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COMMENTS

THE INTERNATIONAL MISMANAGEMENT OF WHALING

Benjamin van Drimmelen*

I. INTRODUCTION

The international regulation of whaling has a relatively short history. There was no need for regulation until the mid-1800s, when more efficient methods of whaling began to emerge. The rapid succession of technological developments, such as the invention of the explosive harpoon in 1868 and the factory ship in 1903, led to the depletion of whale resources at an unprecedented rate.

In response to growing international concern, the League of Nations acknowledged the problem of whale over-harvest in 1925.¹ A preliminary Convention for the Regulation of Whaling was convened in 1931.² Four years later, the endangered Grey and Right whales received special protection by agreement within the whaling industry.³ In 1946, the International Convention for the Regulation of Whaling⁴ (ICRW) created the International Whaling Commission (IWC) to establish regulations and oversee the recovery of commercial whale species. The IWC worked to progressively reduce whale harvests, and in 1982 declared a worldwide moratorium on commercial whaling to commence in 1985.⁵ In addition, Article

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1. Rosati, *Enforcement Questions of the International Whaling Commission: Are Exclusive Economic Zones the Solution?*, 14 CALIF. W. INT'L. L.J. 114, 121 (1984) [hereinafter Rosati].

2. Convention for the Regulation of Whaling, Sept. 24, 1931, 49 Stat. 3079, T.S. No. 880, 505 L.N.T.S. 349.

3. See J. CHERFAS, *THE HUNTING OF THE WHALE: A TRAGEDY THAT MUST END* 110 (1988) [hereinafter CHERFAS].

4. International Convention for the Regulation of Whaling with Schedule of Whaling Regulations, Dec. 2, 1946, 62 Stat. 1716, T.I.A.S. No. 1849, 161 U.N.T.S. 361 [hereinafter ICRW].

5. 34 INT'L WHALING COMMISSION REP. 2 (1982).

65 of the United Nations Convention on the Law of the Sea (LOS Convention), passed in 1982, afforded whales special protection.⁶ These various regulations made the successful management of whaling seem assured.

But concurrent with increasing management came a decimation of commercial whaling stocks.⁷ Persistent international diplomacy and the evolution of international law failed to accomplish an objective of sustainable whale harvesting during a half century of cooperative management. What went wrong?

This comment examines the management record of the IWC and shows that the limitations imposed by diplomacy have combined with an inappropriate reliance on scientific data to preclude effective management. This management void was partially filled by the use of such undiplomatic means as terrorism and economic force by non-whaling interests. The effectiveness of such tactics is also discussed.

This comment then explores the limitations of the past in relation to the 1982 LOS Convention in an attempt to anticipate the effectiveness of whale harvest regulations in the future. It concludes that the "indispensable legal framework for almost all future activities at sea"⁸ will not only be unable to end the cetacean emergency, but will actually inhibit effective management.

II. THE MANAGEMENT OF WHALING, 1946-1982

Nations have exploited whales for hundreds of years.⁹ Management at an international scale emerged only at the turn of this century. The International Commission for Protection of Wildlife noted in 1913 that whale populations were susceptible to depletion.¹⁰ International action was first proposed in 1918.¹¹

For several decades thereafter, efforts at harvest regulation were directed at merely controlling oversupply problems; high harvests were glutting the market and threatening the economic viabil-

6. United Nations Convention on the Law of the Sea, Dec. 10, 1982, U.N. Doc. A/CONF.62/122, reprinted in 21 I.L.M. 1261 (1982) [hereinafter LOS Convention]. One hundred and seventeen states signed the LOS Convention on the first day.

7. The documentation of the decline of whales and whaling is the subject of many publications and will not be repeated here. For an up-to-date description, see CHERFAS, *supra* note 3.

8. D.M. JOHNSTON, CANADA AND THE NEW INTERNATIONAL LAW OF THE SEA 2 (1985).

9. See CHERFAS, *supra* note 3, at 59-106; W.N. BONNER, WHALES 202-43 (1980) [hereinafter BONNER]; R. McNALLY, SO REMORSELESS A HAVOC 73-117 (1981) [hereinafter McNALLY].

10. P. BIRNIE, 1 INTERNATIONAL REGULATION OF WHALING: FROM CONSERVATION OF WHALING TO CONSERVATION OF WHALES AND REGULATION OF WHALE-WATCHING 105 (1985) [hereinafter BIRNIE].

11. *Id.* at 150.

ity of the whaling industry. Scientific management to conserve whales did not begin until 1946, with the signing of the International Convention for the Regulation of Whaling. The analysis of the effectiveness of international control efforts will therefore begin with that Convention.

A. The Decision-Making Structure of the IWC¹²

The effectiveness of the IWC's regulation of harvests reflects its structure. The IWC was established by Article III(1) of the International Convention for the Regulation of Whaling.¹³ Participation in the IWC is not restricted to states involved in whaling, and observers from non-member states are permitted to attend, as are international organizations.¹⁴ At Commission meetings a simple majority can pass a resolution, but a three-quarters majority is required to amend the Schedule, which regulates seasons, capture methods, catch quotas, etc.¹⁵

As is typical of international regulatory bodies, the Commission itself has very limited power to regulate. Such power is deferred to the diplomatic level.¹⁶ Nor does the IWC have authority to inspect or enforce its regulations; enforcement is left entirely to member states in recognition of flag state jurisdiction. There is a prolonged procedure¹⁷ whereby one state can object to a regulation change and thereby delay its implementation in all member states for three months. Moreover, merely by objecting, the state is itself completely exempted from the restriction, reflecting the principle that a state is only bound to that to which it has specifically agreed.

