

Loyola of Los Angeles International and Comparative Law Review

Volume 19 | Number 1

Article 5

10-1-1996

Enforcement of Fishing Regulations in International Waters: Piracy or Protection, Is Gunboat Diplomacy the Only Means Left

Jeremy Faith

Follow this and additional works at: https://digitalcommons.lmu.edu/ilr

Part of the Law Commons

Recommended Citation

Jeremy Faith, Enforcement of Fishing Regulations in International Waters: Piracy or Protection, Is Gunboat Diplomacy the Only Means Left, 19 Loy. L.A. Int'l & Comp. L. Rev. 199 (1996). Available at: https://digitalcommons.lmu.edu/ilr/vol19/iss1/5

This Notes and Comments is brought to you for free and open access by the Law Reviews at Digital Commons @ Loyola Marymount University and Loyola Law School. It has been accepted for inclusion in Loyola of Los Angeles International and Comparative Law Review by an authorized administrator of Digital Commons@Loyola Marymount University and Loyola Law School. For more information, please contact digitalcommons@lmu.edu. ENFORCEMENT OF FISHING REGULATIONS IN INTERNATIONAL WATERS: PIRACY OR PROTECTION, IS GUNBOAT DIPLOMACY THE ONLY MEANS LEFT?

The canneries themselves fought the war by getting the limit taken off fish and catching them all. It was done for patriotic reasons but that didn't bring the fish back It was the same noble impulse that stripped the forests of the West and right now is pumping water out of California's earth faster than it can rain back in. When the desert comes people will be sad; just as Cannery Row was sad when all the pilchards were caught and canned and eaten.¹

I. INTRODUCTION

From the 1970s to the present, various nations have clashed over the limited fishing resources of the high seas.² During the 1970s, there were sixteen major international incidents between countries over fishing rights.³ In 1975 and 1976 alone, there were over four dozen occurrences of British frigates and tug boats ramming Icelandic Coastguard vessels to protect British cod fisherman from being driven off contested fishing grounds.⁴ In March 1995, a major conflict arose between Canada and Spain over fishery jurisdiction. A Canadian gunboat fired across the bow of a Spanish fishing trawler, which the Canadians then seized.⁵ Despite the twenty-year period between the initial conflicts and the most recent incident, the problem of regulating the marine resources of the high seas remains unresolved.

This Comment maintains that Canada's actions against the

^{1.} JOHN STEINBECK, SWEET THURSDAY 1 (1954).

^{2.} See Unilateral Jurisdiction on the High Seas, WALL ST. TRANSCRIPT, Apr. 4, 1994, at A5.

^{3.} See id.

^{4.} See Hannes Jónsson, Friends in Conflict: The Anglo-Icelandic Cod Wars and the Law of the Sea 168-69 (1982).

^{5.} See Shots Fired in Fishing War Off Canada: European Union, Spain Scold Canada After High Seas Incident, BANGOR DAILY NEWS (Maine), Mar. 10, 1995, at C12, available in 1995 WL 5819514 [hereinafter Shots Fired].

Spanish fishing trawlers were justified and that new U.N. regulations would not necessarily have averted the conflict. Part II provides a background on the unique problems of the world's high seas fisheries. Part III discusses the events that led up to the March 1995 incident between Canada and Spain and analyzes the legal issues involved. Finally, Part IV concludes that there are possible shortfalls in the new U.N. regulatory scheme and comments on its potential ineffectiveness.

II. PROBLEMS FACING THE WORLD'S OCEANS

A. Nonsustainability

For decades, global fish stocks have been harvested at an accelerating rate.⁶ The long-held belief that the sea could provide an inexhaustible source of nutrition has been disproved over the last fifty years.⁷ The total collapse of the Monterey Bay Sardine industry in the 1950s and early 1960s was perhaps the first major example that the ocean's bounty is a finite resource.⁸ Since then, improved technology and increased demand for fish protein have led to similar results of depleted stocks in many other fisheries worldwide.⁹

8. From 1949 until 1962, overfishing of the Pacific sardine off the California coast caused the complete collapse of one of California's most abundant natural resources. The collapse in the fishery was so drastic that by 1962 only one cannery on Monterey's "Cannery Row" remained open. See ARTHUR F. MCEVOY, THE FISHERMAN'S PROBLEM: ECOLOGY AND LAW IN THE CALIFORNIA FISHERIES, 1850-1980, at 199 (1986).

9. Other species have seen declines similar to that of the California sardine, including the Japanese sardine, Western Pacific sauries, Atlantic menhaden, North Atlantic cod and haddock, and salmon throughout the globe. See WILLIAM E. HALE & DAG FASMER WITTUSEN, WORLD FISHERIES: A "TRAGEDY OF THE COMMONS?" 13-14 (Woodrow Wilson Ass'n Monograph Series in Pub. Affairs No. 4, 1971); see also Safina, supra note 6,

^{6.} In 1950, the worldwide marine catch was approximately 20 million metric tons. See Carl Safina, The World's Imperiled Fish, SCI. AM., Nov. 1995, at 46, 50. The catch steadily increased until 1989 when the worldwide marine catch equaled approximately 80 million metric tons. See id. Since 1989, however, worldwide catches have either stagnated or decreased, despite increased fishing pressure. Smaller catches combined with increased fishing pressure would indicate a decline in global fish stocks. See id.

^{7.} The U.N. Food and Agriculture Organization (FAO) found: "In the early 1990's, about 69% of the world's harvested species were exploited to the limits of their ability to reproduce, were over-exploited or depleted, or were rebuilding their numbers after a period of depletion." William Emerson, *Hitting the High Seas*, OECD OBSERVER, Aug. 18, 1995, at 33, *available in* 1995 WL 8451833.

As fish stocks dwindle and more fishermen compete for fewer resources, conflicts over depleted fish stocks have become more frequent. Disputes generally occur for one of two reasons: (1) disagreement over jurisdictional oceanic boundaries, or (2) disputes over "highly migratory" species and "straddling stocks."¹⁰ Generally, these conflicts boil down to disputes over fish species that move in and out of a country's exclusive economic zone (EEZ).¹¹ Within the EEZ, a country has jurisdiction to regulate fishing practices.¹² Once the fish move outside the EEZ, however, foreign fishermen may overharvest the migrating species in international waters, resulting in conflicts between the governments trying to regulate the fishery and the foreign fishermen frustrating those regulatory efforts.

