. On the other hand, the peer group did not believe there were adequate data or statistical analyses provided to estimate the degree of these differences. . . . Nevertheless, the sheer magnitude of the rate differences by set type makes it difficult to dismiss the conclusion that a major shift in the proportion of each set category would likely lead to substantial differences in levels and species compositions of the bycatches and size categories of harvested target species. Based on the findings of the peer review panel, it would be prudent that any proposed major shifts in fishing modes take into account the implied ecological impacts.²³⁷

While the peer review could not ascertain the overall quantitative impact, or the impact of shifts to school or log sets on a particular species, the data qualitatively indicated that current "dolphin safe" fishing methods (school and log sets) resulted in far greater bycatch.²³⁸ Moreover, any shift of fishing effort to these methods that may be caused by statutory requirements to end the encirclement of dolphins would likely result in *greater* bycatch of vulnerable marine species, including sea turtles already in danger of extinction.²³⁹

234. INTER-AMERICAN TROPICAL TUNA COMMISSION, QUARTERLY REPORT-THIRD QUARTER 30, table 10 (1995).

235. *Id.*

236. *See supra* note 224 (reviewing tuna fishing methods).

237. IATTC Bycatch Database Peer Review, *supra* note 213, at 14.

238. *Id.*

239. *Id.*

Some environmental groups maintain that the bycatch in the fishery was probably greater in the late 1970s and early 1980s when the fishery was larger. They also maintain that there is no clear assessment available as to the impact on the fishery of the current rates of the discards of juvenile tuna.²⁴⁰ Nevertheless, it is clear that bycatch was a substantial problem. In light of domestic and international efforts to assess and reduce bycatch and improve fishery management, the precautionary approach²⁴¹ would reduce this waste, conserve tuna stocks, and avoid any increase in bycatch because of a shift in the fishing methods. This could be achieved by allowing the fishery to operate within its existing proportion of log, school, and dolphin sets, while requiring bycatch reduction measures for dolphin target, and non-target bycatch.²⁴²

3. *Congressional Attacks on the MMPA*

Congress considered legislation that would change the MMPA and significantly undermine dolphin protection.²⁴³ On August 3, 1995, Representative Randy "Duke" Cunningham of California introduced H.R. 2179, The International Dolphin Conservation Act Amendments of 1995.²⁴⁴ As introduced, H.R. 2179 was an open attack on the MMPA and international efforts to reduce dolphin mortality in the ETP purse seine fishery for yellowfin tuna.

The Cunningham bill proposed broad changes to existing tuna-dolphin legislation. First, the Cunningham bill would have repealed the existing comparability requirements for nations seeking to export tuna to the

240. See *Hearings, supra* note 173, at 381 (statement of Jeffrey Pike, Dolphin Safe Fair Trade Campaign).

241. The "precautionary approach," or precautionary principle, has developed in international environmental law in recognition of the need to act to protect the environment in the absence of scientific certainty about future harm. The Rio Declaration on Environment and Development states, "[i]n order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation." Rio Declaration on Environment and Development, Jun. 14, 1992, 31 I.L.M. 784, 879 (1992).

242. See *Hearings, supra* note 173, at 319 (statement of Elizabeth Edwards, Ph.D., Leader, Dolphin Safe Research Program, National Marine Fisheries Service, Southwest Fisheries Science Center).

243. See H.R. 2179, 104th Cong. (1995).

244. *Id.*

United States.²⁴⁵ Under the proposed legislation, comparability would have been based on a requirement that a nation seeking to export tuna to the United States must have participated in the international program established under the La Jolla Agreement, provided that: (1) dolphin mortality under the program was within the potential biological removal level²⁴⁶ for each affected stock, (2) all vessels of the nation were participating in the program and were subject to 100% observer coverage, (3) the nation authorized the release of information sufficient to demonstrate participation in the program, and (4) the nation complied with all reasonable requests to participate in cooperative scientific research.²⁴⁷ Second, the provisions regarding the general permit issued to the American Tunaboat Association would have been deleted and replaced with a requirement subjecting U.S. purse seine vessels in the ETP to regulations promulgated by the Secretary of Commerce that were consistent with, and implemented, the International Dolphin Program.²⁴⁸ Finally, the Cunningham bill would have repealed the DPCIA, along with the definition of dolphin safe tuna and the existing provision that limits imports to dolphin safe tuna.²⁴⁹

Conservation groups strongly opposed H.R. 2179 for several reasons. First, H.R. 2179 would have more than doubled the number of dolphin deaths and led to declines in tuna stocks in the ETP tuna fishery.²⁵⁰ Second, H.R. 2179 would not have served the economic interests of the United States through the creation of new jobs, and there was no evidence that it would return significant economic benefits either to the American tuna fishery (especially those vessels fishing in the Western Pacific) or the

245. *Id.* § 5.

246. The term "potential biological removal level" means: the maximum number of animals, not including natural mortalities, that may be removed from a marine mammal stock while allowing that stock to reach or maintain its optimum sustainable population. The potential biological removal level is the product of the following factors: (A) The minimum population estimate of the stock; (B) One-half the maximum theoretical or estimated net productivity rate of the stock at a small population size; (C) A recovery factor of between 0.1 and 1.0.

16 U.S.C. § 1362(20) (1994).

247. H.R. 2179, 104th Cong. § 5 (1995).

248. *Id.* § 6 (1995).

249. *Id.* § 5 (1995).

250. CENTER FOR MARINE CONSERVATION, ENVIRONMENTAL DEFENSE FUND, GREENPEACE, NATIONAL WILDLIFE FEDERATION, WORLD WILDLIFE FUND, A STATEMENT FOR THE RECORD ON H.R. 2179—"INTERNATIONAL DOLPHIN CONSERVATION ACT AMENDMENTS OF 1995." August 1995 (on file with Authors).

major tuna canners.²⁵¹ Third, by ignoring the need for a multilateral international solution, H.R. 2179 would have undermined the possibility for further progress in international dolphin and tuna conservation and bycatch reduction through efforts to strengthen the IATTC and the La Jolla Agreement.²⁵²

The United States took legislative action in the past, hoping to catalyze a multilateral solution to the tuna-dolphin problem. As a consequence of this policy, progress has been made towards the establishment of an effective international regime, and this progress has caused a sharp reduction in the level of dolphin mortality. However, the political durability of the current unilateral approach is in question. There is also early evidence that certain bycatch of other species may be exacerbated if U.S. law causes a widespread shift to fishing methods currently labeled dolphin safe (setting on logs and schoolfish). The solutions to these problems cannot be reached by amending U.S. law. In light of the overall success of the U.S. and international programs, it has become evident that the time is ripe to craft a lasting solution to the tuna/dolphin problem. Such a solution should address the needs for a binding multilateral resolution, strengthening of international conservation and management of tuna and dolphin stocks, and establishment of conservation and management measures to protect marine ecosystems and biological diversity.