The Commission itself is directed to meet two requirements which frequently conflict. On the one hand, it must set whale harvests based on scientific considerations;¹⁸ on the other, it must maintain the viability of the whaling industry.¹⁹ There is no provision for dispute settlement, so disagreement can delay implementation of conservation measures. There is also a provision whereby whales which are otherwise protected can be killed under "scientific permits" which are issued nationally without prior consent or review by the Commission.²⁰

12. This description of the IWC is condensed from *id.* at 174-204.

13. ICRW, *supra* note 4.

14. An international organization is defined as any previous observer or an organization with offices in three or more countries. *Id.*

15. See, e.g., International Convention for the Regulation of Whaling, 1946: Schedule as Amended at the 37th Annual Meeting, July 1985 (1986) [hereinafter Schedule].

16. C.E. HENRY, *THE CARRIAGE OF DANGEROUS GOODS BY SEA* 3 (1985).

17. ICRW, *supra* note 4, art. V(3).

18. *Id.*, art. V(2)(b).

19. *Id.*, art. V(2)(d).

20. *Id.*, art. VIII.

The super-majority requirement for changes to the Schedule further slows the implementation of protective measures. Additionally, factory ships or land-based whaling stations are beyond the Commission's jurisdiction,²¹ which extends only to the actual killing vessels.

This, then, is the regulatory framework within which the international regulation of whaling operates. How does it work in practice?

B. The International Whaling Commission in Practice

As noted above, scientists recognized a serious over-harvest of whales at an early stage. Under Article V of the ICRW, the Commission could adopt regulations to conserve whale resources, but such amendments had to be "based on scientific findings." Commission scientists made a number of recommendations, as summarized in Table 1.²² The scientists repeatedly advocated reduction of season length, size limits, harvest decreases (both generally and by species), research needs, area closures and sanctuaries, and total prohibitions and moratoriums. Recommendations for reductions in harvest and season length occurred throughout the 30-year period represented in Table 1. The recurrence of such recommendations does not mean they were not implemented; rather, it shows that, due to diplomatic negotiation and delays, the harvest restrictions were less drastic than proposed and were only gradually applied. This necessitated increasingly strict limits to counter the continued reduction in the number of whales.

The recommendations for more research generally did not re-

21. *Id.*, art. V(2)(c).

22.

TABLE 1
RECOMMENDATIONS FOR RESTRICTIONS ON THE HARVEST OF
WHALES BY THE INTERNATIONAL WHALING COMMISSION
1949-1979

RECOMMENDED ACTION	Year
Shortening of season	1949, 1950, 1952.
Increase of minimum length	1950, 1951, 1955.
Decrease in overall harvest	1951, 1955, 1956, 1958, 1960.
Regional reductions of harvests	1951, 1952, 1954, 1958.
More research	1950, 1956, 1961, 1963, 1966, 1967, 1968, 1969, 1970, 1971, 1972, 1973.
Sanctuaries	1949, 1952, 1953, 1957, 1958, 1969.
Area-specific closures	1954, 1963, 1965, 1966.
Species-specific quotas	1954, 1956, 1963, 1966, 1967, 1969, 1970, 1972.
Harvest reduction by species	1949, 1951, 1953, 1954, 1956, 1958, 1959, 1960, 1962, 1963, 1964, 1966, 1967, 1969, 1970, 1972, 1973, 1975, 1978, 1979.
10-year whaling moratorium	1972, 1973, 1978, 1979.
Stock-specific management	1973, 1975, 1977 (implemented).
This information appears in BIRNIE, <i>supra</i> note 10, at 193.	

sult in such research being conducted. The repeated demand for research was a reflection of the inability of existing scientific methods to assess population trends with any degree of precision. This chronic concern about data needs is analyzed in more detail below.

Table 2²³ categorizes the objections raised by whaling states which operated against restrictions on whaling. A recurrent theme was the ineffectiveness of controls when objecting or non-member states continued unrestrained harvesting. Several states also demanded special allowances for domestic, industrial or aboriginal uses. Note that the predominant recurrent objection related to the weakness in the scientific data. This matches exactly the scientists' continuing demand for more research. Therefore, problems with the use of scientific data impaired the IWC's capability to restrict harvests in two ways: it made the Commission reluctant to impose constraints, and it gave those states which favored continued whaling a ready (and almost continually utilized) ground for objecting to those constraints which did emerge.

Diplomatic wrangling consistently negated any serious effort to constrain whaling. When the whaling situation had deteriorated to the point where harvests were indisputably declining and whaling nations were willing to accept some reductions, the restrictions were not sufficiently severe to do more than slow depletion. This inability to impose the required level of restraint was exacerbated by the delay and objection mechanisms within the IWC itself. The result

23.

TABLE 2
REASONS FOR OPPOSITION TO RESTRICTIONS ON THE HARVESTING
OF WHALES IN THE INTERNATIONAL WHALING COMMISSION
1949-1979

Data uncertain, restriction not warranted	1949, 1950, 1951, 1952, 1953, 1954, 1955, 1957, 1958, 1959, 1961, 1963, 1965, 1967, 1968, 1970, 1971, 1972, 1973.
Restrictions would compromise required data collection	1972, 1978.
Domestic or aboriginal use required	1949, 1959, 1972.
Member objection, so not bound by restriction	1949, 1952, 1954, 1955, 1957, 1958, 1960, 1973.
Restriction in violation of the Convention	1950, 1953, 1958, 1965, 1973, 1977.
Non-compliance by non-members negates utility of restriction	1950, 1951, 1952, 1954, 1955, 1959, 1960, 1965, 1972, 1973.
"Pirate whalers" harvest negates utility of restriction	1955, 1959, 1976, 1979.
200-mile fishery zones negate restrictions	1953, 1964, 1977, 1979.
Restrictions too severe, industry adjustment time required	1955, 1957, 1959, 1961, 1963, 1964, 1977.
Scientific permit use uncontrolled	1956.
This information appears in <i>id.</i>	

was that the IWC accomplished "too little, too late" throughout its history. One writer summarized the record of the IWC as follows:

The whole story is a sad one. The body set up to protect whale stocks failed to do so . . . although the actions it took certainly retarded the slaughter. But it is difficult to see what other course of action the IWC could have taken Unpopular proposals were received with threats to withdraw from the Convention and these threats were put into effect on more than one occasion. Compromise was the price paid for whaling to continue . . . even if it was recognized that the limits were too broad.²⁴

C. The Limiting Factor of Science

As previously noted, the International Whaling Commission was required to base its decisions on scientific data; however, the imprecision of science seriously weakened regulation of whale harvests. Thus, the science behind whaling, and more particularly the limitations of that science, warrant closer examination.

