Custom and Land-Based Pollution of the High Seas*

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Until very recently, States have paid little attention to the control of pollution originating on land which threatens the high seas. However, in the past few years the international community has taken the first tentative steps toward an international order for the control of land-based high seas pollution. This Article examines the foundations in customary international law for these steps. In particular, it reviews evidence of State practice in analogous areas of international law, the protests of States, treaties, judicial decisions, activities of the United Nations, declarations of international bodies and published commentary to determine whether existing customary international law norms are applicable to the pollution of the high seas from land-based sources.

INTRODUCTION AND DEFINITIONS

The purpose of this Article is to explore existing legal sources to determine whether customary international law applies to land-based pollution of the high seas. The concern here is not with the substance of any *lex specialis* between particular States but rather with a broader survey of customary international law. Is there any norm of customary international law prohibiting land-based pollution of the high seas which an international tribunal or the International Court could apply if this legal question came before it? Or is there a legal vacuum? Assuming that legal control of land-based pollution of the high seas by its nature is better effectuated by preventive measures taken through inter-State cooperation rather

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than by post-delictual assignments of responsibility through the judicial process, perhaps it is more appropriate to ask if there is any customary international law which would oblige States to undertake land-based pollution control on their own by suitable non-adversary means.

While it may be true that customary international law rarely provides detailed mechanisms or standards necessary for the precise regulation of the rights and duties of States in a given area of international law, its importance should not be underestimated. If customary international law does postulate an obligation not to pollute the high seas from land-based sources, then it follows that States would have on the one hand the duty among themselves to develop the necessary competence and machinery to implement fundamental legal norms and on the other hand the correlative right to a pollution-free high seas. Thus, customary international law, if it may be said to exist, both points out the general norms which States should follow and provides a legal right for States to protect and preserve the high seas from land-based pollution.

To write of land-based pollution of the high seas is to address a relatively new topic. Only in the last decade or so have we realized that our activities may threaten the environment, and the body of hard scientific information on the subject is only now being formed. Accumulation of information on effects that our activities have on the marine environment is particularly troublesome, given the great size of the world's oceans and our relative ignorance about what takes place in and under the sea. This is especially true of the high seas, the largest ocean area, located far from land and under no one's jurisdiction.

The initial study of marine environmental harm has tended to track recognition of the first signs of this harm. These signs become manifest more readily near the coast and in smaller, enclosed or semi-enclosed ocean areas surrounded by industrialized States which are dependent on the sea's resources and which have a stake in preserving and protecting their present and future use of the sea. There are strong indications, however, that much of the land-based waste deposited in the coastal sea margins has potentially adverse implications for the high seas, both as a result of damage done to the coastal seas and because some of that waste is carried by the tides and currents to the high seas. In addition, much land-based waste bypasses coastal areas and is deposited in the high seas either directly by pipeline and dumping from ships or indirectly through the atmosphere.

As States act to preserve and protect their land and adjacent sea territory from pollution, they will understandably look increasingly

to the high seas as a repository for land-based waste. And as the resource base of the high seas inevitably expands, many of the same conflicts which presently exist between the use of coastal margins as a waste receptacle and exploitation of coastal margin resources will arise also in the high seas.

Definition of Land-Based Pollution of the High Seas

Land-based pollution of the high seas is a component of marine pollution. It has been widely defined by the international community as follows:

> The introduction by men, directly or indirectly, of substances or energy into the marine environment, including estuaries, resulting in such deleterious effects as: harm to living resources, hazard to human health, hindrance to marine activity including fishing, impairment of quality for use of sea water and reduction of amenities.[1]

This definition places two important limitations on all marine pollution, including land-based pollution of the high seas. First, marine pollution is limited to the activities of mankind. The qualifying phrase, "[t]he introduction by men," excludes from the definition "pollution" emanating from natural causes no matter how harmful it may be to the marine environment. Examples of nonhuman marine pollution are the constant natural seepage of oil and other minerals from land, above and below sea level, into the oceans, and foreign chemicals like sulphur and other materials introduced into the sea by irregular phenomena such as volcanoes and earthquakes. A primary reason for their exclusion from marine pollution is that these natural events are presently beyond human control. However, "natural pollution" cannot be ignored as it must be taken into account when estimating what the ocean can realistically absorb from human pollution.

