

1984

Vessel-Source Pollution and the Law of the Sea

John W. Kindt

Follow this and additional works at: <https://scholarship.law.vanderbilt.edu/vjtl>



Part of the [Environmental Law Commons](#), and the [Law of the Sea Commons](#)

Recommended Citation

John W. Kindt, Vessel-Source Pollution and the Law of the Sea, 17 *Vanderbilt Law Review* 287 (2021)
Available at: <https://scholarship.law.vanderbilt.edu/vjtl/vol17/iss2/2>

This Article is brought to you for free and open access by Scholarship@Vanderbilt Law. It has been accepted for inclusion in Vanderbilt Journal of Transnational Law by an authorized editor of Scholarship@Vanderbilt Law. For more information, please contact mark.j.williams@vanderbilt.edu.

VESSEL-SOURCE POLLUTION AND THE LAW OF THE SEA

*John Warren Kindt**

Table of Contents

I.	INTRODUCTION	288
A.	The Advent of Major Vessel-Source Pollution	288
B.	International Regulation of Vessel-Source Pollution	289
C.	United States Regulation of Vessel-Source Pollution	293
II.	VESSEL-SOURCE POLLUTION	299
A.	Problems and Goals	299
B.	Historical Background	303
C.	Trends and Conditioning Factors	304
1.	<i>General Trends and Conditioning Factors</i>	304
a.	The IMCO	305
b.	UNCLOS III	306
c.	The flag of convenience	306
2.	<i>Catastrophic Intervention</i>	307
3.	<i>Ice-Covered Areas</i>	309
III.	THE GENERAL LAW OF THE SEA PROVISIONS	310
A.	A Historical Overview of Vessel-Source Pollution and UNCLOS III	310
B.	Ports and Internal Waters	313
1.	<i>Regulation of Vessel-Source Pollution</i> ...	313
2.	<i>Enforcement by Flag States</i>	314
3.	<i>Enforcement by Port States</i>	315
C.	Straits Used for International Navigation	316
D.	The Territorial Sea	319
1.	<i>Regulation of Vessel-Source Pollution</i> ...	319
2.	<i>Flag-State, Port-State, and Coastal-State Enforcement</i>	320

* Professor Independent, University of Illinois. S.J.D. 1981, LL.M. 1978, University of Virginia Law School; J.D. 1976, University of Georgia Law School; M.B.A. 1977, University of Georgia; A.B. 1972, William & Mary.

E. The Economic Zone	321
F. The High Seas	322
G. Special Areas in the Oceans: Marine Sanctuaries	323
IV. POLICY ALTERNATIVES AND RECOMMENDATIONS	323

I. INTRODUCTION

A. The Advent of Major Vessel-Source Pollution

On March 16, 1978, history's worst oil spill occurred when the tanker *Amoco Cadiz* lost her steering and drifted onto rocky shoals off the French coast.¹ Approximately 223,000 tons of oil were spilled,² polluting and ruining over 100 miles of the Brittany coast, an area that previously had supplied one-third of France's seafood³ and had attracted tourists from all over Europe. Despite all this damage, only thirty million dollars was available for cleanup⁴—none to repair the ecological devastation. Although this well-publicized accident shocked the world, it was only one of many oil spills that occurred during 1978.

By definition, "vessel-source pollution" not only refers to oil pollution from accidents at sea such as that of the *Amoco Cadiz*, it also encompasses pollution from several other sources. Vessel-source pollution includes any type of pollution originating from vessels engaged in navigation or transportation, as distinguished

1. Grove, *Black Day for Brittany*, NAT'L GEOGRAPHIC, July 1978, at 124, 124. For additional information relating to the problems and associated costs of vessel-source oil pollution, see H. BURMESTER, *VESSEL SOURCE POLLUTION: THE INTEGRATION OF INTERNATIONAL AND DOMESTIC RESPONSES IN THE SEARCH FOR AN EFFECTIVE LEGAL FRAMEWORK 1* (Center for Oceans Law & Pol'y, June 1978); Hunter, *Possibilities and Problems of Preventing Oil Pollution of the Oceans*, 4 TRANS. L.J. 21 (1972); Newman, *Oil on Troubled Waters: The International Control of Marine Pollution*, 2 J. MAR. L. & COM. 349 (1971); Wood, *An Integrated International and Domestic Approach to Civil Liability for Vessel-Source Oil Pollution*, 7 J. MAR. L. & COM. 1 (1975). For an overview of international law relating to pollution, see J. BARROS & D. JOHNSTON, *THE INTERNATIONAL LAW OF POLLUTION* (1974).

2. See Grove, *supra* note 1, at 124. Approximately 42 gallons (U.S.) of oil are contained in a barrel, and approximately 7.4 barrels constitute a ton of oil. Thus, one ton of oil is equivalent to about 311 gallons (U.S.).

3. *Id.* at 132.

4. Carter, *Amoco Cadiz Incident Points Up the Elusive Goal of Tanker Safety*, 200 SCI. 514, 514 (1978). Cleanup costs approached 70 million dollars. Keerdoja & Mitchelmore, *Brittany's Black Tide*, NEWSWEEK, July 24, 1978, at 11.

from pollutants that are discharged from ships engaged in ocean dumping. These international operational discharges, which include reballasting and tank cleaning, constitute approximately eighty percent of the world's vessel-source oil pollution.⁵ Even pollution from vessels mining the deep seabed can and should be categorized and regulated as vessel-source pollution. Toxic chemicals,⁶ liquefied natural gas (LNG),⁷ and other hazardous materials are additional examples of potential pollutants that should be regulated by vessel-source pollution legislation.

Although various pollutants are subsumed within the category of vessel-source pollution, domestic and international provisions concerning vessel-source pollution have focused primarily on discharges and accidents involving oil.⁸ This Article, therefore, will examine vessel-source pollution from the perspective of oil pollution.

B. International Regulation of Vessel-Source Pollution

International vessel-source pollution is basically regulated by two major international agreements: the International Convention for the Prevention of Pollution of the Sea by Oil, May 12, 1954 (1954 Oil Convention),⁹ and the International Convention for the Prevention of Pollution from Ships (MARPOL 1973).¹⁰ Both of

5. Moore, *Protection of Navigational Freedom and the Problem of Vessel-Source Pollution*, NEW TRENDS IN MARITIME NAVIGATION 1979: PROCEEDINGS OF THE 4TH INTERNATIONAL OCEANS SYMPOSIUM 39, 40 (Ocean Assoc. of Japan, 1979).

6. *Id.* at 39-40.

7. See STAFF OF SENATE COMM. ON COMMERCE, SCIENCE, AND TRANSPORTATION, 95TH CONG., 2D SESS., LIQUEFIED NATURAL GAS: SAFETY, SITING, AND POLICY CONCERNS 33-38 (Comm. Print 1978).

8. For a recent compilation of articles dealing with vessel-source oil pollution, see Brown, *Marine Oil Pollution Literature: An Annotated Bibliography*, 13 J. MAR. L. & COM. 373 (1982).

9. *Opened for signature* May 12, 1954, 12 U.S.T. 2989, T.I.A.S. No. 4900, 327 U.N.T.S. 3 (entered into force in the United States Dec. 8, 1961, subject to an understanding, reservations, and a recommendation), *amended* Apr. 7, 1962, 17 U.S.T. 1523, T.I.A.S. No. 6109, 600 U.N.T.S. 322 (entered into force in the United States May 18 & June 28, 1967), *amended* Oct. 21, 1969, 28 U.S.T. 1205, T.I.A.S. No. 8505, (not yet available in U.N.T.S.) (entered into force in the United States Jan. 20, 1978) [hereinafter cited as 1954 Oil Convention].

10. I.M.C.O. Doc. MP/CONF/WP.35 (Nov. 2, 1973), *reprinted in* 12 I.L.M. 1319 (1973). For a discussion of the effect of this convention, see Note, *The 1973 IMCO Convention: Tightening the Controls on Operational Oil Pollution from Tankers*, 5 U.C.L.A.-ALASKA L. REV. 353 (1976).

these agreements were drafted at conferences sponsored by the Intergovernmental Maritime Consultative Organization (IMCO).¹¹ IMCO was organized in 1948 pursuant to provisions of the Convention on the Intergovernmental Maritime Consultative Organization (IMCO Convention),¹² but did not begin to function until 1958, when the IMCO Convention entered into force. The chief concerns of IMCO were to encourage the development of uniform international maritime pollution regulations and to foster intergovernmental cooperation regarding various aspects of maritime commerce.¹³

The 1954 Oil Convention, entered into force internationally in 1958, was subsequently amended twice. The amendments entered into force in 1967 and 1978, respectively. In 1971 IMCO adopted a third amendment to the 1954 Oil Convention prescribing standards for tank size and design,¹⁴ but this amendment has never been ratified. The need for this amendment, however, has been alleviated by the 1974 International Convention for the Safety of Life at Sea (SOLAS '74)¹⁵ and its 1978 Protocol,¹⁶ both of which have been ratified by the United States.¹⁷

Although the United States initiated MARPOL 1973 through

11. For an excellent brief discussion of the historical developments of the 1954 Oil Convention, MARPOL 1973, and their corresponding amendments, see Cycon, *Calming Troubled Waters: The Developing International Regime to Control Operational Pollution*, 13 J. MAR. L. & COM. 35, 37-44 (1981). In 1979 the Intergovernmental Maritime Consultative Organization changed its official name to the International Maritime Organization, but is still commonly referred to as IMCO.

12. Mar. 6, 1948, 9 U.S.T. 621, T.I.A.S. No. 4044, 289 U.N.T.S. 48 (entered into force in the United States Mar. 17, 1958, subject to an understanding and a reservation).

13. Meese, *When Jurisdictional Interests Collide: International, Domestic, and State Efforts to Prevent Vessel Source Oil Pollution*, 12 OCEAN DEV. & INT'L L.J. 71, 115 n.85 (1982).

14. I.M.C.O. Doc. A VII/Res. 246 (Nov. 3, 1971), reprinted in 11 I.L.M. 267 (1972).

15. Done Nov. 1, 1974, 32 U.S.T. 47, T.I.A.S. No. 9700 (not yet available in U.N.T.S.) (entered into force in the United States May 25, 1980).

16. Done Feb. 17, 1978, T.I.A.S. No. 10,009 (not yet available in U.S.T. and U.N.T.S.) (entered into force in the United States May 1, 1981). The 1978 SOLAS Protocol, as well as the 1978 MARPOL Protocol, are "largely devoted to technical changes relating to the construction and equipment of tankers, [and are] designed to improve their safety." Popp, *Recent Developments in Tanker Control in International Law*, 18 CAN. Y.B. INT'L L. 3, 20 (1980).

17. 126 CONG. REC. S9263-72 (daily ed. July 2, 1980).

IMCO,¹⁸ the United States did not ratify the Convention until the summer of 1980 when, by ratifying a protocol to MARPOL 1973 which was adopted by IMCO in 1978, the MARPOL 1973 Convention was also ratified.¹⁹ Neither MARPOL 1973 nor the 1978 Protocol has entered into force internationally.²⁰ When they do, however, they will supersede the 1954 Oil Convention provisions among ratifying countries.²¹

Three major agreements govern international liability for vessel-source pollution: (1) the Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (Intervention Convention),²² (2) the Convention on Civil Liability for Oil Pollution Damage (Brussels Liability Convention),²³ and (3) the Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage (Fund Convention).²⁴ These liability agreements were the result of a reexamination of the traditional precepts of international law regarding rights of intervention and compensation that evolved after the 1967 *Torrey Canyon* accident.²⁵ It is important to note that the United States is a party only to the Intervention Convention. As of 1983, the United States Senate still had not ratified the other two conventions, ostensibly because the limits on recovery were too low.²⁶

18. See R. M'GONIGLE & M. ZACHER, *POLLUTION, POLITICS AND INTERNATIONAL LAW: TANKERS AT SEA* 107-09 (1979) [hereinafter cited as M'GONIGLE].

