

Note: The following information, which was provided to members of Congress provides an overview of the issues and current status of the controversy surrounding fishing for tuna in association with dolphins.

Congressional Research Service
Issue Brief

96011: Dolphin Protection and Tuna Seining

Updated March 4, 1997

Eugene H. Buck
Environment and Natural Resources Policy Division

CONTENTS

SUMMARY

MOST RECENT DEVELOPMENTS

BACKGROUND AND ANALYSIS

- Tuna in the Eastern Tropical Pacific
 - Yellowfin Tuna Purse Seine Fishery
 - Dolphin Populations
 - ETP Marine Ecology
 - Regulation of the ETP Yellowfin Tuna Seine Fishery by the MMPA
 - Dolphin-Safe Tuna
 - Tuna Sanctions and Trade Obligations
 - General Agreement on Tariffs and Trade
 - North American Free Trade Agreement
 - The 1992 La Jolla Agreement
 - Bycatch and Associated Ecosystem Concerns
 - The 1995 Declaration of Panama
 - Stress on Dolphins from Chase and Encirclement
- Issues in the 104th Congress
 - Legislative Approaches
 - Similarities
 - Differences

LEGISLATION

CONGRESSIONAL HEARINGS, REPORTS, AND DOCUMENTS

FOR ADDITIONAL READING

SUMMARY

Schools of yellowfin tuna associate with dolphins in the eastern tropical Pacific (ETP) Ocean. U.S. fishermen began to exploit this resource in the late 1950s by encircling the dolphin schools with large purse seine nets to capture the yellowfin tuna swimming beneath the dolphins.

Despite efforts to release the entrapped dolphins (which were of no commercial value to the U.S. fishermen) while landing the tuna, dolphins became entangled in the nets and drowned. By the early 1970s, as many as 300,000 or more dolphins were estimated to have been drowned each year by U.S. tuna seiners fishing in the ETP.

From its inception in 1972, one of the goals of the Marine Mammal Protection Act (MMPA) was to reduce the incidental mortality of dolphins in the ETP tuna fishery. Strict regulations promulgated under MMPA authority set standards for tuna seining and motivated technological improvements that substantially reduced dolphin mortalities in this fishery -- by 1977, annual dolphin mortality caused by U.S. tuna seiners had declined to about 25,450 animals. Despite the extensive mortalities, no ETP dolphin population has been listed as endangered or threatened under the U.S. Endangered Species Act. However, two ETP dolphin stocks have been listed as depleted under the MMPA.

The ETP purse seine fishery was dominated by U.S. vessels through the 1960s and into the 1970s. By the 1980s, the U.S. fleet was declining, and more foreign vessels were entering the fishery. With this shift, total dolphin mortality began to increase again until more than 100,000 dolphins were killed by foreign tuna purse seine vessels in 1986. In April 1990, the three largest U.S. tuna processors responded to concerns over dolphin mortality by announcing that they would no longer purchase tuna caught in association with dolphins. This action caused many U.S. tuna seiners in the ETP to relocate to the western Pacific. Congress responded by enacting the Dolphin Protection Consumer Information Act to set standards for labeling tuna as "dolphin-safe," and the International Dolphin Conservation Act of 1992 to prohibit the sale, purchase, transport, or shipment in the United States of any tuna that was not dolphin-safe after June 1, 1994.

In response, foreign nations strengthened their programs for protecting dolphins during tuna seining through the non-binding International Dolphin Conservation Program developed by the Inter-American Tropical Tuna Commission. However, foreign nations barred from the U.S. tuna market became increasingly vocal that the United States should recognize their success in reducing dolphin mortalities by reopening the U.S. market to their tuna.

A Declaration of Panama was signed by 12 nations including the United States in October 1995, agreeing to modify U.S. law in exchange for binding commitments for further progress in dolphin protection. Four bills -- H.R. 2823, H.R. 2856, S. 1420, and S. 1460 -- were introduced in the 104th Congress to implement the Declaration of Panama. However, differences exist on the details of how U.S. law should be changed, particularly whether the definition of "dolphin-safe" tuna should be modified.

When the 104th Congress adjourned, the House had passed H.R. 2823, while the Senate had reported S. 1420. This issue will be taken up in the 105th Congress -- H.R. 408/S. 39 have been introduced.

MOST RECENT DEVELOPMENTS

The 104th Congress adjourned without taking final action on this issue. In the 104th Congress, H.R. 2823 was passed by the House, while S. 1420 was reported by the Senate Committee on Commerce, Science, and Transportation. In the 105th Congress, H.R. 408 was introduced in the House on Jan. 9, 1997, while S. 39 was introduced in the Senate on Jan. 21, 1997. (For daily or weekly summary updates providing more current information on marine and freshwater fisheries and marine mammal issues, send an e-mail message to gbuck@crs.loc.gov requesting to be added to the summary distribution list.)

BACKGROUND AND ANALYSIS

Tuna in the Eastern Tropical Pacific

In 1949, two bilateral Conventions were concluded to coordinate and manage expanding U.S. interests in tuna harvests in the eastern tropical Pacific (ETP) Ocean, a 20 million square mile area off the coast of Latin America westward to Hawaii. The United States signed a Convention with the Republic of Costa Rica for the Establishment of an Inter- American Tropical Tuna Commission (IATTC) and a Convention with Mexico for the Establishment of an International Commission for the Scientific Investigation of Tuna. In 1950, these agreements entered into force and were implemented domestically by the Tunas Convention Act of 1950. The IATTC was to carry out research on tuna and other fish taken by tuna vessels and to make recommendations for actions to maintain populations of these fish. In subsequent years, additional ETP tuna fishing nations became parties to the IATTC agreement, and the influence of the IATTC increased. With the increased reliance on the IATTC agreement, the Mexican bilateral agreement was terminated in 1965. About 8 million square miles of the ETP is designated as the IATTC's Yellowfin Regulatory Area, wherein most of the yellowfin tuna purse seine fishery is conducted.