The most recent conflicts have arisen between Canada and the European Union (EU) (specifically Spain) over the straddling stock of turbot¹³ that commonly migrate from Canada's EEZ off Newfoundland into international waters. The most serious incidents occurred when Canadian gunboats seized a Spanish fishing vessel and severed nets from several other Spanish fishing trawlers in international waters *outside* Canada's EEZ.¹⁴ Canada and the

11. Article 57 of the U.N. Convention on the Law of the Sea (UNCLOS) defines an EEZ as an area extending no more than 200 nautical miles from the oceanic boundary of a coastal state. See United Nations Convention on the Law of the Sea, opened for signature Dec. 10, 1982, art. 57, 21 I.L.M. 1261, 1280 (entered into force Nov. 16, 1994) [hereinafter UNCLOS].

12. Article 56 of the Convention grants a coastal state "sovereign rights for the purposes of . . . exploiting, conserving and managing the natural resources . . . of the waters superjacent to the sea-bed" within its EEZ. *Id.* art. 56, at 1280.

13. Turbot, also known as Greenland halibut, is a species of flatfish related to other species, such as the sole, flounder, and halibut. See GAR GOODSON, FISHES OF THE PACIFIC COAST 155 (1988). These species of groundfish are very valuable as food fish. See id. The particular species of turbot at issue here inhabit the Grand Banks region of the Northwest Atlantic. See Evelyne Meltzer, Global Overview of Straddling and Highly Migratory Fish Stocks: The Nonsustainable Nature of High Seas Fisheries, 25 OCEAN DEV. & INT'L L. 255, 297 (1994).

14. On March 9, 1995, a Canadian gunboat seized the Spanish fishing trawler *Estai* in international waters. See Craig Turner, 'Fish War' Heats Up Again as Canadians Cut Boat's Net, L.A. TIMES, Mar. 27, 1995, at A7. On March 26, 1995, a Canadian patrol ves-

at 50. This list is by no means a complete list of the fisheries that have suffered drastic declines over the past thirty years.

^{10.} Highly migratory species are fish that migrate great distances and that travel in and out of more than one country's territorial waters. See Emerson, supra note 7. Straddling stocks are fish that migrate from international waters into a country's territorial waters. See id.

EU have since resolved the specific dispute over the turbot,¹⁵ but a larger problem remains: Will the new U.N. Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks resolve the broad-based fundamental problems causing the conflicts?

B. The Straddling and Highly Migratory Stock Dilemma

Most economists agree that the unique problem created by a fishery is the lack of property rights. Property rights define ownership of a resource; however, when the resource is a fish stock in international waters, ownership becomes a relatively unatainable concept.¹⁶ If property rights cannot be established, natural market forces tend to overexploit that resource.¹⁷

Non-migratory fish stocks are less of a problem because they tend to remain within a country's EEZ. As a result, a single government has quasi-property rights over the stocks and may regulate them as it sees fit.¹⁸ Now, however, many, if not most, countries have mismanaged¹⁹ their non-migratory fisheries and are

sel severed a net from another Spanish trawler, also in international waters. See id. Spanish harvesting of the straddling stocks of turbot on the Grand Banks instigated both incidents. See id.

15. See Canada, Europe End Fight over Turbot, But Spain Presses On Alone with Suit in International Court, CALGARY HERALD, Sept. 30, 1995, at A5 [hereinafter Spain Presses On].

16. See HALE & WITTUSEN, supra note 9, at 18.

17. Consider the following example: Suppose 95% of all fishermen decide to fish in a responsible and regulated manner. Then 5% of fishermen will exploit the resource to the greatest possible extent. This overexploitation begins to diminish the fish stocks. As a result the other 95% of fishermen are also pushed toward overexploiting the stocks, simply because the stocks will decrease without 100% regulation and there will be less reason to fish conservatively. (Discovery Channel broadcast, Sept. 12, 1995).

18. UNCLOS article 56 describes the rights of the sovereign state within its own EEZ:

1. In the exclusive economic zone, the coastal State has:

(a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the waters superjacent to the sea-bed and of the sea-bed and its subsoil, and with regard to other activities for the economic exploitation and exploration of the zone....

UNCLOS, *supra* note 11, art. 56, para. 1, at 1280. UNCLOS gives a coastal state the authority to regulate the living resources within its EEZ. Thus, non-migratory species that remain within the EEZ are under the exclusive control of the coastal state for regulatory purposes.

19. Fishermen themselves acknowledge that the world's fish stocks are being poorly managed. See Michael Parfit, Diminishing Returns: Exploiting the Ocean's Bounty,

turning to highly migratory and straddling fish stocks to maintain their fishing industries.²⁰ Thus, multiple governments compete for a single finite resource.²¹ This competition logically leads to actual conflict between these competing governments.

The rules, if they exist, for fishing in international waters are tenuous at best. Even when a single government regulates its own fishing industry in international waters, boats may easily evade the regulations by reflagging to countries that have no such regulations.²² Thus, without a unified international regulation effort, the resources of the high seas continue to be overexploited and the number of conflicts rises as fishing jobs become increasingly dependent on a rapidly diminishing resource.

III. CANADA-SPAIN "TURBOT WAR"

A. History of International Conflicts

The "turbot war" between Canada and Spain was only the most recent development in a long history of international conflict. One of the first major international incidents to arise over fishing regulations was the "cod wars" of the mid-1970s between Iceland and Great Britain.²³ For some time, Iceland realized that the stock of cod around the island nation was being depleted so severely that the fisheries were on the verge of collapse. In order to save the

21. Tuna, for example, go on massive trans-oceanic migrations, which take them through multiple EEZs. Thus, as tuna go through a country's EEZ, the country has an incentive to harvest the resource as much as possible because they know other countries will try and do the same. See generally WILLIAM T. BURKE, THE NEW INTERNATIONAL-LAW OF FISHERIES: UNCLOS 1982 AND BEYOND 199-205 (1994).

22. To reflag, a vessel simply changes its registration to a country that does not implement established controls or is not subject to existing regulatory conventions. See Emerson, supra note 7. Reflagging effectively allows the boat to fish indiscriminately because it is no longer subject to any fishing regulations on the high seas. See id. Panama, Liberia, and Belize are notorious for allowing the practice of reflagging. See id.

