

A Legal Regime for the Arctic*

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INTRODUCTION

For most of this century, the Arctic has been considered a frozen wasteland, significant largely in terms of the conflicting strategic interests of the Soviet Union and its arctic neighbors.¹ Recently, however, the region has been transformed into a promising frontier by the discovery of vast oil deposits.² Most of this frontier is occupied by the Arctic Ocean, the world's fourth largest marine body. The law of the sea is the dominant legal regime³ in this region.

The new interest in the Arctic comes at a time when the law of the sea is being reformulated. Until World War II, the traditional law of the sea was a strong legal regime promoting free use of the seas. Since that time, the traditional regime has fragmented dramatically under a variety of economic, political, and strategic pressures.⁴ Developing nations in particular have attacked the regime as a product of the bygone colonial era.⁵ This fragmen-

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1. This Comment frequently will refer to strategic concerns of the arctic states, but will not examine them in detail. The region has been immensely important as a buffer zone between the Soviet Union and the United States since the early days of the Cold War. The United States has important Air Force bases in Alaska and at Thule, Greenland. In addition, the DEW line, an early warning system against a Soviet missile attack on Canada or the United States, includes important stations in the Canadian Archipelago. More importantly, the Barents and Norwegian Seas, arms of the Arctic Ocean, provide the Soviet navy's only outlet to the Atlantic Ocean that does not pass through the territorial sea of a North Atlantic Treaty Organization (NATO) nation. As a consequence, the Soviets have major bases and installations on the Kola Peninsula, just east of the border with Norway (which is a NATO member), to protect this northern passage. Freedom of movement for this fleet is an important strategic interest of the Soviets, and colors the Soviet Union's position on any question affecting the Arctic. See generally Huitfeldt, *A Strategic Perspective on the Arctic*, in *THE CHALLENGE OF NEW TERRITORIES* 83 (Oslo, The Fridtjof Nansen Foundation Study No. 1, F. Sollie ed. 1974). Western concern over the Arctic grows with the recent rapid expansion of the Soviet navy. See Baron, *Norway Hones Its Defenses as Much as Possible While Trying, as Finland Does, Not to Irk Russia*, Wall St. J., Dec. 7, 1976, at 40, col. 1.

2. See text accompanying notes 40-42 *infra*.

3. A legal regime can be defined as a set of "norms and institutions generally adhered to by the major actors involved in a policy issue, [which] may be formal or de facto ('codified' versus 'customary' law)." Nye, *Ocean Rule Making from a World Policy Perspective*, 3 *OCEAN DEV. & INT'L L.* 29, 31 (1975).

4. For a brief history of the various marine legal regimes that have been employed in international law, see Nye, *supra* note 3, at 31-33.

5. See Kotz, "*The Common Heritage of Mankind*": *Resource Management of the International Seabed*, 6 *ECOLOGY L.Q.* 65, 65-66 (1976); Stevenson, *The Caracas Session in Review: Remarks on the Second Session of the Third Law of the Sea Conference*, in *PERSPECTIVES ON*

tation and the conflicts it engendered resulted in the Third United Nations Conference on the Law of the Sea, an unprecedented diplomatic endeavor to rewrite the entire law of the sea.⁶

Many of the profound divisions that have characterized the Conference since its first session in 1973 remained all too evident as the approximately 150 delegations reconvened May 23, 1977, in New York.⁷ However, one commonly shared assumption appears unshaken: the desired outcome is a "package" deal involving all of the major issues before the Conference, and applicable to all of the world's maritime areas.

Notwithstanding this assumption, close examination of the emerging reformulation of the law of the sea in light of the new situation in the Arctic raises doubts about the wisdom of including the Arctic in the new regime. These doubts derive from the unique environmental hazards of resource exploitation in the Arctic. The Arctic Ocean is 70 to 90% ice covered, depending upon the season and where one divides the Arctic from the Atlantic and Pacific Oceans.⁸ The ice plays an important role in regulating polar temperatures.⁹ These temperatures in turn appear to affect the climate throughout the Northern Hemisphere.¹⁰ Thus, pollution-induced changes in the ice cover could drastically alter the hemisphere's climate. Moreover,

OCEAN POLICY 19 (L. Ratiner, commentary) (National Science Foundation Pub. No. 75-17, 1975) [hereinafter cited as Ratiner]. The traditional law of the sea developed as a result of the acceptance of customary practice, particularly the practice of Great Britain, the great maritime power of the colonial era. See Nye, *supra* note 3, at 32.

6. One hundred and twenty-eight nations, including those that are landlocked, are participating in the New York session of the Third Conference. Various international organizations and a wide variety of interest groups are also participating, the more formally involved being included in the official delegate listings as "observers." See U.N. Doc. A/Conf. 62/Z/2 (1977).

7. The question of deep sea mining has crystalized these divisions. Within the Conference, the developing nations, the so-called "Group of 77," favor creation of a strong international authority to control deep sea mining. Over 100 nations are "members" of this unofficial bloc. The Revised Single Negotiating Text (RSNT), *infra* note 15, the basis for Conference debate, for the most part parallels their views. Neither the developed Western nations nor the Soviet bloc want an authority powerful enough to prevent mining under any auspices other than their own. See generally Kotz, *supra* note 5, at 70-80.

Other problem areas include the rights of landlocked and "geographically disadvantaged" states (i.e., those states with short coastlines, minimal continental shelf, etc.), and the question of whether the great naval powers and shipping interests will have the right to unfettered passage ("free transit") through those straits that will come under coastal state control if the Conference agrees, as expected, to extend the territorial sea to 12 miles. (The Straits of Gibraltar, for example, would be one important passage thus affected.) See generally *LOS Conference Adjourns Until May*, U.N. CHRONICLE, Oct., 1976, at 22, 22-23 [hereinafter cited as *LOS Adjourns*]; Lapointe, *Law of the Sea Conference: Report on the New York Session*, INT'L PERSPECTIVES, July-Aug., 1976, at 22.

8. See Traavik & Østrem, *The Arctic Ocean and the Law of the Sea*, in THE CHALLENGE OF NEW TERRITORIES 53, 62 (Oslo, The Fridtjof Nansen Foundation Study No. 1, F. Sollie ed. 1974) (authors estimate the ice coverage at 70%); D. PHARAND, THE LAW OF THE SEA OF THE ARCTIC 153 (Ottawa 1973) (author estimates the ice coverage at 90%). The difference in estimates probably reflects different definitions of the limits of the Arctic Ocean.

9. The ice insulates the water from cold air in winter and from warm air in summer, thus mitigating the temperature fluctuation attributable to the interaction of the ocean and atmosphere. Cf. text accompanying note 54 *infra* (insulating effect of oil trapped in ice).

10. See text accompanying notes 35-37 *infra*.

polar ecology is much more fragile than that in temperate zones.¹¹ In short, environmental concerns in the Arctic are not only unique, but also arguably of an entirely different magnitude than those in any other marine area.

Despite ringing pleas from some observers for "positioning ecology as the foundation of law,"¹² environmental concerns have been a secondary factor at the Conference.¹³ Although one of the three working committees of the Conference has environmental questions as its primary responsibility,¹⁴ the focus of the emerging agreement is on control and development of the oceans as an economic resource. The one article in the Revised Single Negotiating Text (RSNT) before the Conference specifically addressed to pollution problems in arctic waters deals only with shipping.¹⁵ Such a limited response to the unique threats posed by development in the Arctic, especially when considered in the exploitation-oriented context of the negotiations, can hardly dispel doubts about the continued suitability of the law of the sea for this region.

Part I of this Comment discusses the physical and environmental characteristics of the Arctic, and demonstrates that the Arctic "Ocean" is "at most quasi-oceanic in character."¹⁶ Part II examines the traditional legal regime of the sea and its application in the Arctic, and the environmental implications for the Arctic of the law of the sea as it is emerging from the Conference. Distinguishing the Arctic as "quasi-oceanic in character" could serve as a basis for excluding the Arctic from the new legal regime of the sea. Part II concludes that the arctic states—Canada, Denmark (Greenland), Norway, the Soviet Union, and the United States—should seriously consider creation of a special legal regime for the Arctic, based on sound environmental protection principles.

Part III of this Comment suggests an environmentally-centered approach to structuring a special regime for the Arctic, and identifies major hurdles to concluding an agreement. Part III offers an outline of the form such a regime might take, and considers briefly its implications for the law of the sea. The goal of this Comment is not to propose adoption of any particular type of regime, but to encourage development of a new perspective on decision making for the Arctic.

11. See text accompanying notes 58-61 *infra*.

12. Borgese, *Introduction to PACEM IN MARIBUS* at xiii (E. Borgese ed. 1972).

13. See D'Amato & Hargrove, *An Overview of the Problem*, in WHO PROTECTS THE OCEANS? I, 31 (J. Hargrove ed. 1975).

14. Committee III was assigned three problems: protection and preservation of the marine environment; marine scientific research; and the development and transfer of marine technology. A chart detailing the organizational structure of the Third Law of the Sea Conference is set out in MAJOR ISSUES OF THE LAW OF THE SEA 14 (D. Larson ed. 1976).

15. Revised Single Negotiating Text of the Second Committee, Third United Nations Conference on the Law of the Sea, May 6, 1976, Part III, U.N. Doc. A/Conf. 62/WP. 8/Rev. 1, art. 43 (1976) [hereinafter cited as RSNT]. The language of Article 43 appears in the text accompanying note 193 *infra*.

16. Johnston, *Canada's Arctic Marine Environment: Problems of Legal Protection*, BEHIND THE HEADLINES, July, 1970, quoted in Beesley, *Rights and Responsibilities of the Arctic Coastal States: The Canadian View*, 3 J. MAR. L. & COM. 1, 3 (1971).

I

PHYSICAL AND ENVIRONMENTAL CHARACTERISTICS OF THE ARCTIC

A. *The Arctic—A Physical Description*1. *Characteristics of the Ice Cover*

The outstanding physical characteristic of the arctic marine area is that it is up to 90% ice-covered.¹⁷ The ice pack accounts for most of the coverage. The pack is neither fixed nor continuous. At the North Pole, the ice is only three meters thick, and submarines, which navigate freely under it, have surfaced easily in openings only a short distance from the Pole.¹⁸ Visual ice reconnaissance flights have produced estimates that about 10% of the ice pack is actually open water.¹⁹ The pack has been characterized as "dominantly marine in character with a highly absorbent surface in summer, when it breaks into floes."²⁰

The arctic ice pack renews itself constantly. As the top layers evaporate—portions of which may be several years old—new ice forms on the underside. The salinity of the ice varies with its age: the newer the ice, the higher the salt content. Because the freezing point of water varies inversely with salinity, newer ice will melt at lower temperatures.²¹

Pack ice tends to be uneven, forming both pressure ridges up to 40 feet high where floes collide, and narrow leads of open water which can appear and disappear within a matter of hours.²² Pack ice drifts with the current and the wind, sometimes in almost circular patterns.²³

In addition to the pack ice, the Arctic contains a significant amount of "shore-fast" ice that forms over shallow coastal water.²⁴ Because it is formed from water fed by rivers, this ice has a lower salinity than the pack ice.²⁵

Continental shelves are deeply scoured²⁶ by icebergs calved from glaciers, the keels (bottom edges) of pressure ridges, and ice-islands breaking off from shore-fast "ice shelf" formations.²⁷ Icebergs, most of which form on Greenland and in the Canadian Archipelago, tend to drift toward the

17. See note 8 *supra*.

18. D. PHARAND, *supra* note 8, at 153.

19. *Id.* at 154.

20. Wilson, *Notes on Arctic Weather*, in PROCEEDINGS OF THE ARCTIC BASIN SYMPOSIUM 257 (1963), *quoted in* D. PHARAND, *supra* note 8, at 153.

21. R. THORÉN, PICTURE ATLAS OF THE ARCTIC 7 (1969).

22. Pressure ridges may have keels (bottom edges) over 100 feet below the surface of the ocean. Cairns, *Canada's Tough, Promising Frontier Search*, THE ORANGE DISC, NOV.-DEC., 1976, at 4. For more information on broad ice cracks, called "leads," see R. THORÉN, *supra* note 21, at 8-10.

23. See R. THORÉN, *supra* note 21, at 7.

24. At some points along the Siberian coastline, shore-fast ice extends up to 200 miles from shore. See *id.* at 7-8.

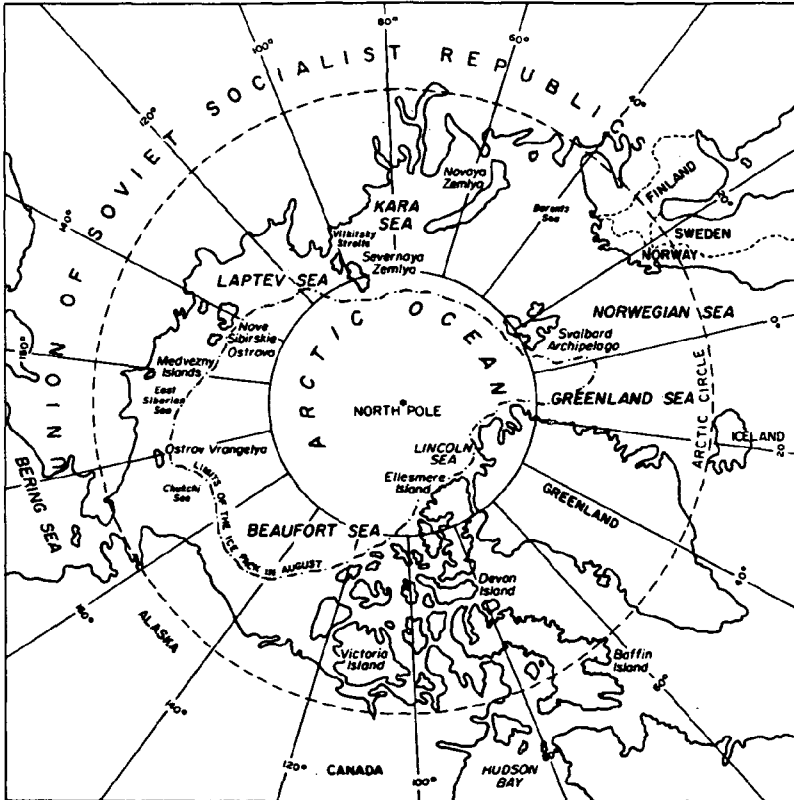
25. See *id.* at 8.

26. See Cairns, *supra* note 22, at 2.

27. On icebergs, see R. THORÉN, *supra* note 21, at 10-12.

North Atlantic. They vary widely in shape and draft. The mass of a large berg may exceed twenty million tons. Smaller berg-like bits of ice, known as growlers, range up to 10,000 tons.²⁸

FIGURE 1



Map adapted from Army Corps of Engineers, Map of The World, ser. 1107, ed. 2-AMS, Dec., 1959. Information concerning limits of the ice pack in August adapted from D. PHARAND, *THE LAW OF THE SEA OF THE ARCTIC* (Ottawa 1973).

In certain areas, ice breaks away from shore-fast formations in the form of islands which can drift for years with the pack, and are stable enough to serve as a home for researchers. Some ice-islands have run aground for a year or two, then have broken loose and have continued to drift.²⁹

Arctic ice creates serious hazards for shipping despite the use of powerful icebreakers and modern navigational aids. It also constitutes a major impediment to the exploration for and development of the Arctic's oil

28. *Drilling in Arctic Waters*, 25 PETROLEUM REV. 390, 392 (1971). See generally Ruffman, *Of Bergs Bits and Growlers*, SCIENCE, Apr. 2, 1976, at 7 (letter).

29. For a discussion of drifting ice stations, see R. THORÉN, *supra* note 21, at 53-61. Perhaps the most famous of the research stations, *Fletcher's Ice Island, T-3*, was first occupied in 1952. It ran aground off Point Barrow in May, 1960, and broke into two pieces. However, the main part (about twenty-four square miles) remained intact, and broke loose the following year. *Id.* at 59.

reserves. Arctic fog and snowstorms sometimes severely reduce visibility so that radar becomes the only means of "seeing." Radar may not pick up growlers capable of doing considerable damage to a ship or installation. Radar may even lose larger bergs because they rotate as they drift, thus showing an everchanging aspect.³⁰ Many icebergs, once located, can be towed if they threaten ships or installations, but some are not shaped conveniently and would be difficult to capture in heavy seas.³¹

Icebergs, pressure ridges, and ice islands with a deep draft are capable of smashing any installation or pipeline that is not well buried in the seabed.³² The pack ice can bring such crushing pressure to bear on anything in its path that there is uncertainty about the adaptability of the traditional above-water oil platform to the Arctic.³³ Traditional drill ships, confined to short ice-free seasons, might have to drill through several seasons to reach target depths in exploratory work in the Beaufort Sea.³⁴

The tendency of those who write about arctic ice to focus on the obstacles it creates for development often leads to little if any acknowledgement of its most important impact: its immense and stabilizing effect on world climate. In contrast to the significant amount of information available on the properties and behavior of arctic ice (in its unpolluted state), little is known about the dynamics of its effect on world climate. Average temperatures at the North Pole seem to correlate with the length of the growing season in the Northern Hemisphere,³⁵ but the relationship of the ice to the temperature is a matter of speculation.³⁶ It is believed that a significant increase in the pack ice cover would precipitate a new ice age, and that a significant diminution would leave the lower portions of the hemisphere with a Saharan climate and would flood low-lying coastal areas throughout the world.³⁷

2. *The Continental Shelves*

Next to the ice, the most significant physical features of the Arctic are

30. Ruffman, *supra* note 28, at 7.

31. Compare Cairns, *supra* note 22, at 5 (view representing the general optimism of the oil industry concerning the amount of protection offered by towing) with *Drilling in Arctic Waters*, *supra* note 28, at 393, and Ruffman, *supra* note 28, at 7.