Yellowfin Tuna Purse Seine Fishery

For a variety of reasons, schools of large, mature yellowfin tuna regularly congregate and swim beneath schools of dolphins in the ETP. U.S. fishermen began to exploit this association in the late 1950s by encircling the dolphin schools with large purse seine nets to capture the yellowfin tuna swimming beneath the dolphins. Purse seine nets may be a mile in length and hang as deep as 600 to 800 feet beneath floats on the ocean surface. After a dolphin school is sighted, speedboats are launched for a high-speed chase to tire and herd the dolphins into a tight group amenable to net encirclement -- chase and herding lasts an average of 20 minutes, with some extreme chases lasting more than an hour. The purse seiner surrounds the dolphin school with the net, with a large skiff holding one end of the net stationary. Upon encirclement, the bottom of the net is drawn together (pursed) by cables to keep tuna from diving beneath the net to escape.

The United States provided an expanding market for tuna as U.S. per capita tuna consumption more than doubled between 1950 and 1965 until, by 1974, more than a quarter of all fish consumed in the United States was tuna. Approximately 30% of the world's yellowfin tuna harvest is taken from the ETP. The U.S. tuna seiner fleet was at its peak vessel number in 1979 when 140 purse seiners with a carrying capacity of 102,000 metric tons fished for ETP yellowfin tuna. Changes in the 1980s to more efficient, larger vessels reduced the U.S. ETP tuna seiner fleet to about 65 vessels with a combined capacity of about 100,000 metric tons by 1990.

However, despite efforts to release the entrapped dolphins (which were of no commercial value to the U.S. fishermen) while landing the tuna, dolphins became entangled in the nets and died by asphyxiation, since dolphins are air-breathing mammals. IATTC scientists claim that dolphin mortality is easily noticed and documented (i.e., little unseen mortality occurs) since dolphin carcasses float and are visible from a great distance. Others contest this statement, believing that not all dolphin carcasses float since, if a dolphin's lungs fill with water, the carcass should sink, only resurfacing after decomposition gasses accumulate.

Tuna seiners took early action to reduce dolphin mortalities. In 1957, acting on suggestions from experienced European purse seine fishermen, tuna seiners modified procedures to back-down vessels so as to release dolphins over the top of the purse seine net. In 1971, tuna seiner Harold Medina developed and introduced a special panel for seine nets that further reduced dolphin entanglement. These two methods were improved further after passage of the Marine Mammal Protection Act in 1972. Despite these efforts and prior to 1973, estimations based on limited data indicated that more than 300,000 dolphins may have died each year during U.S. purse seine fishing for

yellowfin tuna in the ETP.

Dolphin Populations

Dolphin populations in the ETP, particularly northeastern spotted and eastern spinner dolphins, declined due to mortalities from early tuna seining. The population sizes appear to have stabilized, but more years of monitoring will be required to determine whether these populations are recovering or not. About 88% of ETP dolphin encirclements by tuna seiners were conducted on spotted dolphins. Currently, eastern spinner dolphin stocks are estimated to be between one-half and one-fifth of their original abundance, while northeastern offshore spotted dolphin stocks are estimated to be about one-fifth of their original abundance. However, critics question the ability of managers to accurately back-calculate original dolphin abundance estimates, due to data limitations.

Under the authority of the Marine Mammal Protection Act (MMPA), eastern spinner dolphins were declared depleted on Aug. 26, 1993; northeastern offshore spotted dolphins were declared depleted on Nov. 1, 1993. Despite the estimated extensive mortalities, however, no ETP dolphin populations have been listed as endangered or threatened under the U.S. Endangered Species Act, although petitions for listing were submitted and denied. However, critics of current policy suggest that these two dolphin populations could warrant a threatened or endangered listing if recovery continues to prove elusive. Estimates of ETP dolphin populations of most concern, published in 1993, were northeastern spotted dolphins (588,700 to 970,400 animals) and eastern spinner dolphins (389,500 to 938,300 animals). Combined populations of all species of dolphins in the ETP fishery may total from 9.5 million to 10 million animals.

ETP Marine Ecology

The IATTC has conducted research on the food habits of dolphins, tunas, and other large open-ocean predators. Preliminary results indicate that yellowfin tuna are primarily daytime feeders, while spotted and spinner dolphins feed during the nighttime as well as at dawn and dusk. The two dolphin species differ in their prey -- spinner dolphins feed more often on small mid-water fishes such as lanternfish, while spotted dolphins feed on a wider variety of near-surface and mid-water fishes and squids. Mature yellowfin tuna feed primarily on near-surface fishes, squids, and swimming crabs. Both dolphin species and mature yellowfin tuna are generalist feeders and do not seek out specific prey species. Similar food habits may contribute to formation of the tuna-dolphin aggregations, but this appears not to be the major cause for such association.

Natural predators of dolphins and mature yellowfin tuna include large sharks

and billfishes and some small whales such as false killer whales. Natural predation rates have not been estimated for either of the dolphin species or the yellowfin tuna.

Regulation of the ETP Yellowfin Tuna Seine Fishery by the MMPA

From its inception in 1972, one of the goals of the Marine Mammal Protection Act was to reduce the incidental mortality of dolphins in the ETP yellowfin tuna purse seine fishery to approach zero. The MMPA gave management authority for dolphins to the National Marine Fisheries Service (NMFS), within the National Oceanic and Atmospheric Administration in the Department of Commerce. Strict regulations promulgated by NMFS under MMPA authority set standards for tuna seining and motivated technological improvements in purse seine methods that substantially reduced dolphin mortalities in this fishery. By 1977, annual dolphin mortality attributable to U.S. tuna seiners had declined to about 25,450 animals (Table 1). Tuna industry sources, however, suggest that the dramatic 1972-1977 mortality decline for U.S. vessels was partially the result of better data collection methods validating a lower actual mortality, although critics consider this unlikely, given pre-1972 fishing techniques (notably no required back-down), which almost certainly resulted in higher mortality than was observed post-1972.