Second, marine pollution does not include all matter introduced to the sea by mankind. To qualify as marine pollution, substances discharged must have a "deleterious effect" on the marine environment

1. This definition was adopted by the Stockholm Conference on the Human Environment held in 1972, Report of the United Nations Conference on the Human Environment, U.N. Doc. A/Conf. 48/14 and Corrigenda 1 (1972); it was subsequently endorsed by the United Nations General Assembly, G.A. Res. 2994-3004, 27 U.N. GAOR, Supp. (No. 30) 42-48, U.N. Doc. A/8730 (1972); and it has also been used by the Paris, Helsinki and Barcelona Conventions, discussed in text accompanying notes 111-30 *infra*. This definition was also adopted by the Sixth Session of the United Nations Law of the Sea Conference held in New York, May 23-July 15, 1977, in its July 15, 1977, Informal Composite Negotiating Text, A/Conf. 62/WP. 10, art. 1(4). It should be noted that the Text refined the definition by including as marine pollution substances or energy "which results *or is likely to result*" in deleterious effects. *Id.* (emphasis added).

(several examples of which are referred to in the definition quoted above).[2] This important qualification implies that the marine environment may be legitimately used as a receptacle for our nondeleterious land-based waste from all sources in recognition that waste disposal is a necessary consequence of our existence. In many instances disposal of waste into the marine environment produces little or no consequential damage, and in certain situations it may even result in some benefit.[3] Thus, it follows that the introduction of waste into the marine environment which causes no material damage is lawful per se.[4]

Marine pollution results from both land-based and ocean-based activities. The latter derives from operational vessel discharges and all resource exploitation carried out in or on the ocean floor. The former encompasses all our land-based activities having a deleterious effect on the sea. Some land-based pollution, for example, is carried into the air and washed out in rain either over neighboring seas or over land and then carried to sea after run-off into rivers or coastal waters. Some of it is discharged through sewer outfalls into coastal waters. Some is dumped from ships and some reaches the sea through rivers. Land-based pollutants are usually to be found in oil waste, domestic, municipal and agricultural waste, industrial waste and thermal waste.

The final resting place of many of these land-based marine pollutants is the high seas, which are defined simply as "all parts of the sea that are not included in the territorial sea or in the internal waters of States."[5] The high seas have also been referred to as "the open sea beyond and adjacent to the territorial sea, which is subject to the exclusive jurisdiction of no one nation."[6] It should be noted that this definition could be affected by the emerging concept of a "patrimonial sea," presently the subject of debate at the continuing Third United Nations Conference on the Law of the Sea. If adopted it

2. Thus, throughout this Article reference to "land-based pollution" means only waste causing demonstrable real or prospective material damage.

3. For example, thermal waste from an electric power station situated on the south English coast has enabled a new species of clam to establish itself for the first time in British waters. ROYAL COMMISSION ON ENVIRONMENTAL POLLUTION, THIRD REPORT: POLLUTION IN SOME BRITISH ESTUARIES AND COASTAL WATERS 107 (Annex A 1972).

4. It is conceivable that a State might assert a marine pollution claim against another State based on moral injury for violation of its territorial integrity by the mere act of waste disposal (as opposed to pollution). Here there might be some question as to whether proof of material damage is a necessary element of "legal injury." *See* Handl, *Territorial Sovereignty and the Problem of Transnational Pollution*, 60 AM. J. INT'L L. 50 (1975).

5. Convention on the High Seas, *done at* Geneva, Apr. 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82.

6. 1 A. SHALOWITZ, SHORE AND SEA BOUNDARIES 300 (1962).

would consist roughly of a belt of sea and seabed up to 200 miles in width lying seaward and adjacent to the territorial sea over which the littoral State would have exclusive resources jurisdiction. The effect a patrimonial sea would have on the high seas in relation to land-based pollution is uncertain. It might well result in the increased use of a geographically reduced high seas for disposal of land-based polluting waste by littoral States which naturally would be reluctant to foul their own economic resources zones.[7]

Definition of Customary International Law

Before one attempts to determine whether customary international law embraces a general prohibition against land-based pollution of the high seas, the initial hurdle of defining customary international law must be cleared. The problem of definition is one which has continued to bother the International Court of Justice (ICJ), tribunals and publicists alike. It is not unlike the situation faced by the United States Supreme Court in attempting to define obscenity. To paraphrase Mr. Justice Stewart, "I can't define it, but I know it when I see it."[8] There is general agreement (although it is by no means unanimous) that the most suitable definition of customary international law requires the presence of two interrelated elements: the general practice of States and the acceptance of the general practice as law. However, there exists considerable controversy about the meaning, weight and scope to be assigned to each element.