32. Cairns, *supra* note 22, at 2, 4.

33. Zehr, *Oilmen Exploring Icy Waters of the Arctic Face Risks That Could Outweigh Rewards*, Wall St. J., Sept. 14, 1976, at 40, col. 1. This uncertainty apparently has not hindered technological efforts to adapt to arctic conditions. Drilling platforms that can withstand the crushing force of ice floes forty inches thick are already being built in the Arctic. *Drilling in Arctic Waters*, *supra* note 28, at 391.

34. See Zehr, *supra* note 33, at 40, col. 5 (depth of slightly over 4,000 feet reached by an exploration venture in a single season, where the target depth was 12,000 feet).

35. *Klima, mat og politisk uro*, Dagbladet (Oslo), Oct. 9, 1976, at 6, col. 1.

36. The speculation is about the nature of the relationship, not its existence. Soviet writers call the Arctic the "weather kitchen of the Earth." Traavik & Østreng, *supra* note 8, at 56. Canadian Prime Minister Trudeau is quoted as saying that the Arctic is "one of the most significant surface areas of the globe, for it controls the temperature of much of the Northern Hemisphere and thus its continued existence in an unspoiled form is vital to all mankind." *Id.* at 56 (citation omitted).

37. See M. GOLDMAN, ENVIRONMENTAL POLLUTION IN THE SOVIET UNION 262 (1972).

the continental shelves surrounding the deep seabed. Continental margins³⁸ constitute about one-third of the basin of the Arctic Ocean.³⁹ These are the widest margins on earth. They apparently contain vast oil deposits. Soviet geologists claimed in 1972 that deposits discovered on the Soviet shelf contain quantities of oil equaling half the world's known deposits.⁴⁰ Similar concentrations may lie off the North American and European continents.⁴¹ In some areas, there are large natural gas deposits as well. Drilling in the Canadian Archipelago has already led to the discovery of the largest gas field in Canadian territory.⁴²

In contrast to shelf areas, the deep seabed of the Arctic does not appear to be exploitable in the near future. Research has produced no evidence of manganese nodules, the valuable mineral conglomerations found on deep seabeds of other oceans.⁴³ However, the deep seabed of the Arctic is split by four ridges. At least one, the Lomonosov Ridge, appears to consist of continental shelf material split off by the spreading of the ocean floor. The Lomonosov, which runs through the middle of the Arctic Basin, could contain oil deposits characteristic of the shelf areas.

There is abundant evidence of animal life along the underwater arctic

38. "Continental margin" is defined as the undersea land mass extending from the ocean floor to the exposed continent, including, in order of emergence from the ocean floor: (1) the "continental rise," a gentle slope rising from the abyssal ocean plain; (2) the "continental slope," a steep slope from the "rise" to the "shelf;" and (3) the "continental shelf." The "shelf" is a gentle slope leading from the "continental slope" to the shoreline. See D. PHARAND, *supra* note 8, at 53-56; MAJOR ISSUES OF THE LAW OF THE SEA, *supra* note 14, at 53-55; I H. KNIGHT, *THE LAW OF THE SEA: CASES, DOCUMENTS, AND READINGS* at xxxiii-xxxv (1975). The "shelf" can vary in width from a few miles to several hundred. But the legal definition of the "shelf" could sometimes include the whole "continental margin." See text accompanying notes 142-149 *infra*.

39. D. PHARAND, *supra* note 8, at 256. The Arctic Ocean is "the shallowest of the earth's oceans." *Id.*

40. Traavik, *The Conquering of Inner Space: Resources and Conflicts on the Seabed*, in *THE CHALLENGE OF NEW TERRITORIES 10* (Oslo, The Fridtjof Nansen Foundation Study No. 1, F. Sollie ed. 1974). See also Comment, *Creeping Jurisdiction in the Arctic: Has the Soviet Union Joined Canada?* 13 HARV. INT'L L.J. 271, 280 (1972).

41. Reserves under the Beaufort Sea alone have been estimated at forty billion barrels of oil and 300 trillion cubic feet of natural gas, about the amount of oil and gas currently known to exist on the entire North American continent. Zehr, *supra* note 33, at col. 1. A recent Canadian study estimated Beaufort Sea oil reserves at forty billion barrels, but reduced the natural gas estimates to fifty trillion cubic feet. See 1 CANADA MINISTRY OF SUPPLY AND SERVICES, *THE MACKENZIE VALLEY PIPELINE INQUIRY 69* (1977) (citation omitted) [hereinafter cited as *THE BERGER REPORT*].

42. The gas field is known as the Drake Point field, off Melville Island, in the Canadian Archipelago. Cairns, *supra* note 22, at 5.

43. D. PHARAND, *supra* note 8, at 264 (citing Hunkins, *The Floor of the Arctic Ocean in Photographs*, 23 ARCTIC 175, 184 (1970)). Manganese nodules are baseball-sized lumps of magnesium, cobalt, copper, and nickel which are constantly formed on the abyssal plains of the major oceans by mineral precipitation. For a report on the nodules and their significance at the Law of the Sea Conference, with an emphasis on environmental questions raised by plans to mine them, see Johnson, *Environmental Controls in the Deep Seabed Under International Jurisdiction*, in *INTERNATIONAL INSTITUTE FOR ENVIRONMENT AND DEVELOPMENT, CRITICAL ENVIRONMENTAL ISSUES ON THE LAW OF THE SEA 31* (R. Stein ed. 1975). See also Kotz, *supra* note 5.

ridges, and commercial fishing thrives in the surrounding seas.⁴⁴ In general, polar life consists of large populations, but few species.⁴⁵ The limited number of species results in the existence of a shortened and vulnerable food chain.⁴⁶

B. The Environmental Problem

1. The Nature of the Hazards

The apocalyptic image of environmental damage in the Arctic is that of an irreversible, pollution-induced expansion or retreat of the ice pack, followed by climatic disruption throughout the Northern Hemisphere. The same forces on a lesser scale might produce temporary, localized, but nonetheless serious climatic disturbances.

a. Oil and ice

To understand how an accretion of oil in the arctic ice cover could damage the ice, one must review experiments involving oil and ice which duplicate the physical qualities of the region. Such experiments began relatively recently. As late as 1972, two Massachusetts Institute of Technology (MIT) researchers concluded that "almost nothing is known of the behavior of an oil spill under ice."⁴⁷

Serious experimental work had begun only two years previously, when the United States Coast Guard conducted tests, spilling fifty-five gallons under an ice sheet in Alaska. The results showed that oil would collect at the highest points under the ice.⁴⁸ This finding was confirmed and expanded upon by subsequent experiments. An MIT laboratory test showed that a layer of ice might form underneath the spilled oil, thus trapping it in the ice pack.⁴⁹ A University of Washington experiment showed that diesel oil

44. See D. PHARAND, *supra* note 8, at 264. Fishing is most active at the southern edges of the Arctic, particularly off Norway. However, the submarine U.S.S. *Skate* reported fish flooding its television screen less than 300 miles from the North Pole on its voyage under the ice pack. *Id.* at 177. Modern fishing methods have taken their toll, however. There have been rumblings in the Norwegian press about the need for strict conservation measures around the Svalbard Archipelago, see, e.g., *Fiskestopp ved Svalbard*, *Dagbladet* (Oslo), Oct. 19, 1976, at 6, col. 5, and in the Barents Sea. See, e.g., *Barentshavet kjenner vi best*, *id.* at col. 1. Foreign fishermen have not always observed quotas designed to protect stocks. *250 utenlandske trålere mellom Finmark og Bjørnøya, Spania og Portugal overholder ikke kvotebestemmelse*, *Nytt fra Norge*, June 16, 1976, at 1, col. 1. Both the Soviet Union and Norway have declared 200-mile coastal economic zones to increase control over fishing in the area. See note 225 *infra*. In addition, Norway declared a 200-mile fishing zone around the Svalbard which took effect June 15, 1977. *Arctic Islands Fishing Limits*, *San Francisco Chronicle*, June 4, 1977, at 12, col. 5.

45. C. MOORCRAFT, *MUST THE SEAS DIE?* 89, 127-28 (1973).

46. *Id.* at 127-28.

47. L. WOLFE & P. HOULT, *EFFECTS OF OIL UNDER SEA ICE* 6 (Mass. Inst. of Technology, Mechanics Laboratory Pub. No. 72-10, 1972).

48. Vance, *Control of Arctic Oil Spills*, *OCEAN INDUSTRY*, Jan., 1971, at 14.

49. L. WOLFE & P. HOULT, *supra* note 47, at 11. The layer underneath formed in twelve to twenty-four hours. The experiment involved the laboratory equivalent of first-year ice. In contrast, most of the Arctic is covered by older ice. The researchers concluded that the mechanism by which oil adheres to ice is "poorly understood." *Id.* at 31.

spilled under newly formed slush ice came to the surface, and then traveled laterally until trapped by ridges of ice.⁵⁰ The Washington experiment underscores a crucial problem in predicting the impact of oil pollution in the Arctic: both oil and ice come in many forms, and each form behaves in a distinct manner.

Several experiments, particularly those of the Coast Guard, have been concerned with the clean-up of oil spills. Burning the oil has been the most effective method, but can be used only on surface spills. Burning is greatly inhibited when snow is falling or blowing, or when the oil is in a very thin layer. Furthermore, a thick tar residue remains frozen into the top layer of the ice after burning.⁵¹ According to the Coast Guard, that layer is best picked up with a shovel,⁵² a recovery method of questionable value when a spill involves not fifty-five gallons, but thousands or millions of gallons. Also, any winter spill would have to be contained and cleaned up without the benefit of daylight.⁵³

The problem of unrecovered oil spilled under ice must be considered. The MIT experiment found that oil trapped in the ice formed an insulating layer, protecting the water from the colder air.⁵⁴ Although the researchers did not speculate on the implications, one presumable effect would be to inhibit new ice formation. The thinner layer of pack ice that would result would recede faster in summer weather. Oil trapped in the ice might encourage melting of the ice pack in another manner as well: any trapped substance darker than ice will decrease the percentage of incident light reflected by the ice, thus increasing the amount of solar heat absorbed.⁵⁵

50. DEPT OF OCEANOGRAPHY, UNIVERSITY OF WASHINGTON, CURRENT RESEARCH ACTIVITIES 6 (Feb., 1976).

51. McMinn & Golden, *Behavioral Characteristics and Cleanup Techniques of North Slope Crude Oil in an Arctic Winter Environment*, in THE AMERICAN PETROLEUM INSTITUTE, U.S. ENVIRONMENTAL PROTECTION AGENCY, & U.S. COAST GUARD, PROCEEDINGS OF THE JOINT CONFERENCE ON PREVENTION AND CONTROL OF OIL SPILLS 273 (1973). This second set of Coast Guard experiments hypothesized that, through aging (the evaporation of the more volatile components of the crude oil into the atmosphere), the density of the oil would become equal to or greater than that of new winter ice, whereupon it would migrate downward through the ice. Although the experiment revealed no "substantial degree" of penetration from oil spills up to 30 days old, the report concluded that the density of the crude would "eventually" become more dense than sea ice and sea water. *Id.* at 269, 273. This "aging" by evaporation was slowed significantly if falling or blowing snow covered the ice. *Id.* at 269. The experiment also noted that, should it prove desirable to disperse the oil, known dispersal agents had little effect when applied to oil spilled on ice or snow. Nothing is known about their effect on oil spilled on arctic water. *Id.* at 271.

52. *Id.* at 270.

53. Canadian studies have concluded that there are presently "virtually no answers" to questions concerning recovery of oil spilled during a blow-out in moving, badly fractured ice, which is a common ice condition during the summer drilling season. *Drilling in the Beaufort Sea*, 8 CANADA TODAY 10, 12 (No.1, 1977).

54. L. WOLFE & P. HOULT, *supra* note 47, at 17.

55. See R. THORÉN, *supra* note 21, at 7. Thorén explains the significance of albedo (the percentage of light reflected from a surface) in disintegration of ice by pointing out that an ice surface covered with meltwater and pocked by surface openings "will absorb considerably more radiant heat than a continuous ice surface, thus accelerating the rate of disintegration."

On the other hand, experiments have suggested that some aspects of the arctic environment work to minimize recovery problems. Arctic oil spills tend to disperse more slowly than spills occurring in other areas.⁵⁶ Also, some forms of ice block the spread of oil spilled on water,⁵⁷ thus easing containment problems.

b. Impact on the ecosystem

Much more is known about the hazards of pollution for the fragile polar bio-system than about the resistance of polar ice to destruction by oil pollution. Marine mammals, polar bears, and birds all tend to follow leads of open water, as would many forms of oil spilled, according to experiments. Because the food chain is short and vulnerable,⁵⁸ a single spill is likely to disrupt severely the marine ecosystem over a broad area, for up to a decade.⁵⁹ Repopulation takes significantly longer in the Arctic than in temperate zones, due to slower rates of growth and reproduction.⁶⁰ Moreover, low temperatures slow the rate of evaporation and degradation of the oil,⁶¹ thus prolonging its harmful effects if recovery cannot be effected.

The arctic environmental problem is not simply one of oil pollution. Development of the Arctic's offshore oil resources will spur development of land-based support activity which can damage the ecological balance of the marine area, as well as of the land. For example, because wastes decompose so slowly in colder climates, sewage disposal in the Arctic can be a major problem.⁶² Such development will accelerate the destruction of native life-

He then points out that the lowering of the albedo by other agents will also speed disintegration.
Id.

56. L. WOLFE & P. HOULT, *supra* note 47, at 36.

57. Vance, *supra* note 48, at 15.

58. See text accompanying notes 45-46 *supra*.

59. See THE BERGER REPORT, *supra* note 41, at 72 (reporting the testimony of Dr. Allen Milne, regarding Canada's Beaufort Sea Project).

60. C. MOORCRAFT, *supra* note 45, at 89. There is some disagreement among biologists concerning the effects of oil spills. Straughan, in a follow-up survey of the effects of the 1969 Santa Barbara blow-out, found little evidence of significant long range impact on local plant and animal populations. See Straughan, *Biological Effects of Oil Pollution in the Santa Barbara Channel*, in MARINE POLLUTION AND SEA LIFE 355, 358 (M. Ruvio ed. 1972). For a more pessimistic evaluation of the effect of oil spills on the marine ecosystem, see Blumer, *Oil Contamination and the Living Resources of the Sea*, in MARINE POLLUTION AND SEA LIFE, *supra* at 476. Moorcraft reports that a study of an oil slick near the Woods Hole Oceanographic Institute in Massachusetts showed that "oil is much more persistent and destructive to marine organisms and to man's food resources than scientists had thought." C. MOORCRAFT, *supra* note 45, at 90. Many of the more toxic forms did not evaporate readily but sank to the bottom and into food chains where they built up in the same way a toxin like DDT persists. Shifting sediments spread the area of impact. The initial spill not only smothers some organisms, but it may also scramble chemical signals important to growth and reproduction, thus interrupting food chains. See *id.* at 89-93. A possible explanation of the findings in Santa Barbara is that natural oil seepage over the years had allowed organisms in the region to adapt. On the heightened dangers from oil pollution in the Arctic, see D. PHARAND, *supra* note 8, at 210, and sources cited therein. For a technical report, see Button, *Petroleum—Biological Effects in the Marine Environment*, in IMPINGEMENT OF MAN ON THE OCEANS 421 (D. Hood ed. 1971).

61. C. MOORCRAFT, *supra* note 45, at 89.

62. The U.S. Navy and groups searching for oil off Alaska at one point collected an

styles which are in harmony with the ecosystem.⁶³ Moreover, the infrastructure of human settlement and transportation systems brought by development encourages exploration for and development of other mineral resources, each with its own varieties of pollution problems.⁶⁴

Maintenance of the ecological balance in the Arctic is important not only for its own sake and its part in the world ecosystem, but also to preserve a unique laboratory for scientists studying life processes and environmental adaptation. The relatively uncomplicated ecosystems of the polar regions, both north and south, offer "unparalleled opportunities" to engage in such studies.⁶⁵

2. *The Probable Frequency of Accidents*

Any estimate of the possible environmental damage to the Arctic from exploration and development must take into account not only the probable damage resulting from a single accident, but also the probable frequency of accidents. Even threats of severe environmental damage from a single accident may be considered acceptable, as long as the number of accidents is small. The number of accidents that are likely to occur in arctic resource exploration largely depends on two factors: (1) the likelihood of a single accident occurring; and (2) the extent of the exploration and development activity in the region. A discussion of the probability of oil spills, blowouts, or other accidents is therefore essential in evaluating the environmental problem in the Arctic.