1. Biological Constraints of Scarce, Elusive Species

There are ten species of so-called "great whales" which have been commercially exploited.²⁵ All are impossible to number accurately and economically due to their wide ranging movements, the cost of keeping observers at sea and the nature of the ocean habitat, which make observation of identifiable individuals extremely difficult. The problems inherent in managing the large whales are not unique to that group. Any species whose habitat characteristics preclude an accurate population census and which exhibits such parameters as small population size, great mobility, individual longevity, late age of first breeding, small litter size and a breeding interval of several years between litters creates severe management problems.²⁶ Because the animals themselves cannot be individually counted, managers must rely on secondary information that can be economically collected. Such data sources include statistics relating to effort, such as catch-per-unit-effort, plus statistics derived from attributes of the harvested animals themselves, usually sex ratio and age.

a. Whaling Effort Data

The Commission relied on harvest-based information from

24. BONNER, *supra* note 9, at 247.

25. The great whales include nine species of baleen whales (Grey, Right, Bowhead, Blue, Fin, Humpback, Bryde's, Sei and Minke) and one species of toothed whale (Sperm).

26. The management-confounding biological attributes of whales are described by Carlson, *The International Regulation of Small Cetaceans*, 21 SAN DIEGO L. REV. 577, 581 (1984).

1949 until as recently as 1979.²⁷ Analysis of effort statistics depends on an assumption that if a consistent level of effort is expended by the whaling vessels, a decline in the number of whales killed per day of whaling will become apparent as the whale population declines. Alternatively, the hunting effort expended per killed whale should increase with a declining whale population. However, increasing efficiency of whalers confounded attempts to use effort statistics. As whalers moved from sailing ships to steamships and from hand-held harpoons to harpoon cannons with exploding heads, the effort required to capture whales decreased; at the same time, the use of factory ships and more powerful vessels shortened the search time. These changes made effort data a less effective means of revealing a depletion of whales.

The progressive relocation of whaling fleets to exploit previously-unhunted populations further masked trends in the catch-per-unit-effort data. The historical pattern of commercial whaling is described by McNally as a process of "locat[ing] a population of whales to exploit, kill[ing] them until they are too few to hunt further, [and] push[ing] on to search out a new motherlode."²⁸

The diminished whale populations were not "sampled" by the whalers after they moved on, so insignificant effort data on those areas were available to the scientists. The new data, based on previously-unharvested populations, would show low effort levels which would be interpreted as reflecting a non-depleted whale resource.

b. Sex and Age Ratios

Given the high probability of error in effort-based data, scientists looked to the harvested whales themselves for a supposedly independent data source. The sex ratio of the harvest is a commonly-used indicator of harvest pressure. As females with calves are protected by law, only males and solitary females who have weaned their calves are vulnerable to whalers.²⁹ Therefore, the sex ratio in the harvest of a lightly-hunted population should show a preponderance of males. As a population is more heavily hunted, there will be fewer males available, and solitary whales will more likely be single females. As a result, an increase in the female component of the harvest theoretically should warn the manager of over-harvest.

A variety of factors interfered with attempts to use sex ratio data. With the exception of the sperm whale, where males spatially separate themselves from females and immatures for much of the

27. CHERFAS, *supra* note 3, at 132.

28. MCNALLY, *supra* note 9, at 81.

29. Schedule, *supra* note 15, §§ 14 & 17. Both calves and females with calves are protected.

year,³⁰ the sex of whales is difficult to distinguish. This is so even after the animals are actually harvested. Therefore, whalers did not generally record the sex of whales killed. Even where sex ratio information was available, the relocation of the whaling fleets meant that information came from previously unharvested populations, so changes in sex ratio in the harvest had little significance.

Sex ratio data can be augmented by data on the age structure of the harvest. For many species, annual growth rings are detectable by microscopic analysis of the teeth. This method of age-determination for whales is difficult because all but the sperm whale lack teeth. Other aging techniques have been proposed, such as analysis of age rings on the horny plug that lies in the whale's ear cavity,³¹ however, industrial pressure for speedy processing makes the time-consuming recovery of the small ear plugs an unviable alternative. Moreover, whales are long-lived. Baleen whales live up to 30 years, while sperm whales may live as long as 50 years.³² Sporadic occurrence of some old whales in the harvest can dramatically skew the average age of the harvested whales upward, which again can have the effect of masking danger signals in the data.

c. Sample Size

Compounding the above confounding factors is the statistical constraint of small sample size. The confidence one can have in a statistical result depends on the proportion of the population being sampled. The higher the proportion sampled, the more accurate are the indicated results. If a species can only be lightly harvested, e.g. 4-5% of the population in any year for the large whales,³³ the sample size must be small if the population is not to be decimated by the sampling itself. The resultant small sample size necessarily leaves any conclusions open to dispute.

d. Recent Improvements?

Is modern science, with the increased sophistication of computer analysis and lessons learned from past failures, able to overcome these limitations? The 1984 IWC discussions over Minke whale harvests suggests not.³⁴ In 1983, the catch limit in the Antarctic was set at 6,655 Minke whales. That number was reduced in 1984 by 37% solely because the "best" scientific estimate of population had declined from just over 400,000 to some 250,000 due to a change in calculation methods and underlying assump-

30. BONNER, *supra* note 9, at 180.

31. *Id.* at 183.