*B. Necessary Components For Lasting Resolution of The
Tuna/Dolphin Problem*

The tuna/dolphin problem will require a comprehensive approach as well as the active participation and commitment of all stakeholders—both international and domestic.²⁵³ At a minimum, any multilateral solution must: (1) establish mechanisms to conserve the ecosystem and marine biological diversity in the ETP, (2) strengthen international conservation and management of tuna and dolphin stocks, (3) create a binding international agreement to conserve dolphins and (4) maintain consumer confidence in the “dolphin safe” label.²⁵⁴

251. *Id.*

252. *Id.*

253. See *Hearings, supra* note 173, at 65.

254. *Id.*

Despite the striking success of the La Jolla Agreement, it remains only a non-binding resolution.²⁵⁵ In its testimony opposing the Cunningham bill, the Center for Marine Conservation (CMC) recommended that member nations of the IATTC Convention and the La Jolla Agreement undertake actions to ensure that any subsequent revision of the La Jolla Agreement makes it a legally binding protocol and that the Convention, itself, is strengthened to be a truly effective, long-term, conservation and management tool for the ETP marine ecosystem.²⁵⁶ Additionally, the CMC strongly recommended that all nations fishing in the ETP be required to be members of the IATTC.²⁵⁷

The future success of the La Jolla Agreement requires that the signatories to this agreement revisit the Agreement as a whole, especially the dolphin mortality reduction schedule.²⁵⁸ For the past two years, the parties who participated in the intergovernmental body of the IATTC with oversight responsibility for the La Jolla Agreement have failed to lower the dolphin mortality limits to be more in line to reflect the actual mortality in the fishery and to provide incentives for further progress in reducing dolphin mortality in the future.²⁵⁹ Additionally, any revised agreement should afford greater protection to individual stocks of dolphins that are primary targets of the fishery in order to ensure their recovery.²⁶⁰

255. The La Jolla Agreement is a voluntary agreement that is administered through the IATTC, which acts as Secretariat to the International Review Panel. Decisions affecting the Agreement and the International Dolphin Conservation Program are taken by the participating governments at plenary meetings of the Intergovernmental body, usually held in conjunction with meetings of the IATTC. AGREEMENT FOR THE CONSERVATION OF DOLPHINS: SUMMARY DOCUMENTATION OF DECISIONS AND RECOMMENDATIONS OF THE INTER-AMERICAN TROPICAL TUNA COMMISSION, INTERGOVERNMENTAL PLENARY AND INTERNATIONAL REVIEW PANEL, at Introduction (Apr. 1992-Jan. 1995) [hereinafter SUMMARY].

256. See *Hearings*, *supra* note 173, at 68.

257. *Id.*

258. In 1993, the first year of the program, dolphin mortality for the international fleet was reduced to only 3,601 animals—almost 12,000 animals fewer than the 1992 mortality levels and well below the 1999 dolphin mortality target of 5,000 animals. MARINE MAMMAL COMMISSION, 1994 ANNUAL REPORT TO CONGRESS 116-17, 122 (1995).

259. The overall dolphin mortality limit for 1994 was reduced from 15,500 to 9,300 while actual mortality was approximately 3,600. SUMMARY, *supra* note 255, at app. 11. Similarly, the limit for 1995 was reduced from 12,000 to 9,300. *Id.* at iv and app. 20.

260. Mortality [in 1994], expressed as a percentage of abundance, was 0.13% and 0.09% for the northeastern and western-southern stocks of offshore spotted dolphin, 0.12% and 0.06% for the eastern and whitebelly stocks of spinner dolphin, 0.02%, 0.04%, and 0.0% for the northern, central, and southern stocks of common dolphin.

Both the Agreement and the Convention should be evaluated for their complete ability to conserve and manage tuna stocks,²⁶¹ and prevent an increase in mortality of dolphins or other bycatch species. This evaluation should anticipate additional vessels entering or re-entering the fishery. The Agreement and the Convention are worth salvaging, for they are models, particularly in their commitment to nongovernmental organization participation, for other international fishery management regimes.²⁶²

C. *The Panama Declaration*

In October 1995, twelve nations (Belize, Columbia, Costa Rica, Ecuador, France, Honduras, Mexico, Panama, Spain, Vanuatu, Venezuela, and the United States) signed the Declaration of Panama, a historic international agreement to protect dolphins and biodiversity in the ETP.²⁶³ This declaration was also endorsed by five environmental groups (the Center for Marine Conservation, Environmental Defense Fund, Greenpeace, National Wildlife Federation and World Wildlife Fund, altogether comprising over ten million members world-wide).²⁶⁴ The

At these mortality levels the population should continue to experience growth over time given an estimated net rate of reproduction for dolphin stocks in the ETP of approximately two percent annually. Nevertheless, additional progress is necessary as these low levels of mortality still do not meet the stated goal of the La Jolla Agreement of "eliminating dolphin mortality in this fishery. . . ."

Hearings, supra note 173, at 67 (citing REP. OF THE SCI. COMMITTEE, 47TH ANN. MEETING OF THE INT'L WHALING COMMISSION, DUBLIN, IRELAND (May/June 1995)).

261. According to the United Nations Food and Agriculture Organization, most of the world's fisheries are either fully- or overexploited. By contrast, the ETP ecosystem is relatively healthy. Tuna populations are stable, recruitment has increased, and catches have been well below the Commission's projected amount—an annual harvest in the range of 300,000 short tons. The 1993 and 1994 catch of yellowfin tuna was well below this at 249,200 short tons and 233,822 short tons respectively.

Hearings, supra note 173, at 66 (statement of Suzanne Iudicello, Vice President for Programs, Center for Marine Conservation, on behalf of the Environmental Defense Fund, Greenpeace, National Audubon Society, National Wildlife Federation, Whale and Dolphin Conservation Society, and World Wildlife Fund) (citing MINUTES OF THE 54TH AND 55TH ANN. MEETING OF THE INTER-AM. TROPICAL TUNA COMMISSION, LA JOLLA, CAL. (Oct. 1994 & June 1995)).

262. See *Hearings, supra* note 172, at 68.

263. See Panama Declaration, *supra* note 5.

264. STATEMENT OF THE CENTER FOR MARINE CONSERVATION, THE ENVIRONMENTAL DEFENSE FUND, GREENPEACE, THE NATIONAL WILDLIFE FEDERATION, AND THE WORLD WILDLIFE FUND TO THE INTERGOVERNMENTAL MEETING OF NATIONS PARTICIPATING IN THE

Panama Declaration will give rise to an international agreement that secures the existing protections for dolphin populations, provides a basis for further reductions in dolphin mortality, protects the ETP ocean ecosystem, and more aggressively conserves and manages the tuna fishery. The Panama Declaration protects not only dolphins and the tuna that swim beneath them, but also the diversity of marine life that depends on the health of the oceans as a whole.²⁶⁵ In short, the Panama Declaration contains all of the necessary components of a lasting solution to the tuna/dolphin problem.