Because icy conditions in the Arctic are unique among "marine" environments, no dependable basis exists for predicting the likelihood of accidental damage to marine drill platforms or oil pipelines. For the same reasons, statistics on blow-outs from other marine areas are of questionable validity when applied to the Arctic.⁶⁶ Estimates of the likelihood of blow-

estimated 250,000 drums of human waste, because there was no way to dispose of it without risking the release of viruses and bacteria harmful to man which could "wreak havoc" in small, isolated arctic communities, due to the slow rate of decomposition of the wastes. C. MOORCRAFT, *supra* note 45, at 130.

63. Some natives believe that oil development alone will destroy their culture:

If they drill out there, if they finish off what little whales are left, what little seals are left, what little polar bears are left, with one oil spill of any size big enough to hurt those animals, we're finished. The Eskimo population and culture is finished, because [the Eskimo will] have to live as a white man and [the Eskimo will] have nothing left.

THE BERGER REPORT, *supra* note 41, at 67 (quoting testimony before the Commission).

64. C. MOORCRAFT, *supra* note 45, at 130.

65. Schatz, *Transnational Science and Technology in the Absence of Defined Sovereignty: Developments in the Polar Regions and in Legally Similar Situations*, in SCIENCE, TECHNOLOGY, AND SOVEREIGNTY IN THE POLAR REGIONS 73 n.1 (G. Schatz ed. 1974) (citing COMMITTEE ON POLAR RESEARCH, NATIONAL ACADEMY OF SCIENCES—NATIONAL RESEARCH COUNCIL, POLAR RESEARCH: A SURVEY 10 (1970)).

66. A United States Department of the Interior study based on experience in Cook Inlet, Alaska, could make no better estimate than to simply conclude that the risk of oil spills and offshore pollution in the Beaufort Sea was "high." See J. BROOKS, J. BARTONEK, D. KLEIN, D. SPENCER & A. THAYER, ENVIRONMENTAL INFLUENCES OF OIL AND GAS DEVELOPMENT IN THE ARCTIC SLOPE AND BEAUFORT SEA 19 (U.S. Dep't of the Interior, Bureau of Sport Fisheries and Wildlife Resource Pub. No. 96, 1971) [hereinafter cited as J. BROOKS].

outs prepared for environmental impact studies of drilling in the Beaufort Sea range from one in two hundred (1:200), to one in twenty thousand (1:20,000).⁶⁷ Two gas blow-outs have already occurred in the Canadian Arctic, one of which went unchecked for nine months.⁶⁸

Predicting the ultimate extent of oil exploration and development activity in the Arctic is also difficult. Since arctic oil is expensive,⁶⁹ extensive investment in exploration and development would be feasible only if world oil prices remain at high levels, and if large concentrations of oil are discovered.⁷⁰ However, economic development of alternative energy sources could again make the high cost of producing arctic oil and gas economically prohibitive.

Cost is only one factor influencing development policies. Denmark has adopted a "go-slow" policy largely out of concern for the disruptive impact rapid development might have on its program for gradually increasing Greenland's autonomy.⁷¹ The goal is to integrate economic development

67. *Drilling in the Beaufort Sea*, *supra* note 53, at 10. The high probability figure came from a group representing Canadian Eskimos, the low figure from a Gulf Oil official. The government committee narrowed the probability range to between one in one thousand (1:1,000) and one in ten thousand (1:10,000). *See id.*

68. THE BERGER REPORT, *supra* note 41, at 69.

69. The short drilling season, distance from markets, costs of new technological development, and high labor costs all contribute to the high cost of arctic oil. A variety of environmental protection measures imposed by the arctic states also increase development costs. For example, environmental impact assessment in the Beaufort Sea with regard to the possible impact of exploratory drilling has already cost more than \$12 million. (The cost has been shared by the government and an association of oil companies.) Cairns, *supra* note 22, at 4. Exploratory drilling in the Beaufort Sea has been restricted by the Canadian government to that portion of the summer when ice danger is at a minimum. *Id.* The Norwegians have halted exploratory drilling on the Svalbard islands until old drill sites are cleaned up according to official standards. *Ingen nye konsesjoner før det er ryddet opp*, *Dagbladet* (Oslo), Oct. 26, 1976, at 9, col. 1. Exploration costs in the North Sea, which is sub-arctic, are twenty times those in Saudi Arabia, Address by Mr. Knut Frydenlund, Norwegian Minister of Foreign Affairs, to Det Udenrigs-politiske Selskab, in Copenhagen (May 5, 1976) (published by the Royal Norwegian Ministry of Foreign Affairs, No. UDO-005/76, at 3) [hereinafter cited as Frydenlund], possibly due to high labor costs, government regulation, and the difficult northern maritime climate.

70. Costs of development in the Arctic can be astronomical. For example, although thirteen to fifteen trillion cubic feet of natural gas have been discovered in the Canadian Archipelago, twenty to thirty trillion cubic feet are needed to justify a pipeline. Cairns, *supra* note 22, at 5. The range in these figures underscores another economic fact of life for developers in the Arctic: conditions are still so uncertain that potential costs are extremely difficult to estimate.

71. Hesselbjerg, *The Start of Oil Exploration in Greenland*, 45 NORDISK TIDSSKRIFT FOR INT'L RET 14, 19-20 (1976). The first oil concessions cover only 7% of the West Greenland shelf, or 2½% of the entire shelf of Greenland. *Id.* at 16. When they were granted in April, 1975, it was the intention of the Danish government to make no new allocations in the "near future." *Id.* at 19. The first well drilled was dry. Cairns, *supra* note 22, at 5. *See also* Ørvik, *Northern Development: Modernization with Equality in Greenland*, 29 ARCTIC 67, 73-74 (1976). Ørvik states that, although Greenland costs Denmark about \$200 million annually (almost \$4,000 per inhabitant of the island), there seems to be little objection at home to the expense, and little political pressure to speed development. *Id.* at 74. This policy position is all the more surprising in view of the fact that Denmark imports 98% of its energy sources, making it "more dependent on imports of energy than almost any other industrialized country." Janssen, *Denmark Shows*

with the development of native social and political institutions. Norway has adapted the same conservative development policy for a variety of reasons, including strong political opposition from arctic fishermen,⁷² and Soviet opposition to development along the only ice-free access route to the Atlantic available to the huge Soviet naval fleet stationed on the Kola Peninsula.⁷³ The North Sea oilfields are more than sufficient for Norway's current domestic needs—development of arctic oil resources would simply swell exports to Western Europe.⁷⁴ In addition, arctic resource exploitation by Norway will be inhibited by legal uncertainty regarding control of the shelf around the Svalbard Archipelago.⁷⁵

In contrast to the Scandinavian states, the United States and the Soviet Union have found strategic and political concerns, not directly related to the cost of arctic oil, weighing in favor of development. Soviet trade policy, always heavily oriented toward maintaining the political support of Eastern European allies, has been oriented toward developing energy resources for export.⁷⁶ The United States is vitally concerned with decreasing its energy dependence on the OPEC nations as its energy needs grow. The Arctic's resources could become an important factor for meeting those needs.⁷⁷ Unlike Norway, the United States has no significant political constituency dependent on conflicting economic uses of the Arctic.

How Frugality, Invention Can Cut Energy Use, Wall St. J., Oct. 4, 1977, at 1, col. 1 [Western ed].

72. Drilling activity off the North Cape, which allegedly would improve the economy of the northern portion of Norway, was scheduled to start in 1978, but the growing opposition of a substantial part of the population introduced doubts, *Økende usikkerhet om borestart i nord*, *Dagbladet* (Oslo), Oct. 20, 1976, at 2, col. 1, and finally talk of a vote on the issue, *Nord-Norge og fiskerne må selv avgjøre om de vil ha oljeboring*, *Arbeiderbladet* (Oslo), Dec. 17, 1976, at 6, col. 1.

73. *Sovjetisk uro for flere nasjoner på Svalbard*, *Dagbladet* (Oslo), Oct. 23, 1976, at 6, col. 1; *Sovjet advarer mot norsk boring i nord*, *Dagbladet* (Oslo), Oct. 19, 1976, at 6, col. 1.

Norway's caution about development of its oil resources has exasperated some Norwegians. After reviewing a 1974 report by parliament on the potential problems inherent in development, *Aftenposten*, a conservative Oslo newspaper, is reported to have editorialized:

With all due respect for the new problems and challenges facing us, it is hardly reasonable to regard the fact that we are about to become the only oil exporting nation in Western Europe as the source of great national catastrophes. Of course, it must be admitted that we have undeniable national traditions to live up to when it comes to finding gloomy prospects in an otherwise promising development.

Krosby, *Oil and the Environment: Norway's Enlightened Policy*, 64 SCANDANAVIAN REV., Dec., 1976, at 39, 40-41. See generally Aamo, *Norwegian Oil Policy: Basic Objectives*, in M. SAETER & I. SMART, THE POLITICAL IMPLICATIONS OF NORTH SEA OIL AND GAS 81 (Norwegian Institute of Foreign Affairs, Norwegian Foreign Policy Study No. 16, 1975); Holst, *The Strategic and Security Requirements of North Sea Oil and Gas*, in M. SAETER & I. SMART, *supra* at 131.

74. See Frydenlund, *supra* note 69, at 7-8. While the primary beneficiary of Norwegian oil exports will be industrial Western Europe, secondary benefits to underdeveloped nations are likely to accrue in the form of Norwegian capital investments conducted with revenue derived from oil export. *Id.* at 9.

75. See *id.* at 11-13. See generally Fleischer, *Oil and Svalbard*, 45 NORDISK TIDSKRIFT FOR INT'L RET 7 (1976). Mr. Fleischer is a legal consultant to the Norwegian Ministry of Foreign Affairs.

76. See Sollie, *The New Development in the Polar Regions*, in THE CHALLENGE OF NEW TERRITORIES 23, 24-25 (Oslo, The Fridtjof Nansen Foundation Study No. 1, F. Sollie ed. 1974).

77. *Id.* at 25.

Canada lies in between the Scandinavians and the superpowers in its enthusiasm for arctic development. With the huge United States market to the south, and a growing balance of payments problem due to importation of foreign oil,⁷⁸ the benefits of development are easily imagined. On the other hand, Canada is extremely concerned about the environmental threats posed by development.⁷⁹ Extensive studies of the social, economic, and environmental impact of building a pipeline from the Arctic have been in progress for years. The most recent summary of the studies to date concluded, with qualms, that development of at least a portion of the Canadian Arctic was "inevitable."⁸⁰

The inevitability of arctic oil development should spur the research and design work for the technology to support such growth, perhaps even to lower steadily the unit costs of exploitation, despite high labor and transportation costs. The pace of development could accelerate rapidly, should the OPEC nations declare another embargo. The resulting shortages would not only make arctic oil more competitive in the market, but the political result might be to strengthen the hand of those arguing for development on the basis of the need to reduce industrial state susceptibility to possible economic coercion.

As part of its assumption that development is inevitable, Canada has attempted to assemble estimates of the probable oil pollution resulting from oil extraction in the Beaufort Sea. Loss figures over twenty-five years, based on recovery of one-fourth of Canada's arctic reserves, ranged from 1,000,000 to 10,000,000 barrels.⁸¹

II

THE LAW OF THE SEA AND THE ARCTIC

A. *The Law of the Sea—From Freedom of the Seas to National Appropriation*

Given the unique environmental hazards of economic development in the Arctic, one must ask whether the law of the sea is the most desirable legal regime for the marine area of the region. Such a question suggests inquiry into both how the law of the sea has functioned in the region, and the possible environmental consequences of its continued application. As will be seen, the arctic states are divided regarding the application of the law of the sea to the region. These disagreements have already produced conflicting legal claims. If the Law of the Sea Conference fails to produce a convention, these disputed claims will provide the grist for development of

78. Zehr, *supra* note 33, at col. 3.

79. This concern took legal form in the Arctic Waters Pollution Prevention Act, CAN. REV. STAT. c. 2 (1st Supp. 1970) [hereinafter cited as AWPPA], reprinted in 1 NEW DIRECTIONS IN THE LAW OF THE SEA 199-210 (S. Lay, R. Churchill & M. Nordquist eds. 1973).

80. THE BERGER REPORT, *supra* note 41, at 75.

81. *See id.* at 69 (citing E. WALKER, OIL, ICE AND CLIMATE IN THE BEAUFORT SEA 15). It has been speculated that, if an undersea blow-out ran out of control for a year, enough oil would be discharged to fill a supertanker. *Id.*

customary law in the region. Some background on the development of the law of the sea in general and the debate at the Conference is helpful in assessing the significance of the disagreements among the arctic states regarding the arctic legal regime.

For over three centuries, the cornerstone of the law of the sea has been the so-called "freedom of the seas" principle. Because people felt that the seas could not be possessed by means of occupation or exhausted by use, a legal system based on freedom to navigate and fish was believed to be the most appropriate.⁸² Coastal state sovereignty over most bays, inlets, and limited coastal waters was acknowledged, but, until relatively recently, the majority view held the position that such territorial waters could not extend more than three miles.⁸³ Moreover, the right to navigate through territorial waters for peaceful purposes was established by the doctrine of "innocent passage."⁸⁴

The 20th century, and in particular, the post-World War II era, has witnessed a confluence of growing economic demands, political fragmentation, population pressure, and enormously increased technological capacity to exploit the sea. These changes have undermined assumptions regarding possession of the sea and exhaustion of its resources,⁸⁵ assumptions upon which the freedom of the seas principle was based.

In the face of these pressures, coastal states found it in their interests to appropriate portions of the sea and seabed. Some of these appropriations were defined in ways that avoided open conflict with the traditional law of the sea. For example, some states claimed as "internal waters"⁸⁶ those large bays "historically linked" with the coastal state.⁸⁷ Other appropriations, such as the Truman Proclamation,⁸⁸ claiming United States jurisdiction and

82. The concept of freedom of the seas is generally dated from the publication of *Mare Liberum* in 1604 by Hugo Grotius, a Dutch scholar. See H. GROTIUS, *MARE LIBERUM* (Magoffin trans. 1916), portions reprinted in 1 H. KNIGHT, *supra* note 38, at 16-23. For a general history of the early development of the "freedom of the seas" doctrine, see 1 H. KNIGHT, *supra* note 38, at 1-50.

83. For an exhaustive history of the rise and fall of the three mile limit, see S. SWARZTRAUER, *THE THREE-MILE LIMIT OF TERRITORIAL SEAS* (1972).

84. For a definition of "innocent passage," see note 109 *infra*.

85. Cooper, *An Economist's View of the Oceans*, in *PERSPECTIVES ON OCEAN POLICY* 143, 145-46 (National Science Foundation Pub. No. 75-17, 1975), states:

Already before the Second World War certain fishing areas and certain species were overfished. Now that problem has spread to dozens of species, and in addition we are concerned with the density of shipping (giving rise to both more collisions and more pollution) and the extraction of minerals from the seabed. The oceans have long been used as a disposal medium for human wastes, but again the growing density of human settlement and the rise in human consumption are increasingly 'using up' what was once a genuinely free resource. Fertilizers, pesticides, and before long, atomic waste materials will have grown in quantity to the point of exceeding the natural absorptive capacity of the oceans.

86. "Internal waters" are areas as completely within coastal state sovereignty as are lands areas. *MAJOR ISSUES OF THE LAW OF THE SEA*, *supra* note 14, at 21.

87. Hudson Bay, Canada, is one example. See generally H. KNIGHT, *supra* note 38, at 210-12; *MAJOR ISSUES OF THE LAW OF THE SEA*, *supra* note 14, at 16, 20-21.

88. Pres. Proclamation No. 2667, Policy of the United States with Respect to the Natural

control over the resources of the continental shelf, were interpreted as leaving unaffected the freedom to use the sea above the shelf.

Eventually, however, appropriations based on economic interest came into open conflict with the concept of freedom of the seas. In 1947, Chile and Peru established 200-mile exclusive fishing zones.⁸⁹ An attempt was made to prevent further erosion of the free seas concept in 1958 by codifying existing customary law in the Convention on the High Seas, the Convention on the Continental Shelf, and the Convention on the Territorial Sea and Contiguous Zone.⁹⁰

Nevertheless, erosion continued and expanded into new areas. For example, Canada's Arctic Waters Pollution Prevention Act (AWPPA) extended Canadian jurisdiction over waters north of the 60th parallel to 100 miles from shore (and beyond in some areas), for purposes of controlling pollution from ships.⁹¹ An international variation on these individual state appropriations occurred at the United Nations, where the concept of reserving the resources of the deep seabed for all nations emerged under the "common heritage of mankind" rubric.⁹²

As a result of these developments, the major debate at the Third United Nations Conference on the Law of the Sea concerns allocation of the ocean's resources. While some portion of any convention drafted by the Conference will reflect the freedom of the seas concept, the philosophical underpinning of the law of the sea has been radically altered. In the eyes of many, the "freedom of the seas" has come to mean the freedom to pollute and exploit irresponsibly.⁹³ More importantly, the developing nations of the world,

Resources of the Subsoil and the Sea Bed of the Continental Shelf, 3 C.F.R. 67 (1943-1948 Compilation).