The ETP purse seine fishery was dominated by U.S. vessels through the 1960s and into the early 1970s. By the 1980s, the U.S. fleet was consolidating as high interest rates and increasing fuel costs encouraged the replacement of older vessels by fewer, larger, more efficient tuna seiners. A strong El Nino event and a growing Asian cannery industry in the early 1980s induced more U.S. vessels to relocate to the Western Pacific. In addition, some U.S. tuna seiners were sold and reflagged in foreign nations, and many inexperienced foreign operators entered the fishery. With these shifts, annual dolphin mortality began to increase again until more than 100,000 dolphins were killed by foreign tuna purse seine vessels in 1986. As foreign-caused dolphin mortalities rose, various U.S. interests sought ways to encourage or pressure foreign tuna harvesters to place more emphasis on reducing dolphin mortalities.

Meanwhile, the IATTC coordinated efforts to disseminate information to foreign tuna fleets concerning how purse seine nets might be modified to pose less of an entanglement threat for dolphins, and how fishing methods could be modified to allow more dolphins to escape without obvious injury after encirclement. In 1977, the IATTC established a tuna-dolphin investigation whose objectives included reduction of dolphin mortality and ensuring the survival of the dolphin stocks involved in the fishery.

Congress responded in 1984 and 1988 by amending the MMPA to establish

comparability standards for foreign tuna harvesters interested in exporting their catch to the U.S. market. However, with the number of U.S. vessels in the ETP declining, the comparability standards became progressively more difficult for foreign nations to meet. After the 1988 amendments, the threat of embargoes and potential loss of the U.S. tuna market encouraged the foreign tuna industry to develop more non-U.S. markets for their tuna. In addition, IATTC extension services, gear research, and the initiation of dolphin mortality limits in 1992 played a major role in reducing mortality by foreign seiners. A more pessimistic description of the resulting situation in the foreign tuna industry mentions trade havoc, collapsed global tuna prices, capital flight, soured international relationships, decimated fleets, and a near collapse of the ETP fishery's international management regime.

Current (1995) ETP dolphin mortality levels are well below the potential biological removal (PBR) levels for marine mammals mandated by the MMPA for U.S. fisheries other than ETP tuna seining. PBRs are designed to be conservative limits that would allow marine mammal populations to return to and be maintained at or above their optimum sustainable population level. The total PBRs for all ETP dolphin stocks in 1996 is greater than 50,000 dolphins, while current mortality is less than 4,000 animals. Both NMFS and IATTC scientists agree that current levels of dolphin mortality are low enough that the populations will recover, given that certain assumptions are satisfied, including that the chase and encirclement do not have a negative effect on the dolphins.

Dolphin-Safe Tuna

After the 1988 MMPA amendments, some consumer groups began to suggest a consumer boycott of tuna caught by encircling dolphins with purse seines. In April 1990, the three largest tuna processors supplying the U.S. market responded to continuing public concerns over dolphin mortality by announcing that they would no longer purchase tuna caught in association with dolphins. This action caused all but 11 of the 35 U.S. tuna seiners operating in the ETP to relocate to the western Pacific, where the dolphin-encirclement method of tuna fishing was not reported to occur, in the nine-month period following the processors' announcement. Congress responded by enacting Title IX of P.L. 101-627, the Dolphin Protection Consumer Information Act, to set standards for labeling tuna as "dolphin-safe." The International Dolphin Conservation Act of 1992, P.L. 102-523, prohibited the sale, purchase, transport, or shipment in the United States of any tuna that was not dolphin-safe after June 1, 1994. By early 1996, only four or five large U.S. purse seiners continued to fish for yellowfin tuna in the ETP.

Tuna industry sources, however, claim dolphin-safe labeling did little to promote any further decline in ETP dolphin mortalities, because most foreign

tuna seiners continued to encircle dolphins and could not qualify for the label. IATTC data support this assertion, showing that, while tonnages of tuna caught on dolphins and number of sets on dolphins remained steady, dolphin mortality declined -- probably due to increasing skill of the seiners. Those vessels that tried alternative fishing methods found they would lose as much as \$100,000 per trip due to the difference in value between large yellowfin tuna and small skipjack/juvenile yellowfin tuna. Instead, the industry claims that an increased understanding, gained primarily through IATTC educational efforts under the 1992 La Jolla Agreement, of how to avoid dolphin injury and mortality and prevent resource waste was a more effective incentive. Animal protection advocates, however, note that dolphin sets did decrease by 27% and that IATTC intensified its educational efforts after dolphin-safe tuna measures were enacted. Thus, these critics of the tuna industry claim that dolphin-safe labeling did indeed provide some incentive for increased attention to reducing dolphin mortalities, although foreign seiners may also have been attempting to preclude U.S. tuna embargoes by reducing dolphin mortalities rather than eliminating dolphin sets.

Although total sales volume of tuna in the United States is reported to have declined between 20% and 25% since the dolphin-safe policy was implemented in 1990, no studies have attempted to identify the reasons. Some contributing factors may include consumer resistance as the canned tuna product changed from an 80% yellowfin/20% skipjack pack to an 80% skipjack/20% yellowfin pack and possible aversion to dolphin-safe labeling.

