TIMELY REGULATIONS TO CONSERVE A SPECIE: A PROPOSED PACIFIC BILLFISH COMMISSION

The very existence of sea life has become critically dependent upon timely inter-governmental regulation and protection. Currently, a number of species vital to the world's food supply are uncontrolled and unprotected. Among the unprotected sea life are marlin, swordfish and sailfish, commonly grouped as billfish.[1] Historically, effective protection of marine species has been dependent upon the timeliness of implementing regulatory commissions. The establishment of the International Whaling Commission (IWC)[2] exemplified the critical importance of such timeliness: by the time it became effective as a regulatory agency, the world's whale population was irreversibly diminished.[3]

With the increased demand for billfish in the seafood industry,[4] these species may suffer a similar irreversible reduction of population in the absence of regulations. It is necessary to compile more extensive scientific research in order to implement effective and enforceable regulations to conserve these species. In particular, statistics indicate an over exploitation of Pacific blue marlin,[5] which is critical considering the fact that most of the world's billfish migrate through the Pacific waters.[6] These considerations mandate the timely establishment of an effective regulatory commission in the Pacific Ocean.

This Comment discusses how migratory patterns and fishing techniques influence a decrease in billfish stocks. The ineffective-

1. J. JOSEPH & W. KLAWE, TUNA AND BILLFISH—FISH WITHOUT A COUNTRY at iv (1980).

2. International Convention for the Regulation of Whaling, Dec. 2, 1946, 4 Bevans 248, T.I.A.S. No. 1849, 161 U.N.T.S. 72.

3. Scarff, *The International Management of Whales, Dolphins and Porpoises: An Interdisciplinary Assessment*, 6 ECOLOGY L. Q. 323, 330, 349 (1977).

4. The Japanese now use billfish for fish ham and fish sausage. Also, the United States uses black marlin to process fish cakes.

5. DEP'T COMM., SOUTHWEST FISHERIES CENTER, NAT'L MARINE FISHERIES SERV., NAT'L OCEANOGRAPHIC ATMOSPHERIC ADMIN., STATUS REPORTS ON WORLD TUNA AND BILLFISH STOCKS 297 (July 1981) [hereinafter cited as STATUS REPORTS] (copy is on file with the *California Western International Law Journal*).

6. J. JOSEPH & J. GREENOUGH, INTERNATIONAL MANAGEMENT OF TUNA, PORPOISE AND BILLFISH 176 (1979) [hereinafter cited as GREENOUGH].

ness of domestic billfish management is examined, demonstrating the need for international billfish management. Various proposals for implementing international management in order to meet this need are evaluated. The analysis then addresses why existing international regulatory commissions have proved inadequate in protecting the billfish population. The necessity of an effective system for enforcing international regulations is analyzed. Finally, this Comment proposes an international Pacific Billfish Commission which would research and regulate the catch of billfish.

I. BILLFISH MIGRATION AND THE CURRENT STATUS OF THE BILLFISH FISHERY

A. The Widespread Habitat of Billfish

Ordinarily, billfish are caught incidentally with tuna on longlines.[7] Billfish comprise approximately 15 to 20 percent of Japan's longline catch,[8] which is the world's leading longline fishery.[9] Recently, the Japanese converted their ships' freezers to "super-cold" quick-freezing capabilities in order to make billfish suitable for the higher-priced raw fish market.[10] This change is indicative of the fact that some Japanese fishermen are beginning to concentrate their efforts on billfish.[11] There is an economic incentive for

7. NAT'L MARINE FISHERIES SERV., NAT'L OCEANOGRAPHIC ATMOSPHERIC ADMIN., U.S. DEP'T COM., ENVIRONMENTAL IMPACT STATEMENT/PRELIMINARY FISHERY MANAGEMENT PLAN: PACIFIC FOREIGN PELAGIC LONGLINE FISHERY 12 (Draft Oct. 1976) [hereinafter cited as ENVIRONMENTAL IMPACT STATEMENT] (copy is on file with the *California Western International Law Journal*). Longlining is a deep water fishing technique, which accounts for about 30 percent of the world's tuna catch, including most billfish taken commercially. A longline vessel sets out a line that may extend for 81 miles on the surface of the ocean, supported along its lengths by floats. Dangling from the main line are about 2,000 baited hooks on branch lines. A single set of the longline can take up to 20 hours, and during that time the fisherman has no control over the types of fish caught. More than eight different species of tuna, billfish and sharks can be caught during one set. J. JOSEPH & W. KLAWE, *supra* note 1, at 13-14.

8. ENVIRONMENTAL IMPACT STATEMENT, *supra* note 7, at 12. This figure, 15-20 percent refers to weight, not quantity of billfish.

9. ENVIRONMENTAL IMPACT STATEMENT, *supra* note 7, at 12. The word fishery has several meanings. First, it can refer to the fishing industry. Second, it may refer to the specific industry for a certain species (i.e. tuna fishery). Last, the term may be in reference to the entire stock of a species (i.e. billfish fishery).

10. Western Pac. Regional Council, Fishery Management Plan for Billfish and Associated Species, 20 (Draft of a meeting in Honolulu, Hawaii on January 25, 1980) (copy is on file with the *California Western International Law Journal*). Previously, the fish would not freeze quickly enough to retain the fresh fish texture. The Japanese eat raw fish, which they call "sashimi." Since the fish is not cooked it has to be of the utmost quality.

11. *See id.*

the Japanese to harvest billfish since most billfish now bring a higher price than tuna.[12]

In certain areas of the Pacific, there are longline fisheries which focus specifically on billfish.[13] Japan presently has a longline fishery for swordfish in the Northwestern Pacific and off the coast of Mexico.[14] Japanese vessels located off the Mexican coast also concentrate on striped marlin and sailfish.[15] Additionally, the tuna longline fisheries of the Republic of Korea and Taiwan harvest billfish.[16] Their catch is primarily in the South Pacific and is minor in harvest compared to the Japanese catch.[17]

The largest number of swordfish are caught in the Northern Pacific.[18] A substantial quantity of blue marlin are caught within the central-to-western North Pacific,[19] while striped marlin are caught primarily off the Pacific coast of Mexico[20] and the black marlin off the coast of Australia.[21] Hence, an effective billfish commission would necessitate jurisdiction over the entire Pacific Ocean.