89. Presidential Declaration Concerning Continental Shelf (Chile), June 23, 1947, U.N. Doc. ST/Leg./Ser. B/1, at 6, 7 (1951); Supreme Decree No. 781 Concerning Submerged or Insular Shelf (Peru), Aug. 1, 1947, U.N. Doc. ST/Leg./Ser. B/1, at 16, 17 (1951).

90. Convention on the High Seas, *done* Apr. 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82; Convention on the Continental Shelf, *done* Apr. 29, 1958, 15 U.S.T. 471, T.I.A.S. No. 5578, 499 U.N.T.S. 311; Convention on the Territorial Sea and Contiguous Zone, *done* Apr. 29, 1958, 2 U.S.T. 1606, T.I.A.S. No. 5639, 516 U.N.T.S. 205.

91. AWPPA, *supra* note 79, § 3(2). The provision extends the limit of jurisdiction claimed beyond 100 miles to the edge of the continental shelf, where the shelf extends more than 100 miles. For an excellent review of the AWPPA, see Bilder, *The Canadian Arctic Waters Pollution Prevention Act: New Stresses on the Law of the Sea*, 69 MICH. L. REV. 1 (1970).

92. The term "common heritage of mankind" was used by Arvid Pardo, Malta's Ambassador to the United Nations, in a memorandum supplementing his *note verbale* of August 17, 1967, concerning preservation of the deep seabed for peaceful development in the "interests of mankind." U.N. Doc. A/6695 (1967). The term struck a responsive chord, and rapidly gained currency, partly because its vagueness allowed nations with a wide variety of interests to embrace it. The Law of the Sea Conference has, from the beginning, found most of its attention riveted on the effort to turn this statement of political intent and moral obligation into a juridical obligation with respect to the deep seabed. See R.-J. DUPUY, *THE LAW OF THE SEA* 39 (1974).

93. A. D'AMATO & J. HARGROVE, *ENVIRONMENT AND THE LAW OF THE SEA* 1 (Working Group on Ocean Environment of the American Society of International Law, Study in Transnational Legal Policy No. 5, 1974).

which constitute the great majority at the Conference,⁹⁴ view the traditional law of the sea as a tool created by colonial powers to further colonial interests. The developing nations seek a complete examination of the free seas concept to determine where it is still functional and whom it benefits. Their primary interest appears to be obtaining sufficient control of exploitation of the seas to insure that it is to their benefit.⁹⁵

Freedom of the seas should not, however, be regarded as an outdated historical phenomenon. One modern source of its vitality is the strategic dependence of the United States and the Soviet Union on their ability to move warships freely.⁹⁶ In addition, all developed nations have a strong interest in unimpeded trade. Although the developed nations are a minority, they could block agreement if free seas principles receive insufficient recognition. Such a block would threaten gains negotiated by the developing nations during the several sessions of the Conference. Finally, a seldom verbalized understanding exists among the developing states that the free seas principle offers protection to them should neighbors suddenly turn hostile.⁹⁷

Broadly speaking, the Conference is, despite a certain interest in preserving its free seas heritage, primarily occupied with attempts to codify appropriations of the sea and seabed contrary to this heritage. Some of these appropriations, such as 200-mile coastal state fishing zones, are so widely accepted that they are arguably already the law of the sea, as established by custom. Should the effort to codify a successor to the 1958 Conventions fail, other unilateral and regional appropriations will provide the basis for the development of the law of the sea by custom.⁹⁸ It is necessary to regard the claims of the arctic states in the Arctic as potential bases for the development of international law, as well as the product of historical national interests of the arctic states.

B. *The Law of the Sea in the Arctic*

While the law of the sea has been widely accepted as the legal regime of the Arctic, a survey of claims by arctic nations in the region indicates that it has been something less than a success in promoting uniformity, or even clarity in the definition of national and international rights in the Arctic. Much of this ambiguity can be traced to the two nations with the longest arctic coastlines, Canada and the Soviet Union.

94. See note 7 *supra*.

95. Ratiner, *supra* note 5, at 19.

96. See generally RSNT Part II, *supra* note 15, arts. 16-43, for an indication of how the maritime nations, particularly these two naval superpowers, have fared in their attempts to maximize their freedom of movement in territorial seas, contiguous zones, and straits controlled by others.

97. Address by Frederick S. Wyle, Counsel to the Trust Territory of the Pacific Islands, Law of the Sea Seminar, School of Law, University of California, Berkeley (March, 1976).

98. See generally R.-J. DUPUY, *supra* note 92, whose dialectic analysis of fragmentation in

1. Soviet Union

Primarily for security reasons, but also for reasons of long involvement in the exploration and settlement of the region, the Soviet Union has exhibited a "markedly proprietary attitude" towards the Arctic.⁹⁹ That attitude has not, however, been embodied in any clear set of legal claims. Declarations regarding Soviet rights have been seldom official, sometimes contradictory, and often ambiguous,¹⁰⁰ because of the physical peculiarity of the Arctic, a general lack of interest in arctic claims on the part of other nations, and a desire on the part of the Soviets to retain diplomatic flexibility.

The primary source of ambiguity is the "sector" claim. The Soviet Union officially claims sovereignty over a "sector" that includes all "land and islands" in the triangle formed by the North Pole and the Soviet Union's eastern and western borders.¹⁰¹

The sector theory is ambiguous because Soviet writers have differed in the extent of their claims under the theory. Several have interpreted it as referring to maritime areas within, and airspace above the sector, a position that has never been repudiated officially. Further, Soviet practice has been generally inconsistent with such an extensive claim. The Soviets have landed aircraft on the ice in other "sectors," sent submarines into them, maintained ice research stations that drifted into them, and even established stations on islands in other sectors.¹⁰²

The validity of the sector theory in international law is doubtful, but it has been defended as a stage in the evolution of maritime boundaries.¹⁰³ According to some Soviet scholars, the sector theory was recognized in treaties with England in 1825 and the United States in 1867, but the Soviet

the law of the sea provides a useful starting point for speculation concerning how the law of the sea might develop should the Conference fail to produce a convention.

99. S. OLENICOFF, *TERRITORIAL WATERS IN THE ARCTIC: THE SOVIET POSITION* 11 (Rand Corp. Pub. R-907-ARPA, July, 1972). The bulk of the Soviet contribution to exploration of the region has come in the 20th century, if one discounts the information collected but used merely to survive by residents of the Soviet Arctic.

Early exploration by various nations was largely a matter of seeking the Northwest and Northeast Passages, but the sheer challenge of discovering new territories was also significant. A combination of these two incentives is apparent in the offer of the British government in 1745, and again in 1776, of £5000 to the first ship to reach 89° North, and £20,000 to the first to make the Northwest Passage. The Scandinavians and British were the leading explorers, although an American, Robert Peary, was the first to reach the North Pole, in 1909. See generally F. DEBENHAM, *DISCOVERY AND EXPLORATION 179-85* (London 1960).

100. S. OLENICOFF, *supra* note 99, at 16.

101. Technically, the claim excludes lands recognized as foreign within the sector. The exclusion refers to the Svalbard Archipelago, a Norwegian territory. The borders of the sector are 32° 04' 35" E, and 168° 49' 30" W, according to the Decree of the Presidium of the Central Executive Committee, Apr. 15, 1926, cited in D. PHARAND, *supra* note 8, at 124-25.

102. D. PHARAND, *supra* note 8, at 171.

103. S. OLENICOFF, *supra* note 99, at 6. See also Schatz, *Transnational Science*, *supra* note 65, at 8-9 (quoting G. VON GLAHN, *LAW AMONG NATIONS: AN INTRODUCTION TO PUBLIC INTERNATIONAL LAW* 284 (2d ed. 1970)).

reading of the treaty texts is open to challenge.¹⁰⁴ The potential for conflict over the theory was greatly diminished when intensive exploration of the arctic basin in the 20th century revealed that all islands already had been discovered and claimed.¹⁰⁵

Nevertheless, the sector theory has been kept alive. American ice-breakers engaged in research in the Soviet sector have been closely tailed by Soviet warships and reconnaissance flights.¹⁰⁶ Recently, the sector claim formed the basis of the Soviet position in negotiations over the line between the Norwegian and Soviet 200-mile economic zones and division of the continental shelf in the Barents Sea.¹⁰⁷ The Soviets argue that the continental shelf in the Barents Sea represents one of the "special circumstances" contemplated by Article 6 of the 1958 Convention on the Continental Shelf, in which it would be unjust to apply equidistance principles.¹⁰⁸ According to the Soviets, the "special circumstances" are not related to the commonly recognized justification of "unusual coastal configuration," but rather to the Soviet Union's special strategic needs and greater population concentration in the Barents Sea region. In negotiations with Norway, the Soviets have maintained firmly that these special interests justify a claim based on the sector line.

In recent years, the Soviets have defended staunchly freedom of the seas principles,¹⁰⁹ but have interpreted these principles as subject to "specific norms in definite circumstances when this is required by the legal needs of the state concerned."¹¹⁰ Some of these "specific norms" relate to arctic

104. Schatz, *supra* note 65, at 74.

105. Use of aircraft for arctic travel revealed this fact. See F. DEBENHEM, *supra* note 99, at 104.

106. S. OLENICOFF, *supra* note 99, at 14.

107. *Russerne rikket seg ikke en tomme*, Dagbladet (Oslo), Dec. 21, 1976, at 6, col. 1.

108. See W. BUTLER, THE SOVIET UNION AND THE LAW OF THE SEA 144 (1971). A further justification for the Soviet position derives from reading the opinion of the International Court of Justice in the North Sea Continental Shelf Cases, [1969] I.C.J. 3, where the court held that the equidistance principle has no special priority as an equitable principle which should delimit a shelf boundary. See W. BUTLER, *supra* at 146.

109. *Id.* at 172. The Soviet attitude toward "innocent passage" is a notable exception to the Soviet defense of the freedom of the seas principle. The doctrine of innocent passage was codified in Section III of the Convention on the Territorial Sea and the Contiguous Zone, *supra* note 90. "Passage" is defined in Article 14, paragraph 2 of the Convention as "navigation through the territorial sea for the purpose either of traversing that sea without entering internal waters, or of proceeding to internal waters, or of making for the high seas from internal waters." Passage is "innocent," according to Article 14, paragraph 4, so long as it is not "prejudicial to peace, good order, or security of the coastal State." Under Article 15, the coastal state is not only forbidden from interfering with innocent passage, but has the duty to aid it by publicizing dangers to navigation in its territorial sea.

The Soviet Union requires that all warships obtain authorization before sailing through Soviet waters. W. BUTLER, *supra* note 108, at 63. Such a condition is not part of the Convention, and is at odds with the doctrine as interpreted by the International Court of Justice in the Corfu Channel Case, [1949] I.C.J. 28. S.B. Krylov, the Soviet judge, was one of the five dissenters. According to the majority's decision, it is the character of the passage, not the nature of the ship, that determines "innocence."

110. S. MOLODTSOV, MEZH DUNARODNO-PRAVOVOI REZHIM OTKRYTOGO MORIA I KONTINENTAL' NOGO SHEL'FA 75-76 (Moscow 1960), translated in W. BUTLER, *supra* note 108, at 171.

waters. For example, various Soviet writers have claimed the Kara, Laptev, East Siberian, and Chukchi Seas, all arms of the Arctic, are "historic waters" outside the regime of the high seas.¹¹¹ An historic waters claim, however, requires acquiescence by other nations.¹¹² Extensive, if sporadic, United States activity on or over all four seas negates such a claim.

The same four seas have been claimed as internal waters under the "closed sea" concept. Closed seas are "seas which essentially constitute routes leading to the ports and shores of coastal states and are connected to the high seas through a series of straits."¹¹³ The closed seas doctrine treats the ice pack as a land mass or a phenomenon having the same legal effect as a land mass. It completely ignores the suitability of the Arctic to submarine navigation. At any rate, the closed seas doctrine has never been accepted in international law.¹¹⁴

The sector, historic waters, and closed seas claims represent Soviet reluctance to see the traditional law of the sea govern in the Soviet Arctic, an attitude in contrast to the general Soviet support of freedom of the seas. The major Soviet concern behind these claims appears to be the maintenance of control over shipping in the Northeast Passage (the shipping route across the top of Europe and Asia), to prevent it from becoming an international sea lane. However, it has been unnecessary to press these claims, because the Soviet Union has been able to control the Northeast Passage without them. By claiming a twelve-mile territorial sea, the Soviet Union brought two of the Northeast Passage's major straits within its borders.¹¹⁵ The twelve-mile

111. D. PHARAND, *supra* note 8, at 121. Several grounds are put forth in support of the "historic waters" claim. One argument is that these seas fall within the provision of customary law allowing a nation to claim as internal waters those large bays traditionally considered part of the national territory. *Id.* at 100. A second argument holds that these seas are historic waters within the meaning of the oblique reference to that doctrine in the Convention on the Territorial Sea and the Contiguous Zone. See Article 12, paragraph 1 of the Convention, *supra* note 90. The third claim is that their "special economic or strategic significance," as established by historic tradition and "special geographic conditions," brings them within the meaning of "internal waters" as defined by the 1960 Soviet statute defining state boundaries. W. BUTLER, *supra* note 108, at 107-108 (citing Law of Aug. 5, 1960, Statute on the Protection of the State Border of the U.S.S.R., art. 4, [1960] 34 Ved. Verkh. Sov. S.S.R. Item 324 (Supreme Soviet, U.S.S.R.), translated in 3 SOV. STAT. & DEC. 10, 14 (No. 4, 1967). Soviet writers have found further support in the Anglo-Norwegian Fisheries Case (United Kingdom v. Norway), [1951] I.C.J. 116, which held that the Indrelia passage, the narrow channel between Norway and the Skjaeregaard Archipelago, constituted internal waters by reason of Norway's historic use of the passage, and the geophysical relationship of the area to the land.

112. D. PHARAND, *supra* note 8, at 116-17. The doctrine has been discussed by domestic courts with regard to Cook Inlet, Alaska. *United States v. Alaska*, 497 F.2d 1155 (9th Cir. 1974) (per curiam), *rev'd*, 422 U.S. 184 (1975), *reh. den.*, 423 U.S. 885 (1975).

113. VOYENNO-MORSKOY MEZHDUNARODNO-PRAVOVOY SPRAVOCHNIK (Military-Naval Handbook on International Law) 81-83 (A. Bakhov ed. 1956), translated in S. OLENICOFF, *supra* note 99, at 26.

114. W. BUTLER, *supra* note 108, at 126-27. The Russians tried to gain acceptance for the doctrine at the 1958 Law of the Sea Conference, but found little support outside the Communist bloc. See U.N. Doc. A/Conf. 13/c.2/L. 2e IV, at 38-39, 53, 123 (1958).

115. These are the Vil'kitskii Straits, which join the Kara and Laptev Seas, and the

territorial sea, a restrictive reading of the doctrine of innocent passage,¹¹⁶ and the difficulty of negotiating the ice passage without the aid of Soviet support ships have effectively nationalized the route. Control of the North-east Passage has created a huge national security zone along the Soviet Union's northern border. It can be said fairly that Soviet affinity for the law of the sea in the Arctic extends only so far as it contributes to protection of this security interest.

2. Canada

Canada also has employed the sector theory in the Arctic. The theory has frequently appeared in political dialogue on the extent of Canada's claims in the Arctic.¹¹⁷ Several officials have cited it as a basis for a claim of jurisdiction over maritime areas of the Arctic.¹¹⁸ Canada considered the theory as a possible basis for dividing the continental shelf it shares with the United States in the Beaufort Sea, and with Denmark off the north coast of Greenland.¹¹⁹ Ultimately, the division with Greenland was made on equidistance lines, but the intersection of the dividing line with the 60th meridian (the eastern boundary of the sector) was designated by Canada as the northern end of the equidistance division.¹²⁰

While making no official claim to sovereignty over arctic waters under the sector theory, Canada has officially questioned their high seas status. When the United States objected¹²¹ to the AWPPA's 100-mile extension of

Medvezhy Islands Straits, in the East Siberian Sea. See Figure 1. For a detailed map, see W. BUTLER, *supra* note 108, at 68.

116. See note 109 *supra*. The Soviet interpretation of the innocent passage principle, and a determination that two U.S. Coast Guard icebreakers were "warships," apparently provided the basis for Soviet refusal to let the icebreakers through the Vil'kitskii Straits in August, 1967. The United States protested, but ordered the icebreakers to turn back. The fact that the Soviet refusal made no mention of "historic waters" or "closed seas" with respect to either the Kara or the Laptev Seas, and that no protest had been made concerning the ships' research activities in the Kara Sea prior to the attempted passage, was taken as an official concession that the two seas were subject to the high seas regime beyond the twelve-mile limit. See W. BUTLER, *supra* note 108, at 66-70.

117. Note, *Canadian and Soviet Arctic Policy: An Icy Reception for the Law of the Sea?* 16 VA. J. INT'L L. 609, 611 (1976) [hereinafter cited as *Canadian and Soviet Arctic Policy*].