19. 126 CONG. REC. S9263-72 (daily ed. July 2, 1980).

20. M'GONIGLE, *supra* note 18, at 315-16.

21. Dempsey & Helling, *Oil Pollution by Ocean Vessels—An Environmental Tragedy: The Legal Regime of Flags of Convenience, Multilateral Conventions, and Coastal States*, 10 DEN. J. INT'L L. & POL'Y 37, 68 (1980).

22. Done Nov. 29, 1969, 26 U.S.T. 765, T.I.A.S. No. 8068 (not yet available in U.N.T.S.) (entered into force in the United States May 6, 1975) [hereinafter cited as Intervention Convention].

23. Done Nov. 29, 1969 [hereinafter cited as Brussels Liability Convention], reprinted in 9 I.L.M. 45 (1970).

24. Done Dec. 18, 1971 [hereinafter cited as Fund Convention], reprinted in 11 I.L.M. 284 (1972).

25. See E. COWAN, *OIL AND WATER: THE TORREY CANYON DISASTER* (1968); C. GILL, F. BOOKER & T. SOPER, *THE WRECK OF THE TORREY CANYON* (1967); Nanda, *The "Torrey Canyon" Disaster: Some Legal Aspects*, 44 DENVER L.J. 400 (1967). For a description of the parties involved, see *infra* note 144.

26. See Richardson, *Prevention of Vessel-Source Pollution* (Part II: Compensation, Monitoring and Enforcement), *OCEANS*, May-June 1980, at 58, 59. See generally Note, *Liability for High Seas Oil Pollution Cleanup Costs: Domestic and International Provisions*, 3 HASTINGS INT'L & COMP. L. REV. 473 (1980) (discussing differences in amounts and types of recovery available under the Brus-

The Brussels Liability Convention provided for a maximum liability limit of 210 million francs (approximately eighteen and one-half million dollars)²⁷ while the Fund Convention's liability limit was established between 900 and 1,110 million francs (sixty-two million dollars and seventy-nine million dollars respectively).²⁸

Owners of oil tankers have supplemented the three major international liability agreements with two voluntary agreements of their own: (1) the Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP),²⁹ and (2) the Contract Regarding an Interim Supplement to Tanker Liability for Oil Pollution (CRISTAL).³⁰ TOVALOP, which now applies to ninety-nine percent of the total world tanker tonnage,³¹ compensates national governments up to ten million dollars for cleanup costs from oil spills that were the result of tanker negligence.³² CRISTAL increases the compensation limit to thirty million dollars and covers governmental costs, damages to private parties, and certain types of environmental damage resulting from oil spills.³³ Both TOVALOP and CRISTAL are "intended to be temporary measures, pending the entry into force of the IMCO conventions."³⁴ When the Fund Convention enters into force, CRISTAL will expire.³⁵

Naturally, all of these international conventions fall under the penumbra of the Convention on the Law of the Sea (LOS Convention).³⁶ Although the LOS Convention governs the general international obligations relating to vessel-source pollution, the

sels Liability Convention, *supra* note 23, and the Federal Water Pollution Control Act Amendments of 1972, *infra* note 49, as amended by the Clean Water Act of 1977, *infra* note 45).

27. Brussels Liability Convention, *supra* note 23, art. V; Richardson, *supra* note 26, at 58.

28. Fund Convention, *supra* note 24, arts. IV-V; Richardson, *supra* note 26, at 59.

29. Jan. 7, 1969 [hereinafter cited as TOVALOP], *reprinted in* 8 I.L.M. 497 (1969).

30. Jan. 14, 1971 [hereinafter cited as CRISTAL], *reprinted in* 10 I.L.M. 137 (1971).

31. Dempsey & Helling, *supra* note 21, at 69-70.

32. TOVALOP, *supra* note 29, arts. IV, VI.

33. CRISTAL, *supra* note 30, arts. I, IV.

34. Dempsey & Helling, *supra* note 21, at 70.

35. CRISTAL, *supra* note 30, art. III(C)(1).

36. Done Dec. 10, 1982 U.N. Doc. A/CONF.62/122 [hereinafter cited as LOS Convention], *reprinted in* 21 I.L.M. 1261 (1982).

practical aspects of vessel-source pollution clearly are to be governed by the international standards supplied by IMCO.

C. United States Regulation of Vessel-Source Pollution

In 1961 Congress enacted the Oil Pollution Act (OPA),³⁷ which implemented the 1954 Oil Convention.³⁸ Congress ratified the 1969 and 1971 amendments to the 1954 Oil Convention in a 1973 OPA amendment.³⁹ Similarly, by enacting the Intervention on the High Seas Act,⁴⁰ Congress ratified the Intervention Convention.⁴¹

The first vessel-source legislation directed at protecting the marine environment was the Ports and Waterways Safety Act of 1972 (PWSA).⁴² The PWSA was amended in 1978 by the Port and Tanker Safety Act of 1978 (PTSA)⁴³ to strengthen United States control over vessels operating near its coastlines, to ensure that those vessels were operated by more qualified crews, and to improve the construction and operation standards of tankers.⁴⁴

The Clean Water Act of 1977,⁴⁵ which erroneously⁴⁶ extended United States jurisdiction over sources of pollution out to two-hundred miles from the nation's coastline, was based on three earlier acts: (1) the Federal Water Pollution Control Act of 1948;⁴⁷ (2) the Water Quality Improvement Act of 1970;⁴⁸ and (3) the Federal Water Pollution Control Act Amendments of 1972 (FWPCA).⁴⁹

37. Pub. L. No. 87-167, 75 Stat. 402 (codified as amended at 33 U.S.C. §§ 1001-1016 (1982)).

38. 1954 Oil Convention, *supra* note 9.

39. Oil Pollution Act Amendments of 1973, Pub. L. No. 93-119, 87 Stat. 424 (codified in scattered sections at 33 U.S.C. §§ 1001-1016 (1982)).

40. Pub. L. No. 93-248, 88 Stat. 8 (codified as amended at 33 U.S.C. §§ 1471-1487 (1982)).

41. Intervention Convention, *supra* note 22.

42. Pub. L. No. 92-340, 86 Stat. 424 (codified as amended at 33 U.S.C. §§ 1221-1236, 46 U.S.C. § 391a (1976)).

43. Pub. L. No. 95-474, 92 Stat. 1471 (codified in scattered sections of 33 U.S.C. and 46 U.S.C. §§ 214, 391 (1982)).

44. See H.R. REP. No. 1384, 95th Cong., 2d Sess. 2, reprinted in 1978 U.S. CODE CONG. & AD. NEWS 3270.

45. 33 U.S.C. §§ 1251-1376 (1982) [hereinafter cited as Clean Water Act].

46. See *infra* text accompanying notes 57-62.

47. Ch. 758, 62 Stat. 1155 (1948).

48. Pub. L. No. 91-224, 84 Stat. 91, superseded by 33 U.S.C. §§ 1251-1376 (1982).

49. Pub. L. No. 92-500, 86 Stat. 816 (codified at 33 U.S.C. §§ 1251-1376

The Comprehensive Environmental Response, Compensation and Liability Act of 1980 (Environmental Response Act),⁵⁰ which consolidated two House bills, H.R. 7020 and H.R. 85,⁵¹ was the major United States legislation governing liability and compensation for vessel-source pollution in the early 1980s. H.R. 7020 dealt with the discovery of inactive hazardous waste dumping sites such as the Love Canal in New York, while H.R. 85 was the expanded version of President Carter's "superfund" proposal for oil pollution.⁵²

The Environmental Response Act placed liability on vessel owners for the costs of removal, remedial action, and any injury to natural resources caused by spills of oil or other hazardous waste, limited to the greater of five million dollars or three hundred dollars per gross ton.⁵³ The Environmental Response Act also established a fund to compensate victims of the pollution and to cover costs that could not be recovered from the vessel owners.⁵⁴ The Act established jurisdiction over the "navigable waters, the waters of the contiguous zone, and the ocean waters of which the natural resources are under the exclusive management authority of the United States under the Fishery Convention and Management Act⁵⁵ of 1976."⁵⁶ The jurisdictional provisions of the Environmental Response Act confirmed the controversial two-hundred mile extension of United States jurisdiction over discharges of oil and hazardous substances, as first enunciated in the Clean Water Act of 1977.⁵⁷ The unilateral extension of jurisdiction in the Clean Water Act of 1977 was protested by most of the United States NATO allies.⁵⁸ Apparently, Senate staff members

(1982)).

50. Pub. L. No. 96-510, 94 Stat. 2767 (1980) (codified as amended in scattered sections of titles 26, 33, 42, 49 U.S.C.) [hereinafter cited as Environmental Response Act].

51. H.R. 7020, 96th Cong., 2d Sess. (1980); H.R. 85, 96th Cong., 1st Sess. (1979).

52. See 1980 U.S. CODE CONG. & AD. NEWS 6119. The comparable Senate bills were S. 1480 and S. 1341.

53. 42 U.S.C. § 9607(c) (1982).

54. See *id.* § 9631(c)(1).

55. 16 U.S.C. §§ 1801-1882 (1982) (footnote added).

56. 42 U.S.C. § 9601(8)(A) (1982).

57. *Supra* note 45.

58. Moore, *How Not to Protect Our Oceans*, *Newsday*, July 10, 1978, at 42, col. 2; see Note, *The Clean Water Act of 1977: Expanded Competence over Vessel-Source Pollution*, 18 VA. J. INT'L L. 289, 318-20 (1978).

concerned about the *Argo Merchant* oil spill⁵⁹ "had inserted without fair discussion a little noticed technical provision in the important and veto-proof Clean Water Act."⁶⁰ When President Carter signed the bill, he indicated his hope that Congress and the Administration would make the Clean Water Act adhere to international law.⁶¹ The Carter Administration did not, however, notice the jurisdictional provision until after the Act had passed. Thereafter, Congress apparently approved this unilateral two-hundred mile extension of jurisdiction by passing the Environmental Response Act in its entirety.⁶²

Although the Environmental Response Act and the FWPCAA constitute the major United States legislation on vessel-source pollution, three related laws also govern marine pollution in certain specialized circumstances: (1) the Deepwater Port Act,⁶³ (2) the Outer Continental Shelf Lands Act (OCSLA) 1978 Amendments,⁶⁴ and (3) the Trans-Alaska Pipeline Authorization Act.⁶⁵ The OCSLA 1978 Amendments directly affected vessel-source pollution by initiating a major environmental safeguard, the Off-shore Oil Pollution Compensation Fund.⁶⁶ Congress intended the size of the fund to remain between one hundred million dollars and two hundred million dollars,⁶⁷ financed by a fee of no more than three cents levied on each barrel of Outer Continental Shelf (OCS) oil produced.⁶⁸

The OCSLA 1978 Amendments defined oil pollution as:

(B) the presence of oil in or on the waters of the high seas outside the territorial limits of the United States—

(i) when discharged in connection with activities conducted

59. The *Argo Merchant*, a Liberian tanker, grounded itself on the shoals off of Nantucket Island on December 15, 1976. The resulting oil spill was the tenth largest in history.

60. Moore, *supra* note 58, at 42, col. 2.

61. *Id.*

62. It should be noted that criticism of the provision extending jurisdiction has resulted in a conservative interpretation by the EPA in enforcing the act. "The EPA now limits its enforcement to ships in port." Meese, *supra* note 13, at 88.

63. 33 U.S.C. §§ 1501-1524 (1982).