General Practice of States

The "general practice of States" contains two self-evident qualifications on practice: "of States" and "general." The "of States"

7. The N.Y. Times, Jan. 6, 1978, § A, at 1, col. 2, reported that a "major clash" is developing concerning objections of "high-level" diplomatic, defense and Law of the Sea Conference officials to enforcement efforts by the Environmental Protection Agency of a recent amendment to the Clean Water Act prohibiting dumping of oil and other hazardous substances within 200 miles of the United States' coast. In 1969 the International Council for the Exploration of the Sea reported in a similar vein with regard to West Germany:

> The Federal Republic has very little industry near the coast and there are no important industrial discharges directly to the sea. The main industries of the Federal Republic at present discharge their effluent to inland waterways, but under the new laws for pollution control much of the present pollution will have to stop. As a result many industries are turning to sea disposal as an alternative. Since coastal water pollution is now also controlled this sometimes means dumping beyond coastal waters.

REPORT OF THE ICES WORKING GROUP ON POLLUTION OF THE NORTH SEA, COOPERATIVE RESEARCH REPORT 12, § A, No. 13 (1969).

8. Jacobellis v. Ohio, 378 U.S. 184, 197 (1964).

qualification eliminates the acts of private organizations, decisions of the ICJ and tribunals, the writings of publicists and so forth, from a vanguard role either in the formation of customary international law or in the confirmation of the continuing application of existing customary international law norms to new situations. However, the response of States to the acts and views espoused by these "non-States" may indeed qualify as State practice. For example, compliance by litigant States with decisions of the ICJ and reliance by members of the international community on its pronouncements concerning customary international law certainly constitute State practice. In addition, appropriate "non-State" activity may play an important subsidiary, evidentiary role in affirming the existence of customary international law. Reliance on this sort of evidence is not to be undervalued. Although pertinent "non-State" activity may not create custom in the strict sense, it may serve as a useful pair of legal spectacles through which one can see that customary international law has emerged.

State practice is comprised of both positive and negative acts. The latter is usually expressed in the form of protest by States and may be found in diplomatic notes,[9] instructions to a State's own executive bodies (ambassadors, envoys, armed forces and so forth) and pleadings before the ICJ and tribunals and the like. At present, however, protests against land-based pollution of the high seas have not been frequent. This might be explained by the "newness" of the problem, the difficulty of acquiring proof—both of the resulting injury to the high seas and of the land origin of the pollution—and the fact that protest is not the most effective means of pollution control. As a practical matter pollution is best controlled through inter-State cooperation and joint action. Thus, practice is more likely to be reflected through the positive acts of States in attempting to effectuate inter-State pollution controls. However, there do exist some clear examples of negative practice, one of which is to be found in Australia's and New Zealand's pleadings submitted to the ICJ protesting against land-based pollution of the high seas by France in the *Nuclear Tests Case*.[10]

Positive State practice includes participation in bilateral and multilateral treaties and agreements, municipal laws and municipal judicial decisions which rely either principally or in relevant part on international law. Treaties inherently raise the problem of determining when they reflect the recognition of a pre-existing custom and

9. At least one publicist questions the utility of relying on diplomatic correspondence in any event. A. D'AMATO, THE CONCEPT OF CUSTOM IN INTERNATIONAL LAW 50-51 (1971).

10. [1974] I.C.J. 253.

when they reflect an intention to adopt entirely new obligations. This problem may often be resolved by evidence of customary international law existing outside the treaty, by the number of parties to a treaty, or by the number of treaties with the same asserted norm incorporated uniformly in the various agreements. With regard to municipal legislation and court judgments, caution must be exercised to differentiate between the purely municipal law grounds and the international law bases of statutes and decisions. Nevertheless, State practice reflected by municipal law is relevant to the formation of customary international law. As De Visscher has said: "Such internal acts are relevant in that they are to be taken into consideration when the number and importance of parallel instances justify regarding them as a line of conduct adopted by States in the belief that it is in conformity with international law."[11] However, considerable mechanical difficulties of assembly are encountered when one attempts to construct this line of conduct for a particular customary international law rule. These difficulties, combined with the equally difficult problem of separating out the purely municipal law grounds of court decisions, may explain, in part, the absence of greater reliance on municipal law in custom formation.