118. A statement in 1958 by the Canadian Minister of Northern Affairs claimed the sector, including marine areas, as "national terrain." *Canadian and Soviet Arctic Policy, supra* note 117, at 611 n.9. The statement was later quoted by Prime Minister Trudeau. *Id.* Official Canadian positions since that date have been somewhat more restrained, though the theory "has certainly not been abandoned nor forgotten." R.-J. DUPUY, *supra* note 92, at 60.

119. See *Canadian and Soviet Arctic Policy, supra* note 117, at 632.

120. *Id.* (citing Agreement Between Canada and Denmark Relating to the Delimitation of the Continental Shelf Between Greenland and Canada, Mar. 13, 1974, [1974] *Récueil des Traités* No. 9 (Canada)).

121. The United States' objection stated in part:

[T]he United States is acutely aware of the peculiar ecological nature of the Arctic Region, and the potential dangers of oil pollution in that area. The Arctic is a region important to all nations in its unique environment, its increasing significance as a world trade route and as a source of natural resources. We believe the Arctic beyond

jurisdiction over maritime areas above the 60th parallel,¹²² Canada responded:

It is idle . . . to talk of freedom of the high seas with respect to an area, large parts of which are covered with ice throughout the year, other parts of which are covered with ice most of each year, and where the local inhabitants use the frozen sea as an extension of land to travel over it by dogsled or snowmobile far more than they can use it as water.¹²³

The reply referred specifically to the Northwest Passage, but J.A. Beesley, Canada's Assistant Under-Secretary of State and Legal Advisor for External Affairs, subsequently made it clear that the "ice is not water" logic applied, in Canada's view, to all arctic marine areas.¹²⁴

Prime Minister Trudeau once conceded that the AWPPA is "at the outer limits of international law."¹²⁵ Technically, the extension of jurisdiction was said to have derived from the contiguous zone concept.¹²⁶ The history of antipollution proposals and agreements, however, revealed little support in customary or treaty law for such an extension beyond twelve miles. Recognizing the weakness of the contiguous zone argument, Canada based its defense on general environmental principles and the "unique"

national jurisdiction should be subject to internationally agreed rules protecting its assets, both living and non-living . . .

U.S. Dep't of State Press Release No. 121, Apr. 15, 1970, 52 DEP'T STATE BULL. 610 (1970). The note went on to suggest an international conference designed to establish rules for the Arctic beyond national jurisdiction. It is clear from the context of the note that these rules were to be consonant with the freedom of the seas regime. *Id.* Nothing came of the conference proposal, although Canada expressed interest in it.

122. See text accompanying note 91 *supra*.

123. Canadian Reply to the U.S. Government, *reprinted in* 9 INT'L LEGAL MATERIALS 607, 611 (1970). The Canadian argument, quite naturally, did not address the fact that increasingly sophisticated and powerful icebreakers are pushing the boundaries of feasible surface navigation ever further into the pack ice. See D. PHARAND, *supra* note 8, at 164-66. See also *Coast Guard Commissions First U.S. Icebreaker in 20 Years*, OCEAN INDUSTRY, Feb., 1976, at 188. *But see* note 162 *infra*.

124. See D. PHARAND, *supra* note 8, at 174. Canada's unorthodox position is rendered some support by the fact that it never ratified the Convention on the High Seas and Territorial Sea and Contiguous Zone. S. SWARTZTRAUBER, *supra* note 83, at 228; Reinhard, *International Law: Implications of Opening Up the Northwest Passage*, 74 DICK. L. REV. 678, 685 (1970). The other arctic states, in contrast, have done so. See 2 NEW DIRECTIONS IN THE LAW OF THE SEA 837-38 (S. Lay, R. Churchill & M. Nordquist eds. 1973).

125. Address by Pierre E. Trudeau, to the Canadian press (Apr. 15, 1970), *reprinted in* CANADIAN DEP'T OF EXTERNAL AFFAIRS, STATEMENTS AND SPEECHES No. 70/3, at 3 (1970), *quoted in* D. PHARAND, *supra* note 8, at 233.

126. See Convention on the Territorial Sea and the Contiguous Zone, *supra* note 90, art. 24, para. 1(a). Article 24 of the Convention deals with the contiguous zone, an area outside the territorial sea generally governed by free seas principles, but subject to certain special types of coastal state jurisdiction to protect "custom, fiscal, immigration or sanitary" regulations. *Id.* The Convention codified a twelve-mile limit on contiguous zones, *id.* art. 24, para. 2, which reflected the fact that a majority of states still claimed territorial seas of only three miles, as did Canada until a few days after passage of the AWPPA. Canada never ratified this Convention. See note 124 *supra*.

nature of the Arctic, rather than on the law of the sea.¹²⁷ Prime Minister Trudeau justified the law as a step necessary to prevent "irreparable harm" to a vulnerable area.¹²⁸ The Minister for External Affairs termed the AWPPA "a stepping-stone toward the elaboration of an international legal order which will protect and preserve this planet Earth for the better use and greater enjoyment of mankind."¹²⁹ Legal advisor Beesley described the jurisdiction as "custodianship," not an extension of sovereignty.¹³⁰

The AWPPA was passed after the 1969 voyage of the oil tanker

In line with its recognition of the twelve-mile territorial sea, the RSNT extends the contiguous zone to twenty-four miles, but does not otherwise change the scope of the concept. See RSNT Part II, *supra* note 15, art. 32.

127. J.A. Beesley, Assistant Under-Secretary of State and Legal Advisor for External Affairs, and Deputy Chairman of the Canadian delegation to the Third Law of the Sea Conference, has stated that:

Canada's position with respect to the protection of the Arctic environment rests upon the special situation pertaining to the Arctic, the fundamental right of self-defense, and the general principle that states have a duty not to use or permit the use of their territory or of areas beyond national jurisdiction in such a manner as to cause injury in or to the territory or environment of another state.

Beesley, *supra* note 16, at 12. Had Canada been more concerned with making its response to the arctic pollution threat compatible with the law of the sea, it might have enclosed the Canadian Archipelago by drawing straight baselines around the perimeter. The enclosed maritime areas, including the Northwest Passage, would have become internal waters. Reinhard, *supra* note 124, at 678-79; D. PHARAND, *supra* note 8, at 88-92. Arguably, such enclosure would not have provided Canada with effective control, because Article 5, paragraph 2 of the Convention on the Territorial Sea and Contiguous Zone provides that internal waters created by such enclosures are still subject to the doctrine of innocent passage. See *Canadian and Soviet Arctic Policy*, *supra* note 117, at 615. However, since Canada never ratified the Convention, see note 124 *supra*, it is not clear that it need accept such a restrictive reading of the straight baselines doctrine. The straight baselines approach would have found more support in the traditional law of the sea but would have been less expressive of Canada's concerns. The Canadian government was careful to point out that it did not believe proceeding with the AWPPA on the contiguous zone/general international law theory would prejudice its right to draw baselines around the Archipelago at some future date. See Canadian Reply to the U.S. Government, *supra* note 123, at 614-15. It has not yet done so.

The straight baselines approach lacked appeal both because it failed to reach all maritime areas which Canada felt were threatened, and because it did not adequately reflect Canada's frustration with years of unavailing efforts to get strict international controls on pollution from ships. The AWPPA was an unmistakable message as well as a means of increasing environmental protection. See generally Gold, *Pollution of the Sea and International Law: A Canadian Perspective*, 3 J. MAR. L. & COM. 13 (1971); Green, *International Law and Canada's Anti-Pollution Legislation*, 50 ORE. L. REV. 462 (1971).

128. Address by Pierre E. Trudeau, *supra* note 125.

129. Address by Minister Sharp (Apr. 16, 1970), *reprinted in* CANADIAN DEP'T OF EXTERNAL AFFAIRS, STATEMENTS AND SPEECHES No. 70/5, at 2 (1970). *quoted in* D. PHARAND, *supra* note 8, at 234.

130. Beesley, *Protection of Coastal State Interests vs. the Preservation of International Interests*, in PERSPECTIVES ON OCEAN POLICY 338 (National Science Foundation Pub. No. 75-17, 1975). Such language approaches the concept of "functional duplication," developed by Georges Scelle and elaborated in R.-J. DUPUY, *supra* note 92, at 92-93, wherein the coastal state acts to defend both its own interest and that of the international community. Dupuy points out that such management can forestall tendencies to national appropriation, but that it can in other cases merely be a guise for such appropriation. *Id.* at 95.

Manhattan through the Northwest Passage.¹³¹ The voyage had generated fear of insufficiently controlled international shipping in the area.¹³² An almost simultaneous response was the extension of Canada's territorial sea to twelve miles.¹³³ This extension, for which substantial precedent existed by 1970, gave Canada sovereignty over the entrance to the Northwest Passage.¹³⁴ Although a territorial sea is subject to the right of innocent passage,¹³⁵ Canada took the position that passage of a loaded oil tanker through a narrow straight in the fragile Arctic is not innocent.¹³⁶ Thus, Canada created an alternative means of protecting its arctic regions if the AWPPA proved unacceptable in international law.¹³⁷

The AWPPA and the extension of the territorial sea are examples of the legal uncertainties fostered by application of the law of the sea to the Arctic. One bill called into question the characterization of the Arctic as an ocean, and the other, by taking advantage of the growing international acceptance of the twelve-mile limit, assumed the applicability of the law of the sea.

131. Shortly after the discovery of the Alaskan North Slope oil fields, the Humble Oil Co. spent an estimated \$50 million to strengthen the S.S. *Manhattan* and send it through the Northwest Passage, in an effort to prove the feasibility of using that route to transport oil by tanker to the eastern United States. With the help of American and Canadian icebreakers, the *Manhattan* became the first commercial vessel ever to make it through the Passage. It repeated the voyage in 1970. For a laudatory account of the *Manhattan* expedition of 1969, see Moss, *Petroleum—the Problem*, in *IMPINGEMENT OF MAN ON THE OCEANS* 381, 416-419 (D. Hood ed. 1971). At least one Canadian commentator was not quite as impressed, noting that an unreinforced section of the ship had been knocked out by ice on the return voyage in 1969, spilling 15,000 barrels of ballast water. D. PHARAND, *supra* note 8, at 211. Several sections of the Passage are narrow, shallow, and often fogged in. Ice there can be especially treacherous. At one point, the *Manhattan* was completely trapped in the McClure Strait, in danger of being grounded by the drifting ice, before the icebreakers could free her. T. BROWN, *OIL ON ICE 89-90* (1971).

132. See *Canadian and Soviet policy*, *supra* note 117, at 612.

133. An Act to Amend the Territorial Sea and Fishing Zones Act, CAN. REV. STAT. c. 45 (1st Supp., 1970).

134. *Canadian and Soviet Policy*, *supra* note 117, at 616.

135. See note 109 *supra*, for a definition of innocent passage.

136. See *Canadian and Soviet Policy*, *supra* note 117, at 615.

137. Canada has not ratified the Convention on the Territorial Sea and Contiguous Zone, see note 124 *supra*, but the doctrine of innocent passage is theoretically applicable in any case, since it developed as a matter of customary law. Canada's reading of the doctrine includes the ecological balance in a fragile area as one of the conditions that must not be threatened if the passage is to be innocent. Alternatively, it equates ecological balance with "security." Either way, passage of a loaded oil tanker through the treacherous Northwest Passage is not "innocent" in the Canadian view.

While the new law of the sea as reflected in the RSNT does not go so far as to recognize the claim that such passage of oil tankers is not innocent, it provides a basis for the adoption by coastal states of tight regulations relating to the prevention of pollution from off-shore vessels. See, e.g., RSNT Part II, *supra* note 15, art. 20, para. 1(f) (allowing adoption of regulations relating to innocent passage in order to prevent pollution); *id.* Part III, art. 43 (allowing adoption of regulations relating to control of pollution from vessels navigating in ice-covered areas). But regulations adopted under Article 20, paragraph 1(f), shall not apply to the design, construction, manning, or equipment of foreign ships unless specifically authorized by interna-

3. *United States, Denmark, and Norway*

The United States, Denmark, and Norway have consistently proclaimed the applicability of the traditional law of the sea in the Arctic.¹³⁸ They have not invoked, and have refused to recognize sector theory claims in the Arctic.¹³⁹ All have engaged in, supported, or given tacit approval to air and sea navigation and scientific activity in the region in accordance with free seas principles.¹⁴⁰

Unqualified acceptance of the traditional legal regime of the sea has nonetheless led to a variety of claims. Consider the conflicting interpretations of the Convention on the Continental Shelf, which all of the arctic states have ratified.¹⁴¹ The definition of the continental shelf in Article 1 of the Convention reads:

For purposes of these articles, the term "continental shelf" is used as referring (a) to the seabed and subsoil of submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 meters or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas; (b) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands.¹⁴²

The Convention grants the coastal states exclusive control over resources on their shelf.¹⁴³ Canada claims that the "exploitability clause" of Article 1 gives it control of resources out to the deep seabed, thus including the continental slope and rise in its definition of "shelf."¹⁴⁴ By contrast, the Soviet Union excludes the slope and rise from its claim,¹⁴⁵ but includes troughs or depressions extending into the shelf from the deep seabed.¹⁴⁶ The Soviets interpret the exploitability provision to mean that the shelf exploitation technology of the most advanced state in the world determines the outer boundary of coastal state control over the shelf for all states.¹⁴⁷ The United States has employed the exploitability criterion, but its policy is to favor an

tional rules. *Id.* Part II, art. 20, para. 2. Article 43 of Part III of the RSNT, discussed in the text accompanying notes 193-199 *infra*, is also a limited provision for environmental regulation. See text accompanying notes 197-198 *infra*.

138. See D. PHARAND, *supra* note 8, at 169-70, 175-76. Norway and Denmark have had little occasion, according to Pharand, to manifest their official attitudes in recent years. *Id.* at 175. Norway, in particular, would find it difficult politically and strategically, to take a more restrictive view given the inclinations of the U.S.S.R. See generally Baron, *supra* note 1.

139. D. PHARAND, *supra* note 8, at 175-76.

140. *Id.* at 170, 175-76.

141. *Id.* at 271; 1 NEW DIRECTIONS IN THE LAW OF THE SEA, *supra* note 79, at 803-805.

142. Convention on the Continental Shelf, *supra* note 90, art. 1.

143. *Id.*, art. 2.

144. See D. PHARAND, *supra* note 8, at 307-311.

145. See Sulikowski, *Soviet Ocean Policy*, 3 OCEAN DEV. & INT'L L. 69, 71 (1975).

146. Edict of the Presidium of the U.S.S.R. Supreme Soviet Concerning the Continental Shelf of February 6, 1968, art. 1, no. 6, item 40, *translated in* 7 INT'L LEGAL MATERIALS 392 (1968).

147. W. BUTLER, *supra* note 108, at 144-45.

international regime for areas beyond 200 meters in depth.¹⁴⁸ Because the shelf break in the Arctic off Alaska is at about 200 meters,¹⁴⁹ such a policy defers claims to the extensive continental slope and rise in that region.

Norway and Denmark both have shelves that break off at much greater depths.¹⁵⁰ Denmark's shelf north of Greenland breaks off at a depth of about 300 meters.¹⁵¹ Neither Norway nor Denmark limit claims to areas less than 200 meters in depth.¹⁵²

Norway's shelf presents particularly complicated problems of interpretation due to the nature of its claim over the Svalbard Archipelago. Norway claims that the shelf around the Svalbard is an extension of the Norwegian continental shelf.¹⁵³ Thus, Norway's shelf would extend 600 miles from the mainland in some places. The shelf area under Norwegian control would be three times greater than Norway's land area.¹⁵⁴

The complications arise because Norway's sovereignty over the Svalbard is not complete. Norway's sovereignty over the islands was recognized under the 1920 Treaty of Spitzbergen,¹⁵⁵ subject to the other signatories' rights to fish and hunt on the islands and in the territorial waters around them.¹⁵⁶ All signatories are to be "admitted under the same conditions of equality to the exercise and practice of all maritime, industrial, mining or commercial enterprises both on land and in the territorial waters."¹⁵⁷ Some signatories have refused to concede that the shelf around the Archipelago belongs to Norway, maintaining that it belongs to the Svalbard itself.¹⁵⁸

148. See Statement by the U.S. President on Oceans Policy, May 25, 1970, *reprinted in* 9 INT'L LEGAL MATERIALS 806, 808 (1970). For an interesting history of the development of this policy, see Hollick, *Bureaucrats at Sea*, in NEW ERA OF OCEAN POLITICS I (Washington Center for Foreign Policy Research, The Johns Hopkins University, Study in International Affairs No. 22, 1974). The United States seems to have accepted the defeat of this policy at the Conference. Eliot Richardson, head of the U.S. delegation, has conceded that "it may be too late to revive that magnificent idea." Remarks, 71st Annual Meeting of the American Society of International Law, in San Francisco (Apr. 22, 1977). For an account of the generally negative international reaction to the U.S. proposal, see D. PHARAND, *supra* note 8, at 290-95.

149. D. PHARAND, *supra* note 8, at 257.

150. *Id.* at 290-91.