64. Outer Continental Shelf Lands Act Amendments of 1978, Pub. L. No. 95-372, 92 Stat. 629 (codified in scattered sections of titles 16, 30, 43 U.S.C.) (1982).

65. 43 U.S.C. §§ 1651-1655 (1982).

66. 43 U.S.C. § 1812 (1982).

67. *Id.* § 1812(a), (d)(2).

68. *Id.* § 1812(d)(1).

under the Outer Continental Shelf Lands Act (43 U.S.C. 1331 et. seq.); or

(ii) causing injury to or loss of natural resources belonging to, appertaining to, or under the exclusive management authority of, the United States; or

(C) the presence of oil in or on the territorial sea, navigable or internal waters, or adjacent shoreline of a foreign country, in a case where damages are recoverable by a foreign claimant under this subchapter⁶⁹

This definition appears to cover oil pollution resulting from both OCS development and vessels. Ostensibly, vessel-source oil pollution is included under the definition: "the presence of oil in or on the waters of the high seas outside the territorial limits of the United States . . . [which causes] injury to or loss of natural resources belonging to, appertaining to, or under the exclusive management authority of, the United States"⁷⁰ Under this statutory language, the United States delimits all areas beyond its three-mile territorial sea as high seas, including the contiguous zone that extends a maximum of twelve miles beyond the territorial sea.⁷¹

Under section 1813(a) of the OCSLA 1978 Amendments, the following claims may be asserted for economic loss resulting from oil pollution:

- (1) removal costs; and
- (2) damages, including—
 - (A) injury to, or destruction of, real or personal property;
 - (B) loss of use of real or personal property;
 - (C) injury to, or destruction of, natural resources;
 - (D) loss of use of natural resources;
 - (E) loss of profits or impairment of earning capacity due to injury to, or destruction of, real or personal property or natural resources; and
 - (F) loss of tax revenue for a period of one year due to injury to real or personal property.⁷²

As a general rule, any United States claimant or governmental entity may recover as an injured party.⁷³ Claims for injuries to

69. *Id.* § 1811(9).

70. *Id.* § 1811(9)(B), 1811(9)(B)(ii).

71. *See* LOS Convention, *supra* note 36, art. 3, 33.

72. 43 U.S.C. § 1813(a).

73. *Id.* § 1813(b).

natural resources, however, may only be asserted by states, as trustees for natural resources within their boundaries, or by the President, as trustee for natural resources managed by the Federal Government.⁷⁴

Section 1814(a) imposes strict liability on offshore OCS developers and vessel-source polluters, but not on public vessels.⁷⁵ Liability is limited to 35 million dollars for the owner or operator of offshore facilities,⁷⁶ and to the greater of 250 thousand dollars or 300 dollars per gross ton for vessel-source polluters.⁷⁷ These limits on liability do not apply to oil pollution caused by: (1) willful misconduct; (2) gross negligence; (3) violations of which the owner or operator is aware of "applicable safety, construction, or operating standards or regulations;"⁷⁸ or (4) in the case of vessel-source polluters only, failure to "provide all reasonable cooperation and assistance requested."⁷⁹ Accordingly, the United States asserts jurisdiction only over vessel-source polluters who are within the two-hundred mile limit of the economic zone, which is consistent with articles 211, 220, and 221 of the LOS Convention.⁸⁰ If, however, a vessel creates an environmental hazard beyond the two-hundred mile limit that threatens harm to the area within its economic zone, the OCSLA 1978 Amendments conceivably could assert greater coastal state jurisdiction than is permitted under the LOS Convention.⁸¹

The United States exercise of jurisdiction over pollution within the two-hundred mile zone could be an inordinate exercise of coastal-state power. Under article 211 of the LOS Convention, two basic conditions must be met before a coastal state may regulate vessel-source pollution within its economic zone. First, a coastal state may regulate vessel-source pollution within two-hun-

74. *Id.* § 1813(b)(3).

75. *Id.* § 1814(a). The exemption of "public vessels" from the provisions of section 1814 is consistent with article 236 of the LOS Convention, which grants sovereign immunity to public vessels. LOS Convention, *supra* note 36, art. 236. These vessels are still required to protect the marine environment "so far as is reasonable and practicable." *Id.*

76. 43 U.S.C. § 1814(b)(2).

77. *Id.* § 1814(b)(1).

78. *Id.* § 1814(b).

79. *Id.* § 1814(b)(1).

80. *See* 43 U.S.C. § 1813 (concerning permissible claims and persons entitled to seek relief).

81. *See* LOS Convention, *supra* note 36, arts. 211, 220-21.

dred miles of its coast only if its regulations conform to and give effect to the "generally accepted international rules and standards"⁸² promulgated by the appropriate "international organization," specifically IMCO.⁸³ Second, coastal-state regulation under article 211 can occur only when the regulation does not hinder the innocent passage of foreign vessels.⁸⁴ Even so, article 220 provides for coastal-state jurisdiction where:

there are clear grounds for believing that a vessel navigating in the exclusive economic zone or the territorial sea of a State has, in the exclusive economic zone, committed a violation of applicable international rules and standards for the prevention, reduction and control of pollution from vessels . . . that State may require the vessel to give information . . . [relating to the alleged violation].⁸⁵

The LOS Convention clearly intends to maintain maximum navigational freedom for vessels,⁸⁶ while restricting coastal-state jurisdiction over vessels in the economic zone to those events involving major pollution damage,⁸⁷ maritime casualties, or the threat thereof.⁸⁸ If a "substantial discharge causing or threatening significant pollution of the marine environment" occurs, the coastal state is allowed to inspect the vessel.⁸⁹ If vessel-source pollution threatens the state's coastline, the vessel may be detained.⁹⁰ A conflict clearly exists between the LOS Convention and the "high seas" delimitation of section 1811(9) of the OCSLA 1978 Amendments.⁹¹ The United States, therefore, may be operating outside the scope of the LOS Convention because (1) the United States has unilaterally extended its pollution jurisdiction seaward to two-hundred miles in many areas, and (2) the United States has only an average record of incorporating IMCO standards into its legislation.

82. *Id.* art. 211, para. 2.

83. *Id.*

84. *Id.* art. 211, para. 4.

85. *Id.* art. 220 para. 3. These standards would necessarily be established by IMCO.

86. *See id.* para. 7.

87. *Id.* para. 6.

88. *Id.* art. 221.

89. *Id.* art. 220, para. 5.

90. *Id.* para. 6.

91. Compare text accompanying *supra* notes 69-71 with text accompanying *supra* notes 82-90 (the language of the OCSLA 1978 Amendments is more restrictive than and fails to follow the guidelines of the LOS Convention).

II. VESSEL-SOURCE POLLUTION

A. Problems and Goals

Petroleum products are considered to be the most widespread marine pollutants.⁹² According to experts, as much as ten million tons of oil enter the sea every year.⁹³ The seriousness of the quantity of oil released into the sea is compounded by the chemical structure of crude oil; it is one of the most complex natural mixtures on earth.⁹⁴ This chemical complexity creates difficulties in determining all of the detrimental effects on the marine environment. In addition, the severity of an oil spill's toxicity varies according to the physical form in which the oil is being transported. These physical forms range from crude oil to residual refined oils to refined light distillates.⁹⁵

Although few definitive studies have been conducted evaluating oil's effect on marine ecosystems, evidence exists that illustrates the detrimental long-term effects of oil pollution on the marine environment.⁹⁶ In an oil spill, some of the oil floats, creating a slick which can coat birds and animals, as well as affecting the interaction of the water and the air. When the oil dissolves, the water becomes toxic and its oxygen content is reduced, resulting in the eventual death of many organisms. Oil that sinks to the bottom of the ocean destroys the benthos.⁹⁷ The variety of these reactions compounds the difficulty of determining the total effect oil has on the marine environment. Even though research has been progressing for ten to fifteen years, this research may continue for decades before the effects of oil pollution are fully understood.⁹⁸

The most publicized sources of oil pollution are dramatic tanker accidents which occur near populated coasts; tanker acci-

92. AMERICAN PETROLEUM INSTITUTE, ENVIRONMENTAL PROTECTION AGENCY, UNITED STATES COAST GUARD, 1977 OIL SPILL CONFERENCE 211 (1977) [hereinafter cited as SPILL CONFERENCE].

93. Mostert, *The Age of the Oilberg*, AUDUBON, May 1975, at 18, 25. The most precise estimate, that of the National Academy of Sciences, places the figure at 6.1 million tons. *Id.*

94. *Id.* at 27.

95. Meese, *supra* note 13, at 75-76.

96. *See id.* at 77-79.

97. Benthos are organisms that live on or in the ocean bottom.

98. NATIONAL ACADEMY OF SCIENCE, PETROLEUM IN THE MARINE ENVIRONMENT 94 (1975).

dents, however, occur practically every week. The United States Congressional Office of Technological Assessment reported over 500 tanker accidents involving oil spills from 1969 to 1974.⁹⁹ Because many oil spills occur far from inhabited areas, their significance is often ignored. For example, in 1974 the tanker *Metula* ran aground, causing a large oil spill in the Strait of Magellan near the southern tip of South America,¹⁰⁰ but due to the remote situs of the accident, nothing was done to clean up the spill.¹⁰¹

Approximately eighty percent of all oil spills occur within ten miles of shore, seventy-five percent within twenty-five miles of a port, and eighty-five percent within reach of a coastal recreation area.¹⁰² Because most marine life thrives in the coastal environment, the majority of oil spills are particularly damaging.

The advent of the supertankers magnified the possibility of catastrophic oil pollution.¹⁰³ Supertankers rose to prominence after the closing of the Suez Canal in 1967.¹⁰⁴ In the late 1970s, supertankers accounted for approximately forty percent of all ocean traffic.¹⁰⁵ Some 433 of those supertankers weighed equal to or greater than 100,000 deadweight tons (dwt).¹⁰⁶ These "very large crude carriers" (VLCCs) have been referred to as "oilbergs" because a high proportion of the ship is submerged. The VLCC's typical depth below water or draft is approximately ninety feet, twice the depth of many ports, making it much more perilous for a VLCC to come near shore. The length of the VLCCs (over 1,000 feet) and their tremendous bulk make safe maneuvering diffi-

99. Carter, *supra* note 4, at 514.

100. See Mostert, *supra* note 93, at 18; N.Y. Times, Jan. 6, 1975, at 43, col. 6; *id.*, Sept. 26, 1974, at 55, col. 7.

101. Extraordinary efforts to salvage the *Metula* kept the size of the spill from being as extensive as it otherwise might have been. The oil that did spill, however, was allowed to disperse naturally into the ocean. See Mostert, *supra* note 93, at 35.

102. Meese, *supra* note 13, at 111 n.53. According to another source, approximately eighty-five percent of all oil spills occur within fifty miles of a coastline. D. MALINS, EFFECTS OF PETROLEUM ON ARCTIC AND SUBARCTIC MARINE ENVIRONMENTS AND ORGANISMS 99 (1977).

103. See Anderson, *National and International Efforts to Prevent Traumatic Vessel Source Oil Pollution*, 30 U. MIAMI L. REV. 985, 1000 (1976).

104. *Id.* at 998.

105. Meese, *supra* note 13, at 81.

106. Grove, *Giants That Move the World's Oil: Superships*, NAT'L GEOGRAPHIC, July 1978, at 102, 104.

cult.¹⁰⁷ When traveling at sixteen knots, a 250,000 ton ship takes approximately twenty-two minutes and three nautical miles to stop.¹⁰⁸ The huge size of VLCCs increases the risk of grounding, collision, and other mishaps, as well as the potential harm from such an accident.¹⁰⁹ Any accident involving a VLCC has the potential to spill enormous amounts of oil.