The other qualification on State practice is that it be general. This requires a distinction between local and general custom.[12] It is conceivable that, for geographic or other reasons, a customary international law rule may be confined to a particular group of States, in which case generality of practice need be established only for these States. On the whole, special or local custom presents no generality problem other than defining the group of States said to be affected by the special customary rule and determining whether all States within this group have consented to the custom. In contrast, a general customary rule of international law is applicable to all States, and the question arises: How general must the practice of States be to constitute customary international law?

With regard to general custom, a certain *amount* of State practice, accompanied by acquiescence of affected States in the practice or an absence of protest by other States, is necessary to give it life and substance. The nature and extent of the practice required in a given

11. C. DE VISSCHER, THEORY AND REALITY IN PUBLIC INTERNATIONAL LAW 158 (rev. ed. 1968).

12. *See* D'Amato, *The Concept of Special Custom in International Law*, 63 AM. J. INT'L L. 211 (1969); MacGibbon, *Customary International Law and Acquiescence*, [1957] 33 BRIT. Y.B. INT'L L. 115 (1962).

instance may vary according to particular legal and historical facts, though certainly universality of practice is not demanded in any case. In order for a new rule of customary international law to oust an existing rule of custom which has been well-established over a long period of time (for example, a proposed new rule of custom permitting a coastal State to exercise pollution control to a limit of 200 miles offshore), the generality requirement would be satisfied only by acts of a large number of States in support of the new rule demonstrating a consistent practice over a period of time.

However, the necessity for generality may not be as stringent where an existing customary international law obligation is adapted to new situations where there is no existing conflicting rule to supplant.[13] Here, customary international law may develop in a relatively short time[14] through the practice of those vanguard States which are in a position to act. For example, with regard to customary law formation and outer space, Thirlway has observed:

> [I]t is true that in regard to a branch of law of this kind, very little practice might be regarded as sufficient, and that the fact of only two States being at present in a position to contribute to the practice implies that the practice of those two States would, if it were consistent enough, be sufficient [to constitute customary international law].[15]

Historically, little attention has been paid to land-based pollution of the high seas, the earth's last great resource frontier, and it is only recently that States have begun to develop the scientific and technological capability to explore, measure, monitor, and diagnose pollution of the high seas. At present these efforts are limited to relatively few areas of the high seas, notably those contained in enclosed or semi-enclosed seas such as the Mediterranean, North and Baltic Seas,

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13. De Visscher, *Cours Général de Droit International Public*, ACADÉMIE DE DROIT INTERNATIONAL, 136 RECUEIL DES COURS 1, 69 (1972).

14. C. PARRY, THE SOURCES AND EVIDENCES OF INTERNATIONAL LAW 60 n.2 (1965) (citations omitted), contains the following footnote on the time requirement in custom formation:

> Judge Fitzmaurice says, however, that "A new rule of customary international law based on the practice of States can emerge very quickly, and even almost suddenly, if new circumstances have arisen which imperatively call for regulation though the time-factor is never wholly irrelevant . . . ." Brierly suggested to the International Law Commission that "in regard to the air, the moment the 1914 war broke out, the principle of sovereignty, which had been a matter of opinion up to then, was settled at once." Professor Jennings says: "It may be harmless to think . . . of the law of the continental shelf as a sort of hot-house forced custom even if it is rather quaint."