23. See generally JÓNSSON, supra note 4.

NAT'L GEOGRAPHIC, Nov. 1995, at 2, 10-11. One freezer-trawler skipper said, "There is too much catching!" See id. at 10.

^{20. &}quot;The UN Food and Agriculture Organization (FAO) reports that an increasing number of species are targeted on the high seas as competition for animal protein from fish intensifies and the common area for global resources diminishes. Many of these species are straddling and highly migratory fish stocks." Meltzer, *supra* note 13, at 258. As mismanagement depletes near shore fish, fishermen must turn to the high seas to compensate for the decline in their local fisheries. See Emerson, supra note 7.

fisheries, Iceland unilaterally extended its jurisdictional fishing border from the commonly recognized 12 miles²⁴ to 200 miles.²⁵

British fishing vessels were fishing well within this 200-mile zone and refused to recognize Iceland's claim to exclusive fishing rights in the area. The resulting "cod wars" culminated in military confrontations between Icelandic Coastguard vessels trying to chase off British fishermen and British warships ramming the Icelandic Coastguard vessels.²⁶ This incident, which to this day evokes strong emotions between the two countries, was effectively resolved in 1982 when the United Nations Convention on the Law of the Sea (UNCLOS) extended all coastal states' EEZs from continental and island base lines to 200 miles.²⁷

Over the past few years, fish wars have erupted with greater frequency. During the summer of 1994, a "tuna war" ignited between British and Spanish fishermen in Arctic waters.²⁸ The Norwegian Coastguard is now confronting Icelandic fishing trawlers over contested fishing grounds.²⁹ Both India and Morocco are having problems off their coasts with foreign fishing vessels.³⁰ In 1990, Namibia enforced its fishing regulations by expelling 200 Spanish fishing boats.³¹ Most recently, the Canada-Spain incident involved the use of firearms and arresting powers, signaling the possibility that fish wars may soon take their toll in human lives.

B. Factual Background of the Canada-Spain Incident

On March 9, 1995, a Canadian gunboat pursued the Spanish fishing trawler *Estai*, fired warning shots across her bow, and confiscated the vessel.³² This confrontation took place in what is

26. See JÓNSSON, supra note 4, at 168-69.

27. See UNCLOS, supra note 11, art. 57, at 1280.

28. See Ved P. Nanda, Crisis Heats Up over Global Fish Stocks, DENV. POST, Apr. 16, 1995, at D04.

^{24.} See SHIGERU ODA, INTERNATIONAL CONTROL OF SEA RESOURCES at xvi (2d ed. 1989).

^{25.} See JÓNSSON, supra note 4, at 161. The South American countries of Chile, Ecuador, and Peru made the first declarations of 200-mile zones of sovereign jurisdiction in August 1952. See ODA, supra note 24, at 21.

^{29.} See id.

^{30.} See id.

^{31.} See id.

^{32.} See Shots Fired, supra, note 5.

known as the "nose and tail" of the Grand Banks region, just outside Canada's 200-mile fishing jurisdiction, off the Newfoundland coast [see figure 1].³³ Canadian officials arrested the captain, seized the trawler, and impounded it in a Canadian port. The Canadians claimed that the conflict concerned the overfishing of straddling stocks of turbot. Both Spain and the EU claimed that they had the right to fish as they pleased within international waters and that Canada was in clear violation of international law.³⁴

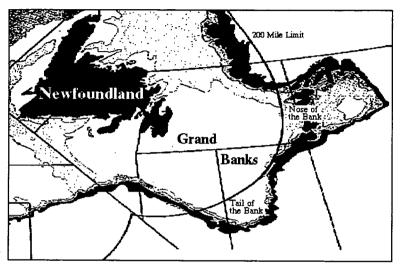


Figure 1. The Northwest Atlantic Fisheries Organization management divisions³⁵

Two weeks after the seizure of the *Estai*, Canadian patrol vessels were involved in another incident with Spanish fishing trawlers. The Canadians chased Spanish fishermen off the disputed fishing grounds and severed the nets from one trawler.³⁶ Both sides claimed that they acted well within their rights, and neither side would concede defeat. On April 15, 1995, however, the EU and Canada managed to resolve their differences and reach a mu-

35. The map is from the Newfoundland government's press kit. See Meltzer, supra note 13, at 298 fig. 13.

36. See Turner, supra note 14.

^{33.} The Grand Banks region extends out from Newfoundland in a southeasterly direction. See Meltzer, supra note 13, at 298 fig. 13. As Canada's EEZ stretches around Newfoundland, portions of the Grand Banks, known as the "nose" and the "tail" of the bank, are left outside the EEZ and beyond Canada's protection. See id. at 297-98 & fig. 13.

^{34.} See Shots Fired, supra note 5.

tually acceptable settlement to the dispute.³⁷ Nevertheless, Spain proceeded with a lawsuit³⁸ in the International Court of Justice (ICJ).³⁹

C. Legal Issues

1. Canada's Justification

Canada's seizure of the *Estai* was based on Canadian law,⁴⁰ authorizing it to enforce fishing regulations "beyond [its] own 200mile limits into the so-called straddling areas."⁴¹ The problem with using *national* law to justify this action was that the act directly contravened *international* law. Spain and the EU, in turn, accused Canada of pure and simple piracy, claiming that Canada was in clear violation of international law.⁴²

Canada's Coastal Fisheries Protection Act (CFPA), as amended in 1994, unilaterally extended the jurisdiction of Canada's enforcement zone to all areas under the Northwest Atlantic Fisheries Organization (NAFO) regulatory area. Section 5.2 of the Act provides that "[n]o person, being aboard a foreign fishing vessel of a prescribed class, shall, in the NAFO Regulatory Area, fish or prepare to fish for a straddling stock in contravention of any

37. In the settlement, Canada agreed to decrease its Northwest Atlantic Fisheries Organization (NAFO) quota, while the EU was allowed to increase its quota. See Anne Swardson, Canada, EU Reach Agreement Aimed at Ending Fishing War, WASH. POST, Apr. 16, 1995, at A21. Both parties also agreed that all ships fishing the Grand Banks would carry neutral inspectors and would be subject to sanctions and penalties if violations occurred. See id.

38. See Spain Presses On, supra note 15.

39. Article 7 of the U.N. Charter created the International Court of Justice (ICJ). See SHABTAI ROSENNE, THE WORLD COURT: WHAT IT IS AND HOW IT WORKS 23 (4th rev. ed. 1989). Article 92 of the Charter states that the ICJ shall be the principal judicial organ of the United Nations. See id. Thus, the ICJ is the appropriate forum for U.N. members to resolve legal disputes based on U.N. agreements. See id.