While oil spills are very damaging, they are not the primary source of oil pollution in the ocean. Most vessel-source oil pollution results from the intentional, routine cleaning of a vessel's tanks.¹¹⁰ In the past, tanks were rinsed out with water that was emptied into the sea as an "intentional operational discharge." This water is more easily absorbed into the sea than the heavy crude from an oil spill. Although each actual discharge is a small percentage of a tanker's total capacity, the quantity of oil discharged by this method is great because the total capacity of tanker vessels ranges from 200,000 to 500,000 tons of oil.¹¹¹

New procedures such as the load-on-top method (LOT), segregated ballast tanks, and the use of special port facilities have significantly reduced the intentional operational discharge problem. The LOT method has the potential to reduce the oil discharged by ninety-nine percent.¹¹² Unfortunately, because no adequate monitoring system exists, the LOT method's effectiveness depends upon a crew's diligence.¹¹³ Some oil companies are replac-

107. Mostert, *supra* note 93, at 22.

108. *Id.*; see Gold, *Marine Salvage Law, Supertankers and Oil Pollution: New Pressures on Ancient Law*, 11 *REVUE DE DROIT, U. SHERBROOKE* 127, 140-41 (1980).

109. Cf. Smets, *The Oil Spill Risk: Economic Assessment and Compensation Limit*, 14 *J. MAR. L. & COM.* 23 (1983) (discussing economic factors increasing risk of pollution damage relative to various compensation ceilings).

110. Mostert, *supra* note 93, at 25; see Note, *Prevention of Operational Maritime Oil Pollution: A Necessary Solution to an Unnecessary Problem*, 4 *BROOKLYN J. INT'L L.* 63, 69 (1977); see also Nunuparov, *A Study of the Formation of Unpumpable Residues of Crude Oil on Tankers for the Purpose of Preventing Marine Pollution*, *MARINE TECH. Soc'y J.*, Sept. 17, 1977, at 9 (examining crude oil residues in tankers).

111. One estimate places the oil contained in the rinse water at about 0.35 percent of the original oil cargo. M'GONIGLE, *supra* note 18, at 16.

112. D. MALINS, *supra* note 102, at 98. *Contra* M'GONIGLE, *supra* note 18, at 18-19. A workshop sponsored by the Ocean Affairs Board of the U.S. National Academy of Sciences in 1973 estimated that the LOT method was 90 percent effective, while secret oil industry studies place the figure close to 50 percent. *Id.*

113. M'GONIGLE, *supra* note 18, at 19.

ing LOT with the crude-oil washing method (COW). In the COW method, a vessel's tanks are rinsed with a lighter oil, which dissolves the heavier crude and forms a mixture that is then pumped out. This is more effective than the LOT method because it occurs in port and, therefore, can be monitored easily. It is time-consuming, however, and congests port traffic. If not properly performed, this method also poses hazards because of the highly explosive gases produced.¹¹⁴

To alleviate these problems, President Carter proposed regulations in 1977 for all United States and foreign tankers over 20,000 dwt. that dock at United States ports.¹¹⁵ These regulations proposed the imposition of: (1) double bottoms on all new tankers; (2) segregated ballast tanks on all tankers; (3) inert gas systems on all tankers; (4) backup radar systems, including collision avoidance equipment, on all tankers; and (5) improved emergency steering standards for all tankers.¹¹⁶ Congress adopted most of these proposals by incorporating them into the Port and Tanker Safety Act of 1978.¹¹⁷ These "construction, design, equipment, and manning" standards (CDEM standards) must be applied carefully,¹¹⁸ or they may be considered invalid unilateral extensions of jurisdiction.¹¹⁹ The need for uniform, reasonable environmental legislation to protect the oceans from vessel-source pollution is critical to effectuate the overall goal of "maintaining a favorable legal order."¹²⁰ It should be noted that "vessel-source

114. *Id.* at 132.

115. *President Announces Measures To Control Marine Oil Pollution*, 76 DEP'T ST. BULL. 422 (1977); see also Lester, *Domestic Structure and International Technological Collaboration: Ocean Pollution Regulation*, 8 OCEAN DEV. & INT'L L.J. 299 (1980) (examining the government-society relationship in oil pollution regulation).

116. 76 DEP'T ST. BULL. at 422.

117. Pub. L. No. 95-474, 92 Stat. 1471 (codified as amended at 33 U.S.C. §§ 1221-32, 46 U.S.C. §§ 214, 391(a) (1982)). The proposals were also adopted, with some modifications, in the 1978 SOLAS Protocol. See Popp, *supra* note 16, at 20-21.

118. Bernhardt, *A Schematic Analysis of Vessel-Source Pollution: Prescriptive and Enforcement Regimes in the Law of the Sea Conference*, 20 VA. J. INT'L L. 265, 268 (1980).

119. *Id.* at 277-78. For an historical analysis of how unilateral extensions of jurisdiction impacted upon UNCLOS III, see Kindt, *Special Claims Impacting Upon Marine Pollution Issues at the Third U.N. Conference on the Law of the Sea*, 10 CAL. W. INT'L L.J. 397, 442-44 (1980).

120. Moore, *A Foreign Policy for the Oceans*, in *THE OCEANS AND U.S. FOR-*

pollution contributes only about one-fourth to one-third of pollution in the oceans from oil and this percentage is probably much lower for other pollutants such as heavy metals or persistent pesticides."¹²¹ Most marine oil pollution is the result of land-based pollution sources and its subcategory, airborne pollution.¹²² Although there is some indication that other pollutants may present a more serious and persistent threat to the marine environment than pollution from oil spills, vessel-source oil pollution "has received the most study and has the most developed institutional and legal basis for dealing [with such pollution]."¹²³ Because intentional operational discharges are the major source of vessel-source oil pollution, the use of the LOT "segregated ballast" technique in addition to other pollution control technology, can reduce oil pollution at relatively low costs.¹²⁴

B. Historical Background

There has been little progress toward controlling oil pollution through the regulation of tanker safety since the *Torrey Canyon* accident in 1967. Few multilateral proposals have succeeded in acquiring sufficient assent from nations to enter into force, and no proposal has been all-encompassing. As a result, coastal states have felt compelled to act unilaterally.¹²⁵

Questions as to the efficacy and the adequacy of unilateral action to control vessel-source pollution definitely exist. From the standpoint of both an individual nation and the international community, unilateral solutions can be undesirable. One writer has noted:

[U]nilateral action by the United States might influence other countries to implement regulations impeding the passage of merchant vessels, naval ships and submarines. This interference with freedom of navigation on the high seas would be a threat to U.S. security and therefore an undesirable side effect of pollution

EIGN POLICY 1, 2, 4 (Center for Oceans Law & Policy, Apr. 1978).

121. Moore, *supra* note 5, at 39-40.

122. *Id.* at 40.

123. *Id.*

124. *Id.*

125. Examples of such initiatives are Canada's Arctic Waters Pollution Prevention Act, CAN. REV. STAT. ch. 2 (1st Supp. 1970), and the United States reaction to the *Argo Merchant* accident. See *supra* notes 57-62 and accompanying text.

control. The question remains unanswered whether unilateral action can solve the pollution problem without jeopardizing other national security interests. An even more fundamental question is whether unilateral action by any particular state can deal effectively with transnational pollution. Unilateral action, without cooperation from other nation-states, can solve only part of the problem. Given the transnational characteristics of the petroleum and shipping industries and the interdependence of nation-states, a transnational approach to the problem would be preferred. The problem of pollution is a good example of how national security is intertwined with international security.¹²⁶

Until a truly transnational approach is successfully implemented, vessel-source pollution will continue to increase. Experience has shown that a tanker tends to break down more frequently as the ship ages.¹²⁷ Most of the supertankers over 200,000 dwt. will become fifteen years old during the 1980s, and as the risk of structural failures increases with age, so does the potential for catastrophic oil spills.¹²⁸ In addition to the potential structural hazards, many of the nautical charts used during the 1980s are based on surveys approximately sixty years old.¹²⁹ The extreme drafts of modern supertankers necessitates the preparation of new nautical charts.

C. Trends and Conditioning Factors

1. *General Trends and Conditioning Factors*

Any analysis of the legal problems involved with vessel-source oil pollution must begin with the ideas of Hugo Grotius. Several centuries ago, Grotius' ideas formed the basis of the traditional laws of the sea.¹³⁰ Grotius believed the seas were virtually infinite—they could not be possessed, nor could their resources be depleted.

As transoceanic commerce expanded, these paradigmatic beliefs were conditioned further by a variety of factors, including: (1) the

126. Payne, *Flags of Convenience and Oil Pollution: A Threat to National Security?* 3 Hous. J. INT'L L. 67, 92 (1980); see also Kindt, *supra* note 119, at 442-44.

127. See M'GONIGLE, *supra* note 18, at 20.

128. Carter, *supra* note 4, at 514.

129. Mostert, *supra* note 93, at 41.

130. See Scott, *Introductory Note*, H. GROTIUS, *THE FREEDOM OF THE SEAS* ix-x (1916).

drive of multinational oil and shipping companies to maximize profits;¹³¹ (2) the strategic naval interests of the United States and the Soviet Union;¹³² (3) the desire of coastal states to protect their coastal resources;¹³³ (4) the desire of flag states to promote inexpensive free trade; (5) the view among developing countries, who wish to exploit the seas, that pollution control is a luxury of the rich nations; and (6) the concern of environmental organizations to safeguard the ecological purity of the seas.¹³⁴

a. The IMCO

The formation of IMCO in 1958 was one of the first efforts to address the oil pollution problem. Although not specifically created to regulate pollution of the seas, the regulation of maritime pollution became its primary focus during the 1980s, as IMCO was the most effective international organization with jurisdiction over maritime affairs.¹³⁵ IMCO, however, has traditionally had no regulatory authority, but instead has been limited to an advisory and consultative role. The scope of IMCO's actions has been further restricted by the fact that its budget is the smallest of any United Nations agency.¹³⁶ IMCO sponsors conferences on matters pertaining to the seas, and those member states attending draft agreements which resemble treaties. If a draft convention is ratified by fifteen nations who together control fifty percent of the world's gross tonnage of registered shipping, the convention will enter into force.¹³⁷ Thus, the ratification process helps to achieve uniformity in international standards and regulations because once a country ratifies a convention, its national laws must be in compliance with that convention.¹³⁸ The ratification procedure may, however, create problems because member states are often slow to ratify maritime conventions.¹³⁹ Those states who quickly ratify a convention may find their merchant fleets at a competitive disadvantage until a sufficient number of nations ratify that

131. Anderson, *supra* note 103, at 990.

132. *Id.* at 995.

133. *Id.* at 994.

134. *Id.* at 995.

135. M'GONIGLE, *supra* note 18, at 39.

136. *Id.* at 142.

137. SPILL CONFERENCE, *supra* note 92, at 4.

138. *Id.* at 26.

139. M'GONIGLE, *supra* note 18, at 142.

particular convention to bring it into force. Enforcement of conventions has been sporadic due to the lack of a uniform worldwide enforcement system. Article II(B) of IMCO requires ratifying nations to enforce provisions against any ships entering territorial waters, and enforcement, therefore, is left to the discretion of the individual nations.

b. UNCLOS III

The Third United Nations Conference on the Law of the Sea (UNCLOS III) also discussed protection of the seas. The conference initiated the development of a comprehensive international body of law covering all maritime matters, including oil pollution, culminating with the issuance of the LOS Convention.¹⁴⁰ Although IMCO is not expressly mentioned in article 211 of the LOS Convention,¹⁴¹ it is understood that IMCO is to govern vessel-source pollution. The intent of the LOS Convention was to prevent and control pollution by adopting and enforcing generally accepted international rules and standards. Under the LOS Convention a coastal state at whose port a vessel is docked may prosecute the vessel for violations of these "generally accepted rules and standards."¹⁴² Because countries still consider their fleets to be an immutable part of their sovereign power, responsibility for enforcement of the LOS Convention lies primarily with the country in which the vessel is registered—the flag state. A coastal state may not pass CDEM standards regulating foreign vessels unless those regulations give effect to "generally accepted rules and standards."¹⁴³

c. The Flag of Convenience

The gravamen of the enforcement problem is the "flag of convenience" nation. Shipowners prefer to register their ships in flag of convenience countries with liberal registration requirements, such as Liberia and Panama.¹⁴⁴ The tonnage carried by ships reg-

140. See *supra* note 36.

141. *Id.* art. 211.