15. H. THIRLWAY, INTERNATIONAL CUSTOMARY LAW AND CODIFICATION 71 (1971), commenting on the prohibition against appropriation of celestial bodies contained in paragraph 3 of the 1963 Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, 18 U.N.

with the result that State practice of land-based pollution control in the high seas in the form of actual conduct is less than abundant. The opportunity to generate practice and thereby contribute to the adaptation of customary international law principles is limited at present to a relatively small number of States by scientific and technological barriers which are similar to the impediments placed on the opportunity to practice in outer space. This limitation is of little import if one is concerned with making a case for a local custom only. But if, considering both the potential for harm on a global basis and the international character of the high seas, one wishes to say that this limited practice supports a customary international law prohibition against pollution to all land-based activities affecting the entire high seas, then one must satisfy the generality requirement. Assuming the analogy to outer space is appropriate, the generality requirement may be fulfilled when there is consistent practice by States, as opportunities arise, and acquiescence by other States to that practice (for example, to the absence of protest about trespass by communication satellites in the territorial air space). As Kunz has said: "The practice must have been applied by the overwhelming majority of states *which hitherto had an opportunity of applying it*."[16]

Acceptance of the General Practice as Law

The psychological element of the acceptance of the general practice of States as law (*opinio juris*) has been a source of much debate among legal scholars. Some publicists consider that its presence as an element in the definition of custom, involving as it does the motives of States, renders a determination of customary international law too difficult[17] or too arbitrary.[18] Some writers have even suggested its presence in any form is unnecessary.[19] Despite such objections, *opinio juris* is generally considered by the ICJ and the

GAOR, Supp. (No. 15) 15, U.N. Doc. A/5515 (1963). Thirlway concludes that as no "use and occupation" had been undertaken by 1963, it was impossible to speak of crystallized rules of customary international law.

16. Kunz, *The Nature of Customary International Law*, 47 AM. J. INT'L L. 662, 666 (1953) (emphasis added).

17. Gihl, *The Legal Character and Sources of International Law*, 1 SCANDINAVIAN STUDIES IN LAW 53, 84 (1957).

18. Kelsen, *Théorie du droit international coutumier*, 1 REVUE INTERNATIONAL DE LA THÉORIE DU DROIT 253, 264-66 (1939).

19. Kopelmanas, *Custom as a Means of the Creation of International Law*, [1937] 18 BRIT. Y.B. INT'L L. 127 (1962).

majority of publicists as essential to distinguish between acts of States which are matters of courtesy and convenience (mere usage) and those acts which States believe possess some real or potential legal effect (custom).[20] However, even among those who agree about its necessity in defining customary international law, there are differences of opinion about its scope and meaning. D'Amato points out there is a school of publicists who imply that *opinio juris* is all—that it is "paramount, and the overt acts of [S]tates are at best the evidence of this implied consent (or at worst its illegal contradiction)."[21]

Perhaps the most realistic perspective of State practice and *opinio juris* is that neither the "material" nor the "psychological" element dominates and that one depends on the other for its demonstration. In other words, it is *opinio juris* which tests whether the sum of the practices dealing with land-based pollution of the high seas is accompanied by a sense of legal obligation, and, in turn, it is the general practice of States which helps one to decide by factual evidence the existence of *opinio juris*. Viewed in this light *opinio juris* is neither unnecessary nor the sole criterion in establishing customary international law. As Thirlway defines it:

> [T]he requirement of *opinio juris* is equivalent merely to the need for the practice in question to have been accompanied by either a sense of conforming with the law, or the view that the practice was potentially law, as suited to the needs of the international community, and not a mere matter of convenience or courtesy. . . . The psychological element would thus also include the view that if the practice in question was not required by the law, it was in the process of becoming so.[22]

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20. Article 38(1)(b) of the Court's Statute refers to "international custom . . . as evidence of a general practice accepted as law." The Statute of the Court, art. 38(1)(b), *reprinted in* DOCUMENTS ON THE INTERNATIONAL COURT OF JUSTICE 60, 77 (S. Rosenne ed. 1974). *See* The S.S. Lotus, [1927] P.C.I.J., ser. A, No. 10, at 3, 28; North Sea Continental Shelf Cases, [1969] I.C.J. 1. *See also* I. BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 7-9 (1973); C. DE VISSCHER, THEORY AND REALITY IN PUBLIC INTERNATIONAL LAW 154 (rev. ed. 1968). Judge Hudson includes *opinio juris* in his definition of customary international law submitted to the International Law Commission, Question of International Criminal Jurisdiction, U.N. Doc. A/CN. 4/16 (1950), *reprinted in* [1950] Y.B. INT'L L. COMM'N 26, U.N. Doc. A/CN. 4/Ser.A/1950/Add. 1. *See generally* C. PARRY, THE SOURCES AND EVIDENCES OF INTERNATIONAL LAW 61 (1965); H. THIRLWAY, INTERNATIONAL CUSTOMARY LAW AND CODIFICATION 46-60 (1972); Mosler, *The International Society as a Legal Community*, ACADÉMIE DE DROIT INTERNATIONAL, 140 RECUEIL DES COURS 1, 125-29 (1974).