40. Canada passed the Coastal Fisheries Protection Act (CFPA), as amended in 1994, which authorizes Canadian law enforcement officials to enforce NAFO policies concerning straddling stocks outside Canada's traditional EEZ. See Coastal Fisheries Protection Act, R.S.C. ch. C-33, § 1 (1985), amended by R.S.C. ch. 14, § 1 (1994) (Can.) [hereinafter CFPA].

41. Tobin and Turbot in Turbulent Waters, EDMONTON J., Mar. 14, 1995, at A8.

42. See Colin Nickerson, Canadians Lash Out in Fishing War: Cut One Trawler's Lines, Send 18 Spanish Vessels Fleeing, BOSTON GLOBE, Mar. 27, 1995, at 1.

1996]

of the prescribed conservation and management measures."⁴³ This section of the CFPA made the EU fishing vessels' actions illegal under Canadian law because they were fishing in contravention of the NAFO quotas.

Furthermore, section 7 of the CFPA provides that "a protection officer may . . . for the purpose of ensuring compliance with this Act and the regulations, board and inspect any fishing vessel found within Canadian fisheries waters or the NAFO Regulatory Area."⁴⁴ The NAFO Regulatory Area consists of not only the regional waters of Canada's Atlantic coast, but also all the international waters of the North Atlantic.⁴⁵ Thus, section 7 gives express jurisdiction to Canada's fisheries officials to enforce the CFPA in international waters outside Canada's EEZ granted by UNCLOS.

Finally, section 8, which grants arresting power, provides that "a protection officer may arrest without warrant any person who the officer suspects on reasonable grounds has committed an offense under this Act."⁴⁶ The Canadian officers were acting upon this grant of authority when they arrested the captain of the *Estai* and seized the vessel. The arresting officials claimed that the offenders were fishing the straddling stock of turbot in contravention of the NAFO conservation and management measures. Similar to Iceland's actions twenty years earlier,⁴⁷ Canada effectively extended its jurisdiction into international waters to remedy a problem that a toothless NAFO could not solve.⁴⁸

Canada never expressly claimed a legal right to act but concentrated more on its moral right to protect its own interests.⁴⁹

48. The NAFO has no actual power to enforce any of its recommended conservation measures of straddling fish stocks. See Meltzer, supra note 13, at 299. Thus, the EU has unilaterally set its own quotas well above levels suggested by the NAFO. See id. For example, in 1989, the NAFO allocated a catch quota of 13,000 tons to the EU (then the European Community), but the EU ignored this figure and set its quota at 160,000 tons, 12 times higher than the NAFO figure. See id.; see also William McCloskey, Fencing the World's Fishing Grounds, BALTIMORE SUN, Apr. 28, 1995, at 19A.

49. See Tobin and Turbot in Turbulent Waters, supra note 41.

^{43.} Coastal Fisheries Protection Act, R.S.C. ch. 14, at § 5.2.

^{44.} Id. § 7(a) (emphasis added).

^{45.} See Meltzer, supra note 13, at 297-98.

^{46.} Coastal Fisheries Protection Act, R.S.C. ch. 14, at § 8.

^{47.} Iceland progressively extended its exclusive jurisdiction to 200 nautical miles beyond its oceanic boundary, in order to protect the dwindling stock of cod that was essentail to the Icelandic economy. *See* JÓNSSON, *supra* note 4, at 154.

Canada claimed that it was defending one of the last viable groundfish stocks in the North Atlantic and that Spain was fishing well beyond the NAFO quotas.⁵⁰

Many questions were left unresolved by the "turbot wars." (1) Did Canada violate international law? (2) What problems existed with the previous legal regime regarding fishing on the high seas? (3) Did Canda have any alternate means of resolving the problem? (4) How could have Spain resolved the problem? (5) What has been done to resolve the problems? (6) Will the new enforcement provisions solve the problems plaguing the high seas fisheries?

2. Applicable International Law: Did Canada Violate International Law?

UNCLOS is the relevant legal regime that governs Canada, Spain, and all other signatories with regard to fishing rights on the high seas.⁵¹ Article 116 addresses the right to fish on the high seas:

All States have the right for their nationals to engage in fishing on the high seas subject to:

(a) their treaty obligations;

(b) the rights and duties as well as the interests of coastal States provided for, inter alia, in article 63, paragraph 2, and articles 64 to 67; and

(c) the provisions of this section.52

At this point, it would appear that Spain was within its rights to be fishing on the high seas. The relevant section of article 63 provides:

Where the same stock or stocks of associated species occur both within the exclusive economic zone and in an area beyond and adjacent to the zone, the coastal State and the States fishing for such stocks in the adjacent area shall seek, either directly or through appropriate subregional or regional organizations, to

^{50.} Minister of Fisheries, Brian Tobin, and the Canadian government claimed the right. See id.

^{51.} UNCLOS defines the high seas as the ocean areas falling outside all country's EEZ, where no country has *exclusive* control over the ocean's natural resources. *See* UNCLOS, *supra* note 11, art. 86, at 1286.

^{52.} Id. art. 116, at 1290.

agree upon the measures necessary for the conservation of these stocks in the adjacent area. 53

Article 63 directs the parties to turn to the subregional or regional organization that would normally regulate the contested area. This proviso obligated Canada and Spain to turn to the NAFO, which is the regional organization overseeing the turbot fishery on the Grand Banks.⁵⁴ Initially, it would appear that Spain's refusal to comply with the NAFO quotas was a violation of article 63. Careful analysis of the article's language, however, indicates that Spain did not violate the article. The operative words are "shall seek" and "agree." Article 63 only obligates the nations to *seek* to agree; it does not require actual agreement. Therefore, Canada is unable to legally justify its actions based on UNCLOS article 63.

Barring resolution at this stage, part XV of UNCLOS provides procedures relating to the settlement of disputes.⁵⁵ Most noticeable in the dispute settlement section of the treaty, and most important for Spain's purposes, is the requirement that parties resolve their differences by "peaceful means."⁵⁶ Article 279 provides:

States Parties shall settle any dispute between them concerning the interpretation or application of this Convention by peaceful means in accordance with Article 2, paragraph 3, of the Charter of the United Nations and, to this end, *shall seek* a solution by the means indicated in Article 33, paragraph 1, of the Charter.⁵⁷

Similarly, article 2, paragraph 3 of the U.N. Charter provides: "All Members shall settle their international disputes by peaceful means in such a manner that international peace and security, and justice, are not endangered."⁵⁸

^{53.} Id. art. 63, at 1282.