151. *Id.* at 259.

152. *Id.* at 302-304.

153. See note 158 *infra*.

154. See Holst, *supra* note 73, at 131.

155. Treaty Concerning Spitzbergen, Feb. 9, 1920, 2 L.N.T.S. 8, *reprinted in* THE CHALLENGE OF NEW TERRITORIES 152 (Oslo, The Fridtjof Nansen Foundation Study No. 1, F. Sollie ed. 1974).

156. *Id.* art. 2.

157. *Id.* art. 3.

158. Norway, of course, maintains that the Svalbard shelf is subject to Norwegian control. Two legal grounds are given for this position. First, it is maintained that under legal principles established by the International Court of Justice, limitations on Norway's sovereign rights over the Svalbard under the Treaty should not be presumed from the Treaty's silence on the subject. Second, there is a continuous shelf between Norway and the Svalbard. International law provides for the delimitation of the shelf only when adjacent to two different "states." It is asserted that Svalbard is not "another state" in relation to Norway. Fleisher, *supra* note 75, at 11-12.

Implicit in their position is a claim to share in development of the Svalbard shelf despite the Treaty's silence on this subject.¹⁵⁹

Varied interpretation of the Continental Shelf Convention is only one example of disagreement among the arctic states concerning application of the law of the sea in the Arctic. The special circumstances of the Arctic can create ambiguity which compounds such disagreement. For instance, one unresolved problem is how to establish a baseline from which to measure a coastal state's jurisdiction, when shorefast ice obscures the location of the coastline.¹⁶⁰

4. Conclusion

One is tempted to ask whether the Arctic has ever been truly subject to the law of the sea. For centuries, human activity has been confined to the relatively ice-free areas of the arctic region. Men grew accustomed to thinking of the whole area as an ocean,¹⁶¹ even though the ice severely impeded fishing and transit by ship,¹⁶² the two uses of the sea on which traditional law is based. The period in which the problem of finding the appropriate legal regime for the Arctic has been raised coincides with the period in which the traditional law of the sea has fragmented and evolved toward a system of appropriation and development. With the development of the traditional law in this direction, the survival of the legal regime of the sea in the Arctic seems more a matter of its expediency as a tool of territorial appropriation, than as evidence of agreement among arctic states that the regime is well suited to the Arctic's physical characteristics.

159. The United States is one of the nations which has reserved its opinion on Norway's claim that the shelf on which the Svalbard sits is part of the Norwegian continental shelf. Several meetings on the matter have not settled the question between the two allies. The most recent meetings were last October in Oslo. *Svalbard diskuteres med amerikanerne*, Dagbladet (Oslo), Oct. 7, 1976, at 7, col. 1.

160. A celebrated example of other arctic problems for which the law of the sea has no answer involved state jurisdiction over a drifting ice island on which the United States had a manned research station. The island was in the Canadian "sector" when Bennie Lightsey, an American citizen, was shot there by Mario Escamilla, another American. Escamilla was removed by helicopter and brought to Dulles Airport in Virginia. The district court, apparently likening the island to an American ship at sea, took jurisdiction. Canada waived any interest it might have by virtue of the island being in the Canadian "sector." The Court of Appeals split 3-3 on whether jurisdiction had been proper in upholding a conviction of involuntary manslaughter. *U.S. v. Escamilla*, 467 F.2d 341 (4th Cir. 1972) (reversing conviction on other grounds and remanding for a new trial). For a description of ice islands in general, and the jurisdictional questions they pose, see D. PHARAND, *supra* note 8, at 181-204.

161. The Arctic "is an ocean because people have thought of it as such for a long time." Johnston, *quoted in* Beesley, *supra* note 16, at 3.

162. These impediments have been considered by some legal scholars to take the Arctic outside the legal regime of the sea. See D. PHARAND, *supra* note 8, at 148-49. The argument, in terms of shipping, was made by a law specialist attached to the Executive Office of the U.S. Navy in 1961:

The ice pack cannot be accurately described as freely and completely navigable by any known type of vessel. As a route of trade and commerce between nations, the pack ice is more likely to be traversed by dog sled and snowcat than by seagoing vessels. The

C. *Environmental Protection and the Law of the Sea Conference*

It is possible to argue that the application of the law of the sea to the government of arctic marine areas is not, in and of itself, environmentally detrimental. If it survives because its increasing concern with appropriation complements the proprietary interests of arctic states, perhaps its survival is beneficial. Extensive development and the creation of environmental hazards could continue, if not under the law of the sea, under some other proprietary regime even more favorable to the arctic states' interests.¹⁶³ At least the developing law of the sea limits the extent of coastal state resource appropriation, by preserving areas beyond the continental shelf as the common heritage of mankind.

The problems with this argument become apparent when the position of environmental protection in the developing law of the sea is examined. In accepting the law of the sea as the legal regime for the Arctic because it suits their economic or strategic interests, the arctic states are accepting a regime with notable environmental weaknesses, which are likely to persist in any convention produced by the Conference.

1. *Existing Marine Environmental Controls*

International marine environmental protection has been extremely fragmented. Some controls are categorized by method of introduction of the pollutant into the sea (e.g., by dumping),¹⁶⁴ some by geographic location,¹⁶⁵ others by negotiating forum,¹⁶⁶ and still others by the subject of protection

forcible navigation of this area by icebreakers is more in the nature of a rape of the frozen seas than it is the free movement of seagoing commerce upon which the doctrine of freedom of the high seas is based.

[It] is no more navigation in the accepted high seas sense of the word than is the creation and navigation of a canal or ditch The ice so penetrated does not become sea any more than the land so penetrated becomes sea.

Partridge, *The White Shelf: A Study of Arctic Ice Jurisdiction*, 87 U.S. NAVAL PROC. 55 (1961), quoted in Beesley, *supra* note 16, at 3.

163. See *Canadian and Soviet Arctic Policy*, *supra* note 117, at 633 n.107. While it can be argued that the proprietary interest is the best possible check on humankind's natural tendency to exploit and pollute the "commons," see Lloyd, *The Checks to Population*, in *POPULATION, EVOLUTION AND BIRTH CONTROL* 28, 29 (G. Hardin ed. 1969), the argument has little application to the Arctic, as well as other ecosystems that cannot be parceled into completely "closed" systems. See Hardin, *The Tragedy of the Commons*, in *POPULATION, EVOLUTION AND BIRTH CONTROL*, *supra* at 370-71, 373; A. D'AMATO & J. HARGROVE, *ENVIRONMENT AND THE LAW OF THE SEA*, *supra* note 93, at 17-19. Arctic proprietor states might not be deterred from passing on part of their environmental costs to the "commons," if possible.

164. See, e.g., Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, Feb. 15, 1972, reprinted in 11 INT'L LEGAL MATERIALS 262 (1972) (not yet in force).

165. See, e.g., Agreement on the Conservation of Natural Resources in the Sea Adjacent to the Argentinian Coasts of the South Atlantic, Dec., 1967, Argentina-Brazil, reprinted in *REVISTA DE DERECHO INT'L Y CIENCIAS DIPLOMATICAS*, XV & XVI, Nos. 29-32, at 147.

166. See, e.g., Convention on the Inter-Governmental Maritime Consultative Organization, Mar. 6, 1948, 9 U.S.T. 621, T.I.A.S. No. 4404, 289 U.N.T.S. 3. For a review of the work of the Intergovernmental Maritime Consultative Organization (IMCO), and suggestions for the expansion of its role in the prevention of maritime pollution, see Otsea, *The Intergovernmental*

(whales, for example).¹⁶⁷ Some are unilateral, some bilateral, and some multilateral.¹⁶⁸

While it is beyond the scope of this Comment to examine the coverage and character of existing marine environmental protection, such protection appears to fall far short of what is necessary to avert an oceanic "tragedy of the commons." Individual states do not take into account, in their investments in development of the ocean "commons," the negative environmental consequences that will arise if other states also invest.¹⁶⁹ As each investing nation acts in its own interest, the carrying capacity of the commons is eventually overwhelmed. Thus, each new oil field developed is seen only as a small increment in environmental pressure in relation to the benefit to the state or corporation doing the developing, a near-sighted calculation repeated constantly with respect to exploitation of the sea.

2. *Marine Environmental Controls: The Response of the Law of the Sea Conference*

The United Nations Conference on the Environment in Stockholm drafted principles which reflected an increased international environmental consciousness regarding oceanic pollution.¹⁷⁰ Undoubtedly, the Stockholm Conference is indicative of a growing awareness of the ocean "commons" problem. However, environmental concerns have been a secondary factor at the Law of the Sea Conference,¹⁷¹ the real testing place for national commitment to preservation of the oceanic environment. It is at the Law of the Sea Conference that environmental concerns compete with the economic, strategic, and political interests of the participants.

Maritime Consultative Organization and Tankers: A Case Study in the Effectiveness of International Maritime Regulation, HASTINGS INT'L & COMP. L. REV., Spr., 1977, at 123.

167. See, e.g., International Convention for the Regulation of Whaling, Dec. 2, 1946, 62 Stat. 1716, T.I.A.S. No. 1849, 16 U.N.T.S. 72. For a thorough discussion of the management of whale resources and the international regulation of whaling, see Scarff, *The International Management of Whales, Dolphins, and Porpoises: An Interdisciplinary Assessment* (pts. 1-2), 6 ECOLOGY L.Q. 323, 571 (1977).

168. The AWPPA, *supra* note 79, is an example of an unilateral control. For a listing of bilateral and multi-lateral treaties related to or affecting marine environmental concerns, see 2 NEW DIRECTIONS IN THE LAW OF THE SEA, *supra* note 79, at 771-98.

169. See Hardin, *The Tragedy of the Commons*, *supra* note 163, at 373. It can be argued that a perception of the "commons" problem has generated some controls. But unless the perceived threat of harm is great, the drafting of general environmental principles, lacking in routine administration, all too often will produce an inadequate response by the parties whose behavior is sought to be controlled. *Id.* at 373-74. For a discussion of the haphazard system of environmental standard setting and enforcement reflected in the RSNT, see text accompanying notes 188-192 *infra*.

170. Report of the United Nations Conference on the Human Environment held at Stockholm, June 5-16, 1972, U.N. Doc A/Conf. 48/14 (1972) (Declaration of Principles). It has been stated that "there are large gaps between present international law and the Stockholm ideal." Birnie, *The Basic Obligation to Protect the Marine Environment*, in INTERNATIONAL INSTITUTE FOR ENVIRONMENT AND DEVELOPMENT, CRITICAL ENVIRONMENTAL ISSUES ON THE LAW OF THE SEA I (R. Stein ed. 1975).

171. See text accompanying notes 12-15 *supra*.

a. *The non-environmental focus of the Law of the Sea Conference*

The non-environmental focus of the Law of the Sea Conference can be attributed to numerous factors. First, there is a widespread belief among the developing nations that most ecology concerns are rich nations' luxuries.¹⁷² Where developing nations have recognized environmental problems sufficiently to take a negotiating stance on them, they have proposed a "double standard" based on more lenient rules for themselves.¹⁷³ Second, because individuals who view oceans as environmental resources do not constitute important political constituencies, they are at a disadvantage in influencing national delegations.¹⁷⁴ Third, the delegations themselves are composed of those who run military establishments, operate maritime transport systems, own mineral extraction systems, or shape foreign policy.¹⁷⁵

As the Law of the Sea Conference progresses, there is little reason to expect greater attention to environmental problems. The primary goal of developing nations remains reordering "economic activity with respect to two-thirds of the earth's surface."¹⁷⁶ Facing difficulties on economic and political questions which may yet prove intractable, few members of the delegations seriously desire bringing environmental issues to the already crowded center stage. Competing interests aside, there may be a sense that environmental issues are too large: perhaps ninety percent of marine pollution presently comes from activities taking place on land.¹⁷⁷ Moreover, environmental issues are often extremely hard to formulate precisely, due to difficulties in obtaining and collecting relevant data:

[E]valuation of the negative or positive impact of each intrusion—even from the perspective of the ocean scientist, to say nothing of

172. Freidheim, *Ocean Ecology and the World Political System*, in WHO PROTECTS THE OCEANS? 151, 175 (J. Hargrove ed. 1975).

173. The "double standard" appears in RSNT Part III, *supra* note 15, art. 17, para. 4: States, acting in particular through competent international organizations or diplomatic conference, shall endeavor to establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment from land-based sources, taking into account characteristic regional features, the economic capacity of developing countries and their need for economic development.

174. See Pearson, *Environmental Policy and the Ocean*, in PERSPECTIVES ON OCEAN POLICY 207, 215 (National Science Foundation Pub. No. 75-17, 1975). See also Hollick, *supra* note 148, at 8. One observer described U.S. ocean policy as "a rather uncoordinated grouping of special interests competing for finite resources and policy support, often at the expense of each other." Walsh, *Some Thoughts on National Ocean Policy: The Critical Issues*, 13 SAN DIEGO L. REV. 594 (1976). Walsh cites a 1975 General Accounting Office report, which states that twenty-one organizations in six federal departments and five agencies are involved with the oceans in various ways. *Id.* at 596 (citing THE NEED FOR A NATIONAL OCEAN PROGRAM AND PLAN (U.S. GAO Pub. No. GGD-75-97, 1975)).

175. See D'Amato & Hargrove, *An Overview of the Problem*, *supra* note 13, at 31-32.

176. See Ratiner, *supra* note 5, at 19. D'Amato & Hargrove, *An Overview of the Problem*, *supra* note 13, at 31, observe that "concern for managing the impact of human activity on the environment (marine or otherwise) was not an important factor in bringing about these negotiations, and is only a secondary influence upon them now."

177. A. D'AMATO & J. HARGROVE, ENVIRONMENT AND THE LAW OF THE SEA, *supra* note 93, at 46.

the policy maker—is time-consuming, expensive, and most often partly a matter of guesswork based on scientifically incomplete information.¹⁷⁸

b. Environmental controls established by the Revised Single Negotiating Text

(1). Seabed controls

As a result of the negotiating climate at the Conference, the environmental provisions emerging are better understood in terms of division of responsibility than standards of protection. Environmental controls in the international deep seabed areas beyond coastal state jurisdiction will, if the RSNT becomes the basis for a convention, be the responsibility of the International Seabed Resource Authority (ISRA), the organization established to control mining of the deep seabed.¹⁷⁹ Committee III's abdication of responsibility for enforcing international environmental standards concerning the deep seabed to Committee I,¹⁸⁰ which was primarily concerned with exploiting the seabed,¹⁸¹ is a clear example of the secondary status of environmental concerns at the Conference.¹⁸²

178. *Id.* at 15. In weighing the significance of the fact that much of our information about the marine environment is incomplete, and in determining the effects of incomplete knowledge on the chances for agreement on environmental issues at the Conference, one should take note of the following observation:

The need for accurate scientific and economic information [to help resolve international debate over ocean management] is hard to overemphasize I am struck by the parallel to the gradual extension of international control over contagious diseases in the 19th century. Nations squabbled endlessly over the best methods of control, and the theories of contagion that underlay them, until complete and correct scientific information on the mode of transmission and the incubation period of each disease became available. Once that happened, international agreement on regulation occurred relatively rapidly.

Cooper, *supra* note 85, at 156.

179. RSNT Part I, *supra* note 15, art. 2, para. 1; art. 12. The principle of an international regime for the deep seabed has been widely accepted since 1970 when the United Nations General Assembly adopted the Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction, G.A. Res. 2749, 25 U.N. GAOR, Supp. (No. 28) 24, U.N. Doc. A/C.1/544 (1970).

180. See RSNT Part III, *supra* note 15, art. 25.

181. Mr. Arvid Pardo, who played an important role in the Conference, see note 92 *supra*, has described the primary goal of Committee I's leaders as "exploitation of resources to meet world demand." He has criticized this approach and argues that "rational management" of the international seabed should be the ISRA's primary goal. Remarks, 71st Annual Meeting of the American Society of International Law, in San Francisco (Apr. 22, 1977).

182. The argument that international control of deep seabed mining will slow some development, and partially decrease environmental risks has only short-term validity, if any. The less developed nations struggling for control of the ISRA oppose exploitation only "insofar as the true long-range beneficiaries are the technologically advanced nations. See Kotz, *supra* note 5, at 75-77 (citing developing nations' interest in having a say in policy determinations, and in creating long-range returns by developing technological capability). Once whatever technology transfer provisions that end up in the convention begin to take effect, underdeveloped nations will be able to utilize the capital resources of the OPEC nations to create that sort of "wealth which feeds on itself after a certain level of development is reached." R.-J. DUPUY, *supra* note 92, at 29 n.11, quoted in Kotz, *supra* at 76. The pace of deep sea development might then

Coastal states will probably acquire individual control over environmental standards used in development of continental shelf resources, subject to the "duty to protect and preserve the marine environment."¹⁸³ The independent rights of coastal states to control activity under the ISRA's authority, in the international deep seabed areas, are restricted to adoption of measures necessary to prevent "grave and imminent danger to their coastlines or related interests."¹⁸⁴ Further, the danger must result from actual "activities" in the international area.¹⁸⁵ Thus, preventive legislative actions before any "activities" occur would, under the RSNT, be unjustified.¹⁸⁶ Moreover, measures are further restricted to those consistent with Part III of the RSNT.¹⁸⁷

(2). *Other environmental controls*

Environmental control above the ocean floor will continue to be fragmented.¹⁸⁸ The present haphazard system of environmental standard setting and enforcement remains virtually unaffected. Nations are encouraged to

increase markedly. *But see* Kotz, *supra* at 76-77 (suggesting the possibility that land-based mineral producing nations might forestall development). With respect to the Arctic, the long-term environmental effects are likely to be negative, since the developing states favor a double standard on environmental issues in the law of the sea context. See text accompanying note 173 *supra*. For a general report on attitudes toward environmental problems among some developing states, see Adeniji, *The Legal Challenge of Environmental Pollution to Africa*, 4 *ANGLO-AM. L. REV.* 312 (1975).