To implement the Panama Declaration, Congress needs to amend the MMPA's existing comparability standards under section 101, which are the basis for the current embargo. Congress must also amend the present standards for defining "dolphin safe."²⁶⁶ By making these legislative

1992 LA JOLLA AGREEMENT TO REDUCE DOLPHIN MORTALITY IN THE EASTERN PACIFIC TROPICAL TUNA FISHERY, MEETING IN PANAMA CITY, PANAMA, Oct. 4, 1995, (on file with Authors).

265. See *Hearings*, *supra* note 173, at 354 (statement of Nina M. Young, Marine Mammalogist, Center for Marine Conservation, on behalf of the Environmental Defense Fund, Greenpeace, National Wildlife Federation, and World Wildlife Fund). More specifically, the Panama Declaration is the basis for a binding legal agreement under the auspices of the Inter-American Tropical Tuna Commission (IATTC) which will:

- (1) set a goal of eliminating dolphin mortality by progressively reducing mortality through the setting of annual limits;
- (2) cap mortality at low levels;
- (3) establish species/stock mortality limits which, by the year 2001, will meet the MMPA goal of a zero mortality rate for all dolphins and for each species or stock;
- (4) establish a system that provides incentives to vessel captains to reduce and eventually eliminate dolphin mortality;
- (5) mandate reductions in bycatch of marine life taken in the fishery;
- (6) require that the fishery be managed using a precautionary approach;
- (7) establish scientific advisory groups to advise national governments and the IATTC on research and the conservation and management of the fishery and the ecosystem;
- (8) strengthen the International Dolphin Conservation Program under the existing La Jolla Agreement by requiring membership in the IATTC;
- (9) strengthen enforcement by imposing trade embargoes on countries that fail to comply with the new agreement;
- (10) provide, through a strengthened labeling system, a strong economic incentive for fishers to fish for tuna without killing a single dolphin.

Id.

266. The implementing legislation H.R. 2823 and S. 1420, currently being considered by Congress, strengthens enforcement of the La Jolla Agreement/Panama Declaration by imposing trade embargoes on countries that fail to comply with the new agreement. In addition, it provides a strengthened tracking, verification, and labeling system that will

changes, Congress will provide strong protections for dolphins and strengthen the dolphin safe label by guaranteeing that dolphins are not killed in the ETP tuna fishery.²⁶⁷ Through an improved, enforceable on-board observer program and tuna tracking system, U.S. consumers will be assured for the first time ever that the dolphin safe label means what it says.²⁶⁸

provide a strong economic incentive for fishers to fish for tuna without killing a single dolphin. See H.R. 2823, 104th Cong. (1996); S. 1420, 104th Cong. (1996). See also H.R. REP. NO. 104-665, pts. 1 & 2 (1996); Panama Declaration, *supra* note 5, at Annex I.

267. The Tracking and Verification procedures of H.R. 2823 require the Secretary, in consultation with the Secretary of the Treasury, to issue regulations not later than three months after the date of enactment. H.R. 2823, 104th Cong. § 4(i) (1996). The regulations shall, consistent with international efforts and in coordination with the Inter-American Tropical Tuna Commission, establish a domestic and international tracking and verification program that provides for the effective tracking of tuna labeled "dolphin safe" by including:

- (1) Specific regulations and provisions addressing the use of weight calculation;
- (2) Additional measures to enhance observer coverage if necessary;
- (3) Well location and procedures for monitoring, certifying, and sealing holds above and below deck or other equally effective methods of tracking and verifying tuna labeled under [the statute];
- (4) Reporting receipt of and database storage of radio and facsimile transmittals from fishing vessels containing information related to the definition of sets;
- (5) Shore-based verification and tracking throughout the transshipment and canning process; and
- (6) Provisions for annual audits for caught, landed, and processed tuna products labeled in accordance with [the statute].

Id. These provisions provide a comprehensive ship-to-shelf tracking system that will improve the existing tracking and verification system and ultimately provide greater consumer confidence in the "dolphin safe" label. The amendments will result in measures to enhance the tracking and verification of tuna labeled "dolphin safe." The proposed provisions would require segregation by weight, segregation by hold, and the sealing of such holds, and monitoring of the loading and landing of safe and unsafe tuna by a combination of observers and electronic surveillance. In addition, the proposed provisions call for an expanded paper trail to accompany the tuna throughout fishing, transshipment (transfer to another vessel), and processing (including loining and canning). Most important, the proposed provisions would require the Secretary to conduct periodic audits and spot checks to verify compliance with the program. These measures are necessary to improve the existing tracking and verification system both in and outside the eastern tropical Pacific, and they will create greater confidence in the "dolphin safe" label.

268. *Id.*; see also Panama Declaration, *supra* note 5.

VI. *Impact of Implementing the Panama Declaration on Dolphins and Marine Life in the Eastern Tropical Pacific*

To effectively evaluate the impact that the Panama Declaration will have on dolphin stocks, tuna stocks and their marine environment, several issues must be examined.

A. *The Status of Dolphin Stocks in the ETP Will Improve*

Absolute abundance estimates for dolphins taken in the ETP tuna fishery, obtained from research vessel cruises conducted between 1986 and 1990, are summarized in Table 1. The table shows the nine dolphin stocks (or populations) from four dolphin species that are frequently taken as bycatch in the yellowfin tuna fishery.²⁶⁹ Spotted (*Stenella attenuata*), spinner (*S. longirostris*), and common (*Delphinus delphis*) dolphins are the victims in over ninety-five percent of dolphin deaths.²⁷⁰ More than eighty-five percent, and perhaps as high as ninety-eight percent, of all of the sets made on dolphins in the yellowfin tuna fishery in any given year involve either spotted, spinner dolphins, or both species.²⁷¹ Consequently, while all stocks have declined since the fishery began, the northeastern offshore spotted dolphin has declined by more than forty percent.²⁷² and the eastern spinner dolphin is at forty-four percent²⁷³ of its pre-fishery abundance. Both of these species are now listed as "depleted" under the MMPA.²⁷⁴

Recognizing that all dolphin stocks taken in the tuna fishery have

269. Gerrodette & Wade, *36-Year Summary*, *supra* note 15.

270. MARTIN A. HALL, ET AL., THE ASSOCIATION OF TUNAS WITH FLOATING OBJECTS AND DOLPHINS IN THE EASTERN PACIFIC OCEAN (Part II: The purse-seine fishery for tunas in the eastern tropical Pacific Ocean) at fig. 6 (Inter-American Tropical Tuna Commission, 1992).

271. *Id.* Offshore spotted dolphins, alone, generally are involved in over sixty percent of all sets made on dolphins in the yellowfin fishery. *Id.*

272. Taking and Importing of Marine Mammals; Listing of the Northern Offshore Spotted Dolphin as Depleted, 57 Fed. Reg. 27,207, 27,209 (1992) (to be codified at 50 C.F.R. pt. 216) (proposed June 18, 1992).