^{54.} NAFO is a 14-member organization composed of members from both the EU and Canada. See Meltzer, supra note 13, at 297. Despite the NAFO's authority to set quotas, foreign fleets have surpassed NAFO quotas for most of the species in the Northwest Atlantic ever since the NAFO's formation in 1986. See id. As a result, groundfish stocks have suffered significant declines to the extent that, out of the seven different viable fish stocks on the Grand Banks, only turbot stock remains. See id.

^{55.} See UNCLOS, supra note 11, pt. XV, at 1322-26.

^{56.} See id. art. 279, at 1322.

^{57.} Id. (emphasis added).

^{58.} U.N. CHARTER art. 2, para. 3.

Arguably, escalation in the use of warships by nations involved in fishing disputes "endangers" international peace and security. Spain may also assert that Canada endangered international justice by its enforcement in international waters of an act not enforceable under international law. Thus, a commonsense reading of UNCLOS article 279 and U.N. Charter article 2 would indicate that Canada's seizure of the Spanish fishing trawlers and arrest of the fishermen violated these "peaceful means" provisions.

UNCLOS article 279 indicates that members look to article 33, paragraph 1 of the U.N. Charter to determine the resolution methods that Canada was obligated to pursue.⁵⁹ Article 33, paragraph 1 provides: "The parties to any dispute, the continuance of which is likely to endanger the maintenance of international peace and security, shall, first of all, seek a solution by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their own choice."⁶⁰ Canada may argue that it attempted to negotiate and resorted to the NAFO, the regional agency, to resolve its problems with Spain. The sufficiency of their attempts remains questionable, and Spain may most likely claim that Canada did not make the requisite attempts to resolve the problems in compliance with article 33.

According to the black letter law, UNCLOS article 110 addresses Canada's most blatant violation of UNCLOS. Article 110 limits the use of warships on the high seas, providing that "a warship which encounters on the high seas a foreign ship . . . is not justified in boarding it unless there is reasonable ground for suspecting" that the ship is involved in some enumerated illegal activity.⁶¹ Matters involving fisheries are not enumerated offenses.⁶² In

61. UNCLOS, *supra* note 11, art. 110, at 1289. The enumerated activities include piracy, slave trade, unauthorized broadcasting, a ship without nationality, and a ship refusing to fly its flag. *See id*.

^{59.} See UNCLOS, supra note 11, art. 279, at 1322.

^{60.} U.N. CHARTER art. 33, para. 1. Enquiry is a process in which an impartial third party ascertains the relevant facts in order to facilitate the process of finding a suitable basis for a settlement. See LELAND M. GOODRICH ET AL., CHARTER OF THE UNITED NATIONS: COMMENTARY AND DOCUMENTS 261-62 (3d rev. ed. 1969). Mediation and conciliation involve third party assistance to bring the disputing parties together to facilitate their negotiations. See id. at 262. Arbitration is a method in which parties agree beforehand to accept a third party's resolution of the problem after the third party has heard the relevant facts of the case. See id.

1996]

its defense, Canada may argue that Spain was participating in an act of piracy which is an enumerated offense. Webster's Third New International Dictionary defines piracy as "robbery on the high seas."⁶³ If the straddling stock of turbot is considered a vital resource for the Newfoundland economy, then Canada may claim that Spain committed an act of piracy by robbing Newfoundland of a vital resource, thereby justifying Canada's use of warships under article 110.

The piracy argument may be unnecessary, however, because, in practice, article 110 proves to be ineffectual and misguided. Most major fishing states used and continue to use warships in the regulation of fisheries matters.⁶⁴ Intuitively, this use of warships makes sense. The clear markings of warships help enforcement officials avoid the distrust and doubt that they might otherwise encounter when confronting vessels on the high seas.⁶⁵ Thus, it is doubtful that Spain has a sufficient cause of action or that it may bring sanctions against Canada based on UNCLOS article 110.

3. The Ambiguity Problem

Compounding the dispute between Canada and Spain is the ambiguity of the pertinent laws. Article 279 of UNCLOS directs states to settle disputes in accordance with articles of the U.N. Charter. Article 2, paragraph 3 of the Charter seems quite clear; a primary concern of the drafters was that any dispute should be resolved by peaceful means.⁶⁶ When considering this provision in conjunction with UNCLOS article 33, however, it becomes difficult to determine whether these two provisions have been satisfied. The problem is determining what should occur if article 33's provisions do not resolve the dispute between Canada and Spain. Canada was protecting a finite fishing resource during the incident, Thus, time was of the essence, and many of the possible resolution options were not viable because of the time and effort that they would have required.⁶⁷ Ultimately, Canada did not have many

67. The methods of enquiry, mediation and conciliation, arbitration, and judicial settlement may all take a significant amount of time to work.

^{62.} See BURKE, supra note 21, at 312-13.

^{63.} WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 1723 (1986).

^{64.} See BURKE, supra note 21, at 312-13.

^{65.} See id. at 313.

^{66.} See GOODRICH, supra note 60, at 42.

options because it tried to enforce rights not clearly articulated in any international agreement.

Ambiguity in UNCLOS is found in its fisheries management provisions. Article 117 of UNCLOS provides that "[a]ll States have the duty to take, or to "co-operate" with other States in taking, such measures for their respective nationals as may be necessary for the conservation of the living resources of the high seas."⁶⁸ The duty of a state to "co-operate," however, is a rather amorphous concept.⁶⁹ The term "co-operate" presents the following question: Under UNCLOS, at what point is a State considered to be "cooperative"?

Another problem with article 117 is the definition of "conservation." One nation may consider a measure to be conservationist while another nation may consider it to be overharvesting.⁷⁰ UNCLOS does not clarify the term "conservation" in any definitional or explanatory language.