B. Current Need for Regulation

Research conducted to date corroborates the need for a Pacific Billfish Commission[22] since the majority of billfish are caught in the Pacific Ocean.[23] The most thorough compilation of statistics on Pacific billfish are provided by the 1981 Status Report on Billfish

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12. These prices are the amount paid in Japan for the following fish in 1979. Swordfish was worth approximately $2,6222/mt. (metric ton equals 2,200 pounds). STATUS REPORTS, *supra* note 5, at 267. Striped Marlin brought as much as $3,165 per ton. *Id.* at 284. Blue Marlin brought as much as $3,165 per ton. *Id.* Yellowfin tuna brought as much as $1,873 per ton. *Id.* at 202. Skipjack tuna was as high as $797 per ton. *Id.* at 187. Albacore tuna was as high as $1,358 per ton. *Id.* at 219. The world record price paid for a 360-pound bluefin tuna in January, 1982, was $19.35 per pound, or $38,693.18 per ton. This was very abnormal however. NOAA, TUNA NEWSLETTER 4 (No. 77 Winter 1982).

13. ENVIRONMENTAL IMPACT STATEMENT, *supra* note 7, at 12.

14. *Id.*

15. *Id.* The Japanese catch of billfish off Mexico and Central America consists of up to 60 percent of its annual longline catch in that area of the Pacific. *Id.* In some years the longline catch off the coast of Mexico has been as high as 98 percent billfish. *Id.* at 13.

16. *Id.*

17. *Id.*

18. STATUS REPORTS, *supra* note 5, at 258.

19. *Id.* at 279.

20. *Id.* at 280.

21. *Id.* at 281.

22. J. JOSEPH & W. KLAWE, *supra* note 1, at 18.

23. BILLFISH CATCHES BY COMMERCIAL FISHING OPERATIONS IN 1975 BY ALL NATIONS COMBINED
(Thousands of metric tons)

Stocks.[24] Although the research is incomplete, this report indicates that the Pacific swordfish stock[25] appears capable of sustaining increased yields with increased effort.[26] The Pacific blue marlin stock[27] appears to be overfished as indicated by the declining catch-per-unit.[28] The striped marlin stock[29] in the South Pacific seems to be at or beyond the maximum sustainable yield (MSY).[30] Although no attempt has been made to estimate the MSY of the Pacific black marlin stock,[31] the decline in catch rate indicates that the stock would not sustain an increase in fishing effort.[32]

Despite the indication of these data, there are no international regulations for the catch of billfish in the Pacific Ocean.[33] The information from the 1981 Status Report raises concern over maintaining the population of these stocks of fish.[34] There is a need for international cooperation to promote conservation through research and appropriate regulation in the Pacific. Domestic attempts have not proved effective, which further illustrates the need for an international approach of fishery management.

Species group	Pacific Ocean	Atlantic Ocean	Indian Ocean	*Total*
Blue and black marlin	15.8	1.3	4.2	21.3
Striped marlin	18.0	—	1.4	19.4
White marlin	—	1.1	—	1.1
Sailfish and spearfish	7.6	0.6	1.7	9.9
Swordfish	15.4	11.8	1.6	28.8
Unspecified billfish	0.5	2.1	0.6	3.2
Total	57.3	16.9	9.5	83.7

GREENOUGH, *supra* note 6, at 176.

24. *See* STATUS REPORTS, *supra* note 5.

25. Available data suggests that the population either consists of a single, Pacific-wide stock, or three separate stocks. STATUS REPORT, *supra* note 5, at 270.

26. *Id.* at 272. However, reports show that if the longline fishery were to resort to night fishing as was the standard method in some areas in the 1960s, the greater efficiency could detrimentally affect the swordfish stock. *Id.*

27. Available evidence seems to indicate one Pacific-wide stock of blue marlin. *Id.* at 292.

28. *Id.* at 297. Catch-per-unit is a term of art indicating how many fish are caught per hook. If one hundred hooks were baited and only one blue marlin caught, the catch-per-unit would be 1/100.

29. Available data suggests either one or two Pacific stocks of striped marlin. *Id.*

30. *Id.* Maximum sustainable yield (MSY) is the maximum amount of fish that can be caught without showing a decline in the catch-per-unit.

31. There is a possibility that more than one stock of black marlin exists. *Id.*

32. *Id.*

33. There is not a commission in the Pacific which has jurisdiction to implement regulations over billfish. *See infra* text accompanying notes 88-93.

34. *See* text accompanying notes 26-32.

II. CURRENT DOMESTIC MANAGEMENT LAW AND INTERNATIONAL MANAGEMENT PROPOSALS

A. The Fishery Conservation and Management Act of 1976

The Fishery Conservation and Management Act of 1976 (FCMA)[35] extended United States fishery management jurisdiction to 200 nautical miles.[36] "Highly migratory" species are excluded from this Act.[37] Section 1802(14) defines "highly migratory" as being only "species of tuna."[38] According to this definition billfish are included within the United States' jurisdiction. Initially, it would appear that this Act would lead to billfish preservation; unfortunately, the Act has lead to billfish waste.

Consider, for example, the effect this Act had in July of 1981:[39] A Japanese vessel was fishing for tuna with longlines approximately sixty miles off the coast of Montauk, New York.[40] The vessel was licensed only to catch tuna.[41] Swordfish were inadvertently caught and surfaced dead.[42] Being unlicensed for swordfish, the Japanese threw the dead fish back into the ocean.[43] Such waste continues today. It is unknown how many billfish are inadvertently caught within the 200-mile limit and thrown back only to decay.[44]

The FCMA is also limited jurisdictionally in their ability to conserve or regulate the billfish population.[45] Consequently, domestic regulations are extremely limited in their effectiveness due to the highly migratory nature of billfish. This Comment suggests that effective management must focus rather on human behavior.

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35. 16 U.S.C. § 1801 (1976).

36. *Id.* at § 1811.

37. *Id.* at § 1801(b)(1).

38. *Id.* at 1802(14).

39. Metz, *Accountants Tackle Swordfish, TV Crew, Feds and 29 Japanese*, Wall St. J., Oct. 26, at 1, col. 3.

40. *Id.*

41. *Id.*

42. *Id.*

43. *Id.*

44. The policy reasoning in allowing foreign vessels to fish for tuna within the United States 200-mile zone is to encourage other countries to reciprocate. It is this writer's opinion that the United States should either allow foreign fishermen to keep billfish caught in United States' waters or ban foreign tuna fishermen from United States' waters. The latter action could encourage reciprocation by other nations.