273. Taking and Importing of Marine Mammals' Listing of Eastern Spinner Dolphin as Depleted, 57 Fed. Reg. 27,014 (to be codified at 50 C.F.R. pt. 216) (proposed June 17, 1992). *Id.*

274. Recent unpublished analyses suggest that the eastern spinner stock may be below one-fourth of its pre-fishery abundance. See Gerrodette & Wade: *36-Year Summary*, *supra* note 15.

*Table 1. ABUNDANCE AND MORTALITY ESTIMATES
FOR SPECIES TAKEN IN THE YELLOWFIN TUNA PURSE SEINE FISHERY*

DOLPHIN SPECIES	Pop. Est. (Absolute Abund.) (MEAN and 95% CL) 1986-'90	Min. Pop. Est. (N _{min})	Mort. Est. ('93)	Mort. Est. ('94)	Mort. Est. ('95)	Mort. Est. ('96)	Ave. Mort.	Mort. @ 0.1% of Pop.	Current Mort. as % of Pop.
Northeastern spotted	730,900 (588,700-970,400)	648,900	1,143	934	1,060	~848	1,046	649	0.16%
Western/Southern Spotted	1,298,400 (918,700-1,654,100)	1,145,100	759	1,226	708	~566	898	1,145	0.08%
Eastern spinner	631,800 (389,500-938,300)	518,500	824	743	664	~531	744	519	0.12%
Whitebelly spinner	1,019,300 (694,400-1,456,200)	872,000	412	619	422	~338	484	872	0.06%
Northern common	476,300 (200,600-807,300)	353,100	82	101	9	~7	64	353	0.02%
Central common	406,100 (200,300-766,000)	297,400	230	151	192	~154	191	297	0.04%
Southern common	2,210,900 (1,536,600-3,488,200)	1,854,600	—	—	—	—	—	1,846	0.01%
Other dolphins	2,802,300 (2,055,200-3,850,300)		155	321	219	~175	238	—	—
TOTAL	9,576,000		3,605	4,095	3,274	2,677		5,681	

~ Approximate or projected mortality rates for 1996. Highlighted species indicate species currently designated as depleted under the MMPA. Sources: IATTC mortality data and NMFS stock assessment data.

experienced some level of decline since the fishery began,²⁷⁵ the low estimated rates of increase for these stocks (less than five percent), combined with our inability to detect increases of less than five percent, have made it difficult to determine to what degree these stocks are recovering.²⁷⁶ This problem has been further complicated by the fact that until the implementation of the 1988 amendments to the MMPA and, subsequently, the La Jolla agreement, the annual mortality of these two stocks was high enough to hamper or retard recovery of these populations.²⁷⁷

Recent data based on relative indices of abundance²⁷⁸ indicate that all stocks (including the depleted eastern spinner stock and northeastern offshore spotted stock) are stable or slightly increasing, fluctuating around the same levels for the past two decades.²⁷⁹ With the annual incidental

275. *Id.*

276. *See generally*, Paul R. Wade, *Abundance and Population Dynamics of Two Eastern Pacific Dolphins, *Stenella attenuata* and *Stenella longirostris orientalis** (1994) (Ph.D. dissertation, University of California (San Diego)) (on file with Authors) [hereinafter Wade dissertation].

277. *Id.*

278. These relative indices of abundance—indices derived from tuna vessel observer data—should be used with caution. A number of problems prevent these data from providing an unbiased estimate of the absolute number of dolphins in a population (absolute abundance). Any relative index of abundance must be used in combination with absolute abundance estimates obtained from research vessel surveys to accurately determine the actual abundance of a dolphin stock. Problems include the non-random searching behavior of the tuna vessels, selective passing of information from the fisher to the observer (e.g. schools not associated with tuna often are not reported), higher school encounter rates than research vessels, and a bias towards large school size in tuna vessel observer data. Because of these biases and the limitations specifically described in relation to northeastern offshore spotted and eastern spinner dolphins, relative indices of abundance only provide rough estimates of trends in abundance.

279. IATTC, DRAFT REPORT ON 1995 RELATIVE INDICES OF ABUNDANCE ESTIMATES (copy on file with Authors). In 1993 and 1994, the relative abundance estimates for the northeastern offshore spotted stock showed a decline. Scientists do not know the exact reason for the decrease, but there are several hypotheses. First, evidence indicates the large scale movements of these dolphins across stock boundaries results in some portion of the overall population being outside the range assumed by the relative index of abundance analysis and, therefore, that portion is not accounted for in the calculation of the relative index of abundance. These movements are often in response to climatic and oceanographic changes, in this case, the prolonged El Niño from 1991 to the first part of 1994. A.A. ANGANUZZI & S.T. BUCKLAND, PRELIMINARY RESULTS ON THE RELATIVE ABUNDANCE OF DOLPHINS ASSOCIATED WITH TUNA IN THE EASTERN TROPICAL PACIFIC OCEAN FOR 1994, REP. INT'L WHALING COMM'N.47 (1995). *See also*, ELIZABETH F. EDWARDS, NOAA TECHNICAL MEMORANDUM NOAA-TM-NMFS-SWFC-122, USING TUNA-VESSEL OBSERVER DATA TO

mortality for all stocks now below 0.2% of the population abundance, these dolphin populations should be able to recover.²⁸⁰

B. The Panama Declaration will Promote Dolphin Stock Recovery

In 1992, the National Research Council stated that:

DETECT TRENDS IN ABUNDANCE OF DOLPHIN POPULATIONS: HISTORY AND RESEARCH TO DATE (1988)(1989).

Second, because the incidental kill declined substantially after 1976, one might have expected the northeastern offshore spotted stock to have increased between 1979 and 1990. However, due to large interannual variation in the abundance estimates, for trends to be detected over the five-year survey period, stock sizes would have had to increase or decrease by approximately forty to fifty percent (or more than five percent annually) making it difficult to detect trends with any accuracy. MARINE MAMMAL COMMISSION, 1991 ANNUAL REPORT TO CONGRESS 101 (1992). Third, the population decline may be attributable to the biology of dolphins and a natural lag in reproduction. The estimated age of sexual maturity for northeastern offshore spotted dolphins is 12 years. For northeastern offshore spotted dolphins, scientific data indicate that more mature animals are killed in the fishery. JAY BARLOW AND ALETA HOHN, NOAA TECHNICAL MEMORANDUM NOAA-TM-NMFS-SWFC-48, INTERPRETING SPOTTED DOLPHIN AGE DISTRIBUTIONS (1984). In addition, the mean annual kill of northeastern spotted dolphins from 1979-1990 was 19,200 or 2.5% of the population abundance estimate. See Wade dissertation, *supra* note 276, at 195. Kill estimates between 1988 and 1990 were between three percent and four percent of the population abundance estimate. *Id.* at 189. The bias alone toward kills of sexually mature animals in particular would have prevented any substantial population growth but when combined with take that equaled or exceeded the estimated maximum population growth rate of 3.8% it is no wonder that this dolphin stock was having difficulty recovering. *Id.* at 216. Therefore, the population may have continued to decline because of a natural lag induced by the relatively late sexual maturity—the population may only now be reaching a point when there are a sufficient number of sexually mature females so the stock can begin to grow. *Id.* at 188-89.