32. *Id.* at 184-85.

33. MCNALLY, *supra* note 9, at 116.

34. *Id.* at 135.

tions. Japan, Brazil and the USSR objected, with Japan arguing that the limit was not based on scientific findings and that scientific data were being ignored in response to political manoeuvring. In fact, the Commission had carefully analyzed all of the available information from marking surveys and catch effort and concluded that such sources were "so variable that no conclusions could be drawn from them."³⁵ This result is significant because since 1974 the Commission had analyzed data under a "New Management Procedure," utilizing state-of-the-art fisheries management models and procedures.³⁶ Even this refined analysis failed to produce an unassailable scientific basis for IWC recommendations. One can only conclude that the weakness of a scientific basis for whale harvest regulation has not significantly changed.

2. Diplomacy and the Management Effects of Scientific Limitations.

In light of management uncertainty due to chronic data inadequacies, how should the whale resource have been internationally managed?

The effect of mismanagement of a species which is sensitive to over-harvest can be severe. The large whales have not evolved to withstand a significant predation level because they are immune to most non-human predators.³⁷ Consequently, they reproduce at a very slow rate. Litter size is small: the one calf typically born per litter remains with the female for 2-3 years, so that only one calf is born every 3-4 years. Sexual maturity does not occur until the age of 4-11 years, depending on the species. The result is a species of little resilience to over-hunting.

Given a high risk of long-term damage, a slow recovery rate if damage is done, and a limited ability both to detect a problem and to monitor a recovery, sensitive species must be managed in a very conservative manner. Since error is inevitable due to the previ-

35. *Id.* at 136.

36. International Whaling Commission, Rep. No. 26 (1975). The Procedure applied a standard fisheries management concept whereby any harvested species is assumed to reproduce at an increased rate and exhibit increased individual survival if the population is reduced somewhat below the habitat's carrying capacity. Such an optimum population size, exhibiting maximum production, can withstand a high harvest or Maximum Sustained Yield (MSY). Each whale stock was classified into one of three groups based upon the relationship between the estimated actual population size and the theoretical MSY population. Thus, "Initial Management Stocks" could be heavily harvested to reduce the population to MSY; "Sustained Management Stocks" were already at the optimum population, so a sustainable harvest level was prescribed; "Protection Stocks" had been reduced to below the MSY population, so no commercial whaling was permitted.

37. Aside from man, the only predators of cetaceans are other whales (killer whales, false killer whales, pygmy killer whales) and sharks. See Levin, *Toward Effective Cetacean Protection*, 12 NAT. RESOURCES L. 549, 554 (1979).

ously-described confounding factors, a management agency must plan to err on the side of low harvest. The managerial response to any detected over-harvest must be swift, and often extreme, to be effective.

Paradoxically, international regulation of whale harvests has resulted in unsustainably high harvest rates. Any restrictions must be scientifically proven. Further, the give-and-take sphere of international diplomacy has allowed delay and compromise to prevent the imposition of prompt and decisive restrictions, thereby exacerbating the difficulties of regulating the harvest of sensitive species.

The failure of the IWC to prevent decimation of commercial whale stocks inadvertently produced two new modes of management—one much less diplomatic than that of the IWC and the other much more so. Management began to involve the use of force, both economic and physical, and the new law of the sea proposed management by international cooperation and consensus. The effectiveness of these measures is discussed in the next section.

III. THE MODERN REGIME: MORATORIUM, WHALE WARS AND THE LOS CONVENTION

While factors external to the IWC had some effect on the regulation of whaling throughout the Commission's history, their impact increased markedly in the 1970s. Such factors served not only as pressure on the IWC to impose more severe restrictions, but also as predictors of future whaling regulations.

First, the 1972 United Nations Conference on the Human Environment (the Stockholm Conference) assessed the state of whale stocks and strongly proposed, by a vote of 56 to 0 (12 abstentions), an immediate ten-year moratorium on commercial whaling to permit whale recovery.³⁸ This concept gained increasing state support throughout the ensuing decade.

Second, such non-governmental organizations (NGOs) as Greenpeace and the Sea Shepherd Society began an intense international campaign to ban whaling, with the latter resorting to militant means. This movement coincided with the threat of trade sanctions by the United States to force states to comply with IWC restrictions.

Third, the U.N. Convention on the Law of the Sea was finalized in 1982. Of particular relevance to whale harvest regulation was the formalization of the 200 nautical mile Exclusive Economic Zones (EEZ), which allow coastal states to claim jurisdiction over

38. Report of the United Nations Conference on the Human Environment, U.N. Doc. A/CONF. 48/14/Rev. 1, Recommendation No. 33 (1972).

much of what had previously been open to all states for exploitation under high seas jurisdiction.

A. Development of the Moratorium

The 1972 Stockholm Conference was intended as a consulting and coordination exercise.³⁹ However, it adopted an "Action Plan" with 109 recommendations,⁴⁰ many of which stressed cooperation between states to prevent damage to resources beyond any state's jurisdiction. The recommendations were intended as guidelines and were, generally, vague in content; however, Recommendation 33 specifically directed governments to strengthen the IWC and called on the Commission to implement a ten-year moratorium on commercial whaling.

The IWC originally resisted a moratorium because it would have regulated all stocks as one group, whereas "prudent management requires regulation of the stocks individually."⁴¹ The IWC also considered a moratorium unnecessary because it had adopted "new management procedures" which promised to halt the decline in whale stocks without the need to eliminate harvest. However, by 1978 the continued approval of high quotas caused progressively more non-whaling states to join the IWC, with the result that the moratorium proposal was reactivated. Proposals from 1978 to 1981 failed to acquire the required 75% majority, but in 1982 a Seychelles-sponsored proposal was passed. This proposal set a zero quota to commence in 1986 with a re-assessment in 1990. Japan, Norway, Peru and the USSR immediately filed objections to avoid being bound by the moratorium.