45. Only 3 percent of Pacific billfish are harvested within the United States fishery conversation zone (FCZ). ENVIRONMENTAL IMPACT STATEMENT, *supra* note 7, at 12.

B. Managing People, Not Billfish

Management of fishes and other wildlife consists of "both the regulation of human behavior and positive actions to alter nonhuman elements of the ecosystem for the benefit of the managed species."[46] Whale management, for example, concentrates almost entirely on managing people due to the fact that very little is known about the vast marine environment.[47] Effective management of billfish would also necessitate the management of people.[48]

Billfish are highly migratory[49] and inhabit domestic as well as international waters.[50] International management would logically prove more effective than domestic management. Leading researchers for the Inter-American Tropical Tuna Commission[51] have concluded that:

> For effective conservation and management each nation must recognize the limits of its control over the fisheries for tuna and billfish within its 200-mile zone. Nations whose fishermen harvest these species on the high seas must cooperate with the coastal nations within whose waters the tuna and billfish pass. *International agreement is required to conserve the tuna and billfish, wanderers that recognize no man-made laws or boundaries*.[52]

Article 64, section 1 of the United Nations Convention on the Law of the Sea also emphasizes the need for international cooperation in managing "highly migratory" species.[53]

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46. Scarff, *supra* note 3, at 597.

47. *Id.* The management of marine species is extremely difficult as compared to terrestial species. Elk, deer, bear, eagles and other species are easier to spot and locate than marine species, which are usually beneath the surface.

48. The only way to determine the quantity and location of billfish is by the declining catch rates in certain areas. Scientists have developed these methods to aid in this difficult task. Billfish cannot be raised in hatcheries because of their respiratory systems. Therefore, only people can be managed.

49. J. JOSEPH & W. KLAWE, *supra* note 1, at 1. "Highly migratory," for the purposes of this Comment, means that a species moves constantly throughout large areas of water.

50. *Id.*

51. James Joseph, Director of Investigation of Inter-American Tropical Tuna Commission (IATTC) and Witold Klawe, Senior Scientist of IATTC. *See* J. JOSEPH & W. KLAWE, *supra* note 1.

52. *Id.* at 18 (emphasis added).

53. United Nations Convention on the Law of the Sea, Dec. 10, 1982, U.N. Doc. A/Conf. 62/122, *reprinted in* 21 I.L.M. 1261. Annex I of the Convention defines "highly migratory" by listing several species of tuna, billfish, dolphins and sharks. *Id.* at annex I. All billfish are considered "highly migratory."

C. *International Fisheries Management Proposals*

The "open-access" plan[54] and the "world tuna convention" plan[55] are two proposals for international management of "highly migratory" marine species. These plans could be implemented by the proposed Pacific Billfish Commission.

1. *The "Open-Access" Plan*. Under the "open-access" and international licensing plan, all nations desiring to fish within the exclusive economic zone (EEZ)[56] of another nation would be required to become members of an international management program.[57] It would be necessary for fishing vessels to purchase international fishing licenses.[58] Foreign vessels would then be allowed to fish within a country's EEZ.[59] The license fees collected would be distributed to countries which do not have large fishing fleets.[60] This would allow countries which do not possess an abundance of resources[61] off their coasts to fish within another country's EEZ.[62] Participating vessels would allocate a portion of their total catch to the resource-adjacent nation[63] through licensing fees.[64] This management plan would be beneficial to both large and small fishing countries. The countries would find it beneficial to work together in such a billfish research and regulation program which would promote international cooperation.

2. *The "World Tuna Convention."* The "world tuna conven-

54. GREENOUGH, *supra* note 6, at 69.

55. J. KASK, TUNA: A WORLD RESOURCE 1 (Occasional Paper No. 2, Law of the Sea Institute, University of Rhode Island 1969).

56. A zone extending 200 miles from the baselines is used to measure the territorial sea in which coastal states claim exclusive rights to all living and non-living resources. *See* R. ECKERT, THE ENCLOSURE OF OCEAN RESOURCES 30 (1979).

57. GREENOUGH, *supra* note 6, at 69.

58. *Id.*

59. *Id.* This proposal would not allow foreign vessels to fish within a country's territorial waters. Territorial waters are generally recognized as extending a country's full jurisdiction seaward 12 miles. Some South American countries claim a 200-mile territorial zone but the United States does not recognize these zones.

60. *Id.*

61. Of course, some countries have more fish within their EEZ's than other countries.

62. GREENOUGH, *supra* note 6, at 69.

63. Resource-adjacent nation refers to those countries which, because of marine migratory patterns or natural habitants, have more fish within their EEZ.

64. GREENOUGH, *supra* note 6, at 69. This plan is designed to help minimize the chance that a lesser-developed country (LDC) will object to large fishing nations' activities within the LDC'S waters. Since the United States and Japan have large fishing fleets, they would not be allocated any of the licensing fees.

tion" was proposed by fisheries expert, J. L. Kask.[65] This convention would include billfish, and be organized through the Food and Agricultural Organization (FAO) of the United Nations.[66] According to Mr. Kask, FAO's presence on the Commission would protect "the interests of the world's people who own the resources."[67]

This convention would have jurisdiction over the oceans where billfish and tuna are located.[68] Mr. Kask recognizes that there are problems organizing such a large commission,[69] but emphasizes the need for immediate action despite the organizational problems.[70] His proposal calls for prompt action to avoid an overfishing crises, which would result in frustration of any future success of conservation efforts.[71]

D. Organization and Status of Present Commissions

Presently, there are several international commissions which research and regulate migratory fishes and mammals.[72] Particularly relevant to this analysis are three such commissions: The International Whaling Commission,[73] the Inter-American Tropical Tuna Commission, [74] and the International Convention for the Conservation of Atlantic Tuna.[75] These existing commissions cannot meet the present need for Pacific billfish research and regulation. The organization and procedures utilized by these

65. See Mr. Kask's Papers, *supra* note 55. Mr. Kask is an authority on fishery regulations.

66. J. KASK, *supra* note 55, at i app. FAO also compiles worldwide fisheries statistics. These statistics indicate which countries are the largest exporters of every type of seafood.

67. *Id.* at iii app. Lesser-developed countries would feel secure knowing that the majority of United Nations members are lesser-developed countries so their economic interests will be observed.

68. *Id.* at iv app. Billfish are found in the Atlantic, Pacific and Indian Oceans.