The same may also be true for eastern spinner dolphins which have an estimated age of sexual maturity of ten years. It has not been determined whether kill estimates for this species are biased toward mature animals; nonetheless, the mean annual kill of the eastern spinner dolphin from 1979-1990 was 7,700, or 1.5% of the population abundance estimate. See *id.* at 168. Kill estimates between 1988 and 1989 were between two percent and three percent of the population abundance estimate. *Id.* at 158. The high kill rates may have retarded any substantial population growth given the estimated maximum population growth rate of 2.2%. See *id.* at 216. If the fishery killed more mature animals, the recovery of this population may be further delayed. *Id.*

280. See *Hearings, supra* note 173, at 360 (statement of Nina M. Young, Marine Mammalogist, Center for Marine Conservation); *id.* at 316-17 (statement of Elizabeth Edwards, Ph.D., Leader, Dolphin Safe Research Program, National Marine Fisheries Service, Southwest Fisheries Science Center); *id.* at 333 (statement of James Joseph, Ph.D., Director, Inter-American Tropical Tuna Commission).

A kill rate of 40,000 animals per year would thus represent a kill rate of 25% or less of recruitment, almost certainly low enough to permit current dolphin populations to be stable and perhaps to increase. An annual kill of 20,000 (12.5% or less of recruitment) would probably result in substantial increases in dolphin populations.²⁸¹

By the end of the 1992 fishing season, incidental mortality levels for all of the dolphin stocks had declined to less than one percent of the estimated population.²⁸² Scientists stated that at these levels the stocks would eventually increase and recover.²⁸³

At present, the annual incidental mortality in the ETP fishery is less than 0.2%. In all but two cases (northeastern offshore spotted and eastern spinner) the annual incidental mortality is less than 0.1% of the minimum population size for all dolphin stocks.²⁸⁴ While any dolphin death caused by humans is undesirable, the great majority of independent and government marine mammal scientists consider these mortality levels to have a "negligible impact" on the dolphin stocks and to meet the MMPA's zero mortality rate goal.²⁸⁵

The Panama Declaration caps stock-specific mortality at the 0.2% level and requires that the fishery be at or below the 0.1% level by the year 2001.²⁸⁶ According to the NRC, "the committee notes that a complete ban on dolphin fishing or the purchase of tuna caught on dolphins is not required to ensure the survival and even the increase of dolphin populations."²⁸⁷ Undoubtedly, by providing overall and stock specific mortality levels more than four times lower than that recommended by the NRC panel, the Panama Declaration will permit the recovery of these stocks to their former abundance.

281. NRC REPORT, *supra* note 14, at 70-71.

282. *See Hearings, supra* note 173, at 360 (statement of Nina M. Young, Marine Mammalogist, Center for Marine Conservation).

283. *Id.*

284. *Id.*

285. *See also* NATIONAL MARINE FISHERIES SERVICE, OFFICE OF PROTECTED RESOURCES, 1994 REPORT OF THE PBR (Potential Biological Removal) WORKSHOP 8-9.

286. Panama Declaration, *supra* note 5.

287. NRC REPORT, *supra* note 14, at 71.

C. *Changing the Definition of "Dolphin Safe" Will Not Result in Levels of Stress Associated with Chase and Encirclement That Will Retard the Recovery of These Populations*

Stress is a nonspecific response of the body to any demand made upon it. Stress can consist of three phases.²⁸⁸ The first phase, the *Alarm Phase*, is where an animal perceives a threat and the body initiates a rapid physiological response involving the nervous system and the endocrine system.²⁸⁹ The *Adaptation or Compensation Phase* occurs when, after prolonged exposure to the stressors, the animal adapts to or compensates for the altered conditions causing the stress.²⁹⁰ The third phase, the *Maladaptation Phase* occurs when the stress is of sufficient intensity and duration that compensation or adaption is impossible.²⁹¹ In this phase, if the stress is severe or persistent, the body may fail to compensate for the stress. Under the worst circumstances, the body may develop a pathological condition (*e.g.*, illness, infection, immune suppression, or death).²⁹²

Dolphins, having evolved in the rigorous marine environment, have adapted to cope with many natural and human-related stressors.²⁹³ For nearly twenty years, U.S. vessels could obtain a general permit under the MMPA and its regulations to annually chase and encircle hundreds of thousands of dolphins in the yellowfin tuna fishery in the ETP.²⁹⁴ Dolphins have been chased and encircled in this fishery for more than thirty-five years and have displayed adaptive behaviors in the nets since the 1970s (*e.g.*, fewer displays of panicky dashing about the net).²⁹⁵ In 1992, the NRC noted that:

288. LESLIE A. DIERAUF, CRC HANDBOOK OF MARINE MAMMAL MEDICINE: HEALTH, DISEASE, AND REHABILITATION 295, 296 (1990).

289. *Id.*

290. *Id.*

291. *Id.*

292. *Id.* at 91.

293. *Id.* at 90.

294. See 50 C.F.R. § 216.24(d)(2)(i)(A)(2) (1995) (outlining take restrictions, including limits on mortality, harassment, and encirclement).

295. See generally Karen Pryor & Ingrid Kang Shallenberger, *Social Structure in Spotted Dolphins (Stenella attenuata) in the Tuna Purse Seine Fishery in the Eastern Tropical Pacific*, in DOLPHIN SOCIETIES: DISCOVERIES AND PUZZLES 161-96 (Karen Pryor & Kenneth S. Norris eds. 1991).

No specific information is available concerning the effects of the chase on the biology of dolphins. The chase is likely to result in stress. Some herds have developed strategies to avoid capture; others seem to have habituated to encirclement and seem to have developed behavioral patterns that reduce their risks once in the net.²⁹⁶

Some environmental groups have argued that the chase and encirclement of dolphins causes stress of a duration and magnitude that severely impedes dolphin reproduction or even results in dolphin deaths (sometimes referred to as cryptic death).²⁹⁷ According to the phases outlined above, the chase, capture, and release of dolphins in the yellowfin tuna fishery is likely to result in an *Alarm Phase* and an *Adaptation Phase*. Whether it results in the *Maladaptation Phase* is simply not known. Available scientific data provide no indication that mortality occurs after the dolphins are released from tuna purse seine nets.²⁹⁸ Furthermore, no scientific data demonstrate a preponderance of stress-related diseases or injuries in these dolphin stocks.²⁹⁹

Speculative claims of reproductive complications or depressed reproductive capacity caused by stress related to chase and encirclement³⁰⁰ also lack any sound evidentiary basis. In an investigation of mortality in the tuna fishery, researchers looking for signs of stress found none, stating that reproductive tracts of dolphins collected from tuna vessels in the early 1980s were examined for evidence of spontaneous abortion and muscle myopathy, but no evidence of either was found.³⁰¹ Another investigation, by Myrick and Perkins, claimed that stock differences in density-dependent reproductive factors were not as predicted by scientific models and thus supported the hypothesis that stress can cause reproductive

296. NRC REPORT, *supra* note 14, at 114.

297. See *Hearings, supra* note 173, at 379 (statement of Jeffrey Pike on behalf of the Dolphin Safe Fair Trade Campaign) (alleging stress factors related to chase and encirclement).