B. The Whale Wars

IWC harvest regulations could be avoided in two ways. A state could object to a restriction and thereby be exempted from its application, or it could finance "pirate whalers," which flew flags of the non-IWC states not bound by such restrictions. Following the principle of freedom of fishing on the high seas, non-members were unconstrained by the IWC. They could harvest at whatever levels economic demand supported.⁴² In the late 1970s, two "enforcement" measures developed outside of the IWC to deal with whalers and states seeking to avoid harvest restrictions: militant non-gov-

39. The conference is analyzed in detail in BIRNIE, *supra* note 10, at 363-70.

40. Of these recommendations, six related directly to the competence of the IWC.

41. Sumi, *The "Whale War" Between Japan and the United States: Problems and Prospects*, 17 DEN. J. INT'L L. & POL'Y 317, 331 (1989) [hereinafter Sumi].

42. Geneva Convention on Fishing and Conservation of the Living Resources of the High Seas, U.N. Doc. A/CONF. 131 L-54, art. 1 (1958). The basic concept survived intact, subject to some new constraints, in the LOS Convention, *supra* note 6, art. 116.

ernmental organizations and the use of economic coercion by the United States.

1. Non-Governmental Organizations (NGOs)

NGOs exist in many forms and use diverse methods to promote their objectives. Many such organizations took part as observers at IWC meetings and their activities are credited with effecting many changes in policy.⁴³ Despite the diversity of NGOs, this paper focuses only on one category, namely those whose activities have been termed "terrorism on the high seas."⁴⁴ Such groups are of particular interest in analysis of international whaling regulation because of their contrast to the more typical mechanisms of diplomacy, lobbying and negotiation.

As previously noted, use of pirate whalers was one means by which states were able to avoid IWC harvest restrictions. The problem was not a new one; complaints about pirate whalers' activities surfaced in 1952 and continued into the 1980s.⁴⁵ Such activities were supported by IWC members buying the products of the pirate vessels.⁴⁶

Given the inability of the IWC to control the pirate whalers, the more extreme NGOs resorted to unlawful acts, including sabotage and bombing of whaling vessels.⁴⁷ For example, the pirate whaler *Sierra* operated with impunity from the 1960s until 1980, when she was mined by supporters of the Sea Shepherd Society while in Lisbon harbour.⁴⁸ Extremist tactics were also used against IWC members who ignored IWC recommendations. For example, two Spanish whaling vessels were mined in 1980, allegedly by the same group.⁴⁹ In 1986, the Sea Shepherd Society sabotaged two of Iceland's four whaling vessels at Reykjavik.⁵⁰

43. M'Gonigle, *The "Economizing" of Ecology: Why Big, Rare Whales Still Die*, 9 *ECOL. L.Q.* 119, 193 (1980).

44. Falk, *Introduction: Preserving Whales in a World of Sovereign States*, 17 *DEN. J. INT'L. L. & POL'Y* 249, 251 (1989) [hereinafter Falk] (citing an un-named Japanese official quoted in Sanger, *Japan's Whaling Expedition Stirs Up Old Conflict*, *N.Y. Times*, Feb. 5, 1989, § 1, at 8, col. 1).

45. *Id.* at 251.

46. Japan in particular was a buyer. For example, in 1978 alone it imported over 6,000 tons of whale meat from non-IWC states. The practice ceased only when Greenpeace internationally publicized the fact. See *CHERFAS*, *supra* note 3, at 171.

47. Birnie has described the Greenpeace tactics of preventing whaling operations by sailing their vessels between whaling ships and the whales as being of "doubtful legality." *BIRNIE*, *supra* note 10, at 555.

48. P. WATSON, *SEA SHEPHERD: MY FIGHT FOR WHALES AND SEALS* 249 (J. Neuman ed. 1982).

49. D. DAY, *THE WHALE WAR* 63 (1987) [hereinafter DAY] (describing the mining of the *Ibsa I* and *Ibsa II* in Marin harbour).

50. *Id.* at 133.

2. Use of Economic Force

The United States enacted two laws which have been used to exert economic force on states which persist in whaling. The Pelly Amendment of 1971 allows the government to halt fisheries imports from a country which breaches the International Convention on the Regulation of Whaling.⁵¹ The Packwood-Magnuson Amendment of 1979 gives authority to curtail an offending state's allowance of fish from the American Exclusive Economic Zone.⁵² The U.S. passed both laws specifically to provide the power to enforce compliance with international fisheries treaties.⁵³

The mere threat of economic sanctions was sufficient to cause the Republic of Korea to abandon proposals in 1986 and 1987 for "research" whaling which had been rejected by the IWC.⁵⁴ The United States also used the threat of sanctions in 1978 to force Peru, Chile and the Republic of Korea, all whaling states operating outside the sphere of the IWC, to become members of the Commission.⁵⁵

In other cases, sanctions were imposed, but with little effect. In 1985, the United States penalized the Soviet Union for taking too many Minke whales by utilizing the Packwood-Magnuson amendment to halve the Soviet quota in Alaskan waters.⁵⁶ However, the Soviet Union was relatively immune to sanctions because of its negligible reliance upon fishing in American waters.⁵⁷

In the majority of cases, sanctions were threatened but subsequent negotiations resulted in either reduced actions or none at all. When the IWC announced a ban on sperm whale harvest in 1984,

51. Pub. L. No. 92-219, 85 Stat. 786 (codified at 22 U.S.C. § 1978 (1988)).

52. Pub. L. 99-61, 93 Stat. 407 (codified at 16 U.S.C. 1821(e)(2) (1988)).

53. CHERFAS, *supra* note 3, at 189. See generally E. ZOLLER, ENFORCING INTERNATIONAL LAW THROUGH U.S. LEGISLATION 84-97 (1985). It is questionable whether these U.S. laws are consistent with U.S. obligations under the General Agreement on Tariffs and Trade. See *United States — Prohibition of Imports of Tuna and Tuna Products From Canada*, GENERAL AGREEMENT ON TARIFFS AND TRADE, BASIC INSTRUMENTS AND SELECTED DOCUMENTS 91 (29th Supp. 1983) (a U.S. trade action taken under the Fishery and Management Act of 1976 was found to be inconsistent with the U.S. GATT obligations).