69. *Id.* at viii app. Treaty negotiations will be the main difficulty with organizing this Commission since FAO has 156 members and no members can rightly be excluded. *Id.*

70. *Id.* at ix app.

71. *Id.*

72. The Convention for the Northwest Atlantic Fisheries, Feb. 8, 1949, 1 U.S.T. 477, T.I.A.S. No. 2089, 157 U.N.T.S. 157; The Convention for the High Seas Fisheries of the North Pacific Ocean, May 9, 1952, 4 U.S.T. 230, T.I.A.S. No. 2786, 205 U.N.T.S. 65; Interim Convention on Conservation of North Pacific Fur Seals, Feb. 9, 1957, 8 U.S.T. 2283, T.I.A.S. No. 3948, 314 U.N.T.S. 105.

73. International Convention for the Regulation of Whaling, Dec. 2, 1946, 4 Bevans 248, T.I.A.S. No. 1849, 161 U.N.T.S. 72.

74. Convention Between the United States of America and the Republic of Costa Rica for the establishment of an Inter-American Tropical Tuna Commission, May 31, 1949, 1 U.S.T. 230, T.I.A.S. No. 2044, 80 U.N.T.S. 3 [hereinafter cited as IATTC].

75. International Convention for the Conservation of Atlantic Tuna, May 14, 1966, 20 U.S.T. 2887, T.I.A.S. No. 6767, 673 U.N.T.S. 63 [hereinafter cited as ICCAT].

commissions can be helpful in formulating the proposed Pacific Billfish Commission.

1. *International Whaling Commission*. The whaling industry suffered a large depletion of whales early in the 1930s.[76] At that time, public pressure to make specific regulations for commercial whaling was virtually nonexistent.[77] The International Convention for the Regulation of Whaling, signed on December 2, 1946, established the International Whaling Commission.[78] The purpose of the Commission is to research and regulate the whaling industry.[79] The history of the formation of the IWC provides a lesson against postponing the implementation of conservation regulations until the decline of a species is too severe.

Today, the IWC has the widest geographical jurisdiction of any fishery related commission.[80] This jurisdictional breadth makes implementation and enforcement of regulations difficult[81] which spawns criticism as to the IWC's ineffectiveness.[82] Large whaling countries occasionally assert their power and threaten to retract membership when a regulation would be contrary to their best interests.[83] Despite these problems, it appears the IWC has been effective in conserving the world's whale population.[84] By contrast, the Inter-American Tropical Tuna Commission[85] was implemented before the population of yellowfin tuna dropped to a dangerously low level.[86]

2. *Inter-American Tropical Tuna Commission*. The Inter-American Tropical Tuna Commission (IATTC) was estabished on May 31, 1949.[87] This was the first fisheries commission to be estab-

76. Scarff, *supra* note 3, at 348. Blue and humpback whales were primarily hunted. *Id.* at 348.

77. *Id.* at 329.

78. International Convention for the Regulation of Whaling, Dec. 2, 1946, art. 3, 4 Bevans 248, T.I.A.S. No. 1849, 161 U.N.T.S. 72.

79. *Id.* at preamble.

80. IWC's Regulations cover whales in all waters. *Id.* at art. I.

81. It is difficult to enforce whaling regulations since the treaty waters are so immense.

82. *See* Scarff, *supra* note 3, at 365.

83. *See id.* When one enforcement scheme was about to be implemented, the Soviet Union changed its position and refused to accept the implementation rules unless the system was revised. No compromise was reached and the program lapsed for quite sometime. *Id.*

84. Scarff, *supra* note 3, at 358-72.

85. IATTC, May 31, 1939, 1 U.S.T. 230, T.I.A.S. No. 2044, 80 U.N.T.S. 3.

86. Jacobs, *United States Participation in International Fisheries Agreements*, 6 J. MAR. L. & COM. 471, 492 (1975).

87. IATTC, May 31, 1949, 1 U.S.T. 230, T.I.A.S. No. 2044, 80 U.N.T.S. 3.

lished prior to a crises existing in the resources.[88] The IATTC was established primarily to research and implement regulations concerning the status of yellowfin and skipjack tuna.[89] Included in the Commission's preamble is reference to "other kinds of fish taken by tuna vessels in the eastern Pacific,"[90] which arguably includes billfish, shark and various species of tuna within its jurisdiction. The language may not justify such a conclusion, however, since the main focus of the IATTC has been on skipjack and yellowfin tuna.[91]

Though the IATTC has compiled information based on studies of billfish,[92] these studies have not been used for regulatory purposes.[93] The argument against the inclusion of billfish within the IATTC is that the Commission's jurisdiction is limited to the eastern Pacific.[94] Since billfish are abundant in the Pacific Ocean, the IATTC could not effectively regulate them without expanding its jurisdiction to the western Pacific.

The IATTC is one of the few fisheries commissions which employs its own staff to execute necessary investigations.[95] This Commission's research has provided vital information for the effective regulation of yellowfin tuna.[96] The IATTC, however, has suffered from a lack of funds[97] which limits the Commission's work according to the amount of financial support it receives.[98] This Commission is generally recognized as being more effective than its Atlantic equivalent, the International Commission for the Conservation of Atlantic Tuna.

3. *International Commission for the Conservation of Atlantic Tuna*. The International Commission for the Conservation of At-

88. Jacobs, *supra* note 86, at 492.

89. *Id.* at 489-90.

90. IATTC, May 31, 1949, preamble, 1 U.S.T. 230, T.I.A.S. No. 2044, 80 U.N.T.S. 3.

91. The only regulations IATTC has ever implemented pertain to yellowfin tuna. Jacob, *supra* note 86, at 490.

92. Shingu, Tomlinson & Peterson, *A Review of the Japanese Longline Fishery for Tunas and Billfishes in the Eastern Pacific Ocean, 1967-1970*, at 16 IATTC BULL. 67-96 (1974).

93. As previously noted this Commission only has jurisdiction of yellowfin and skipjack tuna.

94. Since billfish are highly migratory, a commission only having jurisdiction over the eastern Pacific could not enforce measures throughout the Pacific. *See* IATTC, May 31, 1939, preamble, 1 U.S.T. 230, T.I.A.S. No. 2044, 80 U.N.T.S. 3.