298. See *id.* at 320 (statement of Elizabeth Edwards, Ph.D., Leader, Dolphin Safe Research Program, National Marine Fisheries Service, Southwest Fisheries Science Center).

299. Tim D. Smith, *Changes in Size of Three Dolphin (Stenella spp.) Populations in the Eastern Tropical Pacific*, 81 FISHERY BULL. 1, 6 (1983).

300. See *Hearings, supra* note 173, at 379 (statement of Jeffrey Pike on behalf of the Dolphin Safe Fair Trade Campaign) (alleging stress factors related to chase and encirclement).

301. See Smith, *supra* note 299, at 6.

depression.³⁰² Density dependent factors include the following: juvenile and adult survival rates, average age at sexual maturity, pregnancy rates, and juvenile growth rates.³⁰³ These factors change in response to population status.³⁰⁴ For example, in populations that have been severely reduced, such as the eastern spinner and northeastern offshore spotted, one would expect changes in reproductive density-dependent factors such as a decline in the average age of sexual maturity and an increase in the proportion of simultaneously pregnant and lactating females.³⁰⁵ The study by Myrick and Perkins cites a study by Chivers and Myrick³⁰⁶ which found that a stock with a longer fishing history had a higher age at sexual maturity than a population with a short history. As stated, this difference was contrary to what would be predicted (e.g., a decline in age at reproduction).³⁰⁷ The researchers attributed these findings to stress.³⁰⁸ However, the Chivers and Myrick study and a subsequent study, with larger sample sizes, demonstrated that changes in several density-dependent reproductive factors were present as expected for several dolphin stocks, with no evidence of stress-related reproductive inhibition.³⁰⁹

In addition, Myrick investigated several potential physical indicators of stress as they relate to chase and encirclement.³¹⁰ In one study, he reported that spotted dolphins, chased and captured in tuna purse seine nets, have substantially depressed serum calcium values which could

302. Albert C. Myrick, Jr. & Peter C. Perkins, *Adrenocortical Color Darkness and Correlates as Indicators of Continuous Acute Premortem Stress in Chased and Purse-Seine Captured Male Dolphins*, 2 *PATHOPHYSIOLOGY* 191 (1995).

303. Susan J. Chivers & Albert C. Myrick, *Comparison of Age at Sexual Maturity and Other Reproductive Parameters for Two Stocks of Spotted Dolphins (Stenella attenuata)*, 91 *FISHERY BULL.* 611 (1993).

304. *Id.*

305. *Id.* at 611-12.

306. *Id.* at 611-18.

307. S.J. Chivers & D.P. DeMaster, *Evaluation of Biological Indices for Three Eastern Tropical Pacific Dolphin Species*, 58(3) *J. WILDL. MGMT.* 470-478 (1994). *See also*, S.J. Chivers and A.C. Myrick, *Comparison of Age at Sexual Maturity and Other Reproductive Parameters for Two Stocks of Spotted Dolphins (Stenella attenuata)*, 91 *FISHERY BULL.* 611-18 (1993).

308. Myrick & Perkins, *supra* note 302, at 201.

309. *See* Chivers & DeMaster, *supra* note 307, at 318.

310. *See* A.C. Myrick, Jr. et al., *Hypocalcemia in Spotted Dolphins (Stenella attenuata) Chased and Captured by Purse Seiners in the Eastern Tropical Pacific*, SEVENTH BIENNIAL CONFERENCE ON THE BIOLOGY OF MARINE MAMMALS: ABSTRACTS, MIAMI, FLORIDA, USA 49 (1987).

potentially cause death.³¹¹ Presumably, the perception of a threat may cause the release of stress-related hormones,³¹² causing calcium to be removed from the serum and sequestered in the cells, thus lowering serum calcium.³¹³ Myrick found that, as a result of being chased for approximately forty-five minutes and being held prior to release for an additional two hours, serum calcium levels were between 7.3 to 8.7 mg/dl. He assumed these levels were far below normal.³¹⁴ However, these observed values fall within the published normal ranges for dolphins of 4 to 11 mg/dl.³¹⁵

Myrick and Perkins postulate that dolphin adrenal gland color changes could be used as indicators of stress. However, due to problems in experimental design, the hypothesis was not proven.³¹⁶ Dolphins caught in association with tuna fishing probably exhibit the various stress phases. It is likely that the dolphins experience the Alarm Phase of stress (or "fight or flight" response) when they hear the distinctive sound of helicopters, speedboats, or purse seiners. During chase, capture, confinement, and release, the body's reaction to stress in the Adaptation Phase is individual, but may be positively influenced by the dolphin's past experience in the fishery. The best available published scientific literature does not indicate that this stress is so severe as to cause death or impede the long-term recovery of a dolphin stock. The issue merits further scientific investigation. Legislation currently before Congress contains provisions requiring further investigation into the impact of chase and encirclement on dolphin biology and health.³¹⁷

311. *Id.*

312. Specifically, parathyroid hormone is released when blood calcium is depressed. *Id.*

313. *Id.*

314. *Id.*

315. W. Medway & J.R. Geraci, *Clinical Pathology of Marine Mammals*, in ZOO AND WILD ANIMAL MEDICINE 795, table 47-12 (Murray E. Fowler ed., 2d ed. 1986).

316. The results of the study are undermined by lack of controls (e.g., adrenal glands from unstressed dolphins of the same or similar species; sample collection at various postmortem intervals to determine degradation; color differences between frozen versus formalin fixed tissue; color differences between entangled/asphyxiated animals versus stressed animals); and failure to examine the dolphins for other underlying diseases (e.g., pneumonia, parasitism, nutritional state) which could have caused discoloration in the adrenal cortex. Memorandum from Elizabeth Edwards, Southwest Fisheries Science Center, National Marine Fisheries Service, NOAA, to Michael Tillman (June 21, 1996) (summary of reviewer's comments on adrenal color paper by Myrick and reviewers' recommendations on future research) (on file with the *Ocean and Coastal Law Journal*).

317. See H.R. 2823, 104th Cong. § 5(c) (1995); S. 1420, 104th Cong. § 5(c) (1995).

Conservation organizations supporting the Panama Declaration would prefer that tuna fishing be conducted without encircling dolphins, but no ecologically sound and economically viable alternatives have been identified.³¹⁸ If further research shows that stress resulting from encirclement is likely to retard recovery, the legislation before Congress contains emergency provisions to end encirclement.³¹⁹ In the absence of such research findings, the best approach is offered by the Panama Declaration. The Declaration seeks to protect dolphins while addressing the equally important and scientifically demonstrated need to reduce the ecologically-damaging bycatch of sea turtles, juvenile tuna, sharks, and billfish resulting from fishing methods other than setting on dolphins.