Environmental considerations regarding development of the deep seabed in the Arctic may seem speculative at present. But the current pace of technological development and demand for resources is such that seabed development cannot be dismissed in discussing the appropriate legal regime for the region, an issue with long-term implications. On technological adaptation to the arctic environment, *see, e.g.*, note 33 *supra*. Once development begins to occur within the law of the sea framework, the arctic states will have no legal basis for forcing protective measures on the ISRA.

183. *See* RSNT Part III, *supra* note 15, art. 3.

184. *Id.* Part I, art. 14, para. 2.

185. *See id.*

186. Article 14, paragraph 2 addresses itself to action taken to control pollution "or threat thereof." The article therefore admits of action to prevent pollution from occurring. However, when read with the subsequent phrase, "or other hazardous occurrences resulting from . . . any activities in the Area," it becomes apparent that "activities in the Area" were contemplated as a condition precedent to coastal state action. *Cf.* RSNT Part III, *supra* note 15, art. 16 (duty of the state in connection with threat of marine pollution from "planned activities" within the coastal state jurisdiction is to assess and report on the threat).

187. *Id.* Part I, art. 14, para. 2.

188. Under the RSNT, the responsibility for the adoption of the necessary controls lies with the states, although the controls to be adopted are to be no less effective than those existing under international rules. *See id.* Part III, arts. 17-22. Similarly, the responsibility for enforcement lies with the states. *See id.* arts. 23-42. For a more detailed explanation of the environmental controls provided by the RSNT, see Graham, *The Extent to Which Marine Transportation Within the Economic Zone Will be Affected by Enforcement of the Proposed Pollution Controls*, in *LAW OF THE SEA: CONFERENCE OUTCOMES AND PROBLEMS OF IMPLEMENTATION* 101 (E. Miles & J. Gamble eds. 1977). For a pessimistic view of the probable effectiveness of these controls, see McManus, *Environmental Provisions in the Revised Single Negotiating Text*, in *LAW OF THE SEA: CONFERENCE OUTCOMES AND PROBLEMS OF IMPLEMENTATION*, *supra* at 269.

seek lofty environmental ends through "regional cooperation" and voluntary movement toward "supra-national norms."¹⁸⁹ While the RSNT is not devoid of attempts at general environmental standard setting, the language tends to be so broad that it constitutes little real constraint on polluters.¹⁹⁰ In short, the RSNT declares that nations ought to recognize the environmental consequences of the development of their ocean resources, but it does little to alter the various legal responsibilities of, and relationships among states in an environmentally responsible direction.

States will be competent to set some standards unilaterally for enforcement within their economic zones.¹⁹¹ However, because the standards set will have implications for use of marine areas throughout the world, the standards set within the existing framework will continue to dominate.¹⁹²

(3). Article 43

Awareness of the general environmental weaknesses of the RSNT, and particular concern with shipping led Canada to press the Conference for specific authorization for a stricter standard in the Arctic. The result of this effort appeared as Article 43 of Part III of the RSNT:

Coastal States have the right to establish and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the economic zone, where particularly severe climatic conditions and the presence of ice covering such areas for most of the year create obstructions or exceptional hazards to navigation, and pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. Such laws and regulations shall have due regard to navigation and the

189. See, e.g., *id.* art. 17, para. 3; art. 18, para. 4.

190. See, e.g., *id.* art. 4, para. 2:

States shall take all necessary measures to ensure that activities under their jurisdiction or control are so conducted that they do not cause damage by pollution to other States and their environment, and that pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights in accordance with this Convention.

Cf. id. Part I, art. 12, charging the ISRA with the duty of preventing the "harmful effects" of deep seabed mining.

191. See, e.g., *id.* Part III, art. 20, para. 4 (allowing state regulation of the dumping of wastes in the economic zone "after due consultation with other States which by reason of their geographical situation may be adversely affected thereby"); art. 21, para. 5 (allowing states to act "where international rules and standards are inadequate" to protect areas of economic zones which are peculiarly vulnerable due to special oceanographical and ecological conditions, subject to the duty to consult with other states and the approval of "the competent international organization"). Note that if a convention is adopted following the RSNT, up to forty percent of the ocean surface will come under national jurisdiction, a possibility calculated by Soviet experts. R.-J. DUPUY, *supra* note 92, at 82 n.121.

192. See the articles cited in note 191 *supra*, and the limitations on state action contained therein. See also RSNT Part III, *supra* note 15, art. 21, para. 4 (allowing states to establish standards for control of pollution from vessels in the economic zones "conforming to and giving effect to international rules and standards.").

protection of the marine environment based on the best available scientific evidence.¹⁹³

In contrast, Article 21 of Part III of the RSNT places coastal state control of shipping in other economic zones subject to the standards of international shipping organizations.¹⁹⁴

Canada interprets Article 43 as allowing a "higher degree of national control" in ice-covered areas.¹⁹⁵ Arguably, Article 43 authorizes extension of the coverage of the AWPPA from 100 to 200 miles, because it keys the special jurisdiction into the 200-mile economic zone created in Part II of the RSNT.¹⁹⁶ However, Article 43 represents a defeat for the general environmental principles behind Canada's AWPPA. As a specific exception, it underscores the Conference's philosophical rejection of the broad Canadian argument that environmental self-defense justifies extensive coastal state regulation of shipping outside the territorial sea.¹⁹⁷ Moreover, Article 43 would occupy a void Canada sought to fill with the more sweeping AWPPA precedent. Because Article 43 addresses only the problem of pollution from marine vessels, it can hardly be characterized as an adequate response to the host of threats posed by arctic development. Further, it is not entirely clear how strong an environmental protection standard Article 43 would allow even within this limited regulatory context. The "best available scientific evidence" of possible environmental consequences may not be enough to support a very protective standard in a region where so much research remains to be done,¹⁹⁸ particularly where "due regard for navigation" is also required. Finally, declaration of AWPPA-like jurisdiction beyond 200 miles would be less defensible internationally than it would be if no convention is adopted.

Article 43 is nonetheless a relatively strong environmental protection measure by law of the sea standards. Because its inclusion cannot be attributed to general environmental principles, it must be due to acceptance of the argument that ice-covered areas are unique.¹⁹⁹ Ultimately, however,

193. *Id.* art. 43.

194. *Id.* art. 21, para. 4. There are, however, some limited exceptions to this rule, even in ice-free economic zones. See note 191 *supra*, and accompanying text.

195. Interview with J. Alan Beesley, Assistant Under-Secretary of State and Legal Advisor for External Affairs, and Deputy Chairman of the Canadian delegation to the Third Law of the Sea Conference, Annual Meeting of the American Society of International Law, in San Francisco (Apr. 22, 1977). Mr. Beesley attributed the adoption of Article 43 to recognition of the Arctic's "unique ecological qualities."

196. RSNT Part II, *supra* note 15, art. 46. In fact, Article 43 of Part III would restrict application of the AWPPA in the Beaufort Sea, where portions of the continental shelf extend beyond 200 miles. The AWPPA jurisdiction follows the shelf where it extends beyond 100 miles. See note 91 *supra*.

197. For an excellent review and analysis of the international legal foundations for the theory of self-defense against the threat of pollution, see Green, *supra* note 127, at 476-90.

198. See text accompanying notes 47-81 *supra*.

199. See note 195 *supra*. Support for this view derives from the appeal of Article 43 to both the Canadians, who used it to back up the "general principles" argument for the AWPPA, and the Soviets, who find it in their interests as a maritime power to oppose extensions of coastal state regulatory authority elsewhere. See *Canadian and Soviet Arctic Policy*, *supra* note 117, at 631.

Article 43 does not answer whether the law of the sea is the most desirable legal regime for the Arctic. In order to accommodate the law of the sea to the Arctic, Article 43 appears to accept the very premise of uniqueness which justifies exclusion of the Arctic from the law of the sea altogether. The conflicting claims of the arctic states within the law of the sea framework, which rest on both the environmental uniqueness of the region and the special interests of the arctic states, have not been resolved by Article 43. Article 43 is a limited allowance for arctic conditions, within the confines of the 200-mile economic zones, as they relate to the single activity of shipping. The arctic states ought to examine carefully the potential benefits of extending the uniqueness argument as the basis for an idiosyncratic arctic regime. Freed from the conceptual framework of the law of the sea, the arctic states might settle and harmonize existing claims in the region while accounting directly for the region's particular environmental problems.

III

AN ENVIRONMENTALLY-CENTERED LEGAL REGIME FOR THE ARCTIC

A special legal regime in the Arctic should have significantly stronger mechanisms for environmental protection than the existing or developing law of the sea. Part III of this Comment will not attempt to predict what the precise nature of such mechanisms would be if a special regime were to be promulgated. Such analysis would require elaboration of the economic, political, strategic, and social interests of the arctic states beyond the scope of this Comment. Naturally, all of these interests would be reflected in a special regime. Instead, Part III will attempt to develop a model of a special regime centered on arctic environmental concerns. This model should help identify those elements of a special regime which might best accommodate concern for environmental protection.

A. Hurdles to Agreement on an Environmentally-Centered Arctic Regime

Building a model of an environmentally-centered regime for the Arctic can begin with distinguishing the likely areas of controversy. Three broad hurdles emerge regarding negotiations among the arctic states: resolution of existing claims into a new structure; adoption of environmental standards and administrative procedures; and adoption of procedures for enforcement. The manner in which these hurdles are overcome would in turn define the extent of a fourth hurdle to creation of a special regime: international acceptance.

The first hurdle involves reaching agreement on the limits of national jurisdiction and sovereignty. Agreement would not necessarily entail uniformity. For example, each arctic nation might retain its own interpretation of "continental shelf," if jurisdictional limits were keyed to the shelf. The chances for uniformity might be enhanced by the nations' ability to make concessions on jurisdictional definitions in the Arctic without changing the

positions taken with respect to the law of the sea. In any event, uniformity would not be crucial. Agreement would also have to be reached concerning what rights and responsibilities would be attributed to non-arctic states in both national and extra-national areas.

The second hurdle, specification of environmental standards and practices designed to encourage compliance with these standards, would be difficult due to inadequate information about important aspects of the arctic environment. Since effective environmental controls would, initially at least, slow exploitation of the arctic resources, the arctic states would have different amounts at stake in setting strict standards. Both the United States and the Soviet Union have based diplomatic, strategic, and resource allocation decisions on the assumption that oil reserves in the Arctic would be widely exploited.²⁰⁰ On the other hand, Norway, with its North Sea production still growing, has much to lose by polluting its fisheries and little need to exploit its arctic oil reserves.²⁰¹

The third hurdle, determination of enforcement procedures, would undoubtedly be the most difficult for the negotiators. Prospects for placing enforcement power with any regional group would appear to be especially poor within the Soviet sector. The Soviets have been lax in enforcing their strictly drafted environmental laws when production goals are threatened.²⁰² Even inspection to determine whether violations exist is likely to be seen as an intolerable security risk by the Soviets, especially in the Kola Peninsula region.

The success of a special regime would depend so heavily on the agreement of the five arctic states that negotiations, at least in the preliminary stages, should probably be restricted to the five. The non-arctic nations historically interested in the Arctic are predominantly Western or allies of the United States.²⁰³ Their participation in negotiations would be likely to make the Soviet Union more wary. More generally, the Soviets traditionally regard internationalism as a last resort,²⁰⁴ and are likely to resist any suggestion of involving a large portion of the international community in reshaping their rights in the strategically sensitive Arctic.

B. Development of an Environmentally-Centered Arctic Regime

1. A Moratorium on Development

A likely preliminary step in the development of an environmentally-centered arctic regime would be some form of moratorium on development.

200. See text accompanying notes 76-77 *supra*.

201. See note 72 *supra*.

202. See M. GOLDMAN, *supra* note 37, at 22-75; Taga, *Externalities in a Command Society*, in ENVIRONMENTAL MISUSE IN THE SOVIET UNION 75 (Singleton ed. 1975).

203. Great Britain and Japan are foremost among these states. Iceland, Sweden, and Finland would be concerned as well.

204. The authors of a major Soviet work on the law of the sea, *Ocean, Technology, and Law*, were "persistent" in their criticism of "supranationalism," according to one commentator. Sulikowski, *supra* note 145, at 70.

Two major environmental considerations would affect the form of moratorium. First, the wider the coverage of the moratorium, the less likely it is that the region will suffer environmental damage during the period within which the regime is being put into effect. Second, the less involved the arctic states become with development prior to ratification of a special regime, the more room they will have for negotiating a truly protective convention. This consideration is complicated in Canada and the United States by the already extensive activity of numerous private enterprises in the region. One goal of a special regime would be to establish conditions under which sufficient exploitation to recoup current investment could occur. Unlimited investment opportunity prior to adoption of a special regime would make this goal difficult to achieve.

A variety of moratorium arrangements are conceivable. A moratorium could limit all offshore exploratory drilling, prevent bringing new wells into production, or curtail existing production. Limitations could be operative only north of a chosen parallel, more than a certain distance offshore, or beyond a certain depth. The concept is flexible enough to be adapted to account for a variety of interests in addition to environmental ones.

The moratorium concept is gaining acceptance as a tool of international law.²⁰⁵ Its embodiment in the unique legal regime of Antarctica would be of particular interest to the arctic nations as a basis for regional action in the Arctic. From its discovery, until adoption of the Antarctic Treaty in 1959,²⁰⁶ Antarctica had been *terra nullius* (no-man's land). Various nations had developed competing claims. The Treaty imposed a moratorium on territorial claims. The contracting parties agreed to administer Antarctica as if it were *terra communis* for thirty years in order to foster scientific research. The Soviet Union, United States, and Norway were among the original contracting parties. Denmark acceded to the treaty in 1965.²⁰⁷

However, the Antarctic Treaty might be of limited value as a model for structuring an environmentally sound regime in the Arctic. Antarctica has a far more hostile environment than that of the Arctic. Since exploitation of antarctic resources was a theoretical question in 1959, the Antarctic Treaty ignored considerations of economic development. Any special regime for the Arctic, however, must accommodate the economic development already in progress. Furthermore, because the states interested in the Antarctic considered it to be of little strategic importance, the Antarctic Treaty

205. See, e.g., Resolution on the Question of Reservation Exclusively for Peaceful Purposes of the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, Underlying the High Seas Beyond the Limits of Present National Jurisdiction, and the Use of Their Resources in the Interests of Mankind, G.A. Res. 2547D, 24 U.N. GAOR, Supp. (No. 30) 10-11, U.N. Doc. A/7360 (1970) ("Moratorium Resolution"). The resolution was adopted by a vote of 62-28, with 28 abstentions.

206. Antarctic Treaty, Dec. 1, 1959, *reprinted in* SCIENCE, TECHNOLOGY, AND SOVEREIGNTY IN THE POLAR REGIONS 97-104 (G. Schatz ed. 1974).

207. See list of ratifications and accessions, *id.* at 104.

included a ban on military activity. By contrast, any regime in the Arctic would have to account for its vital strategic importance, particularly to the Soviet Union. Finally, the consortium approach to management of Antarctica had no threatening legal implications, because the continent was the last area of the planet without enforceable territorial claims. Development of a unique legal regime for the Arctic, however, might have a disruptive effect on the law of the sea.²⁰⁸

Nevertheless, the Antarctic Treaty is a worthy example which might aid creation of a special regime in the Arctic. It has provided precedent for suspending the application of traditional legal rules in the special circumstances of the polar environment. It also offers an international example for management of a region during a moratorium by a small group of nations having claims or a history of involvement in the area. Adding to the strength of the Antarctic Treaty precedent in the arctic context is the record of support for it among the arctic states. Four of the arctic nations are among the small group of states that drafted or acceded to the treaty.²⁰⁹ The fifth, Canada, might come to see a similar "consortium" approach as the next "stepping-stone" beyond its AWPPA, toward an environmentally sound international law in the Arctic.