21. A. D'AMATO, THE CONCEPT OF CUSTOM IN INTERNATIONAL LAW 50 (1971) (referring to Anzilotti, Corbett, Strupp, Tunkin and Cheng).

22. H. THIRLWAY, INTERNATIONAL CUSTOMARY LAW AND CODIFICATION 53-54 (1971). The International Court of Justice in the North Sea Continental Shelf Cases, [1969] I.C.J. 44, takes a more restrictive view of *opinio juris* with regard to the equidistance rule in the delimitation of the continental shelf. In the court's opinion,

> [n]ot only must the acts concerned amount to a settled practice, but they must also be such, or be carried out in such a way, as to be evidence of a belief that this practice is rendered obligatory by the existence of a rule of law requiring it. The need for such a belief, i.e., the existence of a subjective element, is implicit in the very notion of the *opinio juris sive*

Thirlway goes on to explain what, in his opinion, occurs as a rule of customary international law evolves:

> In effect, this view involves the reversal, chronologically speaking, of the expression *opinio juris sive necessitatis*, and entails considering that the States which initiate the practice which is to grow into a rule of customary international law act under the influence of an *opinio necessitatis*—but an opinion that the practice in question is necessary *as law*, not merely as a matter of convenience—, and that as a result of such practice a legal rule comes into being, so that States subsequently acting in accordance with it can be said to be acting in accordance with *opinio juris* in the strictest sense. The *opinio necessitatis* in the early stages is sufficient to create a rule of law, but its continued existence is dependent on subsequent practice accompanied by *opinio juris*, failing which the new-born rule will prove a sickly infant, and fail to survive for long.[23]

This would seem to be close to what actually happens. Initially, an *opinio necessitatis* is sufficient for the creation of a rule or the adaptation of an existing general principle of international law to new situations, but its continued existence or application depends on the ultimate establishment of an *opinio juris*.

Hermann Mosler takes a similar albeit a more expansive approach with regard to *opinio juris*:

> In order not to make the development of customary international law too difficult, it must be acknowledged that the acts of governments and their agents in relation to an evolving rule are indicative of that State's conviction that it must comply with a legal duty. But the existence of such a conviction cannot be expected in the early stages of the evolution of a custom. To require otherwise would be to insist upon the paradoxical need for a belief in the existence of a legal obligation as a pre-requisite for its actual creation.[24]

The view represented by Thirlway and Mosler might be said to accurately reflect what is happening with regard to land-based pollution of the high seas, where the initial reaction of States to the pollution problem may be said to be motivated by the belief that some law is needed in this area. Whether, as a result of any steps taken, States in the future may be said to be acting in accordance with *opinio juris* and hence assure the continued application of a customary international law rule not to pollute the high seas from land-based sources is a question which underlies the discussion be-

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necessitatis. The States concerned must therefore feel that they are conforming to what amounts to a legal obligation. The frequency, or even habitual character of the acts, is not in itself enough.

23. H. THIRLWAY, INTERNATIONAL CUSTOMARY LAW AND CODIFICATION 55-56 (1971).

24. Mosler, *The International Society as a Legal Community*, ACADÉMIE DE DROIT INTERNATIONAL, 140 RECUEIL DES COURS 1, 126-27 (1974).

low. That discussion focuses on analogous areas of international law (international rivers, air pollution, hostile expeditions and outer space), protests of States, treaties, judicial decisions, United Nations activities (the Stockholm Conference on the Human Environment, General Assembly Resolutions and the Third Conference on the Law of the Sea), declarations of regional organizations, municipal law, and the work of the International Law Association.