95. A. KOERS, INTERNATIONAL REGULATION OF MARINE FISHERIES 96 (1979).

96. Jacobs, *supra* note 86, at 490-91.

97. A. KOERS, *supra* note 96, at 96.

98. *Id.*

lantic Tuna (ICCAT) was established on May 14, 1966.[99] The ICCAT was organized to include "tuna and tuna-like fishes found in the Atlantic Ocean."[100] Unlike the IATTC, this Commission expressly includes billfish within its jurisdiction.[101] In addition, its authority extends throughout the Atlantic.[102] Although the framework exists for the regulation of billfish catching in the Atlantic, this Commission is ineffective in this area. To date, this Commission has drafted no regulations with respect to the exploitation of billfish in the Atlantic.[103]

One deficiency of the ICCAT appears to be the manner in which its staff is selected. Unlike the IATTC, the ICCAT does not employ its own staff.[104] The ICCAT is staffed by scientists provided by each party to the Commission.[105] These scientists are assigned to particular panels which research specific species.[106] This staffing practice may threaten the objectivity of such studies. A staff member who has been appointed by his own country may be inclined to be influenced by that country's commercial interests. This may contribute to the ICCAT's ineffectiveness in developing regulations to limit commercial fishing of billfish. Arguably, a commission which employs its own staff would be more objective, and hence, more reliable.

The above overview provides a basic understanding of the present international commissions. This Comment now explores fundamental enforcement plans and how they relate to the fishery agreements.

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99. ICCAT, May 14, 1966, 20 U.S.T. 2887, T.I.A.S. No. 6767, 673 U.N.T.S. 63.

100. *Id.* at preamble.

101. *Id.*

102. *Id.* at art. I.

103. After searching through the entire set of reports of ICCAT there were not any regulations on the catch of billfish in the high seas.

104. Article 1, Section 10 of the Convention establishing IATTC states: "The Commission shall be entitled to employ necessary personnel for the performance of its functions and duties." IATTC, May 31, 1949, art. 1, 1 U.S.T. 230, T.I.A.S. No. 2044, 80 U.N.T.S. 3. The Convention establishing ICCAT states in Article IV, section 1 that: "The Commission, in carrying out these responsibilities shall, . . . utilize the technical and scientific services of, and information from, official agencies of the Contracting Parties and their political subdivisions and may, when desirable, utilize the available services and information of any public or private institution, organization or individual, and may undertake within the limits of its budget independent research to supplement the research work being done by governments, national institutions or other international organizations." ICCAT, May 14, 1966, art. IV, 20 U.S.T. 2887, T.I.A.S. No. 6767, 673 U.N.T.S. 63.

105. *See* treaty provisions cited *supra* note 104.

106. ICCAT, May 14, 1966, art. VI., 20 U.S.T. 2887, T.I.A.S. No. 6767, 673 U.N.T.S. 63.

III. ENFORCEMENT OF FISHERIES AGREEMENTS

Enforcement may be defined as "the process by which a regulation is made effective."[107] Using this definition in context with international fisheries, it would be defined as the "obedience of fishing vessels to international high seas conventions."[108]

The three basic schemes for enforcement as summarized by Albert W. Koers[109] are: (1) "national enforcement"—enforcement of an agreement exclusively by the flag State of the fishing vessel in question; (2) "mutual enforcement"—enforcement with regard to a vessel under the flag of a party to the treaty by all parties to the treaty; and, (3) "international enforcement"—enforcement by an international body.[110] Enforcement of international fisheries agreements usually generates the fear that a country's sovereignty will be encroached.

A. State Sovereignty

The concept of sovereignty includes "a situation in which a state has the right to control internal relations affecting the population within its territory and is not restricted, . . . by the similar right of any other state affecting the condition of its territory or population."[111] Sovereignty is limited to the extent that a country is bound by an authority outside its own borders.[112] When a sovereign State enters into an internationally enforceable agreement, the State thus admits to such limitations and acquiesces to the jurisdiction of the international authority.[113] Countries must relinquish certain sovereign rights if fishery agreements are to be effective.

B. Enforcement Schemes

1. *National Enforcement*. National enforcement is the enforcement of an agreement exclusively by the flag State of the fishing vessel in question.[114] Both the ICCAT and the IATTC utilize

107. Koers, *The Enforcement of International Fisheries Agreements*, 1 NETH. Y.B. INT'L L. 1, 2 (1970) [hereinafter cited as *International Fisheries*].

108. *Id.* "High Seas" is a term referring to all waters beyond territorial zones and the exclusive economic zones.

109. Mr. Koers is a professor who specializes in international fisheries agreements.

110. *International Fisheries*, *supra* note 107, at 2.

111. Hayashi, *Soviet Policy on International Regulation of Seas Fisheries*, 5 CORN. INT'L L. J. 131, 133 (1972).

112. *Id.* at 132-33.

113. *Id.* at 132-35.

114. *International Fisheries*, *supra* note 107, at 2. Normative nationalists are states which

national enforcement.[115] The principal argument against "national enforcement," however, is the occurrence of discrimination toward foreign fishermen.[116] Fishermen from a country which strictly enforces inspection requirements would be commercially disadvantaged if other countries belonging to the agreement did not strictly enforce the inspection requirements.

According to Albert Koers, a system of enforcement can be judged according to two fundamental criteria: whether or not the system is effective,[117] and whether or not it applies in a non discriminatory fashion.[118] A system of enforcement can only be effective if it is equally difficult for any foreign vessel to escape from penalty when violating regulations.[119]

The IATTC is now confronted with the problem of discriminatory enforcement because[120] the United States enforces the Commission's regulations against its fishermen more effectively than do other nations.[121] American fisherman report to the Coast Guard by radio daily, during which their positions are fixed by radio direction finders.[122] Consequently, their fishing activities are constantly scrutinized which tends to place United States' fisherman at a commercial disadvantage.

The enforcement plan in ICCAT seems to be ineffective. Article IX, section 1 states that "The Contracting Parties agree to take all action necessary to ensure the enforcement of this convention."[123] This statement indicates that the enforcement scheme is either a national or self-policing system. Article IX, section 3 specifies that the contracting parties agree to establish an international

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adopt the strict sovereignty position and feel they deserve all "their" resources to "survive and prosper." Hayashi, *supra* note 111, at 133, 134.