Critics of the dolphin-safe labeling policy have pointed out that these standards are misleading in that they allow tuna caught outside the ETP to be labeled as "dolphin-safe" even though the fisheries, and any dolphin mortalities, are unobserved. For example, tuna caught by gillnets in the Indian Ocean can be labeled dolphin-safe even though significant numbers of dolphins may be killed in this fishery. ETP tuna caught in purse seine sets where independent observers have verified that no dolphin mortality occurred, however, are not considered "dolphin-safe." Thus, "dolphin-safe," as currently defined, does not mean that no dolphins are killed to catch the tuna, but that no dolphins are surrounded by purse seines in the ETP to catch the tuna. However, the intent of the dolphin-safe provisions was to address what critics of tuna seining saw as an inherently flawed fishing method (surrounding dolphins by purse seines to catch tuna) in the ETP rather than to enact an industry-wide mortality standard.

Tuna Sanctions and Trade Obligations

General Agreement on Tariffs and Trade. In 1990, Mexico requested that the General Agreement on Tariffs and Trade (GATT) parties convene a dispute panel to consider whether the United States was inconsistent with its

obligations under GATT by imposing embargoes on tuna imports under the authority of the MMPA. In August 1991, the GATT dispute panel found that the United States had acted inconsistently with its obligations under GATT (for further information, see CRS Report 91-666 ENR, Tuna and the GATT). However, GATT's dispute panel suggested that sanctions could be permissible if they were designed to ensure compliance with a multilateral agreement. A subsequent challenge by the European Community on embargo provisions applicable to tuna trade through intermediary nations also resulted in a dispute panel finding that the United States had acted inconsistently with GATT obligations. While the United States could unilaterally block any punitive sanctions for non-conformance in the former GATT regime, such self-protective recourse is not available under the new World Trade Organization.

North American Free Trade Agreement. Because of the conflict between the United States and Mexico over dolphin protection, negotiators of the North America Free Trade Agreement (NAFTA) chose to exclude discussion of controversial tuna- dolphin issues from this agreement.

The 1992 La Jolla Agreement

After years of discussion and 6 months of focused work, ETP tuna fishing nations concluded a non-binding international agreement establishing an International Dolphin Conservation Program (IDCP) under the auspices of the IATTC at a special 1992 meeting in La Jolla, CA. Annual limits on incidental dolphin mortality were established as 19,500 in 1993, 15,500 in 1994, 12,000 in 1995, 9,000 in 1996, 7,500 in 1997, 6,500 in 1998, and less than 5,000 in 1999. In addition, the Program required: 1) 100% observer coverage, with at least 50% of the observers for each nation being from the IATTC observer program; 2) a review panel (that would include representatives of environmental and industry groups) be established to monitor fleet compliance with dolphin mortality limits; 3) a scientific research and education program be expanded to find methods of catching large yellowfin tuna without encircling dolphins; and 4) a scientific advisory board be established to assist the IATTC in coordinating, facilitating, and guiding research on reducing dolphin mortalities. In addition, dolphin mortality limits were imposed for individual tuna seiners. Each tuna seiner operates with an individual Dolphin Mortality Limit (DML), which is calculated by dividing the total annual mortality quota by the number of seiners fishing. If a seiner reaches its DML, it must cease fishing. Subsequently and in recognition of progress in mortality reduction, 1994 and 1995 annual mortality limits were reduced to 9,300 animals.

U.S. tuna seiners, following the La Jolla Agreement, operated under domestic regulations limiting their total annual mortality quota to no more than the total actual mortality recorded for the previous year. This rapidly pushed the U.S. quota lower. Thus, when divided into DMLs, careful U.S. seiners

were less secure and became more likely to be penalized by an early closure of the fishery if a few sloppy operators far exceeded their individual DMLs with catastrophic sets. As the total U.S. quota declined, this increased risk further discouraged U.S. seiner participation.

Environmental groups, however, are concerned that, although 53 major (e.g., non-cooperation with an observer) and hundreds of minor infractions of the La Jolla Agreement have been reported, sufficient enforcement, so far, has been lacking -- with few penalties imposed. Such an enforcement record, they maintain, provides little incentive for compliance. IATTC has no enforcement powers, but must rely on each participating nation's national justice system having jurisdiction over a vessel to determine whether a violation occurred and, if so, to assess an appropriate penalty under its domestic law. IATTC maintains, however, that it is premature to conclude much about enforcement and compliance for a program that had been operating for barely 2 years. IATTC also notes that the justice systems of other nations do not move any more speedily than the U.S. system. The IATTC points out that for 17 infractions involving non-cooperation with the observer, 2 have resulted in suspended licenses, 1 resulted in a warning, 3 resulted in sanctions that have not yet been decided upon, 3 resulted in decisions that no sanctions were warranted, and 8 are still in judicial review.

Bycatch and Associated Ecosystem Concerns

The two primary alternative (dolphin-safe) methods of harvesting yellowfin tuna in the ETP are school sets (surrounding schools of free-swimming yellowfin tuna with seines) and log sets (encircling logs and other floating debris to capture yellowfin tuna that tend to congregate beneath such material). Comparative bycatch data from 1994 are shown in Table 2, indicating the tradeoffs in bycatch discards and tuna harvest for the three types of sets.

At the June 1995 meeting of the IATTC, six parties to the 1992 La Jolla Agreement issued a statement expressing concern that the increased use of "dolphin-safe equals no encirclement" fishing methods would harm biodiversity by increasing the discard of juvenile tuna and the bycatch of non-target species, such as billfish, sharks, mahi-mahi, and sea turtles (For further information on bycatch concerns generally, see CRS Report 90-575 ENR, *Waste from Fish Harvesting and Processing: Growing Environmental Concerns*). These nations endorsed fishing for tuna by encircling dolphins with purse seines as the most efficient method for harvesting tuna stocks and other ETP living resources, and argued that U.S. embargoes on tuna not caught by dolphin-safe methods lack a scientific basis and are counterproductive to broader marine conservation objectives.