Article 116's provision that the "interests of coastal States" be taken into account is also vague.⁷¹ UNCLOS does not specify which interests to weigh or the amount of weight to give to each interest. Absent such interpretation of article 116, Canada may argue that Spain and the EU violated UNCLOS by: (1) not cooperating with Canada and the NAFO in abiding by appropriate conservation measures, and (2) refusing to consider Canada's legitimate interests when fishing the straddling stocks of turbot migrating in and out of Canada's EEZ. To be effective, article 116 may need to be interpreted as giving the coastal state a superior right for issuing conservation measures that the high seas fishing states should recognize.⁷²

Canada has a strong argument that UNCLOS required Spain

70. One suggested policy is that if there is not sufficient scientific data on a particular resource then that resource should have no limits placed on it. Proponents of this policy argue that people should not limit the harvest of a resource if they are unsure of its capacity. Others believe that this policy is wasteful. See generally Emerson, supra note 7.

71. See ODA, supra note 24, at xxi.

72. See Edward L. Miles & William T. Burke, Pressures on the United Nations Convention on the Law of the Sea of 1982 Arising from New Fisheries Conflicts: The Problem of Straddling Stocks, 20 OCEAN DEV. & INT'L L. 343, 352 (1989).

^{68.} UNCLOS, supra note 11, art. 117, at 1291.

^{69.} UNCLOS has no provisions describing or defining the meaning of "co-operate." See ODA, supra note 24, at xxii.

1996]

and the EU to act in a more cooperative manner concerning fisheries management. Spain and the EU may argue, however, that even if they were not cooperating in the prescribed manner, Canada should have resorted to the dispute resolution provisions set forth in UNCLOS and should not have violated international law by use of force.

4. Did Canada Have a Choice?

What other forms of recourse could Canada have taken to effectively protect the turbot fishery on the Grand Banks from overfishing by the EU members? Arguably, Canada should first have turned to economic or political retaliation, but the problems of effectiveness and expediency remain.

a. Economic and Political Sanctions

Because Canada and the EU are not major trading partners, the effectiveness of economic and political sanctions is questionable.⁷³ Thus, Canada's imposition of economic sanctions on EU imports and exports would most likely have had little or no deterrent effect on the level of fishing that the EU conducted on the Grand Banks.

Assuming arguendo that economic sanctions were effective, the time lag between imposing such sanctions and the removal of Spanish fishermen from the Grand Banks could be so long that the fish stocks would already be depleted to levels below the maximum sustainable yield.⁷⁴ Therefore, Canada was forced to find a quicker solution to the problem.

^{73.} Economic sanctions would include imposing import tariffs on goods coming into Canada from the EU. Political sanctions would include requiring entry visas for tourists from Spain entering Canada.

^{74.} The NAFO uses scientific data to estimate the maximum sustainable yield that a fishery can support. To achieve this figure, the NAFO sets total allowable catch (TAC) limits on specific fisheries. For 1995, the NAFO set the TAC for turbot at 27,000 tons. See Shots Fired, supra note 5. Of this TAC, the NAFO gave Canada 60% (approximately 16,000 tons) and the EU 13% (approximately 3400 tons). See id. The EU, however, claimed entitlement to 69%, or 19,000 tons of the catch. See id. Thus, in early 1995, the fishery was being harvested at a rate that exceeded the NAFO's recommended TAC by 56%, or approximately 15,600 tons. This overharvesting would result in the depletion of the turbot stock below its maximum sustainable yield.

b. Judicial Recourse

If Canada had sought redress in the ICJ, it may have been successful if the court had adopted the interpretation of UNCLOS article 116 proposed by Professors Edward L. Miles and William T. Burke. Miles and Burke suggest:

If Article 116 is to be effective, it may need to be interpreted as follows: to authorize the coastal state to secure its superior right by prescribing conservation measures with which high seas fishing states are obliged to comply. The rights of the coastal state, expressly made superior to the high seas fishing state, would otherwise be empty and the high seas state would have no meaningful obligation different from any other state.⁷⁵

Thus, according to Miles and Burke's interpretation of article 116, the coastal state, Canada, should be given a superior right over the high seas state, Spain, regarding fishing regulations.

Miles and Burke's interpretation seems logical if one considers the intent of the drafters to give force and effect to the language of article 116, which reads "[a]ll States have the right . . . to engage in fishing on the high seas *subject to* . . . the *rights and duties* as well as the *interests of the coastal States*."⁷⁶ It should be assumed that the language concerning the "interests of the coastal States" was intended to give the coastal state superior regulatory rights on the high seas adjacent to its own EEZ. This interpretation would be the most efficient means of allowing the coastal state to protect its "rights," "duties," and "interests." Any other interpretation of this language would take any substantive meaning away from the rights of the coastal state and allow the high seas state to fish in as unregulated a manner as it desired.

c. New Regulations

Finally, Canada could have waited and attempted to encourage the United Nations to draft a new multinational agreement to regulate more adequately the high seas fisheries. The United Nations essentially drafted such an agreement in December 1995 with the U.N. Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks: Agreement for the Implementation of the provi-

^{75.} Miles & Burke, supra note 72, at 352.

^{76.} UNCLOS, supra note 11, art. 116, at 1290 (emphasis added).

sions of the United Nations Convention on the Law of the Sea (UNCLOS Implementation Agreement).⁷⁷ Although the Agreement was entered into soon after the incident, it is likely that the Agreement was motivated by the occurrence of the incident.

Twenty years ago, Iceland took emergency steps to save a fishery that the international community would not protect.⁷⁸ Canada is arguably now doing the same for its turbot fishery. Often, international response to the pressures and demands on the ocean's resources is too slow to meet the need for their protection. Unilateral action by national governments is often the catalyst required to generate the necessary protection on an international level.⁷⁹ Thus, Canada may argue that the United Nations would not have ratified the new agreement as rapidly as it did without Canada's affirmative actions to protect its resources.

5. Spain's Resolution Options

Spain's easiest and most expedient means of resolving its problems with Canada would have been simply to agree to the total allowable catch (TAC) limits recommended by the NAFO.⁸⁰ From a political perspective, this option does not even rise to the level of being an option. Other nations would view this as a dereliction of Spain's national interests and prerogatives. No nation could be expected to maintain such a weak position before its citizens and the rest of the world.

Spain's second option would have been to settle the dispute through diplomatic negotiations as required by article 33 of the

78. See generally JÓNSSON, supra note 4.

79. As a result of Iceland's "cod wars" with Great Britain and continuing pressure by an ever-increasing number of coastal states, UNCLOS adopted the 200-nautical mile EEZ provision so that it would apply on an international level. See generally ROBERT E. HAGE, THE THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA: A CANADIAN RETROSPECTIVE 8-9 (1983).