115. Article III of the Convention establishing IATTC states: "The High Contracting Parties agree to enact such legislation as may be necessary to carry out the purposes of this Convention." IATTC, May 31, 1949, art. III, 1 U.S.T. 230, T.I.A.S. No. 2044, 80 U.N.T.S. 3. Article IX, section 1 of the Convention establishing ICCAT states: "The Contracting Parties agree to take all action necessary to ensure the enforcement of this Convention." ICCAT, May 14, 1966, art. IX, 20 U.S.T. 2887, T.I.A.S. No. 6767, 673 U.N.T.S. 63.

116. *International Fisheries*, *supra* note 107, at 28.

117. *Id.*

118. *Id.*

119. *Id.*

120. *Id.* Jacobs, *supra* note 86, at 491.

121. *Id.*

122. *Id.* A radio direction finder (RDF) is a tracking mechanism which detects radio beacons and radio signals. Once the signal is detected the RDF will indicate the direction of the radio signal.

123. ICCAT, May 14, 1966, art. IX § 1, 20 U.S.T. 2887, T.I.A.S. No. 6767, 673 U.N.T.S. 63.

system of enforcement beyond territorial seas and fisheries zones.[124] The text does not address the manner in which an enforcement scheme would be introduced or what body would enforce the regulations. Essentially, the parties have agreed to develop enforcement measures in the future.[125] To date, the ICCAT has not implemented effective regulations with such an "enforcement" agreement.[126]

The IWC has utilized national enforcement in conjunction with international supervision.[127] Prosecution of violators under the IWC is conducted by the flag country.[128] An international observer system was mandated by the IWC in 1972. This system, implemented through international bilateral agreements, promoted observer exchange.[129] This type of enforcement and inspection seems to be an effective means to control whaling. The use of observers appears to be limited, however, to the control of the whaling industry. The use of observers for tuna and billfish is likely to prove infeasible due to the size of the fishing fleets as compared to the whaling fleets.[130]

2. *Mutual Enforcement*. Mutual enforcement is a fisheries regulations enforcement system which allows a party to the agreement to spot check other partys' fishing vessels.[131] Any party to the agreement may seize and arrest vessels suspected of violating the agreement.[132] Mutual inspection, therefore, helps eliminate discrimination of enforcement between nations.[133] Under such an agreement, the arresting party must promptly notify the country having jurisdiction over the vessel or person.[134] This is necessary to protect the sovereignty of the nations affected.[135]

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124. *Id.* at art. IX § 3.

125. Jacobs, *supra* note 86, at 496.

126. *Id.*

127. Scarff, *supra* note 3, at 330.

128. *Id.* Flag country or flag State is a term of art referring to the State or country where the vessel is registered.

129. *Id.* Observers are people who stand watch on whaling and factory ships to ensure that the whalers are conforming with the regulations. Whaling ships are the smaller vessels which do the actual hunting and harpooning whereas factory ships process the whale blubber and meat.

130. Japan alone has approximately 2,200 longline vessels and ten whaling ships.

131. Hayashi, *supra* note 111, at 152.

132. *Id.*

133. *International Fisheries*, *supra* note 107, at 14.

134. Hayashi, *supra* note 111, at 152.

135. *Id.*

Many countries are hesitant to sign a treaty which requires mutual enforcement since their sovereignty may potentially be violated. However, several conventions utilize mutual enforcement schemes.[136] There are certain variances within mutual enforcement agreements which may be negotiated.[137] Countries may, for example, negotiate the time allowed to notify the appropriate States of violations and the extent of freedom another State has with respect to boarding foreign vessels.[138] This type of enforcement seems feasible and could be effectively utilized by the proposed Pacific Billfish Commission. International enforcement may be effective in theory, but it has not been used in its strict form.

3. *International Enforcement*. There is a need for an international enforcement plan which may be utilized to regulate both the billfish and tuna industry. To date, no such plan has been implemented.[139] An international enforcement plan would enable an international body to enforce fishery agreements which would assure conformity with its regulations. In order for such a plan to be effective, it would be necessary for the parties to acquiesce to an enforcement arm or branch of such an international body.[140] This enforcement arm would require the authority, when appropriate, to deny licenses, or fine or convict violators of this agreement.

IV. THE STRUCTURE OF A PROPOSED BILLFISH COMMISSION

A. Feasibility of Expanding the Existing IATTC

The IATTC is concerned primarily with researching and regulating yellowfin and skipjack tuna in the eastern Pacific.[141] This treaty could be renegotiated to include the western Pacific at the approval of present members.[142] One advantage of expansion of this treaty would be encouragement of countries in the western Pa-

136. The Convention for the Northwest Atlantic Fisheries, Feb 8, 1949, 157 U.N.T.S. 157; Interim Convention on Conservation of North Pacific Fur Seals, Feb. 9, 1957, 8 U.S.T. 2283, T.I.A.S. No. 3948, 314 U.N.T.S. 105.

137. Hayashi, *supra* note 111, at 152.

138. *Id.*

139. *International Fisheries*, *supra* note 107, at 20.

140. International enforcement would insure equal treatment to all fisherman since the Commission would make the decision from a neutral position. This writer favors international enforcement because penalties and fines would be uniform. This uniformity would bring with it a sense of security for the fishermen because they would be aware of the penalty assessed for violations.

141. IATTC, May 31, 1949, preamble, 1 U.S.T. 230, T.I.A.S. No. 2044, 80 U.N.T.S. 3.

142. An amendment of IATTC is probably not feasible because the area and priorities

cific to become members,[143] which would result in an increase of the membership and financial support to the IATTC.[144]

The IATTC has been an established Commission since 1949.[145] The organization and reputation of the Commission strengthens the likelihood that other fishing countries would be inclined to become members.[146] More research is necessary to encourage large fishing countries to become members of such a fishery commission. Research, however, is limited to funds which are provided by existing members; therefore a dilemma exists.[147] Only involved and assiduous negotiations will absolve these problems.

B. Organization of a New Billfish Commission

Billfish are caught throughout the Pacific Ocean.[148] Domestic management has proven to be unsuccessful due to the "highly migratory" nature of billfish.[149] Presently, the ICCAT has jurisdiction over "all waters of the Atlantic Ocean, including adjacent seas."[150] This Commission's jurisdiction must include the entire Pacific Ocean within its research in order to effectively regulate the Pacific billfish.

In addition to adequate jurisdiction, the Commission's success is determined by the quality of its staff.[151] The data compiled by

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would be greatly expanded. This expansion would create new interests from previously uninterested or unaffected countries.