142. Herman, *Flags of Convenience—New Dimensions to an Old Problem*, 24 MCGILL L.J. 1, 21 (1978); see LOS Convention, *supra* note 36, arts. 211, 218; M'Gonigle & Zacher, *International Problem of Marine Pollution*, INT'L PERSP., Mar.-Apr. 1978, at 8, 9.

143. Herman, *supra* note 142, at 20-21.

144. *Id.* at 1. Typical of the "conveniences" to shipowners are guarantees of

istered in these countries increased rapidly through the 1970s.¹⁴⁵ Many of these small countries have among the largest tanker fleets in the world. These fleets generally do not accommodate the flag state's trade, but instead carry the cargo of other nations. In fact, it is not uncommon for these vessels never to reach their flag-state ports. The flag of convenience countries lack any incentive to impose more stringent regulations because stricter regulations would adversely affect their economic interests. These states derive a substantial portion of their revenue from registration fees.¹⁴⁶ If one country imposed stricter controls on the design, construction, manning, or operation of their fleets, that country would cease to be "convenient."¹⁴⁷ In addition, small flag states simply do not have the capability to enforce international standards or regulations on a global scale. Shipowners take advantage of this situation, and as a result there are many substandard vessels on the seas.

2. Catastrophic Intervention

After an oil spill has occurred, questions often arise concerning the right of intervention for the states involved. The right of intervention has been extensively debated and analyzed since the British Government intervened in the *Torrey Canyon* accident.¹⁴⁸

anonymity, a low incidence of taxation, and mortgage financing provisions that provide greater security to persons financing the vessels. Meese, *supra* note 13, at 83-84. By contrast, United States laws require its flag ships to carry United States crews and their correspondingly high wages. These costs also make it much more expensive to use United States shipyards to construct VLCCs. *Id.* at 82-83.

145. See Payne, *supra* note 126, at 74.

146. Dempsey & Helling, *supra* note 21, at 54.

147. Meese, *supra* note 13, at 84-85.

148. The various interests involved in the *Torrey Canyon* accident have been described as follows:

[T]he ship was owned by a Bermuda corporation which was controlled by an American oil corporation, was registered in and flew the flag of Liberia, and was manned by an Italian crew. It was chartered by a British oil company partially owned by the British government, was insured by companies in the United States and Great Britain. It was claimed for salvage by a Dutch corporation. It had sunk in international waters and had caused oil pollution in the United Kingdom, France and the States of Guernsey. The official investigation as to the sinking was in Italy at the behest of the Liberian government and was conducted by Americans.

Comment, *Post Torrey Canyon: Toward a New Solution to the Problem of*

It is very difficult to delineate which country or countries have the right to intervene and to gauge the extent of that right. Competing interests often arise between the coastal state, which wants to protect its coastal environment, and the flag state, which wants to maintain its recognized right of jurisdiction over its ships.

The right of intervention seems justified under the principle of self-protection. This rationale justifies any measures adopted by a state faced with some danger affecting its vital interests. Although "self-defense" is occasionally suggested as a rationale for intervention, self-defense generally applies only to matters of national security and must be liberally construed to include oil pollution. The "necessity" rationale is also periodically used to justify intervention. Rather than giving rise to a right, this concept is utilized merely to excuse an act that would otherwise be illegal.¹⁴⁹

The 1969 Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (Intervention Convention)¹⁵⁰ was initiated after the *Torrey Canyon* catastrophe. The Intervention Convention is now in force internationally and is adhered to by the United States. To intervene under its rules, a coastal state must show that the threat of pollution presents a grave and imminent danger to its coastlines or related interests,¹⁵¹ and the incident must involve oil pollution from privately-owned ships¹⁵² of a member state of the Intervention Convention. The Intervention Convention does not, however, cover intentional operational discharges.¹⁵³

When an oil pollution casualty occurs, coastal states must first consult with any other states affected before taking any action. All parties should be notified without delay, and informed of the measures proposed. Immediate notification is not required "in cases of extreme urgency," but notification must follow as soon as is possible.¹⁵⁴ No prohibitions on intervention exist other than those conditions listed above. Any measures considered necessary

Traumatic Oil Spillage, 2 CONN. L. REV. 632, 637-38 (1970).

149. Emanuelli, *The Right of Intervention of Coastal States on the High Seas in Cases of Pollution Casualties*, 25 U.N.B.L.J. 79, 90 (1976).

150. Intervention Convention, *supra* note 22.

151. Emanuelli, *supra* note 149, at 82.

152. Warships are exempted. Intervention Convention, *supra* note 22, art. I, para. 2.

153. Emanuelli, *supra* note 149, at 83.

154. *Id.* at 84.

can be taken, subject to a test of "reasonableness."¹⁵⁵ The intervening country should weigh the benefits of the measures to be taken against the costs of the potential damage that could result from those actions by balancing the following three factors: (1) the extent and probability of imminent danger; (2) the likelihood that protective measures will be effective; and (3) the extent of damage likely to be caused by the proposed protective measures.¹⁵⁶

The Convention attempts to offset the extensive right of intervention available to coastal states by providing a mechanism for the peaceful settlement of disputes arising from intervention. On an international level, proceedings can be initiated by any party involved. The potential right to recover from a coastal state under the Intervention Convention is aimed primarily at preventing abuses of the right of intervention. To receive compensation, claimants must prove that the coastal state did not meet the "reasonableness" test, and that it violated the terms of the Intervention Convention. Within these guidelines, coastal states have broad powers to intervene and protect their interests.

These principles remain basically intact under article 221 of the LOS Convention. Article 221 allows a coastal state to intervene beyond its territorial sea "pursuant to international law" and "to take and enforce measures" to protect its coastline. Like the Intervention Convention, the right to intervene under article 221 hinges on a "reasonableness" test.¹⁵⁷

3. *Ice-Covered Areas*

The polar regions present special problems for controlling vessel-source pollution. One question is what law should govern the regions. Canada passed the Arctic Waters Pollution Prevention Act¹⁵⁸ soon after the oil tanker *S.S. Manhattan* sailed the Northwest Passage in 1969.¹⁵⁹ Canada was initially criticized for its uni-

155. *Id.* at 83.

156. *Id.* at 85.

157. LOS Convention, *supra* note 36, art. 221.

158. CAN. REV. STAT. ch. 2 (1st Supp. 1970).

159. M'Gonigle & Zacher, *supra* note 142, at 9. The *S.S. Manhattan* was a modified ice-breaking supertanker. Although it sailed without incident from the Alaskan oil fields to the east coast of the United States, the voyage dramatically heightened Canadian concern over potential oil pollution of the Arctic. See Kindt, *supra* note 119, at 437-38.

lateral action, but the Act is now generally accepted by the Arctic countries.¹⁶⁰ UNCLOS III also considered the Arctic a special area.¹⁶¹ Article 234 of the LOS Convention protects the freedom of navigation,¹⁶² while generally delegating to coastal states the regulation of vessel-source pollution in "ice-covered areas." Naturally, this provision also applies to the Antarctic (although the Antarctic has few coastal states).

Because of the unique nature of the Arctic and the Antarctic, it remains unclear how the law governing these regions will develop. Arguably, neither area has been subject to the traditional laws of the sea because many of the activities on which those laws were originally founded, such as fishing and transport, never occurred in the Arctic or the Antarctic to any significant degree.¹⁶³ Nevertheless, these areas deserve particular attention because the effects of oil spills in the polar regions are much more persistent than in warmer climates.¹⁶⁴ Because these areas may also have a unique effect on global climate, pollution-induced changes in either polar region could drastically alter the climate throughout the world.¹⁶⁵ Until more detailed scientific information is available, these regions should be protected as "international marine sanctuaries."

III. THE GENERAL LAW OF THE SEA PROVISIONS

A. A Historical Overview of Vessel-Source Pollution and UNCLOS III

The first substantive session of UNCLOS III was convened in Caracas, Venezuela, on June 20, 1974.¹⁶⁶ Preparatory negotiations had revealed great concern over preserving traditional freedoms of the high seas and widespread agreement on the need for protecting the oceans for navigation.¹⁶⁷ These concerns focused pri-

160. SPILL CONFERENCE, *supra* note 92, at 114.

161. M'Gonigle & Zacher, *supra* note 142, at 9.

162. LOS Convention, *supra* note 36, art. 234.

163. Feder, *A Legal Regime for the Arctic*, 6 *ECOLOGY L.Q.* 785, 811 (1978).

164. M'GONIGLE, *supra* note 18, at 28.

165. Feder, *supra* note 163, at 792.

166. Stevenson & Oxman, *The Third United Nations Conference on the Law of the Sea: The 1974 Caracas Session*, 69 *AM. J. INT'L L.* 1, 1 (1975) [hereinafter cited as *1974 Caracas Session*].

167. Stevenson & Oxman, *The Preparations for the Law of the Sea Conference*, 68 *AM. J. INT'L L.* 1, 9 (1974).

marily on coastal state jurisdiction beyond their territorial sea¹⁶⁸ and the regime for straits used for international navigation.¹⁶⁹ As the first session concluded, however, "expanded coastal state jurisdiction . . . appear[ed] assured"¹⁷⁰ with the establishment of a twelve-mile territorial sea and the new two-hundred mile "economic zone."¹⁷¹

The second session in 1975, resulted in the Informal Single Negotiating Text (SNT)¹⁷² and vested primary responsibility for vessel-source pollution with the flag states. Recognizing that flag states may not be the states most affected by pollution, the SNT imposed a general duty on all states to preserve the marine environment,¹⁷³ and granted specific powers to coastal states to establish international standards.¹⁷⁴ These powers included: (1) requiring the express approval of a coastal state before dumping waste within a zone (of unspecified distance) extending from that state's coast; (2) permitting the establishment of "more effective" standards for vessel-source pollution, provided that they are not CDEM standards and do not hamper innocent passage; and (3) the establishment of higher standards within the state's economic zone if the combination of "severe climatic conditions" and pollution may result in major harm to the ecological balance.¹⁷⁵ The SNT, however, carefully circumscribed enforcement rights of coastal states and limited the substantial rights and duties of enforcement to flag states and port states.¹⁷⁶

The Revised Single Negotiating Text (RSNT),¹⁷⁷ implemented

168. *Id.* at 23.

169. *Id.* at 10. Most participants favored unimpeded passage through straits. 1974 Caracas Session, *supra* note 166, at 15.

170. 1974 Caracas Session, *supra* note 166, at 2.

171. *Id.*

172. U.N. Doc. A/CONF.62/WP.8/Parts I, II, III, 4 OFFICIAL RECORDS OF THE THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA 137 (1975) [hereinafter cited as SNT]; U.N. Doc. A/CONF.62/WP.9/Part IV, 5 OFFICIAL RECORDS OF THE THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA 111 (1976).

Regarding the straits regime, a right of "transit passage" was established. Stevenson & Oxman, *The Third United Nations Conference on the Law of the Sea: The 1975 Geneva Session*, 69 AM. J. INT'L L. 763, 773 (1975) [hereinafter cited as 1975 Geneva Session].