D. The Panama Declaration Will Protect Endangered Sea Turtles, Juvenile Tuna, Sharks and Billfish, As Well As Dolphins, by Reducing Bycatch in the ETP Tuna Fishery

In the MMPA, Congress stated:

[I]t is the sense of the Congress that they [(dolphins)] should be protected and encouraged to develop to the greatest extent feasible commensurate with sound policies of resource management and that the primary objective of their management should be to maintain the health and stability of the marine ecosystem.³²⁰

Because most of the IATTC's efforts have focused on reducing dolphin mortality, less attention has been devoted to maintaining the overall health and stability of the marine ecosystem in the ETP.³²¹ The implementation of the Panama Declaration will, for the first time, require measures to protect the whole ETP ecosystem.³²²

318. See *Hearings, supra* note 173, at 364 (statement of Nina M. Young, Marine Mammalogist, Center for Marine Conservation, on behalf of the Environmental Defense Fund, Greenpeace, National Wildlife Federation, and World Wildlife Fund).

319. See H.R. 2823, 104th Cong. § 5(c) (1995); S. 1420, 104th Cong. § 5(c) (1995).

320. 16 U.S.C. § 1361(6) (1994).

321. See *generally Hearings, supra* note 173, at 321 (statement of James Joseph, Ph.D., Director, Inter-American Tropical Tuna Commission); see also Reply to questions submitted by the Subcomm. on Fisheries, Wildlife and Oceans to James Joseph, Ph.D. Director, Inter-American Tropical Tuna Commission, April 17, 1996 (copy on file with Subcommittee on Fisheries, Wildlife and Oceans of the House Resources Committee).

322. See *Hearings, supra* note 173, at 337 (statement of James Joseph, Ph.D., Director, Inter-American Tropical Tuna Commission) (discussing discard rates of juvenile tuna).

As our knowledge about fishery conservation and management increases, so does our concern about the impact of bycatch on the marine ecosystem.³²³ This concern is reflected in recent action in Congress and in the United Nations to mandate reducing bycatch as part of fishery conservation and management. Congress has amended the Magnuson Fishery Conservation and Management Act's (MFCMA) provisions to better define bycatch. These amendments also add a new national standard that calls upon fishery management councils to minimize bycatch.³²⁴ Similar language exists in the United Nations Treaty on Straddling Fish Stocks and Highly Migratory Fish Stocks, which was ratified by the United States on August 7, 1996.³²⁵

Opponents of the Panama Declaration view the concern over bycatch as a red herring. They claim that in the 1970s and 1980s, when the fishery was larger, bycatch was probably greater because the number of school and log sets was larger.³²⁶ Furthermore, they argue, the ETP tuna fishery engages in relatively little bycatch compared to other commercial fisheries.³²⁷ However, the data indicate that bycatch *is* greater now and is a potential problem in the ETP—especially for juvenile tuna—and prohibitions on dolphin sets will exacerbate the problem.³²⁸ Domestic and

323. Between 17.9 and 39.5 million tons of fish are discarded each year in commercial fisheries. Although there is insufficient data to determine the biological, ecological, economic and cultural impacts of discards, economic losses are estimated to run in the billions of dollars. *A Global Assessment of Fisheries Bycatch and Discards*, U.N. Food and Agriculture Organization, Fisheries Technical Paper 339, vii (1994).

324. See H.R. 39, 104th Cong., 1st Sess. §§ 4(34), 7(8) (1995); S.39, 104th Cong., 1st Sess. §§ 103(2), 107(b)(9) (1995).

325. The U.N. treaty specifically seeks to:

[M]inimize pollution, waste, discards, catch by lost or abandoned gear, catch of non-target species, both fish and non-fish species, (hereinafter referred to as non-target species) and impacts on associated or dependent species, in particular endangered species, through measures including, to extent practicable, the development and use of selective, environmentally safe and cost-effective fishing gear and techniques.

Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea 10 December 1982 to the Convention and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, Article 5(f), 34 I.L.M. 1542 (1995). See also White House Press Release, August 7, 1996 (announcing ratification of fisheries conservation agreement) (copy on file with the *Ocean and Coastal Law Journal*).

326. See *Hearings*, *supra* note 173, at 380 (statement of Jeff Pike, Dolphin Safe Fair Trade Campaign) (alleging that even during years when there were larger number of dolphin sets, number of log and school sets was still higher than it is today).

327. See *id.*

328. See *id.* at 326 (statement of James Joseph, Ph.D. Director, Inter-American Tropical Tuna Commission) (discard rates of juvenile tuna).

inter-national fisheries conservation and management efforts have clearly made bycatch reduction a priority.³²⁹ IATTC's extensive database on bycatch in the ETP tuna fishery will enable nations to develop clear, effective and, in some cases, immediate measures for bycatch reduction.³³⁰

The Panama Declaration provides the vehicle that enables nations to work within the IATTC to develop these measures to "avoid, reduce and minimize bycatch of juvenile yellowfin tuna and bycatch of non-target species. . . ."³³¹

In summary, the catch and discard of juvenile tuna or other marine life cannot be condoned if commercial fisheries are managed using a precautionary approach, and if conservation and recovery of protected species is to occur. Every effort should be made to avoid and reduce the catching and discarding of juvenile tuna and other marine life, in order to further promote the long-term sustainability and health of tuna stocks, as well as the biodiversity of the ecosystem as a whole in the ETP. The Panama Declaration provides a mechanism to further advance the precautionary goals, internationally, of the MFCMA and the U.N. Treaty.

*E. The Panama Declaration Will Protect
the Tuna Resource in the ETP Tuna Fishery*

According to the United Nations Food and Agriculture Organization, most of the world's fisheries are either fully exploited or overexploited.³³² By contrast, the ETP ecosystem is relatively healthy. Overall, the stocks of yellowfin and skipjack in the ETP are at high levels of abundance and are not overfished.³³³

329. See *supra* notes 324-325 and accompanying text.

330. See Reply to questions submitted by the Subcomm. on Fisheries, Wildlife, and Oceans to James Joseph, Ph.D. Director, Inter-American Tropical Tuna Commission, April 17, 1996. According to IATTC they are "pointing out areas and seasons where problems of bycatch are more serious. These are being compared to the catches of tunas in the same operations." *Id.* Several options that the nations may eventually consider if they decide to reduce bycatches are: close the areas or seasons where the ratios of bycatch/catch or where bycatch is greatest; modify the purse seine to reduce bycatch; improve procedures for handling the bycatch to reduce mortality and increase survivorship; and improve the utilization of the bycatch.