Some environmental groups, however, believe that the total number of

non-dolphin sets, and thus also bycatch, was actually greater in the ETP in the past due to the larger number of vessels fishing the area prior to the dolphin-safe era. Since current tuna stocks are robust, they argue that bycatch could not have been a severe problem for the ecosystem. Even with a fishery-wide switch to non-dolphin sets, these groups do not foresee a larger number of vessels fishing the ETP than in the past.

The IATTC, however, has pointed out that this argument runs counter to fishery data that suggest that the high catches of small tuna from non-dolphin sets in the 1970s resulted in overfishing of yellowfin tuna. Yellowfin catches declined 30%, and boats were either forced to leave the area or cease fishing. The IATTC argues that, if the fishery were to convert to 100% dolphin-safe methods, these problems for yellowfin tuna stocks would become even worse. Critics of the IATTC's concerns suggest that 1970s non-dolphin sets were probably primarily log sets and that fish-finding technology has advanced sufficiently since the 1970s to enable fishers to rely more today on school sets, with their mid-level bycatch, rather than high-bycatch log sets.

Those most concerned with school and log set bycatch may presume that no change can or will be made in the way log and school sets are currently conducted that would reduce school and log set bycatch. Thus, critics believe that allowing dolphin sets will not indirectly solve the bycatch problem, but that the IATTC should propose guidelines or take other direct mitigating action that might reduce bycatch in non-dolphin sets.

The 1995 Declaration of Panama

In September 1995, representatives of five major environmental organizations (the Center for Marine Conservation, the Environmental Defense Fund, Greenpeace, the National Wildlife Federation, and the World Wildlife Fund) opened discussions with Mexican officials exploring the potential for a multilateral agreement that might both strengthen international dolphin conservation efforts and lift U.S. tuna embargoes. The outcome of these discussions was a Declaration of Panama, signed by 12 nations including the United States on October 4, 1995. The Panama Declaration endorses the success of the La Jolla Agreement and adjusts the marketing policy of dolphin-safe tuna in recognition of this success. In exchange for modifications of U.S. law, foreign nations agreed to modify and formalize the La Jolla Agreement as a binding agreement. Changes in U.S. law envisioned included: 1) lifting of primary and secondary embargoes on tuna caught in compliance with the La Jolla Agreement; 2) permitting access to the U.S. market for all tuna (both dolphin-safe and non-dolphin-safe) caught in compliance with the La Jolla Agreement by IATTC member nations or nations that had initiated steps to become IATTC members; and 3) redefining "dolphin-safe" to include ETP tuna caught in purse seine sets in which no

dolphin mortalities were observed.

Provisions of the binding agreement that would follow changes in U.S. law included commitments by signatory nations to: 1) adopt conservation and management measures to ensure long-term sustainability of tuna and other living marine resources of the ETP; 2) assess the catch and bycatch of juvenile yellowfin tuna and other living marine resources of the ETP and take steps to reduce or eliminate such bycatch; 3) implement the binding agreement through enactment of domestic legislation and/or regulations; 4) enhance mechanisms for reviewing compliance with the IDCP; 5) establish annual stock-specific quotas for dolphin mortality based on minimum population estimates; 6) limit total annual dolphin mortality to less than 5,000 animals; 7) establish a system of incentives for vessels' captains encouraging further reductions in dolphin mortality; and 8) establish and/or strengthen national scientific advisory committees to provide advice on needed research.

Without significant changes in U.S. law, Latin American nations threaten to abandon the IDCP, possibly resulting in significant increases in dolphin mortality. In mid-March 1996, in frustration with the slow pace of U.S. action on the Declaration of Panama, Mexican tuna fishermen announced that they would no longer participate in the IATTC's observer program nor abide by the IDCP dolphin mortality limits, and filed administrative petitions to carry observers in a Mexican national program. The Mexican government has not yet responded to this industry action. Subsequently, the Mexican fleet has agreed to carry IATTC observers, but abide by Mexican national mortality limits rather than IDCP limits.

The five environmental groups have pointed to the following positive aspects of the Declaration of Panama: 1) it would avoid the collapse of the current IDCP program with its independent observer monitoring and individual vessel mortality limits; 2) the total mortality limit of 5,000 dolphins would be achieved immediately rather than in 1999, and restrictive per-stock limits would be instituted for the first time internationally; 3) it would increase attention to the problem of bycatch that occurs in dolphin and non-dolphin sets; and 4) it lessens some of the current disparity in tuna labeling, which allows tuna caught outside the ETP with methods that are known to kill dolphins to be labeled as "dolphin-safe," and yet does not allow ETP tuna caught in dolphin sets with zero mortality to be so labeled. On this last point, critics point out that the disparity in labeling is lessened by weakening standards in the ETP to allow tuna to be caught by methods (i.e., chase and encirclement) that preliminary evidence indicates may be harmful to dolphins.

Stress on Dolphins from Chase and Encirclement

Dolphins expend enormous energy executing evasive maneuvers and attempting to escape the chase and encirclement by tuna seines. Animal protection advocates along with various scientists and environmentalists contend that the repetitive chase, tiring, herding, and encirclement of dolphins by tuna seiners is stressful to the animals, and that adverse, stress-related physiological problems may put dolphin populations at risk by increasing mortality and lowering birth rate. Preliminary and indirect evidence tends to suggest that dolphins may be negatively affected by repetitive chase and encirclement. More specifically, stress in this fishery appears to be associated with dolphin dental resorption, hypocalcemia, delayed sexual maturity and reduced pregnancy rates, darkened adrenal cortices, non-entanglement mortality, and enhanced analgesic behavior in the nets. Animal protection advocates maintain that any increase in encirclement of dolphins by purse seines would increase such risk. Critics of the tuna industry, in particular, argue that chase and encirclement of possibly several million dolphins each year (some of which are likely set upon repeatedly) cannot be beneficial to these populations. These advocates also argue that the lack of firm evidence that dolphin populations are recovering in response to lower mortalities may indicate that other factors, possibly stress, continue to negatively affect these populations.