54. Martin & Brennan, *Enforcing the International Convention for the Regulation of Whaling: The Pelly and Packwood-Magnuson Amendments*, 17 DEN. J. INT'L L. & POL'Y 293, 311 (1989) [hereinafter Martin].

55. Wilkinson, *The Use of Domestic Measure to Enforce International Whaling Agreements: A Critical Perspective*, 17 DEN. J. INT'L L. & POL'Y 271, 283 (1989) [hereinafter Wilkinson].

56. Interestingly, this action followed the provision of photographic proof by Greenpeace, which had entered the Soviet Union's territorial sea in 1983 and showed that harvested whales were being used not for sustenance, but for feed in commercial mink production. For details, see DAY, *supra* note 49, at 76.

57. Nevertheless, in April 1988, the Soviet Union informed the United States that it was suspending commercial whaling for "technical reasons." As a result, the quota restriction was lifted. See Wilkinson, *supra* note 55, at 283.

the Japanese avoided restrictions by objecting. The United States initially threatened sanctions but ended by negotiating an agreement.⁵⁸ The agreement made no mention of the IWC; Japan was restricted to "catch limits acceptable to the United States."⁵⁹ Conservationists brought legal action to make sanctions mandatory, not optional, but the U.S. Supreme Court,⁶⁰ by a bare majority, allowed the Executive to use its discretion.⁶¹

Although the IWC rejected Japan's "research whaling" proposal in 1987, Japan proceeded with it nevertheless. The United States used sanctions to prevent Japanese fishing in the American EEZ⁶² but did not impose a more damaging ban on selected imports. In fact, Japan had no quota within the zone,⁶³ so the sanctions were merely symbolic. It should be noted that the United States exports \$1.5 billion worth of fish to Japan, an amount which Japan has twice threatened to curtail.⁶⁴ For this reason, and in light of the military alliance between the nations reflecting their shared strategic interests, the United States is increasingly reluctant to threaten sanctions against Japan for violation of non-binding IWC resolutions.⁶⁵

In 1986 Norway responded to a threat of sanctions by announcing it would cease whaling in 1987, but that it would continue catching some 350 whales per year for scientific purposes.⁶⁶ The United States maintained that this complied with the IWC program, and did not impose sanctions. In 1988 the IWC rejected Norway's research harvest proposal, but Norway continued to plan for the harvest nonetheless. The United States, after further discussion, decided that the proposal was acceptable.⁶⁷

Although Iceland nominally took whales only for scientific purposes, it sold 4,000 tons of whale meat to Japan annually in contravention of an IWC proviso requiring local consumption.⁶⁸ As Iceland only used 5% of the meat, a campaign to increase domestic consumption to 51% was undertaken. Predictably, the population

58. *Agreement to End Japanese Whaling Announced*, U.S. Dept. Comm. News NOAA, 1984, at 84.

59. CHERFAS, *supra* note 3, at 190.

60. *Japan Whaling Ass'n v. American Cetacean Soc'y*, 478 U.S. 221 (1986). For an analysis of the Court's reasoning, see Haskell, *Abandoning Whale Conservation Initiatives in Japan Whaling Association v. American Cetacean Society*, 11 HARV. ENV. L.J. 551 (1987).

61. CHERFAS, *supra* note 3, at 193.

62. Wilkinson, *supra* note 55, at 285.

63. Sumi, *supra* note 41, at 317.

64. Wilkinson, *supra* note 55, at 286.

65. *Id.* at 285-86.

66. CHERFAS, *supra* note 3, at 194. Recall that the ICRW allows a state to unilaterally undertake a harvest for such purposes.

67. Martin, *supra* note 54, at 308-9.

68. ICRW, *supra* note 4, art. VIII(2).

of 250,000 had a limited ability to consume and the attempt failed. The United States threatened sanctions in 1986, 1987 and 1988, but again neglected to actually apply them, probably because Iceland responded by halting construction of a NATO base in Keflavik, Iceland.⁶⁹

3. Effectiveness of the "Whale War" Actions

Public opinion in much of the world has been swayed to the point where commercial whaling is viewed as unacceptable, and this is at least in part due to the publicity given to NGO tactics of obstructing whaling vessels. Current membership of the IWC includes many non-whaling states, an overwhelming majority of which endorse global protection of whales.⁷⁰ The ecotactical forces of the "Whale War" appear to have been successful in improving the effectiveness of international regulation of whaling. However, such whaling states as Japan, the Philippines and the Republic of Korea still eagerly await the resumption of commercial whaling.⁷¹

As regards the coercive economic forces of the Whale War — putting aside the legal⁷² or moral issues involved in using such tactics — the history of the IWC corroborates Wilkinson's assessment that "we are faced with a Convention which cannot regulate whaling without the application of US laws."⁷³ However, such unilateral actions are of limited utility and create diplomatic friction, with the result that the effectiveness of sanctions lies more in their threat than their implementation. Nevertheless, their overall effect on the IWC's ability to achieve its conservation objectives has been salutary.