331. Panama Declaration, *supra* note 5.

332. See *supra* note 323.

333. From 1986 to 1995 the annual catch of yellowfin and skipjack in the purse seine tuna fleet in the ETP ranged between 325,000 and 425,000 tons, about three-quarters of it yellowfin. According to IATTC, the yellowfin stock is capable of sustaining annual catches

Tuna populations are stable, recruitment has increased, and catches have been well below the Commission's projected amount—an annual harvest in the range of 300,000 short tons.³³⁴ The 1993 and 1994 catch of yellowfin tuna was well below this level, at 249,200 short tons and 233,822 short tons, respectively.³³⁵

To prevent the tuna stocks in the ETP from becoming overfished, the Panama Declaration requires the IATTC to “[a]dopt conservation and management measures that ensure the long-term sustainability of tuna stocks and other stocks of living marine resources. . . .”³³⁶ The Panama Declaration also requires IATTC to use a precautionary approach and to maintain or restore tuna stocks to levels capable of producing their maximum sustainable yield.³³⁷ These provisions are consistent with the U.N. Treaty on Straddling and Highly Migratory Fish Stocks, which also mandates the use of a precautionary approach and the maintenance of fish stocks at levels capable of producing the maximum sustainable yield.³³⁸ Therefore, implementation of these provisions of the Panama Declaration will ensure that the IATTC continues its outstanding record of conserving the tuna stocks.

VII. CONCLUSION

“Dolphin safe” as currently defined and the status quo under the embargoes will not stop dolphins from drowning in tuna nets in the ETP and will certainly not protect the ETP ecosystem and its marine life. Implementation of the Panama Declaration will help secure lasting, effective protection for dolphins, tuna, and other marine life in the ETP. The Panama Declaration will preserve and build upon the unprecedented

of about 300,000 tons at optimum levels of fishing effort. *See Hearings, supra* note 173, at 332-33 (statement of James Joseph, Ph.D., Director, Inter-American Tropical Tuna Commission) (discard rates of juvenile tuna).

334. Minutes of the 54th and 55th Annual Meeting of the Inter-American Tropical Tuna Commission, La Jolla, California. October 1994 and June 1995 (on file with the *Ocean and Coastal Law Journal*).

335. *Id.*

336. Panama Declaration, *supra* note 5.

337. *Id.*

338. *Draft Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea 10 December 1982 to the Convention and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks*, article 5(b)-(c), 34 I.L.M. 1542 (1995).

progress made under the MMPA and the La Jolla Agreement in reducing dolphin mortality.

The Panama Declaration will further provide an effective model for fishery conservation and management throughout the world. It will ensure the protection of the tuna resource, dolphins, marine biodiversity, and fishers alike. Conservation and management measures will be based on sound science. The program will continue to emphasize the importance of research (especially research into alternative methods of capturing tuna that do not involve encirclement), and it will strengthen what are currently only voluntary processes.

More importantly, the Panama Declaration will meet two critical needs to strengthen the existing IATTC regime. First, it will provide the basis for the establishment of a binding legal agreement within the IATTC. Second, it will require nations to become members of the IATTC. Finally, the Panama Declaration will also require nations to implement the provisions of the agreement in their own national laws or regulations, enhancing each country's ability to enforce the Panama Declaration conditions.³³⁹

The Panama Declaration will achieve the international cooperation that the IDCA could not. The United States will continue to use its markets to enforce this international agreement. Once the new binding legal agreement instituting the Panama Declaration has been developed, the existing tuna embargoes will be lifted. The United States, however, will only import tuna from other countries caught in compliance with the new agreement. Tuna from any nation found to be out of compliance or diminishing the effectiveness of the new agreement will be embargoed.

The implementation of the Panama Declaration will provide strong incentives to fishers to eliminate dolphin mortality through the strengthened redefinition of the dolphin safe label, for only tuna that is caught using methods which avoid killing any dolphins will be allowed to bear the dolphin safe label. Through an improved, enforceable, on-board observer program and tuna tracking system, the dolphin safe label will mean to consumers what many of them have thought it has meant all along—that no dolphins were killed in the harvesting of the tuna contained in the product bearing the label.

The complexities of the tuna-dolphin problem in the ETP require that we strike a balance. This balance should maintain the active participation of the fishing nations in a binding international agreement that will reduce and potentially eliminate dolphin mortality, protect and recover depleted

339. Panama Declaration, *supra* note 5.

dolphin species, reduce bycatch and conserve other marine life, and guarantee the conservation and proper management of the tuna fishery. Perhaps the most salient merit of the Panama Declaration is that it represents strong consensus among leading conservation groups, the Clinton Administration, the U.S. tuna fishing industry, and eleven foreign fishing nations on how best to solve these vexing problems.

International problems demand international solutions. The NRC panel recognized this when it stated that "any policy designed to reduce dolphin mortality or prevent it absolutely will be effective only if it is based on sound information and if most or all nations that fish for dolphin-associated tuna anywhere in the world participate in its implementation."³⁴⁰ In the long run we cannot protect marine life in international waters solely through unilateral mandates, especially as nations develop markets outside the United States for their tuna.

At the end of the 104th Congress, the Senate failed to take up the International Dolphin Conservation Program Act—the implementing legislation for the Panama Declaration. Congress' failure to act makes the future of dolphin conservation uncertain as it may jeopardize the existing voluntary regime.³⁴¹ Senator John Breaux (D-LA) stated, "if we do not enact this treaty, we are going to lose the great progress that has already been made. These countries now that are trying to cooperate are going to lose incentive to do so."³⁴² The United States must act now to cement the international cooperation manifested in the Panama Declaration. Failure to act could undermine the world's most ambitious and potentially successful international fisheries management and dolphin conservation regime.*

340. See NRC REPORT, *supra* note 14, at 71.

341. Following the failure of Congress to pass the International Dolphin Conservation Act in the 104th Congress, Mexico suspended its active participation in the La Jolla Agreement. While this decision sent a signal of potential jeopardy to the voluntary program, Mexico, in a good faith effort to show continued support of the Panama Declaration and its implementation, decided to continue to allow IATTC observers on its vessels. See 30th Intergovernmental Meeting on the Conservation of tunas and dolphins in the Eastern Pacific Ocean, La Jolla, California, October 21-23, 1996 (statement of Mexico announcing decision to suspend active participation in Law Jolla Agreement) (on file with the *Ocean & Coastal Law Journal*).

342. CONG. REC. S 11618 (daily ed. Sept. 23, 1996) (statement Sen. Breaux).

* *Ed. note:* After this article was submitted by the Authors for publication, an Act to amend the Marine Mammal Protection Act of 1972 to support the International Dolphin Conservation Program in the eastern tropical Pacific Ocean was introduced on January 21, 1997. This Act implemented the regime of dolphin conservation contemplated by the Declaration of Panama, *supra*, note 5. The Act was successfully adopted on the Senate floor and was passed on to the House for adoption. CONG. REC. S. 8294 (daily ed. July 30, 1997).