In 1992, the National Academy of Sciences found no direct evidence of harm associated with chase and encirclement; however, stress to dolphins from chase and encirclement had not been extensively studied, and implications of any stress on individual animal and dolphin populations had not been determined. Others suggest that dolphins learn what to expect from, and adapt to, encirclement and release during tuna seining. These sources suggest that the more nervous and apparently stressed dolphins may be those that have never been encircled previously. However, the presence or absence of outward behavioral symptoms of stress may not correlate well with whether dolphins have incurred long-term physiological effects of stress.

Differences of opinion over how important this concern for dolphin stress might be would become the basis for major differences between various environmental and animal protection groups supporting tuna-dolphin legislation in the 104th Congress. Some environmental and animal protection groups have argued that the potential harm to the dolphins due to stress may put population recovery at risk; other environmentalists have argued that the potential harm due to stress (as yet unproven) does not outweigh the known harm of high mortalities of bycatch species in "dolphin- safe" sets. Critics of continued dolphin encirclement argue that, while dolphin mortality attributable to purse seining has been minimized, minimal effort has been expended to achieve similarly plausible reductions in incidental bycatch from school and/or log sets. These critics further argue that mitigation of excessive bycatch should be attempted before lessening the

protection currently afforded ETP dolphins.

Issues in the 104th Congress

By 1995, U.S. tuna seiners operating in the ETP were prohibited from encircling three of the ten stocks of ETP dolphins, had a quota of only 105 dolphin mortalities, and could not market in the United States any tuna caught by encircling dolphins. Thus, the remaining five U.S. tuna seiners in the ETP did not make any sets on dolphins during 1995 and U.S. dolphin mortality was zero.

At an oversight hearing, held by the House Resources Subcommittee on Fisheries, Wildlife, and Oceans on June 22, 1995, a Department of State witness stated that, although U.S. trade embargoes had been successful in reducing dolphin mortalities, their success indicated that embargoes are no longer necessary. In addition, IDCP participants remained subject to embargoes with no prospect for relief, despite their excellent performance in reducing dolphin deaths. The State Department advocated three amendments to the MMPA: 1) exempting nations participating in the IDCP from the threat of U.S. embargoes on tuna and tuna products; 2) allowing U.S. tuna seiners to participate in the ETP yellowfin tuna fishery on an equal footing with foreign seiners; and 3) allowing U.S. citizens to serve as captain or crew on foreign seiners to help spread expertise necessary to further reduce dolphin mortality.

IATTC testimony at the same June 22, 1995 hearing included expressions of concern that some nations might withdraw from the IDCP if U.S. tuna embargoes were continued and presented data on the greatly increased catch of immature tuna and non-target bycatch by dolphin-safe fishing alternatives. IATTC's conclusions were that between 10 million and 25 million undersize yellowfin tuna with no commercial value could be discarded dead each year if encirclement of dolphins was totally replaced by school and log sets. IATTC further testified that if incidental mortalities of dolphins in the ETP tuna seine fishery were treated the same as the incidental take of other marine mammals authorized under the MMPA amendments of 1994 (P.L. 103-238), the permissible annual allowable mortality and serious injury of dolphins would likely exceed 50,000 animals.

Critics counter the IATTC's claims that excessive juvenile tuna bycatch would occur under a totally dolphin-safe regime by pointing out that this might occur only if no mitigation were implemented for school and log sets similar to efforts taken to minimize dolphin mortality in purse seine sets. In addition, these critics point out that allowable incidental takes under the MMPA are not adjusted to account for stress such as occurs during chase and purse seine encirclement of dolphins. In addition, the potential biological removal (PBR) levels under the MMPA for the two depleted ETP dolphins stocks (upon which the majority of purse seine sets are made) would

be significantly less than 50,000 animals each year.

At the June 22, 1995 hearing, Earth Island Institute (EII) presented testimony, representing 16 environmental and animal protection organizations (including Defenders of Wildlife and the Humane Society of the United States), arguing that to ease U.S. tuna embargoes would be contrary to achievement of the MMPA's goal of approaching a zero mortality and serious injury rate incidental to commercial fishing, and that harassment and stress of dolphin populations were important considerations. EII stated that dolphin-safe tuna measures were responsible for achieving a substantial reduction in dolphin mortalities and that opening the U.S. market to tuna caught by encircling dolphins would permit dolphin deaths to almost double, since IDCP limits were substantially in excess of current dolphin mortality totals. EII also argued against IATTC management of dolphin conservation through the IDCP as a conflict of interest since the IATTC's primary role was sustainable tuna production. In addition, the IDCP was not based on a binding agreement, and to forsake U.S. embargoes would set a dangerous precedent for other environmental sanctions in U.S. law as a means to encourage responsible international environmental action.