C. The Potential Effect of the LOS Convention

In 1982, after 15 years of complex negotiations which occurred concurrently with the decline in commercial whaling, the U.N. adopted the Convention on the Law of the Sea. It is an immense and comprehensive treaty. Even though it has not, and may never, come into force,⁷⁴ most nations generally follow its provisions and

69. Wilkinson, *supra* note 55, at 288.

70. Chopra, *Whales: Towards a Developing Right of Survival as Part of an Ecosystem*, 17 DEN. J. INT'L L & POL'Y 255 (1989).

71. Sumi describes Japan as "waiting in strong expectation" for the end of the moratorium in 1990 so that it can resume more than mere "scientific whaling." *Supra* note 41, at 321.

72. Sumi claims such unilateral use of economic sanctions is "of dubious legality under international law." *Id.* at 318.

73. Wilkinson, *supra* note 55, at 291.

74. The LOS Convention will enter into force one year following the deposit of the 60th ratification. As of December 1989, 42 states had ratified the treaty.

therefore the treaty can be expected to guide international practice if commercial whaling resumes in 1991.

Articles 55-57 of the LOS Convention allow for the establishment of 200 nautical mile Exclusive Economic Zones. The EEZ regime is important in terms of whale management because half of the world's whales are found within 200 miles of shore.⁷⁵ Under Article 61, coastal states have the right to determine the allowable harvest of living resources within the zone, but Article 61(2) requires that "best scientific evidence" be used in setting those limits. In this way, the LOS Convention perpetuates reliance on a tool that has crippled the IWC's attempts to regulate whaling. Worse, the limitation of reliance on science is aggravated in Article 61(3), which requires the consideration of other vague factors such as "the economic needs of coastal fisheries communities" and the "special requirements of developing states."

Most of the section dealing with the exclusive economic zone suffers from another source of interpretative confusion: articles which otherwise relate to "living resources" (and hence presumably to whales) sporadically refer specifically to "fishing." This creates confusion as to whether the term "living resources" relates only to fish, primarily to fish, or merely includes fish. For example, Article 61 is headed "living resources" and the first two clauses appear to include whales. While clause 61(3) initially refers to general harvest limits, it specifies that fishing communities and fishing patterns be considered. Such considerations clearly would apply to fishery harvest limits, but would have no relevance to whale harvests. Clause 61(5) applies exclusively to sharing of fishing catch effort statistics. What is to be implied about effort data for non-fish resources?

Article 62 follows the same pattern. The first two clauses provide general rules for all living resources. However, the interpretation becomes confused in clause 3. The first part of the clause sweeps broadly. It states, "In giving access [for utilization] to other states, the coastal state shall give consideration to . . . factors including . . . the significance of the living resources to the economy of the coastal state." But the next phrase states more narrowly "the need to minimize economic dislocation in states whose nationals have habitually fished in the zone." This would suggest that the clause refers only to fishing.

Presumably, those who have habitually fished in a zone will not be affected by whale harvest limits; it is illogical for that factor to be considered unless living resources is intended to mean fish only. Clause 62(4), which clearly refers exclusively to fishing, compounds the confusion.

75. BONNER, *supra* note 9, at 114.

Article 63 deals with straddling stocks, a concept that applies to highly mobile whales. However, clause 63(2) refers only to "fishing for such stocks." Article 64 deals with "highly migratory species," a term which would aptly describe commercial whales. Its fishing orientation is revealed by the opening phrase: "The coastal state and other states whose nationals fish in the region for migratory species" Prima facie, it would appear that highly migratory and boundary-straddling whales are *not* to be included in either clause. However, all cetaceans are included in the Convention's Annex I, which lists the species covered by Article 64. Given the elaborate negotiations which produced the LOS Convention, it is inconceivable that the drafters considered whaling to be included within fishing; the fact that cetaceans are among the marine mammals in Article 65 clearly shows that whales were not considered to be fish for purposes of the LOS Convention. How explain the fact that Article 64 contemplates "fishing" for whales?

Of most direct relevance to whaling is Article 65, which deals specifically with marine mammals in the exclusive economic zone:

Nothing in the Part restricts the right of a coastal state or . . . international organization . . . to prohibit, limit or regulate the exploitation of marine mammals more strictly than provided for in this Part. States shall . . . in the case of cetaceans in particular work . . . for their conservation, management and study.

Article 120 incorporates this provision into the high seas regime. As the IWC is the only appropriate existing "international organization," this article could be interpreted as requiring *all* states (whether members or not) to cooperate with IWC restrictions. Any coastal state could apply more severe restrictions in its own EEZ and territorial sea. Nevertheless, there is nothing to prevent such whaling-oriented coastal states as Norway, Iceland, Korea, the Philippines, Peru, Japan, the Soviet Union and others from objecting to harvest limits of the IWC, thereby opting out of their international obligations, and setting dangerously-high harvest limits within their respective EEZs.

Of particular concern is seasonal whale congregation within the EEZ of a whaling-oriented coastal state, and this situation could arise if the seven "claimant states" which signed the 1961 Antarctic Treaty are allowed to claim EEZs in their Antarctic zones.⁷⁶ Cold surface currents from the Antarctic flow northward under wind pressure to meet warm waters from the equatorial oceans. From this zone of mixing, the Antarctic Convergence, nutrient-rich waters flow south again below the surface, upwelling along the Antarctic land mass. A combination of long day length and high

76. The ability of these states to make such claims is internationally disputed. See THE ANTARCTIC LEGAL REGIME 2 (C.C. Joyner & S.K. Chopra eds. 1988).

nutrient content of the water creates a highly concentrated seasonal food source for baleen whales in the form of krill. This aquatic cornucopia attracts the greatest concentration of whales in any ocean (pre-whaling estimates of 750,000 whales have been calculated),⁷⁷ forming a unique and irreplaceable larder which the whales of the southern oceans must utilize to survive.

Sadly, the LOS Convention makes little specific provision either for the protection of marine mammals in such unique areas or for endangered species. Only Article 194(5) concerning general protection for the marine environment contains any reference to "fragile ecosystems" and "habitat of depleted, threatened or endangered species." History shows that scientific findings will continue to provide ammunition to both optimists and pessimists in deciding whether whale species are depleted, threatened or endangered. There is little assurance of protection here.