143. The smaller islands in the western Pacific would want to have some negotiating power since their fishermen could be affected. Also, since Japan has such a large fleet, the smaller countries might favor this expanded commission because this could eventually preserve their fishing grounds.

144. The more members in the IATTC commission, the more funds are likely to accrue. Research and enforcement can be expensive. Consequently, more funds facilitate more thorough research.

145. IATTC, May 31, 1949, 1 U.S.T. 230, T.I.A.S. No. 2044, 80 U.N.T.S. 3.

146. Japanese fleets are very helpful in compiling fishing statistics and communicating these to the IATTC. Without the aide of foreign fishing vessels, it would be very difficult to obtain accurate catch statistics.

147. This is a common problem for all organizations. Research is needed but funds are limited. Hopefully, countries will realize the necessity for either expansion of the IATTC or a new commission to which funds will be donated.

148. *See supra* text accompanying notes 13-21.

149. *See supra* text accompanying notes 35-45.

150. ICCAT, May 14, 1966, art. 1, 20 U.S.T. 2887, T.I.A.S. No. 6767, 673 U.N.T.S. 63, 64.

151. The recommended regulatory measures would be based on the findings of research scientists. If the information is inaccurate then the regulatory measures would be totally useless.

the scientists must be reliable to ensure that proper regulatory measures are taken. To assure a competent staff, the Commission should possess the ability to hire its own staff, rather than having its staff appointed by member nations.[152]

Research is also dependent upon adequate funding. The IATTC is funded by contributions and payments which are proportional to the total catch by the parties within the Commission's jurisdictional area.[153] The ICCAT is funded by each party's contribution, equivalent to one thousand United States dollars.[154] Any necessary amount exceeding the original $1,000 is to be contributed according to a percentage of the total catch of the party.[155] Neither of these Commissions currently receives enough revenue to adequately fund their research. In response to this problem, the proposed Pacific Billfish Commission should require a mandatory contribution of at least $5,000. Any further funds should be contributed according to a percentage of the party's total catch within the Pacific Ocean.

The primary function of the proposed Pacific Billfish Commission would be to collect and analyze the statistical information relating to the status of Pacific billfish. The Commission would also study and appraise methods of ensuring the maximum sustainable yield of billfish. Once the data were compiled, the Commission would formulate and implement appropriate regulations.

An additional function of the proposed Commission would be the establishment of a fisheries management plan. The "open access" and international licensing plan[156] could feasibly be utilized for billfish management. Under this plan fishing vessels would purchase international fishing licenses for both tuna and billfish.[157] The provisions of this plan would allow foreign fishermen to fish within a country's EEZ for both tuna and billfish.[158] This plan, once implemented, would also help eliminate the waste which has occurred as a result of domestic regulations. With additional fund-

152. The employment of a staff based on expertise instead of nationality would lead to a neutral staff with the highest level of knowledge.

153. Article 1, section 3 states: "Joint expenses incurred by the Commission shall be paid by the High Contracting Parties through contributions in the form and proportion recommended by the Commission. . . ." IATTC, May 31, 1942, art. I, § 3, 1 U.S.T. 230, T.I.A.S. No. 2044, 80 U.N.T.S. 3.

154. ICCAT, May 14, 1966, art. X, 20 U.S.T. 2887, T.I.A.S. No. 6767, 673 U.N.T.S. 63.

155. *Id.* at art. IX.

156. GREENOUGH, *supra* note 6, at 69.

157. *See supra* text accompanying notes 56-64.

158. *See supra* text accompanying notes 56-64.

ing and a competent staff, this Commission can, through research and regulation, meet the imminent need for the protection of Pacific billfish.

C. Possible Regulations

Appropriate regulations are essential to prevent overfishing of the Pacific billfish.[159] Proposed regulations must take into consideration the divergence which exists between the interests of sportfishing and commercial fishing. Sportfishermen[160] and commercial fishermen[161] would object to regulations equally applicable to both groups.[162] Sportfishermen contend that no catch limitations should be established because their catch is minimal. Commercial fishermen reason that by not including sportfishermen within the regulation limitation, such regulations would in essence be discriminatory. This conflict needs to be resolved through negotiations once regulations are agreed upon. Currently, there are six regulatory devices generally employed by fishery agreements.[163]

1. *Closed Seasons*. The IWC utilizes closed seasons as a means of regulation. Under this scheme, certain species of whales within detailed latitudes and longitudes cannot be hunted during specified months of the year.[164] This regulatory method would probably not be effective applied to the Pacific billfish since the migratory patterns of billfish are not as predictable as those of

159. STATUS REPORTS, *supra* note 5, at 297.

160. Sportsfishermen are those anglers who fish for billfish because it is exciting. Many sportsfishermen travel great distances and spend large sums of money for the chance of catching a large billfish. Pinas Bay, Panama; Cairns, Australia; Cabo Blanco, Peru; Acapulco, Mexico; Kona, Hawaii; and Bermuda are the major big game fishing centers. GREENOUGH, *supra* note 6, at 176. These fishermen want to catch the biggest fish possible on the weakest line possible. The objective is to "fight" the fish and break the previously held record. The largest blue marlin caught was 1,282 pounds on 50 lb. test line off the coast of St. Thomas, Virgin Islands. J. JOSEPH & W. KLAWE, *supra* note 1, at 44. Once the fish is caught many people have the fish "mounted." The fish is frozen and taken to a taxidermist who makes a mold so the mounted fish is the same size as the one caught, but nothing except for the "bill" is original.

161. Commercial fishermens' objective is to catch as many fish as possible in order to maximize his profits.

162. GREENOUGH, *supra* note 6, at 176-78.

163. Western Pac. Regional Council Fishing Management Plan for Billfish and Associated Species (Draft of a meeting in Honolulu, Hawaii, January, 1980).

164. A specific schedule is detailed in the Convention. International Convention for the Regulation of Whaling, Dec. 2, 1946, schedule, 4 Bevans 248, T.I.A.S. No. 1849, 161 U.N.T.S. 72.

whales.[165] Closed seasons would be effective only with a species less migratory than billfish.

2. *Limiting the Number of Boats*. Once a "target area"[166] is ascertained, a limit on the number of boats allowed to fish in that area at any one time could prove to be an effective regulatory device. The difficult task lies in determining how many boats per country would be allowed to fish in a certain area at one time. This decision would have to be determined by the Commission through objective criteria.