2. *An Agenda for Development of an Environmentally-Centered Arctic Regime*

a. *The resolution of existing claims to the Arctic*

The agenda for progressing from a moratorium to a special legal regime begins with resolution of existing claims into a new structure. The Treaty of Spitzbergen²¹⁰ suggests one environmentally positive approach. The treaty gave Norway "sovereignty" over the Svalbard Archipelago, while at the same time granted certain limited rights in the area to all contracting parties. An analogous special regime in the Arctic would recognize that legal claims by arctic states to offshore waters, the resources within them, the continental shelf, and the seabed are limited by substantial environmental rights of all the contracting parties. The rights might be conceptualized as rights of

208. See notes 221-22 *infra*, and accompanying text. This is not to say that Antarctica may not turn out to be a scene of great international tension. Numerous nations have claims in that region, and many of them overlap. Moreover, new claims have been made by developing countries in recent years to areas claimed previously by Northern Hemisphere powers. A notable aspect of these claims is that they all apply the sector theory. The general acceptance of the sector approach could be taken as either tacit international acknowledgement of the existence of legal support for such a concept at the North Pole, or as a statement of the lack of recognition of the Antarctic regime as a model for the arctic region. See *Antarctic "State Visit" Irks Chile's Neighbors*, Christian Science Monitor, Jan. 28, 1977, at 10, col. 1 (West Coast ed.), for a report on recent developments. Several nations, including the United States, are actively involved in research on Antarctica without making any territorial claims, and are refusing to recognize those of others. *Antarctica's Riches will Stay There*, San Francisco Sunday Examiner & Chronicle, Feb. 6, 1977, at 4-B, col. 1.

209. See text accompanying note 207 *supra*.

210. See note 155 *supra*.

standing to seek enforcement of agreed upon standards and procedures designed to protect the regional environment.

This limited sovereignty model avoids questions regarding the arctic states' sole right to develop the resources of their particular continental shelves. Instead, it focuses on when and how development would occur. Environmentally neutral policies which conflict with the law of the sea, such as the Soviet restrictions on the innocent passage of warships through territorial waters, would be irrelevant to a special regime.

The limited sovereignty approach also suggests adoption of the Canadian concept of custodianship, or something analogous to a trust territory concept for areas beyond national jurisdictions. Custodial responsibilities could be allocated by applying the sector theory. Or the area might be jointly controlled as *Arctic communis*. Contracting non-arctic states could be given rights of standing in such a regime, similar to rights each arctic state would have in other arctic states' jurisdictions. This grant of standing might placate states opposed to any move by other states which threatens to undermine the "common heritage of mankind" concept.

b. Planning environmental controls

Second on the agenda is the elaboration of environmentally protective standards and procedures. Setting standards requires a cooperative effort to obtain and share information on the arctic environment. The sections of the RSNT on international and regional cooperation in marine scientific research²¹¹ could provide general guidelines. Because of the strategic tensions in the region, responsibility for supervision in various areas might be assigned according to the sector theory.

One important goal in planning environmental research would be to encourage scientists from various nations to coordinate efforts and exchange information about research techniques and results.²¹² Encouragement of multi-national research teams could aid the development of a corps of experts, respected by all parties, to assist in dispute resolution. Researchers from non-arctic nations would be encouraged to join, since the Arctic presents unique opportunities for research in climatology and the life sciences.

Environmental research could be financed by taxing all users of arctic resources who are unaffected by the moratorium. Perhaps funds so raised should go to a regional research center for development and funding of projects which complement efforts initiated by the various states or private groups. Such a center could also serve as a clearinghouse and resource

211. RSNT Part III, *supra* note 15, arts. 48-77.

212. For a fascinating study of the different approaches Western and Soviet scientists may take, for political and/or strategic reasons, on a question of environmental significance, see Brodeur, *A Reporter at Large: Microwaves*, THE NEW YORKER, Dec. 13, 1976, at 50 (Part I); and Dec. 20, 1976, at 43 (Part II).

center, thus playing a central role in assembling the information used to set standards.

The more difficult aspect of standard setting would be the use of research data, once assembled, to establish safe limits of resource utilization. The varying non-environmental interests of the arctic nations would encourage each to look at the data differently. As noted earlier, environmental data can be difficult for even the most objective observer to evaluate.²¹³

In addition to data evaluation problems, arctic nations face fundamental differences over how such data should be used. U.S. environmental protection policy with regard to development relies principally on detailed attempts to predict the impact of particular projects (environmental impact statements). Implicit in the American system is confidence in the ability of planners and developers to assemble and evaluate relevant environmental data, and perhaps less concern for error. The American system is more complicated to administer, and may lead to uncoordinated or uneven results. On the other hand, it limits the scope and political risks of major decisions, an advantage in dealing with a pluralistic constituency.

Scandinavians prefer broad zoning and land use planning.²¹⁴ In the Arctic, the Scandinavian approach might allow for immediate, sweeping protection in some areas, but would force the contracting parties to do some very hard bargaining while the regime was in its infancy. The Scandinavian approach, if applied with a strong conservationist tendency, might go a long way toward convincing other nations that the arctic states are serious in their uniqueness argument. The problem is a good example of how the specific choices concerning structure of the regime would affect international acceptance of the regime.

It is, of course, possible to combine the American and Scandinavian approaches. Development could be prohibited entirely in some zones based on broad use planning, and permitted in others once environmental impact statements indicate that the proposed project is environmentally safe.²¹⁵ Experts on the Arctic from non-arctic states could be especially valuable as impact statement evaluators.

The question of standard modification is closely related to standard setting. An ongoing review board or periodic conference system would be required to re-evaluate established standards and procedures in light of updated research and changed conditions. The periodic conference system would probably be more acceptable, at least until a pool of generally respected experts had been developed.

213. See note 178 *supra*, and accompanying text.

214. Wyman, *A Fairy-Tale Land?* SCANDINAVIAN REV. Dec., 1976, at 59, 62.

215. Consider, as an example, the recommendation of Mr. Justice Berger that Canada establish a sanctuary around the whale calving grounds in the Beaufort Sea, in which all drilling would be banned. THE BERGER REPORT, *supra* note 41, at 64-67.

c. *Enforcement of environmental controls*

The environmental significance of any allocation of rights and standard setting ultimately depends on the handling of the third agenda item: enforcement. The RSNT provisions for settlement of disputes are a rich source of procedural and institutional models. Such models include arbitration, a specialty court, the International Court of Justice, and simple negotiation.²¹⁶

Both the extent of the jurisdiction granted a regional body and the range of its remedial powers would be significant indications of the strength of the regime. A regional body might have exclusive jurisdiction in some zones, concurrent jurisdiction in others, and perhaps, no jurisdiction within the twelve-mile territorial waters limits. A regional court might be preferable to the International Court of Justice, for both symbolic and practical reasons.²¹⁷ A regional court staffed by legal scholars with strong backgrounds as scientists or environmentalists would underscore the idiosyncratic nature of the region.

C. *Possible Responses of Non-Arctic States to a Special Arctic Regime*

1. *The Possibility of a Negative Response*

The dimensions of the problem of international acceptance for any environmentally-centered regime in the Arctic are not entirely dependent on the substance of the regime. Indeed, assessment by the arctic states of the general implications of special regime building in the Arctic might dampen enthusiasm for even preliminary negotiations. A unilateral move to create a special environmentally-centered regime in the Arctic might damage relations with those non-arctic nations interested in use of the Arctic, such as Japan,²¹⁸ or those interested in the rapid development of access to its resources, such as West Germany.²¹⁹ Some non-arctic nations could be expected to argue that, from a worldwide perspective, rapid development of the Arctic would cause less environmental damage than resort to alternate energy sources such as coal or nuclear fission. Some might also argue in favor of the development of the Arctic as increasing political and economic

216. Articles 1 to 9 of Part IV of the RSNT lay out various fora and means of dispute settlement. RSNT Part IV, U.N. Doc. A/Conf. 62/WP. 9/Rev. 1, arts. 1-9 (1976). Subsequent articles deal with procedures.

217. Neither the United States nor the Soviet Union has ever been party to a decision of the International Court of Justice. When Canada passed the AWPPA, it withdrew from its general acceptance of the Court's jurisdiction insofar as any dispute arose pertaining to matters covered by the AWPPA. Canadian Declaration Concerning Compulsory Jurisdiction of the International Court of Justice, Apr. 7, 1970, *reprinted in* 9 INT'L LEGAL MATERIALS 598 (1970). In addition, regional bodies cannot be parties to any actions before the International Court of Justice. See Statute of the International Court of Justice, art. 34, para. 1, [1970] U.N.Y.B. 1013, 1016.

218. The Japanese interest is primarily in the use of the Northeast Passage as an international trade route in order to cut shipping costs to Europe. D. PHARAND, *supra* note 8, at 165.

219. Other European nations, particularly Sweden, may be interested in Norwegian oil. See Frydenlund, *supra* note 69, at 8.

stability by reducing the bargaining power of the OPEC nations.²²⁰

Removal of the Arctic from the domain of the law of the sea in order to protect environmental interests might diminish prospects for agreement at the Law of the Sea Conference. To be sure, many developing nations regard all but minimal environmental protection standards as a luxury, and might approve of elimination of the Arctic from the law of the sea if the need to protect its environment creates pressure for stronger worldwide marine protection standards. They are more likely, however, to argue that regional environmental concerns must be met within the framework of the law of the sea. In particular, they are likely to insist on protection of the "common heritage of mankind" concept in areas outside national jurisdiction. The "common heritage of mankind" concept is more than a negotiating position to most of these nations. It symbolizes their "interests, needs, hopes, and aspirations . . . and serves as a useful rallying cry in support of their objectives."²²¹ Even developing nations relatively unconcerned about removal of the central Arctic from the "common heritage" would still find a proposal to that effect a useful excuse for stiffening their bargaining position at the Conference.

Agreement at the Conference is a foreign policy goal of the highest priority for the arctic states, particularly the United States and Soviet Union. The likely alternative, ever expanding coastal state claims, conflicts with the interests of the two greatest naval powers in free movement of their ships through high seas and international straits.²²² Moreover, as possessors of the technology to mine the deep seabeds, they are anxious to participate in that endeavor within the secure framework of an internationally accepted regime.²²³ A special regime in the Arctic, no matter how clearly grounded on unique environmental concerns, might encourage other states already vocalizing an interest in excluding the superpowers from "their" oceans. Such regionalistic arguments are playing an increasing role in Indian Ocean politics.²²⁴

2. *The Possibility of a Positive Response*

It is possible that non-arctic states would not be so adamantly opposed to the creation of a special arctic regime as speculated above. It is conceivable that negotiations toward creation of a special regime would encourage,

220. Huitfeldt, *supra* note 1, at 94.

221. Anand, *Interests of the Developing Countries and the Developing Law of the Sea*, 4 ANNALS OF INT'L STUDIES 13, 22 (1973). Support among developing nations for the "common heritage" concept is so widespread that even the Latin American states, traditionally regionalists in their approach to the law of the sea, would probably be concerned with any special regime proposal in which the arctic states controlled areas currently defined as part of the "common heritage." See Zacklin, *Latin America and the Development of the Law of the Sea*, 4 ANNALS OF INT'L STUDIES 31, 48-49 (1973).

222. Janis, *Naval Missions and the Law of the Sea*, 13 SAN DIEGO L. REV. 583, 584 (1976).

223. See Kotz, *supra* note 5, at 70-75.

224. See *Indian Ocean Conference Advocated*, U.N. CHRONICLE, July, 1975, at 35.

rather than undermine efforts to adopt a convention at the Law of the Sea Conference. Unlike the numerous unilateral extensions of coastal state fishing zones during the Conference,²²⁵ creation of a special regime in the Arctic is not clearly consistent with the emerging agreement. While it can be argued that creation of a special regime might renew fears of continuing fragmentation of the law of the sea,²²⁶ in denying that the arctic marine area is properly characterized as an ocean, an arctic regime would stop short of a direct challenge to the fundamental goal of developing a uniform, codified law of the sea.

Creation of a special arctic regime could allow the arctic states, particularly Canada and the Soviet Union, to endorse the emerging compromise more wholeheartedly. As long as the Arctic is conceptually subject to the law of the sea, there is a danger that unilateral action, such as the AWPPA, will be necessary to protect its environment. Other states could cite such acts as precedent for extending claims to their offshore areas for reasons less internationally beneficial than protection of the environment.

D. Implications of a Special Arctic Regime for the Law of the Sea and International Law

1. Negative Implications

The implications of a separate arctic regime should be considered in relation to national and international bodies concerned with the world environment. Decisions about protection of the arctic environment cannot be made responsibly if disassociated from environmental problems elsewhere. Relationships between the administrative structure of the arctic regime, whatever its form, and non-arctic organizations are necessary if decisions about development of arctic resources are to take into account the worldwide environmental pressures inherent in obtaining similar or substitute resources elsewhere. Continual conflict in striking these balances could have an unsettling effect on international law. These questions are, of course, inseparable from economic and social concerns in the final analysis. Thus, substantial potential for conflict could exist in the relationship of the arctic regime's administrators with international and non-arctic regional bodies primarily concerned with contemporary economic and social problems.

2. Positive Implications

a. Impact on marine environmental protection

The implications of a special arctic regime are not uniformly negative.

225. All five of the arctic nations declared 200-mile zones in 1976. See Synopsis, *Recent Developments in the Law of the Sea 1976-1977*, 14 SAN DIEGO L. REV. 718, 725-27 (1977).

226. At the close of last fall's session, Secretary-General Kurt Waldheim "appealed to all States to refrain from taking unilateral action which would shatter all hope of reaching general agreement and warned that if they disregarded his appeal, they would be incurring a grave

An environmentally-centered arctic regime could have a positive impact on the Conference by inducing the delegates to take another look at the environmental weaknesses of the developing law of the sea. Non-arctic states might re-examine the environmental protection provisions in the RSNT, and seek to strengthen them in an effort to undermine the rationale for the special regime. Even if the provisions were not strengthened, more positive interpretations might be placed on them.

b. Impact on other areas of international environmental law

A special regime in the Arctic would probably have a "consciousness-raising" effect as its primary impact on international law outside the law of the sea context. It certainly would encourage public knowledge and acceptance of the "commons" problem in a variety of environmental contexts, from air pollution to the threat of reduction in biological diversification. More specifically, a special regime might affect development of the legal regime of Antarctica by offering a polar commons precedent.

CONCLUSION

In this Conclusion, some weighty caveats to the foregoing proposals should be noted. To say that a special legal regime in the Arctic may be legally defensible and environmentally desirable is not to say that it is necessary. There is a substantial chance that development of the Arctic could proceed within the law of the sea context without causing significant long-range environmental damage. Even assuming significant damage, one might argue that it is a price worth paying for access to the Arctic's resources.

A special legal regime in the Arctic might be not only unnecessary, but also politically infeasible. In the course of developing a model of a special environmentally-centered regime, Part III of this Comment alluded to various strategic, economic, and political concerns which militate against movement toward a special regime. Some of these concerns were further developed in the last portion of Part III. It is quite possible that a comprehensive study of the Arctic from the perspective of any of these non-environmental points of view would conclude that any attempt to establish a special regime would be contrary to the national interests of some or all of the arctic states.

The search for an appropriate arctic legal regime from a strategic, economic, or political perspective would be a more practical endeavor, in one sense, than that undertaken in this Comment. Environmental policy decisions tend to be dominated by strategic, economic, and political concerns stated as imperatives. Although there is a growing recognition that environmental problems also take the form of imperatives, environmental concerns are not yet legal regime shapers on the order of strategic, econom-

responsibility and undermining public confidence in their professed good intentions." He reportedly stated that there was "no interest so exigent and vital" that it would be "prejudiced by patience." *LOS Conference Adjourns Until May*, *supra* note 7, at 22.

ic, and political concerns.²²⁷ The status of marine environmental protection at the Law of the Sea Conference is an accurate indicator of this situation.

Why, then, build an environmentally-centered legal regime model for the Arctic? The goal is, at this point, a perspective rather than a program. If it is not yet time to "position ecology as the foundation of law,"²²⁸ it is nonetheless time to attempt to understand what such a proposition means. To identify environmental problems, to scan our heritage of legal relationships for structures suited to environmental protection, and to devise suitable new structures—these endeavors are practical in a fundamental sense. Achieving familiarity with an environmental perspective on the law is simply another aspect of establishing the freedom to determine future policy:

[M]ost of the crucial environmental choices confronting industrialized nations in the last third of the 20th century will be choices that significantly shape and do not merely implement those nations' values²²⁹

With the Arctic on the brink of development, and the law of the sea in the process of reformation, there are environmental choices to make. Discussion by the arctic states of the possibility of a special legal regime should precede that choice. A fully developed environmental perspective on the legal aspects of the choice will be needed.

227. Environmental concerns may have a tremendous impact domestically. See, e.g., Hayes, *A Reporter At Large: The Last Place*, THE NEW YORKER, Dec. 6, 1976, at 52, on the upheaval caused by Tanzania's efforts to protect the Seregeti Plain. But it remains true on the international level that

there is little sign that nation-states view environmental problems as being so salient and so essential to be solved that they will take the risks of coercing their friends, much less their enemies, in the present world. In other words, we do not have an obligation for states to engage in the ecological equivalent of collective security.

Friedheim, *supra* note 172, at 154.

228. See text accompanying note 12 *supra*.

229. Tribe, *Ways Not to Think About Plastic Trees: New Foundations for Environmental Law*, 83 YALE L.J. 1315, 1324 (1974).