In addition, the LOS Convention provides no deterrent sanctions against states that refuse to cooperate.⁷⁸ As described above, lack of enforcement severely reduced the effectiveness of even the minimal restrictions of the IWC. Enforcement ultimately had to rely on the external mechanisms of economic coercion and illegal tactics. There is nothing in the new law of the sea to correct this chronic problem.

In sum, the LOS Convention will be of little value to whales. It crudely lumps fish and whales together, perpetuates a reliance upon the endlessly debatable yardstick of science, and complicates the jurisdictional rules by requiring consideration of the objectives and needs of other states.

IV. FUTURE PROSPECTS — MANAGEMENT OF WHALING AFTER THE MORATORIUM

Before assessing the future of international regulation of whaling, the points already made warrant summarization.

First, although precise population estimates do not exist, there is international consensus that whales were seriously over-harvested during the 1946-1980 period. This over-harvest occurred despite efforts by the IWC to prevent it. The structure of the IWC imposed major weaknesses on its regulatory abilities. Moreover, the IWC mandates — to base harvests on scientific data and to protect the interests of whaling states — proved contradictory.

Within this structure, the scientifically-based recommendations were negated by the economic, national and international concerns of the whaling-oriented IWC membership. Recommendations for

77. McNALLY, *supra* note 9, at 105.

78. Rosati, *supra* note 1, at 116.

reduced harvest were continuously made, but they were disputed or diplomatically delayed. Both sides in this perpetual debate agreed on one thing: more and better scientific data were needed. The scientific advisors demanded more research to justify their recommendations, while the whaling states required more research to convince them that such restrictions were necessary. In the absence of unassailable data, restrictions were hesitantly recommended and readily discredited.

The inability of the international regime to prevent the decimation of commercial whale stocks resulted in the use of questionable and illegal tactics, such as destruction of property, infringement of whaling on the high seas and use of economic force. Such disruptive "management" will continue if international law cannot overcome its limitations. Far from increasing the effectiveness of whaling regulation, the LOS Convention further muddies the management waters. The provisions for living resources erratically interchange fish and mammals. The management regime for marine mammals now will be divided among non-governmental programs, bilateral agreements, regional agreements and limited global authority. This will cause a lack of coordination, weak enforcement, a perpetuation of the "species group" (rather than ecological) basis for management, and continuing mandatory reliance on inherently unreliable scientific data. The potential for confusion and diplomatic delay in the comparatively straightforward guidelines of the International Convention for the Regulation of Whaling will only be amplified by the LOS Convention.

This is not to say that the LOS Convention must be strictly construed only as a treaty. Three themes permeate the document: states have a duty to conserve, to cooperate and to negotiate.⁷⁹ But as regards whaling regulation, this interpretation is unhelpful. Conservation, cooperation and negotiation were precisely the principles which the Convention for the Regulation of Whaling embraced. The IWC was specifically conservation-oriented from its inception. It relied exclusively on cooperation among whaling states and involved extensive negotiation. Forty years of management by such "soft law" principles resulted in failure and the controversial strong-arm tactics described earlier.

There unquestionably remains a demand for whales, as the actions of Japan, Iceland, the Soviet Union and Norway have shown during the present moratorium. Those states have freedom on the

79. Johnston, *The Driftnetting Problem in the Pacific Ocean: Legal Considerations and Diplomatic Options*, 21 OCEAN DEV. AND INT'L. L. J. 5 (1990) (discussing the utility of these "soft law" themes for future regulation of driftnetting. Driftnetting concerns parallel whaling issues in many respects. Johnston concludes that the LOS Convention will not enable states to regulate driftnetting by "hard rules," i.e. as a strictly-construed treaty; instead, he places reliance on the use of "soft law" principles.

high seas and sovereign rights to exploit whales within their exclusive economic zones. It is only because the end of the moratorium is in sight that they continue to limit themselves to "scientific" whaling.

Scientific whaling is purportedly necessary to provide data to monitor whale population recovery. However, any whale recovery will proceed more rapidly without harvest. Management data is only needed to decide whether whales have recovered sufficiently to allow a resumption of harvest. Given the biology of the large whales, such recovery is unlikely to have occurred within a mere four years of quasi-moratorium.

What are the future prospects for whale management when the existing moratorium is reviewed? The first point to recall is that the science of whale management has not improved significantly. Depleted whale stocks aggravate the difficulties of collecting useful data. Second, the provisions of the LOS Convention perpetuate reliance on science. The role of the IWC is unclear within the context of the new law of the sea, but its control over members' whaling within their own 200-nautical mile zones will probably be reduced from that which existed prior to 1982. Therefore, the ability of international law to control whaling states, already weak, has been further weakened through the LOS Convention. It would appear that international law simply cannot adequately regulate an extremely vulnerable resource.

How should international law respond to a persistent demand for whales in the context of an inability to control or regulate the harvest? The most logical response is that whaling should simply cease. Vegetable and fish oils have replaced the traditional whale products of oil and meat meal, and the use of whale meat for direct human consumption is minimal.⁸⁰ Although pressure for whale conservation is not evenly distributed throughout the world, many influential nations are pro-preservation. In a world of sovereign states, however, how can a nation which is determined to resume whaling be prevented from doing so?

Difficult though it is to accept, it may be that some harvest-sensitive resources simply defy management under international law. In the final analysis, the vilified dictum of "might makes right" may usurp the cooperative tone of the LOS Convention, with the NGOs and economic sanctions forcing international whaling to cease.

80. BONNER, *supra* note 9, at 257 (cites the FAO as finding that Japan's "vital needs" for whale meat in 1972 constituted less than 1% of the country's total protein consumption).