80. Spain, as well as the entire EU, have protested the TAC limits set by the NAFO. See Miles & Burke, supra note 72, at 345. The EU countries under the NAFO do not have to follow the NAFO's TAC recommendations if they file a protest with the NAFO. See Meltzer, supra note 13, at 299.

^{77.} United Nations Conference on Straddling Fish Stocks and Highly Migratory Fish Stocks: Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982, Relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks, *opened for signature* Dec. 4, 1995, 34 I.L.M. 1542 [hereinafter UNCLOS Implementation Agreement].

U.N. Charter. In the context of international incidents, this problem-solving method is a popular route, though not always completely satisfactory.⁸¹ This option would be beneficial because the parties would stay out of court. Questions concerning the interpretation of UNCLOS, however, would remain unanswered. Spain also could have resorted to the third-party resolution options in article 33 of the U.N. Charter, such as enquiry, mediation and conciliation, and arbitration.⁸²

Spain's legal recourse through the UNCLOS provisions involves procedures to bring a lawsuit against Canada based on international law.⁸³ By filing a lawsuit, Spain may seek to have the appropriate tribunal rule on whether Canada violated UNCLOS. If Canada is found to be in violation of international law, Spain may recover damages suffered by the captain and owner of the *Estai*.

6. Actual Resolution

In mid-April 1995, about five weeks after the "turbot war" started, Canada and the EU resolved their differences regarding the turbot by agreeing upon a new set of regulations and enforcement procedures.⁸⁴ By working with the NAFO, the two sides agreed to set new catch limits for turbot on the Grand Banks.⁸⁵ In

82. See U.N. CHARTER art. 33.

84. See supra note 37.

85. See Agreed Minute on the Conservation and Management of Fish Stocks, *done* Apr. 20, 1995, Can.-EC, 34 I.L.M. 1260 [hereinafter Agreed Minute]. The parties agreed to lower Canada's TAC for turbot to 10,000 metric tons per year, and to raise the EU's TAC to 10,000 metric tons per year. See id. Annex II, at 1271-72. The NAFO oversees this agreement. See id. at 1262. To demonstrate the discrepancy prior to the agreement, consider the total catches for the previous year: in 1994, Spain caught 44,000 tons of fish

^{81.} In the actual resolution of the dispute, the EU settled its differences with Canada, but, Spain still brought suit in the ICJ. See Spain Presses On, supra note 38, at A5.

^{83.} Article 281 provides that "the procedures provided for in this Part apply only where no settlement has been reached by recourse to such means and the agreement between the parties does not exclude any further procedure." UNCLOS, *supra* note 11, art. 281, at 1322. In the situation between Canada and Spain, no settlement was reached at the point when shots were fired, and thus, Spain turned to the procedures set forth in UNCLOS. Article 286 provides: "Subject to section 3, any dispute concerning the interpretation or application of this Convention shall, where no settlement has been reached by recourse to section 1, be submitted at the request of any party to the dispute to the court or tribunal having jurisdiction under this section." *Id.* art. 286, at 1322. Under article 286 Spain had the option to file a case in the ICJ.

response to the agreement, Canada repealed portions of its CFPA, which granted the controversial unilateral jurisdiction.⁸⁶ By August 1995, the two agreed on the settlement that was subsequently ratified by delegates from 100 nations.⁸⁷

Despite the settlement between Canada and the EU, Spain filed a complaint with the ICJ in late March before the settlement had been finalized.⁸⁸ After the settlement was reached, Spain continued with its suit, submitting written arguments to the court in September 1995.⁸⁹ Thus, Canada will still have to answer to Spain's accusations that it broke international law when it fired upon and seized the Spanish fishing vessel.⁹⁰

Spain based its original complaint on the amended 1994 version of the CFPA. Spain claimed that the provisions of the Act, which allowed Canadian officials to seize vessels in international waters, were illegal and that the appropriate international tribunal should invalidate them.⁹¹ Spain's complaint included the following requests:

(A) that the Court find that the legislation of Canada, in so far as it claims to exercise a jurisdiction over ships flying a foreign flag on the high seas, outside the exclusive economic zone of Canada, is not opposable to the Kingdom of Spain;

(B) that the Court adjudge and declare that Canada is bound to refrain from any repetition of the reported acts, and to offer to the Kingdom of Spain the reparation that is due, in the form of an indemnity of which the amount must cover all the damages and injuries occasioned; and

(C) that, consequently, the Court declare also that the boarding on the high seas, on 9 March 1995, of the ship *Estai* flying the flag of Spain, and the measures of coercion and the exercise of jurisdiction over that ship and over its captain, constitute a con-

91. See id.

in the contested area, while Canada took only 4,000 tons, an 11 to 1 ratio. See Nanda, supra note 31, at D04.

^{86.} See Agreed Minute, supra note 85, at 1263.

^{87.} See Foreign Digest: Canada: Delegates OK Fishing Pact, SUN SENTINEL, Aug. 5, 1995, at 19A, available in 1995 WL 8825146.

^{88.} See Spain Brings a Case Against Canada, COMMUNIQUÉ, Mar. 29, 1995, at 1 [hereinafter Spain Brings Case].

^{89.} See Spain Presses On, supra note 15.

^{90.} See id.

crete violation of the aforementioned principles and norms of international law. 92

On April 27, 1995, Canada contested the ICJ's jurisdiction in this matter. The court gave Spain until September 29, 1995 to file a memorial⁹³ to argue jurisdiction, and Spain subsequently met this deadline. Canada filed its counter-memorial on the subject of jurisdiction on February 29, 1996.⁹⁴

Because of its recent ratification, UNCLOS is a relatively untested document in the ICJ. When the untried nature of UNCLOS is factored in with the possible political influences involved in an international tribunal, the actual outcome of this case becomes very unpredictable. On moral grounds, Canada may be able to claim a right. Looking to the black letter law, however, Spain has a stronger argument.

Canada should not back down from the position that Spain threatened a vital resource and that only immediate and decisive action could help prevent the economic and environmental disaster that would occur from continued overfishing.⁹⁵ Whether Canada wins or loses in the ICJ, however, may be overshadowed by its victory on moral grounds and its role in the process of pushing the United Nations to enact more effective regulations regarding high seas fishing.