173. 1975 Geneva Session, *supra* note 172, at 788.

174. *Id.* at 788.

175. *Id.* at 790.

176. *See id.* at 791-92.

177. U.N. Doc. A/CONF.62/WP.8/Rev.1/Parts I, II, III, 5 OFFICIAL RECORDS

in 1976, refined these pollution provisions and instituted a regime of balanced duties between flag states and coastal states, within a coastal state's economic zone. The RSNT granted coastal states the right to designate special areas within their economic zone in which antipollution standards established by the "competent international organization" could be implemented.¹⁷⁸ It also gave these coastal states the right to regulate certain vessels in ice-covered areas.¹⁷⁹ In cases of unlawful discharge, a coastal state could inspect vessels—or, in more severe cases, bring proceedings against them—as long as certain safeguards, including a flag state's right of preemptive jurisdiction, were respected.¹⁸⁰ The environmental rights and duties under the RSNT constitute a class of exceptions to traditional high seas freedoms, including a flag state's right of exclusive jurisdiction over their vessels.¹⁸¹

The Informal Composite Negotiating Text (ICNT),¹⁸² released in 1977, reduced some of the restrictions on coastal state control of pollution within the territorial sea, but retained the prohibition on CDEM standards.¹⁸³ By this time, the most significant disputes over the treaty were primarily political disagreements over mining operations in deep seabeds. The ICNT resolved certain disputes by clarifying the status of the new economic zones and identifying the traditional high seas freedoms that were preserved within those economic zones.¹⁸⁴

Other relatively minor revisions and clarifications followed in subsequent sessions in 1978, 1979, and 1980. These were embod-

OF THE THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA 125 (1976) [hereinafter cited as RSNT]; U.N. Doc. A/CONF.62/WP.9/Rev.2/Part IV, 6 OFFICIAL RECORDS OF THE THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA 144 (1977).

178. Oxman, *The Third United Nations Conference on the Law of the Sea: The 1976 New York Sessions*, 71 AM. J. INT'L L. 247, 261-62 (1977).

179. *Id.* at 262.

180. *Id.*

181. *See id.* at 260-62.

182. U.N. Doc. A/CONF.62/WP.10, 8 OFFICIAL RECORDS OF THE THIRD UNITED NATIONS CONFERENCE ON THE LAW OF THE SEA 1 (1977) [hereinafter cited as ICNT].

183. Oxman, *The Third United Nation's* [sic] *Conference on the Law of the Sea: The 1977 New York Session*, 72 AM. J. INT'L L. 57, 62 (1978). The ICNT dealt with the issue of straits used for international navigation as a completely separate matter. *Id.*

184. *See id.* at 67-74.

ied in the revisions to the ICNT¹⁸⁵ and finally in the Draft Convention on the Law of the Sea.¹⁸⁶ These revisions clarified both the right of intervention under international law and a coastal state's rights with respect to vessels in innocent passage through the state's territorial sea.¹⁸⁷ For the first time, a coastal state could also promulgate CDEM standards, but only if "such laws and regulations give effect to generally accepted rules or standards."¹⁸⁸ The right was carefully limited to ships "in innocent passage in one state's territorial sea that are heading for a port in another state."¹⁸⁹

B. Ports and Internal Waters

1. Regulation of Vessel-Source Pollution

The general principle governing vessel-source pollution in ports and internal waters is "port-state jurisdiction." Under article 211, paragraph 3 of the LOS Convention, a port state must communicate to "the competent international organization" any conditions or requirements concerning marine pollution with which a foreign vessel must conform before the vessel is granted entry into the port state's internal waters or ports.¹⁹⁰ IMCO is generally considered the "competent international organization" by maritime states, although many developing countries do not readily admit this.¹⁹¹ The LOS Convention does not specify that vessel-source pollution in ports or internal waters is to be regulated exclusively by port states, but port state jurisdiction is assumed because internal waters have traditionally been considered to be part of a coastal state and thus subject to its jurisdiction.

The LOS Convention does allow for regulation by a state other than the port state in a specific instance. When a foreign vessel is

185. See Informal Composite Negotiating Text/Revision 2, U.N. Doc. A/CONF.62/WP.10/Rev.2 (1980) [hereinafter cited as ICNT/Rev.2]; Informal Composite Negotiating Text/Revision 1, U.N. Doc. A/CONF.62/WP.10/Rev.1 (1979) [hereinafter cited as ICNT/Rev.1].

186. U.N. Doc. A/CONF.62/WP.10/Rev.3 (1980) [hereinafter cited as DC(IT)].

187. Oxman, *The Third United Nations Conference on the Law of the Sea: The Seventh Session (1978)*, 73 AM. J. INT'L L. 1, 25 (1979).

188. *Id.*

189. *Id.*

190. LOS Convention, *supra* note 36, art. 211, para. 3.

191. Bernhardt, *supra* note 118, at 274.

navigating within the territorial sea of a state that participates in a regional arrangement to prevent vessel-source pollution, that vessel must furnish upon request, "information as to whether it is proceeding to a State . . . participating in such co-operative arrangements and, if so, . . . whether it complies with the port entry requirements of that State."¹⁹² A vessel that is simply proceeding outside or through the region does not have to respond. The limitation on this right of intervention is that a coastal state must do so "without prejudice to the continued exercise by a vessel of its right of innocent passage or to the application of article 25, paragraph 2."¹⁹³ Under article 25, paragraph 2, "[i]n the case of ships proceeding to internal waters or a call at a port facility outside internal waters, the coastal State also has the right to take the necessary steps to prevent any breach of the conditions to which admission of those ships . . . is subject."¹⁹⁴

2. *Enforcement by Flag States*

The enforcement of international rules and standards within a state's internal waters is the primary obligation of the flag state. Flag states must ensure that their fleets meet all applicable international and national rules and standards, and are obligated to take enforcement action in any jurisdictional zone in which a violation occurs.¹⁹⁵ Under articles 211 and 217 of the LOS Convention,¹⁹⁶ flag states must comply with standards established by IMCO and its general diplomatic conferences,¹⁹⁷ as well as investigate and prosecute any violations of IMCO standards.¹⁹⁸ While investigating and prosecuting alleged violations, flag states may request assistance from other states.¹⁹⁹ "[Flag] States shall, at the written request of any State, investigate any violation alleged to have been committed by [their] vessels,"²⁰⁰ and must promptly inform the requesting state and IMCO of actions taken against

192. LOS Convention, *supra* note 36, art. 211, para. 3.

193. *Id.*

194. *Id.* art. 25, para. 2.

195. See Meese, *supra* note 13, at 89; Bernhardt, *supra* note 118, at 296.

196. LOS Convention, *supra* note 36, art. 211, para. 2; *id.* art. 217.

197. *Id.* art. 217, para. 1.

198. *Id.* art. 217, para. 4.

199. *Id.* art. 217, para. 5.

200. *Id.* art. 217, para. 6.

the violators.²⁰¹ The penalties imposed by flag states must be "adequate in severity to discourage violations."²⁰²

Flag states are also required to enforce the "design, construction, equipment and manning" requirements of their vessels.²⁰³ Coastal states, therefore, cannot unilaterally restrict navigation in their internal waters, territorial seas, or economic zones by requiring vessel design or safety features that exceed international standards.²⁰⁴ Certification of a vessel by its flag state is *prima facie* evidence that the vessel complies with international standards.²⁰⁵

3. *Enforcement by Port States*

The enforcement of international rules and standards by a vessel's port state is authorized²⁰⁶ in articles 218 to 220 of the LOS Convention,²⁰⁷ and is predicated on the requirement that the vessel be "voluntarily" within the port of the state claiming jurisdiction.²⁰⁸ Reflecting one of the treaty's most important innovations, a discharge violation occurring on the high seas is subject to port state enforcement.²⁰⁹ Discharge violations that occur in another country's internal waters, territorial sea, or economic zone are subject to port state enforcement only if enforcement is requested by the injured country, the flag state, or a country threatened by the pollution.²¹⁰ Defects in a vessel's seaworthiness are arguably tantamount to continuing violations of CDEM standards²¹¹ and, under article 219, subject to port state enforcement, including detention, regardless of where the potential pollution occurred.²¹² Although article 220 refers to coastal state enforcement, it is a de

201. *Id.* art. 217, para. 7.

202. *Id.* art. 217, para. 8.

203. *Id.* art. 217, para. 2.

204. *See id.* art. 21, para. 2 (relating to innocent passage).

205. *Id.* art. 217, para. 3.

206. Note that port state enforcement is not obligatory, but a discretionary right of action. At least one commentator has criticized this, suggesting that it weakens the viability of a port state enforcement regime as a compromise between traditional flag state enforcement and coastal state enforcement, the latter of which is seen as more threatening to the freedom of navigation. *See Bernhardt, supra* note 118, at 284-87.

207. LOS Convention, *supra* note 36, arts. 218-20.

208. *See id.*, art. 218, paras. 1, 3.

209. *Id.* art. 218, para. 1.

210. *Id.* art. 218, para. 2.

211. *See Bernhardt, supra* note 118, at 288.

212. *See* LOS Convention, *supra* note 36, art. 219.

facto type of port state enforcement for violations occurring within the territorial sea or economic zone of the port state.²¹³

C. Straits Used for International Navigation

It is fundamental that a straits regime preserve the community interest in using the straits and the international interest in freedom of navigation, while protecting the strait state's legitimate interests in safety and environmental protection.²¹⁴ Part III of the LOS Convention recognizes four categories of straits involving international navigation. The first category consists of those straits for which existing international conventions guarantee freedom of navigation;²¹⁵ examples include the Danish Straits, the Turkish Straits, and the Strait of Magellan.²¹⁶ Article 35(c) of the LOS Convention states that part III does not control or modify the legal regimes of these straits;²¹⁷ those legal regimes continue to regulate marine pollution in the straits provided they do not infringe upon navigational freedoms.

The second category of straits is governed by article 36 of the LOS Convention, which also states that part III does not apply to those straits used for international navigation and having "through the strait a route through the high seas or through an exclusive economic zone of similar convenience with respect to navigational and hydrographical characteristics."²¹⁸ Vessel-source pollution in these straits is subject to the regulations of article 211, the usual article governing vessel-source pollution.²¹⁹

The third category of straits are regulated by the concept of "transit passage"²²⁰ under article 37. Transit passage straits con-

213. *Id.* art. 220, para. 1. The "voluntarily within a port" language in article 220, paragraph 1, supports this interpretation. *Contra* Bernhardt, *supra* note 118, at 284-94.

214. Moore, *The Regime of Straits and the Third United Nations Conference on the Law of the Sea*, 74 AM. J. INT'L L. 77, 78-79 (1980).

215. *Id.* at 111; see LOS Convention, *supra* note 36, art. 35(c).

216. Moore, *supra* note 214, at 111.

217. LOS Convention, *supra* note 36, art. 35(c).

218. *Id.* art. 36; Moore, *supra* note 214, at 111.