The IATTC counters these claims. It notes that total mortality is mainly the result of two factors: the effort (number of sets) and the fishermen's performance (mortality per set). Dolphin-safe measures were an attempt to reduce the number of sets on dolphins; if these measures were responsible for the 97% decline in dolphin mortality since 1986, then one would expect to see a comparable decline in effort. The number of dolphin sets, however, has declined only 27%, while the performance of the fishermen has improved dramatically and the mortality per set has declined by 96%. IATTC argues that, since the fishery lowered dolphin mortality to about 3,274 animals in 1995 when the limit was 9,300, it is not reasonable to expect that mortality would double if the total limit was lowered to 5,000 and dolphin "per-stock" mortality limits were even more restrictive. The IATTC argues that its mandate includes both the conservation of tuna and dolphins and, given the large role that the IATTC's program has had in reducing dolphin mortality, its concern for dolphin conservation should be self-evident. Critics of IATTC, however, claim that no incentive, other than the enactment of dolphin-safe legislation, can be shown to coincide with the improved performance in reducing dolphin mortalities in the ETP in recent years.

Seven environmental groups (the Center for Marine Conservation, the Environmental Defense Fund, Greenpeace, National Audubon Society, the National Wildlife Federation, Whale and Dolphin Conservation Society, and the World Wildlife Fund) spoke in favor of eliminating the ban on U.S. imports of IATTC-supervised tuna harvest from the ETP. These groups voiced strong support for the IATTC's work and the efforts accomplished under the La Jolla Agreement. Rather than Congress unilaterally legislating to address

concerns, these groups strongly recommended that a multilateral international approach be pursued. Subsequently, these groups were instrumental in bringing together parties that concurred in the October 1995 Declaration of Panama.

Generally, U.S. tuna seiners, the seven environmental groups listed in the previous paragraph, the Clinton Administration, and foreign tuna harvesting nations supported efforts to eliminate the ban on U.S. imports of IATTC-supervised tuna harvest from the ETP. Earth Island Institute and 15 other environmental and animal protection organizations argued against this. These two groups generally are defined by whether or not they believe the potential harm to dolphins due to the stress of chase and encirclement in dolphin sets outweighs the potential harm to the ETP marine ecosystem from incidental bycatch mortalities of other large marine fishes and sea turtles caught in "dolphin-safe" sets.

Subsequently, Earth Island Institute and other like-minded environmental and animal protection organizations raised questions concerning the objectivity and/or bias of the IATTC and questioned the credibility of this organization's science. Related concerns were whether IATTC observers are influenced to misreport dolphin mortalities and dolphin school sizes (since EII and associated groups contend that the foreign fleet's dolphin mortality performance appears to be disproportionately better than that of the U.S. fleet), restricted public access to IATTC information and data impedes independent verification of IATTC conclusions, IATTC's strong discounting of the probability of stress-induced and other unobserved dolphin kills, and whether there is sufficient objective scientific peer review of IATTC programs. These groups argued that Congress should request a General Accounting Office investigation of IATTC practice and procedures prior to legislating any expansion of authority for the IATTC.

Legislative Approaches

Two alternative legislative approaches, with many similarities and several significant differences, are receiving the most attention in the 104th Congress. S. 1420/H.R. 2823 provide the most extensive changes to current policy, while S. 1460/H.R. 2856 change some aspects but seek to continue protecting dolphins from tuna seine encirclement. For a detailed comparison of these bills, see CRS memo "Side-by-Side Comparison of Senate and House Bills Addressing Dolphin Protection in the Eastern Tropical Pacific," Environment and Natural Resources Policy Division, March 8, 1996.

Similarities:

S. 1420/H.R. 2823 and S. 1460/H.R. 2856 would all:

1) recognize the significant reduction in dolphin mortalities achieved by

the IDCP;

2) eliminate the ban on U.S. imports of dolphin-safe tuna from nations that are IATTC members and participating in the IDCP;

3) authorize the incidental taking of marine mammals in the ETP yellowfin tuna fishery for U.S. vessels in accordance with the IDCP;

4) exempt U.S. citizens from MMPA regulations on incidental taking of marine mammals during fishing outside the U.S. Exclusive Economic Zone (EEZ) if they are employed on a fishing vessel of a foreign nation in compliance with the IDCP;

5) establish criteria for labeling of "dolphin-safe" tuna harvested outside the ETP requiring certification by the vessel captain (in areas where no association between tuna and dolphins is noted) or by the vessel captain and an observer (in areas where a regular and significant association occurs between tuna and dolphins) that dolphins were not encircled;

6) state policy to ensure that U.S. markets do not provide incentive for ETP tuna harvesting not in compliance with the IDCP;

7) direct the Secretary of Commerce to issue regulations within 3 months of enactment to implement the IDCP;

8) require mandatory research on the effects of harassment by chase and encirclement on dolphins and dolphin population health and biology;

9) authorize collection of permit fees for U.S. tuna seiners to offset permitting expenses; and

10) require the Secretary of Commerce to appoint two advisory groups -- a General Advisory Committee and a Scientific Advisory Subcommittee -- to assist U.S. participation in the IATTC.

Differences:

Major differences between the approaches of these measures are:

1) S. 1420/H.R. 2823 change the definition of "dolphin safe" to include tuna caught by encircling dolphins as long as observers document that they did not see any dolphins killed during purse seine sets when tuna was caught -- thus a "dolphin- safe" determination would be made for each set. However, S. 1460/H.R. 2856 would keep the current definition of "dolphin safe" as prohibiting setting of purse seines to encircle dolphins -- thus a "dolphin-safe" determination would apply to a vessel's entire trip;

2) S. 1420/H.R. 2823 include IATTC members as well as nations that have initiated steps to become IATTC members, while S. 1460/H.R. 2856 require

that nations be IATTC members;

3) S. 1460/H.R. 2856 require that per-stock per-year dolphin mortalities not exceed 1994 levels, while S. 1420/H.R. 2823 set no similar requirement;

4) S. 1420/H.R. 2823 would permit incidental taking of dolphin species designated as depleted under the MMPA but not listed as threatened or endangered under the Endangered Species Act, which S. 1460/H.R. 2856 would not;

5) S. 1460/H.R. 2856 authorize appropriations to the National Marine Fisheries Service for research, while S. 1420/H.R. 2823 do not; and

6) S. 1460/H.R. 2856 specifically require research on bycatch in dolphin-safe fishing methods, while S. 1420/H.R. 2823 do not.