IV. THE NEW REGIME

In December 1995, under intense pressure from the international fishing community, the U.N. General Assembly adopted the new UNCLOS Implementation Agreement concerning straddling and highly migratory fish stocks.⁹⁶ The Agreement develops new standards of regulation by simply clarifying much of the existing

^{92.} Spain Brings Case, supra note 88, at 2.

^{93.} A memorial is the equivalent of a complaint in a U.S. court. See ROSENNE, supra note 39, at 38.

^{94.} See Fisheries Jurisdiction Case (Spain v. Can.), COMMUNIQUÉ, May 2, 1995, at 1.

^{95.} Canada's best chance of success in the ICJ would be to convince the court to accept Miles and Burke's interpretation of Article 116 of UNCLOS, yet the problem of the ambiguous "peaceful means" provision still remains. *See* Miles & Burke, *supra* note 72, at 352.

^{96.} UNCLOS Implementation Agreement, supra note 77; see also Mark Christopherson, Note, Toward a Rational Harvest: The United Nations Agreement on Straddling Fish Stocks and Highly Migratory Species, 5 MINN. J. GLOBAL TRADE 357, 358 (1996).

1996]

UNCLOS language.⁹⁷ Thus, the main problem with the UNCLOS Implementation Agreement is its duplication of the currently ineffectual UNCLOS.⁹⁸

A. Application to the Canada-Spain Incident

The question now is whether the new regulatory scheme under the UNCLOS Implementation Agreement would have helped avoid the problem that arose between Canada and Spain. Application of each of the Agreement's relevant articles to the specific situation between the conflicting countries will reveal that the problems of international fishing regulation have yet to be completely resolved.

1. Defining Cooperation

As pointed out earlier, one of the main problems with the UNCLOS provisions pertaining to high seas fisheries was the undefined nature of the term "cooperation."⁹⁹ The drafters of the UNCLOS Implemenation Agreement were obviously aware of UNCLOS's shortcomings, and they came up with new definitions in the Agreement describing cooperation .¹⁰⁰ Article 5 gives an extensive list of obligations for coastal states and fishing states, which include: achieving optimum utilization of resources, regulating based on the best scientific data, minimizing pollution, and many other like-minded policy goals.¹⁰¹ The article obligates states in no uncertain terms by using the language "coastal States and States fishing on the high seas *shall.*"¹⁰² Thus, the states must follow the provisions of this article in order to be deemed cooperative.

Applying these requirements to Canada and Spain, there is a problem concerning interpretation of scientific data. The major point of conflict between the two nations would be over the scientific data used to determine the optimal harvest of the turbot fishery. Because the data is weak and contestable, Spain may argue that it was fishing at an optimal level, and therefore, be said to be cooperating.

^{97.} See Christopherson, supra note 96, at 358.

^{98.} See id.

^{99.} See UNCLOS, supra note 11, art. 117, at 1291.

^{100.} See Christopherson, supra note 96, at 368.

^{101.} See UNCLOS Implementation Agreement, supra note 77, art. 5, at 1550.

^{102.} Id. (emphasis added).

2. The Role of the Regional Organization

Perhaps the most significant improvement imposed by the UNCLOS Implementation Agreement is the requirement of article 8:

1. Coastal States and States fishing on the high seas *shall*, in accordance with the Convention, pursue cooperation in relation to straddling fish stocks and highly migratory fish stocks either directly or through appropriate subregional or regional fisheries management organizations or arrangements, taking into account the specific characteristics of the subregion or region, to ensure effective conservation and management of such stocks.¹⁰³

This article mandates states to join the management bodies or work in cooperation with the coastal states to regulate the fisheries. Article 8 also provides that only the states, who are members of the organizations or are working with the coastal states to manage the fisheries, are allowed to fish in the areas governed by the relevant organization.¹⁰⁴

The major problem solved by these new provisions is reflagging.¹⁰⁵ By requiring fishermen to join the management organizations or work with the coastal states, reflagging becomes an exercise in futility. The purpose of reflagging is to avoid the reach of the management divisions. By requiring all fishermen to cooperate with regional management efforts, however, reflagging no longer allows avoidance of management regulations.

Part Three of the UNCLOS Implementation Agreement sets forth specific obligations for the organizations regarding methods of regulation.¹⁰⁶ These obligations are the main method of improving regulations of straddling and highly migratory fisheries. Nevertheless, the problems may not be solved for Canada, Spain, and the turbot.

The problem that the new Agreement does not resolve for Canada and Spain is the consensual nature of NAFO.¹⁰⁷ Each member may avoid compliance with any NAFO decision by filing

^{103.} Id. art. 8, para. 1, at 1553-54 (emphasis added).

^{104.} See id. art. 8, para. 4, at 1554.

^{105.} See supra note 22.

^{106.} See UNCLOS Implementation Agreement, supra note 77, pt. 3, at 1553-58.

^{107.} See Christopherson, supra note 96, at 374.

an objection within sixty days of the decision.¹⁰⁸ Spain and the EU have traditionally taken this route in order to avoid compliance with NAFO catch quotas.¹⁰⁹ The new Agreement does not address this problem either directly or indirectly.¹¹⁰ Thus, Spain may still avoid compliance with the NAFO quotas, leaving the parties to litigate their differences over the definition of "co-operation" and putting Canada and Spain right back where they started.

V. CONCLUSION

The conflict between Canada and Spain is one of a long series of disputes arising with greater frequency as the world's oceans become increasingly depleted. Legally, Spain may be able to declare victory. Looking at the bigger picture, however, Canada's actions set in motion the wheels of change that are necessary to protect and improve high seas resources.

It still remains to be seen whether the UNCLOS Implementation Agreement will help reduce the number of conflicts. The most recent U.N. action, however, may be nothing more than a reaffirmation of international agreements currently in place. The international community learned that the ocean's bounty is finite, and now it must change its ways to reflect this reality.

Jeremy Faith*

108. See id.

^{109.} See Meltzer, supra note 13, at 298-99.

^{110.} See Christopherson, supra note 96, at 375.

^{*} J.D. candidate, Loyola Law School, 1997; B.A., Business Economics, University of California, Santa Barbara, 1994. I dedicate this Comment to my parents whose unconditional love and support made this possible. My thanks belong to the editors and staff of the *Journal* whose hard work and diligence got this Comment to print.

• . , •