219. See LOS Convention, *supra* note 36, art. 211.

220. Moore, *supra* note 214, at 111; for Convention laws governing transit passage, see LOS Convention, *supra* note 36, arts. 37-44. "Transit passage" has been loosely defined by one writer as "implying considerably more freedom to navigational interests than would be contemplated under 'innocent passage,' though not the total freedom possible in high seas transit." Maduro, *Passage*

sist of those "straits which are used for international navigation between one part of the high seas or an exclusive economic zone and another part of the high seas or an exclusive economic zone."²²¹ Article 38 states, however, that transit passage may be impeded for those straits falling within the "island exception."²²² The great majority of straits used for international navigation are within this third category.²²³ One of the duties of ships in transit passage is to "comply with generally accepted international regulations, procedures and practices for the prevention, reduction and control of pollution from ships."²²⁴ Article 42 of the LOS Convention²²⁵ grants states bordering straits a limited right to:

1. . . . adopt laws and regulations relating to transit passage through straits, in respect of all or any of the following:
 - (a) the safety of navigation and the regulation of maritime traffic, as provided in article 41;
 - (b) the prevention, reduction and control of pollution, by giving effect to applicable international regulations regarding the discharge of oil, oily wastes and other noxious substances in the strait²²⁶

Although article 42 permits states bordering straits to enforce IMCO's standards regarding vessel-source pollution, these states may not use the claim of protecting the marine environment to interfere with a vessel's right of transit passage.

The subsequent provision, which provides that countries in this category may regulate the "loading or unloading of any commodity, currency or person in contravention of . . . [its] customs, fiscal, immigration or sanitary laws and regulations,"²²⁷ should not be interpreted as an ocean dumping regulation. User states and states bordering straits in this category are required to coop-

Through International Straits: The Prospects Emerging From the Third United Nations Conference on the Law of the Sea, 12 J. MAR. L. & COM. 65, 70 (1980). The right of transit passage, unlike that of innocent passage, may not be suspended for any reason. LOS Convention, *supra* note 36, art. 44.

221. LOS Convention, *supra* note 36, art. 37.

222. *Id.* art. 38, para. 1; see Moore, *supra* note 214, at 111. For a description of what constitutes an "island exception," see *infra* text accompanying notes 229-36.

223. Moore, *supra* note 214, at 111.

224. LOS Convention, *supra* note 36, art. 39, para. 2(b).

225. *Id.* art. 42, para. 1(a)-(b).

226. *Id.*

227. *Id.* art. 42, para. 1(d)(emphasis added).

erate by agreement for the "prevention, reduction and control of pollution from ships."²²⁸

The final category consists of those straits governed by article 45.²²⁹ The category includes "island exception" straits which are formed by "an island of a State bordering the strait and its mainland . . . [when] there exists seaward of the island a route through the high seas or through an exclusive economic zone of similar convenience with respect to navigational and hydrographical characteristics."²³⁰ Examples of island exception straits include the Pemba Strait (between Pemba Island and the Tanzanian mainland) and the Messina Strait (between the Italian mainland and Sicily).²³¹ Article 45 also governs those straits that lie "between a part of the high seas or an exclusive economic zone and the territorial sea of a foreign State."²³² This category includes the Strait of Tiran, Head Harbor Passage, the Strait of Georgia, and the Gulf of Honduras, "all of which are overlapped by a 3-mile territorial sea."²³³ The entire category of straits is governed by the principle of "nonsuspendable innocent passage" pursuant to article 45 and part II, section 3 of the LOS Convention.²³⁴ This principle was first established under the 1958 Convention on the Territorial Sea and the Contiguous Zone.²³⁵ Vessel-source pollution in these straits is also governed by article 211.²³⁶

In addition, part XII²³⁷ of the LOS Convention contains the traditional safeguards of marine pollution regulations. Article 233 specifically provides for "[s]afeguards with respect to straits used for international navigation."²³⁸

228. *Id.* art. 43(b). It should also be noted that "straits in archipelagic waters would be governed by the equivalent regime of archipelagic sea lanes passage." Moore, *supra* note 214, at 111.

229. Moore, *supra* note 214, at 111; LOS Convention, *supra* note 36, art. 45.

230. LOS Convention, *supra* note 36, art. 38, para. 1; *see* Moore, *supra* note 214, at 111.

231. Moore, *supra* note 214, at 112.

232. LOS Convention, *supra* note 36, art. 45, para. 1(b).

233. Moore, *supra* note 214, at 112.

234. *Id.* at 111-12; *see* LOS Convention, *supra* note 36, arts. 17-32, 45.

235. *Done* Apr. 29, 1958, 15 U.S.T. 1606, T.I.A.S. No. 5639, 516 U.N.T.S. 205 (entered into force for the United States Sept. 10, 1964).

236. LOS Convention, *supra* note 36, art. 211.

237. *Id.* arts. 192-237.

238. *Id.* art. 233.

[I]f a foreign ship other than those referred to in section 10 [warships] has committed a violation of the laws and regulations referred to in article 42, paragraph 1(a) and (b), causing or threatening major damage to the marine environment of the straits, the States bordering the straits may take appropriate enforcement measures and if so shall respect *mutatis mutandis* the provisions of this section.²³⁹

A vessel's right of innocent passage is superior to the right of a bordering strait state to protect the marine environment. In any conflict between the rights of innocent passage or of transit passage and the right to protect the marine environment, the freedoms of navigation must prevail.²⁴⁰

D. The Territorial Sea

1. Regulation of Vessel-Source Pollution

Territorial seas have traditionally been considered to be extensions of the national sovereignty of coastal states. The maximum territorial sea that can be claimed pursuant to article 3 of the LOS Convention is twelve nautical miles.²⁴¹ The ICNT/Rev.1²⁴² strengthened the international rule of innocent passage through territorial seas,²⁴³ and a coastal state's "regulatory competence over pollution from vessels in innocent passage [was] . . . clarified to balance environmental concerns and protection of navigational rights."²⁴⁴ Article 21, paragraph 1(f) of the LOS Convention provides that with respect to innocent passage, a coastal state may make laws for "the preservation of the environment of the coastal State and the prevention, reduction and control of pollution thereof . . ."²⁴⁵ Paragraph 2, however, adds that "[s]uch laws and regulations shall not apply to the design, construction, manning or equipment of foreign ships unless they are giving effect to generally accepted international rules or standards."²⁴⁶ Pursuant to article 211 of the LOS Convention, coastal states may regulate vessel-source pollution within their territorial seas,

239. *Id.*

240. *See, e.g., supra* text accompanying notes 225-26.

241. LOS Convention, *supra* note 36, art. 3.

242. *See supra* note 185.

243. Moore, *supra* note 214, at 116.

244. *Id.*

245. LOS Convention, *supra* note 36, art. 21, para. 1(f).

246. *Id.* art. 21, para. 2; Moore, *supra* note 214, at 116.

but they may not interfere with a vessel's right of innocent passage.²⁴⁷

2. *Flag-State, Port-State, and Coastal-State Enforcement*

Primary enforcement of vessel-source pollution is vested in the flag state under article 217,²⁴⁸ while secondary enforcement is vested in the coastal state under article 220.²⁴⁹ Article 220 provides that a coastal state may institute proceedings for violations of its national standards or IMCO's regulations involving vessel-source pollution in the territorial sea or in the economic zone of that coastal state, against vessels voluntarily in a port or off-shore terminal of the state.²⁵⁰

Article 220, paragraph 2, provides the additional enforcement powers of inspection and detention to coastal states when clear grounds exist for believing that a vessel has violated a state's regulation.²⁵¹ The remaining coastal state provisions found in article

247. LOS Convention, *supra* note 36, art. 211, para. 4. This paragraph states:

Coastal States may, in the exercise of their sovereignty within their territorial sea, adopt laws and regulations for the prevention, reduction and control of marine pollution from foreign vessels, including vessels exercising the right of innocent passage. Such laws and regulations shall, in accordance with Part II, section 3, not hamper innocent passage of foreign vessels.

Id.

At first, this provision appears to be contradictory, but the conflict disappears when it is read within the context of the "innocent passage" section to which it refers; namely, part II, section 3 of the LOS Convention. *Id.* arts. 17-32. The paragraph immediately preceding this provision also adds perspective by specifically maintaining a vessel's right of innocent passage. *Id.* art. 211, para. 3. The clear intent of article 211 is to allow coastal state regulation of vessel-source pollution in their territorial sea, but to subordinate this right to the right of innocent passage.

248. *Id.* art. 217.

249. *Id.* art. 220; see *infra* notes 260-62 and accompanying text (concerning a flag state's jurisdictional priorities).

250. *Id.* art. 220, para. 1.

251. *Id.* art. 220, para. 2. Paragraph 2 states:

Where there are clear grounds for believing that a vessel navigating in the territorial sea of a State has, during its passage therein, violated laws and regulations of that State adopted in accordance with this Convention or applicable international rules and standards for the prevention, reduction and control of pollution from vessels, that State, without prejudice to the application of the relevant provisions of Part II, section 3, may undertake physical inspection of the vessel relating to the violation and may, where

220 apply equally to any specially adopted rules and regulations promulgated pursuant to article 211, paragraph 6.²⁵² There is even less reason for interpreting these provisions as interfering with the right of transit or the innocent passage of ships since individual oil discharges can now be scientifically traced to specific ships.²⁵³

E. The Economic Zone

Within its exclusive economic zone, a coastal state may not promulgate stricter regulations than those established by IMCO (except in ice-covered areas or for ocean dumping), but it may adopt regulations that adhere to IMCO's standards.²⁵⁴ The gravamen of article 211, paragraph 5, is to regulate pollution in economic zones by giving effect to the IMCO regulations.²⁵⁵ As indicated earlier, article 220, paragraph 1, allows a coastal state to take action if a polluting ship is voluntarily within its port.²⁵⁶ In addition, a coastal state may demand information from a vessel,²⁵⁷ physically inspect it,²⁵⁸ or detain and institute proceedings against a vessel²⁵⁹ if, among other requirements, there are clear grounds for believing that a violation of applicable IMCO rules or standards has occurred. Primary enforcement responsibility, however, still re-

the evidence so warrants, institute proceedings, including detention of the vessel, in accordance with its laws, subject to the provisions of section 7.

Id.

252. *Id.* art. 220, para. 8. This provision emphasizes the importance of marine sanctuaries by directing the application of paragraphs 3 through 7 of article 220 to the "special marine areas" provision found in article 211, paragraph 6.

253. Various methods may be employed, including infrared spectroscopy, fluorescence spectroscopy, gas chromatography, and thin-layer chromatography. The U.S. Coast Guard has developed an oil spill identification system which utilizes these methods. See U.S. COAST GUARD RESEARCH & DEV. CENTER, OIL SPILL IDENTIFICATION SYSTEM (Nat'l Technical Information Services Report No. ADA-044-750 1977). These methods have attained general acceptance among the scientific and legal communities. The American Society for Testing and Materials (ASTM) has promulgated consensus standards regarding use of these methods in its standard ASTM D-3328.

254. LOS Convention, *supra* note 36, art. 211, para. 5.

255. *Id.*

256. See *supra* text accompanying note 247.

257. LOS Convention, *supra* note 36, art. 220, para. 3.

258. *Id.* art. 220, para. 5.

259. *Id.* art. 220, para. 6.

sides with the flag state under article 217,²⁶⁰ and extensive coastal state enforcement provisions of article 220 are generally secondary.²⁶¹ In fact, subject to certain limitations, a flag state may preempt the jurisdiction of a coastal state pursuant to article 228.²⁶²

F. The High Seas

Article 211, paragraphs 1 and 2, of the LOS Convention delegate to IMCO the authority to regulate vessel-source pollution on the high seas.²⁶³ Primary authority for enforcement is vested in the flag state under article 211, paragraph 2,²⁶⁴ and under the general provisions of article 217.²⁶⁵ Secondary enforcement by port states is authorized under article 218,²⁶⁶ which provides:

When a vessel is voluntarily within a port or at an off-shore terminal of a State, that State may undertake investigations and, where the evidence so warrants, institute proceedings in respect of any discharge from that vessel outside the internal waters, territorial sea, or exclusive economic zone of that State in violation of applicable international rules and standards established through the competent international organization [IMCO] or general diplomatic conference.²⁶⁷

The flag state or another state damaged or threatened by a violation may request that the port state institute proceedings,²⁶⁸ investigate violations,²⁶⁹ transfer records (to the flag state or coastal state),²⁷⁰ or even transfer jurisdiction over an alleged violation to the coastal state.²⁷¹ Under article 228, the flag state may also seize jurisdiction from the coastal state under particular circumstances.²⁷²

260. *Id.* art. 217.