LEGISLATION

H.R. 408 (Gilchrest et al.)/S. 39 (Stevens et al.)

Amends the Marine Mammal Protection Act of 1972 to support International Dolphin Conservation Program in the eastern tropical Pacific Ocean. H.R. 408 was introduced Jan. 9, 1997; referred to House Committee on Resources. S. 39 was introduced Jan. 21, 1997; referred to Senate Committee on Commerce, Science, and Transportation.

CONGRESSIONAL HEARINGS, REPORTS, AND DOCUMENTS

Hearings

U.S. Congress. House. Committee on Resources. Subcommittee on Fisheries, Wildlife, and Oceans. Tuna/Dolphin Issues. Hearings, June 22, 1995, and Feb. 29, 1996. 104th Congress, 1st and 2nd sessions, U.S. Govt. Print. Off., Washington, 1996. 456 p. "Serial No. 104-58"

U.S. Congress. Senate. Committee on Commerce, Science, and Transportation. Subcommittee on Oceans and Fisheries. S. 1420, International Dolphin Conservation Program Act. Hearing, April 30, 1996. 104th Congress, 2nd session, U.S. Govt. Print. Off., Washington, 1996. 281 p. "S. Hrg. 104-630"

Reports

U.S. Congress. House. Committee on Resources. International Dolphin Conservation Program Act; report together with dissenting and additional

dissenting views to accompany H.R. 2823. 104th Congress, 2nd session, U.S. Govt. Print. Off., Washington, 1996. 66 p. (H.Rept. 104-665, Part 1)

U.S. Congress. House. Committee on Ways and Means. International Dolphin Conservation Program Act; report to accompany H.R. 2823. 104th Congress, 2nd session, U.S. Govt. Print. Off., Washington, 1996. 12 p. (H.Rept. 104-665, Part 2)

U.S. Congress. Senate. Committee on Commerce, Science, and Transportation. International Dolphin Conservation Program Act; report on S. 1420. 104th Congress, 2nd session, U.S. Govt. Print. Off., Washington, 1996. 73 p. (S.Rept. 104-373)

Documents

Biden, Joseph R., Jr. Keep the Current Dolphin-Safe Label. Remarks in the Senate. Congressional record [daily ed.] v. 143, Jan. 29, 1997: S792-S793.

Boxer, Barbara. The International Dolphin Protection and Consumer Information Act. Remarks in the Senate. Congressional record [daily ed.] v. 141, Dec. 7, 1995: S18240- S18244.

----- Tuna-Dolphin Bill. Remarks in the Senate. Congressional record [daily ed.] v. 143, Jan. 29, 1997: S789-S792.

International Dolphin Conservation Program Act. Debate and vote in the House. Congressional Record [daily ed.] v. 142, July 31, 1996: H9424-H9450.

----- In Extensions of Remarks of Cardiss Collins. Congressional Record [daily ed.] v. 142, August 1, 1996: E1447.

----- In Extensions of Remarks of Fortney Pete Stark. Congressional Record [daily ed.] v. 142, August 1, 1996: E1452.

Stevens, Ted. The International Dolphin Conservation Program Act. Remarks in the Senate. Congressional record [daily ed.] v. 141, Nov. 17, 1995: S17339-S17344.

----- The International Dolphin Conservation Program Act. Remarks in the Senate. Congressional record [daily ed.] v. 143, Jan. 21, 1997: S396-S403.

FOR ADDITIONAL READING

"An Analysis of the "Declaration of Panama." The Humane Society of the

United States, Washington, 1995(?), 7 p.

Carpenter, Betsy. "What Price Dolphin? Scientists are Reckoning the True Cost of Sparing an Endearing Mammal." U.S. News & World Report, v. 116, no. 23 (June 13, 1994): 71-73.

Hall, Martin A. "On Bycatches." Reviews in Fish Biology and Fisheries, v. 6 (1966): 319-352.

Hurwitz, Diana. "Fishing for Compromises through NAFTA and Environmental Dispute-Settlement: The Tuna-Dolphin Controversy." Natural Resources Journal, v. 35 (summer 1995): 501-540.

Joseph, James. "The Tuna-Dolphin Controversy in the Eastern Pacific Ocean: Biological, Economic, and Political Impacts." Ocean Development and International Law, v. 25 (1994): 1-30.

Myrick, Albert C., Jr., and Peter C. Perkins. "Adrenocortical color darkness and correlates as indicators of continuous acute pre-mortem stress in chased and purse-seine captured male dolphins." Pathophysiology, v. 2 (1995): 191-204.

"Selling Dolphins Down the River." HSUS News, Winter 1996: 5-6.

"The Tuna-Dolphin Issue." Annual Report to Congress, 1995. Marine Mammal Commission, Washington, p. 99-109.

U.S. National Research Council. Committee on Reducing Porpoise Mortality from Tuna Fishing. Dolphins and the Tuna Industry. Board on Biology, Board on Environmental Studies and Toxicology, Commission on Life Sciences. Washington, DC: National Academy Press, 1992. 176 p.

Warren, Brad. "The Downside of Dolphin-Safe." Audubon, November-December 1993: 20,22.

-----"The Tuna-Dolphin Solution: A Model for Other Fisheries." National Fisherman, July 1994: 14, 25.

Wirth, Timothy E. "Take the Final Step to Protect Dolphins." The Christian Science Monitor, Feb. 2, 1996: 19.

Young, Nina. "Doing What's Best for Dolphins -- and the Oceans." Marine Conservation News, Spring 1996: 10-11.