3. *Limiting the Number of Fishing Days*. A limit on the number of days a boat could fish within a certain area appears also to be ineffective in regulation of billfish. Previously, the IWC limited the number of days whaling ships were allowed to hunt whales in the Antarctic.[167] Whaling companies, however, purchased larger and faster vessels which were able to cover more area in less time.[168] The whalers worked such long and hard hours that the season became known as the "whaling olympics."[169] This regulatory device applied to billfish would run the risk of promoting a similar "billfishing olympics."

4. *Non-retention*. Releasing fish inadvertently caught is effective only when nets are used. A contrary result occurs when longlines are used.[170] Sixty to seventy-five percent of billfish caught perish before the longline is recovered.[171] Foreign

165. It is easier to ascertain the migratory patterns of whales since they surface frequently. The primary method of ascertaining the migratory patterns of large fish is by tagging the fish caught by researchers or private anglers. Tagging is a process where fish are caught. While in the water, a piece of plastic is affixed to their fin without interfering with their swimming ability. The "tag" specifies where the fish was tagged and the date it was tagged. When the fish is caught by another angler, he hopefully sends the tag to the address specified and states where and when the fish was caught. The data from these occurrences is compiled to help discover the migratory patterns of tuna, billfish and other species.

166. "Target area" is a fishery term meaning the area where the largest amount of specific fish are caught. Fish may gather in a certain area. They may remain there because baitfish, shrimp or other food are in the area.

167. Scarff, *supra* note 3, at 359.

168. *Id.*

169. *Id.*

170. Fish brought aboard by net are still alive and can be inspected for short or otherwise illegal ones.

171. Tuna are heavier than water. They must move a distance equal to their length every second or they will sink and die. Their mode of breathing is by swimming. Billfish are similar but do not have to swim as fast as tuna to live; since it takes so long (24 hours) to bring in some longlines, these fish are usually dead.

fishermen are compelled to release billfish caught within the United States' 200-mile zone.[172] Such regulation has proved to be unsuccessful since the majority of billfish die before being brought aboard the vessel. Non-retention has not been effective in regulating the catch of billfish.

5. *Quotas*. The use of quotas to restrict the number of species caught may be effective for regulating billfishing. The quota could be applied in specific locations. Once a fishing vessel has reached its quota, it would be compelled either to cease fishing for a particular species or leave the area.

6. *Limiting the Hooks or Style of Fishing Gear*. A limit on the number of hooks allowed to fish a certain area could be utilized as an effective regulatory device. An alternative hook size would also be feasible since tuna are generally smaller than billfish. A smaller hook would minimize the number of billfish inadvertently caught.

Additional research is necessary to determine the most effective devices for the regulation of the Pacific billfish. Regulations, however, are only as effective as their enforcement. An enforcement proposal must therefore be examined according to its feasibility.

D. Enforcement of Regulations

The most feasible enforcement plan would be one which would utilize mutual enforcement with international supervision.[173] Such a plan would allow parties to the Commission to inspect, seize and arrest violators of the agreement. Under this plan the arresting State could try the offense using international standards.[174] Thus, sanctions would be levied uniformly.

The IATTC and the ICCAT have very general enforcement measures.[175] Neither Commission specifies the appropriate sanction to be applied when a violation occurs.[176] Under this proposal the Commission would list penalties and fines to be imposed. Uni-

172. *See, e.g.* Metz, *Accountants Tackle Swordfish, TV Crew, Feds and 29 Japanese*, Wall St., J. Oct. 26, at 1, col. 3. *See also*, Fishery Conservation and Management Act of 1976, 16 U.S.C. § 1824 (1976).

173. *See supra* text accompanying notes 130-37.

174. If only the State of the nation or flag State were allowed to try the offenders, the possibility of favoritism is present.

175. *See* treaty provisions cited *supra* note 115.

176. *Id.*

form sanctions would also decrease any discriminatory treatment of fishermen. This system of mutual enforcement according to international standards appears to be a workable solution to enforcement.

A large fishing country would probably not be anxious initially to become a member of the proposed Pacific Billfish Commission. It is likely that membership would decrease the country's fishing productivity through regulatory limitations. The large fishing powers which include Japan, Korea, Mexico, Taiwan and the United States must be convinced that regulation and research are necessary to assure future worldwide availability of billfish. Although present profits may decrease, future availability assures long-term profits for these countries.

V. CONCLUSION

The institution of a Pacific Billfish Commission to research and eventually regulate billfish is a necessity. Fishing fleets are increasing in size while fishery resources are not.[177] Research data has indicated that Pacific blue marlin are presently overfished relative to the supply.[178] Additional research with respect to all varieties of billfish is necessary in order to determine necessary measures for protection of these stocks. Since the largest number of billfish is concentrated in the Pacific,[179] that area is the most logical area within which to implement this research. Imminent destruction of these species can be prevented only by implementing timely regulations.

Domestic management has proved to be unsuccessful due to the migratory nature of billfish.[180] International management is necessary in order to establish an effective method of research and regulations. The ICCAT, established to research tuna and billfish in the Atlantic, has proved to be inadequate in regulating billfish.[181] The IATTC possesses an efficient and productive staff and may be expanded to provide for billfish regulations.[182] The effectiveness of

177. Mexico has ordered ten additional longliners which will be delivered in 1982. Already eight Mexican longliners and an unknown number of Korean longliners are currently operating out of Ensenada, Baja California, Mexico. NOAA, TUNA NEWSLETTER 4 (No. 77 winter 1982).

178. STATUS REPORTS, *supra* note 5, at 297.

179. *See* table cited *supra* note 23.

180. *See supra* text accompanying notes 35-45.

181. *See supra* text accompanying notes 99-105.

182. *See supra* text accompanying notes 95-98.

the IATTC has been restricted by limitations on funding.[183] A licensing program used in connection with the "open-access" management plan may be a solution to this problem.

A Pacific Billfish Commission for the regulation of billfish will be effective only through the support of those countries which represent dominant fishing powers. By providing convincing evidence as to the need for protecting these species in order to assure long-term yield, these countries will have an economic, as well as a moral, incentive to support this Commission.

A total reduction in the billfish stocks should not be necessary before more research is conducted and some form of regulation is implemented. Recognizing the inevitable delay which occurs in ratification of treaties, negotiations to establish the Commission should commence prior to the Pacific billfish becoming an endangered species. This would facilitate effective regulation over billfishing.

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183. A. KOERS, *supra* note 96, at 96.