261. *See id.* art. 220.

262. *Id.* art. 228.

263. *Id.* art. 211, paras. 1-2.

264. *Id.* art. 211, para. 2.

265. *Id.* art. 217.

266. *Id.* art. 218.

267. *Id.* art. 218, para. 1.

268. *Id.* art. 218, para. 2.

269. *Id.* art. 218, para. 3.

270. *Id.* art. 218, para. 4.

271. *Id.*

272. *Id.* art. 228.

G. Special Areas in the Oceans: Marine Sanctuaries

The idea of "wilderness areas" in the oceans gained momentum throughout the 1970s. A better term for these regions may be "marine sanctuaries," because under the United States concept of domestic "wilderness areas," mechanized travel is forbidden, but mechanized travel would never be restricted in a marine sanctuary. Discharges allowed in these areas, however, would be limited. Portions of ice-covered areas may be designated as marine sanctuaries, but simply because an area is ice-covered should not necessarily mean that it should automatically be designated a sanctuary. The delineation is specifically outlined in article 234 of the LOS Convention, which governs ice-covered areas and seeks to maintain the freedoms of navigation in those areas.²⁷³

The main provision setting aside "special marine areas" for vessel-source pollution in economic zones is article 211, paragraph 6.²⁷⁴ The provision allows a coastal state to establish a special marine area when there exists "recognized technical reasons in relation to . . . oceanographical and ecological conditions, as well as [when the] utilization or the protection of [the coastal state's] resources and the particular character of its traffic . . . justify the protective action."²⁷⁵ The establishment of a special marine area must be accomplished through IMCO and in accordance with IMCO's standards.²⁷⁶ Although the administrative burden of establishing such an area may be onerous,²⁷⁷ it is justified by the partial abrogation of traditional freedoms of navigation. A major portion of article 220, relating to enforcement by coastal states, also applies to this section.²⁷⁸

IV. POLICY ALTERNATIVES AND RECOMMENDATIONS

In the centuries since Grotius, the scope and contours of the marine pollution problem have changed significantly, yet attitudes remain basically unaltered. Until the 1970s, the problem of ocean pollution was considered to be insignificant because the

273. *Id.* art. 234. For a discussion of the treatment of ice-covered areas, see *supra* notes 158-65 and accompanying text.

274. LOS Convention, *supra* note 36, art. 211, para. 6.

275. *Id.*

276. *Id.*

277. Scientific and technical data in support of the submitting state's proposal must be included. *Id.*

278. See *supra* note 249 and accompanying text.

ocean was thought to be able to absorb an unlimited amount of pollution. If the oceans are to survive as a cradle of life, these views will have to change. The countries of the world must strive to protect the seas from oil and other hazardous substances.

Cleanup technologies must keep pace with new developments in the oil industry to ensure an effective response to oil spills. Greater emphasis should be placed on the effects of petroleum on the marine environment. In addition, a new approach should be taken for cleaning up international oil spills—the formation and utilization of cooperatives. Joint efforts to curb an oil spill's damaging effects would be much faster and more effective than relying solely on either the company responsible for the spill or the country affected by it. Economies of scale and the sharing of technologies and experience would be just a few of the possible advantages of cooperative efforts. In fact, the 1977 Oil Spill Conference recommended greater consultation between cleanup specialists and biologists.²⁷⁹ Biologists can contribute valuable information concerning sensitive marine areas. Consultation with them could decrease the number of decisions that need to be made when an oil spill occurs, resulting in a faster, more effective cleanup with less environmental damage.²⁸⁰

No organization can better organize these cooperatives than IMCO. Comprised of over one-hundred states, IMCO's membership includes all of the major shipping countries.²⁸¹ Member nations have the capability to implement comprehensive and consistent pollution regulations through IMCO conventions. Several actions are needed, however, to derive maximum benefit from the proposed enactment of these regulations. First, member states should ratify and implement those conventions that are not yet in force. Second, the existing methods for eliminating substandard tankers must be improved.²⁸² IMCO should have the power to inspect tankers worldwide and to enforce the safety and pollution standards of member states. Such power is not unprecedented in international law; for example, the International Civil Aviation Organization has regulatory power over international airspace.²⁸³

279. SPILL CONFERENCE, *supra* note 92, at 114.

280. *Id.*

281. *Id.* at 7.

282. *Id.* at 10.

283. *U.S. Gives Position on Seabed Regime, Scientific Research, Straits, and Economic Zone at Law of the Sea Conference*, 71 DEP'T ST. BULL. 402, 410

IMCO needs similar power over international waters and ports.²⁸⁴ This power would provide the basis for uniform and effective enforcement of worldwide rules and standards by a nonpartisan organization.

It is essential that the new evolving ocean law carefully balance the world community's interest in freedom of navigation, the right of coastal states to protect their maritime resources, and the paramount interest in preserving the oceans.²⁸⁵ These policy objectives make international control through IMCO preferable to unilateral coastal state control for many reasons. A system permitting the 130 coastal states to establish individual CDEM standards would be inefficient and would make ship operation impossible regardless of the reasonableness of individual CDEM standards.²⁸⁶ A system of 130 different CDEM standards would undermine the need for stability of expectations and would increase costs by reducing the flexibility of vessels to interchange voyages and routes.²⁸⁷ The establishment of international stan-

(1974) (statement of John Norton Moore, Deputy Special Representative of the President and deputy chairman of the United States delegation to the Third U.N. Law of the Sea Conference, made before Committee II) [hereinafter cited as Committee II Statement].

284. See LOS Convention, *supra* note 36, arts. 211, 217. The LOS Convention granted IMCO some power to regulate vessel-source pollution, but not exclusive authority. It is generally agreed that IMCO is intended to be the "competent international organization" within the articles of the LOS Convention covering vessel-source pollution. See *supra* note 188 and accompanying text. The use of the plural term "international organizations" in article 211, paragraph 5, of ICNT/Rev.1, *supra* note 182, was an obvious typographical error, but its presence jeopardized the intent of UNCLOS III to utilize IMCO as the sole "international organization" for regulating vessel-source pollution. In the fall of 1979, the need for the singular "international organization" in article 211 was brought to the attention of Bernard Oxman, who was working on this section for the United States Delegation to UNCLOS III, and the typographical error was remedied in the subsequent revision. ICNT/Rev.2, *supra* note 182; see Moore, *supra* note 5, at 41.

285. The following four major types of claims reduce navigational freedom and affect the regulation of vessel-source pollution: (1) the regulation of transit through straits; (2) the regulation of transit through "archipelagic sealanes;" (3) the control of vessel-source pollution within two-hundred nautical mile fishing zones or "economic zones;" and (4) the control of navigation in certain unilaterally-declared "special areas" or "pollution control zones." Moore, *supra* note 5, at 40.

286. *Id.*

287. *Id.*

dards through IMCO enhances rapid global responses to innovative technological changes, which more effectively protects the environment while simultaneously lowering the costs of that protection.²⁸⁸ There are equally effective lower cost policy options for dealing with vessel-source pollution through both IMCO and strengthened flag-state and port-state approaches.²⁸⁹ Coastal-state standard setting is more likely to result in political discrimination and invidious economic advantage or disadvantage and thus increase the possibilities for conflict.²⁹⁰ Because more than half of all coastal states are totally zone-locked by two-hundred mile territorial zones, coastal-state standard setting could seriously impair the "oceans access independence" of the zone-locked states.²⁹¹ The "demonstration effect" of allowing coastal-state control over vessel-source pollution would encourage "creeping territoriality" over other navigational freedoms and would encroach upon the common community interest in the oceans.²⁹² Standard setting by individual states is also undemocratic, whereas setting international standards permits participation by all concerned states.²⁹³ Finally, international standards also increase environmental protection on a global basis because vessel-source pollution often crosses the boundaries of national resource jurisdiction.²⁹⁴

288. *Id.* at 40.

289. Moore, *supra* note 5, at 41.

290. *Id.*

291. *Id.* at 40-41. See *U.S. Presents Proposals at Preparatory Session for Law of the Sea Conference*, 69 DEP'T ST. BULL. 397, 410-11 (1973) (statement by John Norton Moore, vice chairman of the United States delegation, made to the Main Committee of the U.N. Committee on the Peaceful Uses of the Seabed and the Ocean Floor Beyond the Limits of National Jurisdiction).

292. *Id.* at 41.

293. *Id.* at 40.

294. *Id.* at 41. Within the United States, there are important policy reasons for supporting international uniformity in setting standards to govern vessel-source pollution. They include: (1) standard setting by a multiplicity of national jurisdictions can result in unnecessary costs and sometimes contradictory requirements for ship design, construction, and operation; (2) diverse national jurisdiction over vessel-source pollution could be used to severely threaten navigational freedom on the world's oceans—a concern of vital importance to the United States as a major maritime power; (3) ocean pollution knows no national frontiers, and a focus on effective solutions requires an international forum; (4) a single international body for the regulation of vessel-source pollution and safety standards can respond more rapidly and cost-effectively to advances in knowledge and can build on a worldwide technological base; (5) a single international

Naturally, the single body for setting international pollution standards should be IMCO. Because the United States will probably not ratify the LOS Convention for several years, if ever, the United States should preempt the vessel-source pollution standards of state and local governments. This federal preemption should also be a part of any United States ratification of, or participation in, the Brussels Liability Convention or other international conventions sponsored by IMCO. In the interim, the Justice Department, the Transportation Department, and the Department of State should all adopt the policy that state and local attempts to control vessel-source pollution are unconstitutional exercises of extraterritorial jurisdiction.²⁹⁵

Two other recommendations merit consideration. First, the interface between resource jurisdiction and navigation reflected in articles 55, 56, 58, 59 and 86 of ICNT/Rev.2,²⁹⁶ and retained in the LOS Convention, is unacceptably vague. The drafters did not intend that coastal states would have the right to interfere with, or to control, navigation in their economic zones.²⁹⁷ The poor statutory language that exacerbates this problem should be changed.²⁹⁸ Second, the rush to reach an agreement in UNCLOS III resulted in the failure to satisfactorily resolve some issues by clouding them in textual ambiguity.²⁹⁹ During the UNCLOS III negotiations about ICNT/Rev.2, it became apparent that UNCLOS III came close to reaching "a good agreement," and it was "imperative that the needed time be taken to resolve remaining problems."³⁰⁰ Unfortunately, that advice went largely unheeded, and the LOS Convention still retains unnecessary ambiguities in

body permits all affected nations to have a voice in any decision and, therefore, is more democratic than regulating nonflag or nonport vessels in transit; and (6) a single set of standards promotes competitive fairness in shipping and decreases the potential for uneconomic non-tariff barriers or selective disincentives because of more lax or stringent national laws. Address by Professor John Norton Moore to the Southeastern Admiralty Law Institute, in Atlanta, Georgia (June 19-20, 1981) (copy on file at Center for Oceans Law and Policy, University of Virginia Law School).

295. *See id.*

296. ICNT/Rev.2, *supra* note 182, arts. 55, 56, 58, 59, 86.

297. Moore, *supra* note 5, at 41.

298. *Id.*

299. *Id.*

300. *Id.* The problems included assured access to deep seabed minerals, the status of the "economic zone," article 65 on marine mammals, balanced delimitation of the continental margin, and marine scientific research. *Id.*

defining the environmental rights and duties of flag states, coastal states, and port states in regard to vessel-source pollution.