CUSTOMARY INTERNATIONAL LAW AND THE HIGH SEAS

The legal status of the high seas as free from any State's exclusive jurisdiction and thus a *res communis* reaches back to the 17th century and Hugo Grotius' *Mare Liberum*. Although Grotius' premise for a *res communis* high seas—the inexhaustibility of the high seas resources—turned out to be false, the concept of community ownership nevertheless survives to the present day. The essence of the notion of the freedom of the high seas this implies was put succinctly by Sir Hersch Lauterpacht as "the reasonably conceived principle of freedom of navigation and exploitation of their riches not dependeant for their protection and preservation upon the exclusive efforts of the coastal state."[25] The contradiction inherent in a high seas of limited size and resource potential with no protective jurisdiction over its use was commented on by O'Connell with specific reference to pollution:

> That the principle of the freedom of the high seas is inherently ambiguous may be gathered from analysis of the problem of pollution. On the one hand freedom may mean absence of constraint from discharging fuel oil; on the other it may mean competence to traverse and use an unpolluted sea. On either argument the freedom of the sea is the major premise.[26]

It is the accomodation of this sort of conflict which underlies any attempt by States to control land-based pollution of the high seas.

While it may be true that a growing body of international law exists to deal with ocean-based pollution,[27] which in certain respects

25. Lauterpacht, *Sovereignty Over Submarine Areas*, [1950] 27 BRIT. Y.B. INT'L L. 376, 378 (1962).

26. 2 D. O'CONNELL, INTERNATIONAL LAW 710 (1965).

27. The major conventions and agreements dealing with ocean-based pollution include International Convention for the Prevention of Pollution of the Sea by Oil, London, May 12, 1954, *in force* July 26, 1958 (amended in 1962, 1969 and 1971); Convention on the High Seas, *done at* Geneva, Apr. 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82, *in force* Sept. 30, 1962; Convention on the Territorial Sea and the Contiguous Zone, *done at* Geneva, Apr. 29, 1958, 15 U.S.T. 1606, T.I.A.S. No. 5639, 516 U.N.T.S. 205, *in force* Sept. 10, 1964; Convention on the Liability of Operators of Nuclear Ships, *done at* Brussels, May 25, 1962 (not yet in force), *reprinted in* BRITISH INSTITUTE OF INTERNATIONAL COMPARATIVE LAW, DEVELOPMENTS IN THE LAW OF THE SEA (1958-1964), at 196 (1965); Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer

overlaps into the area of land-based pollution, the majority of high seas pollution comes from land-based sources and remains largely uncontrolled.[28]

However, it cannot be denied that "the customary law of the sea is at present undergoing change in several respects."[29] This change is

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Space and Under Water, *done at* Moscow, Aug. 5, 1963, United States-United Kingdom-Soviet Union, *in force* Oct. 10, 1963, 14 U.S.T. 1313, 480 U.N.T.S. 45; Agreement Concerning Co-operation to Ensure Compliance with the Regulations for Preventing the Pollution of the Sea by Oil, *done at* Copenhagen, Dec. 8, 1967, *in force* Jan. 8, 1968, 620 U.N.T.S. 226; Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution (TOVALOP), *done at* London, Jan. 7, 1969, *reprinted in* 8 INT'L LEGAL MATERIALS 497 (1969); Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil, *done at* Bonn, June 9, 1969, *in force* Aug. 9, 1969, *reprinted in* 9 INT'L LEGAL MATERIALS 359 (1970); International Convention on Civil Liability for Oil Pollution Damage, *done at* Brussels, Nov. 29, 1969, *reprinted in* 9 INT'L LEGAL MATERIALS 45 (1970); Agreement Concerning Co-operation in Measures to Deal with Pollution of the Sea by Oil, *done at* Copenhagen, Dec. 17, 1971, *in force* Oct. 16, 1971, 822 U.N.T.S. 311, *reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 454 (U.N. Legislative Series 1974), U.N. Doc. ST/LEG/SER. B/16; Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, *done at* Brussels, Dec. 17, 1971, *reprinted in* 11 INT'L LEGAL MATERIALS 277 (1972); International Convention on the Establishment of an International Fund for Compensation for Oil Pollution Damage, *done at* Brussels, Dec. 18, 1971, *reprinted in* 11 INT'L LEGAL MATERIALS 284 (1972); Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, *done at* Oslo, Feb. 15, 1972, *reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 457 (U.N. Legislative Series 1974), U.N. Doc. ST/LEG/SER. B/16; Convention of the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, *done at* London, Mexico City, Moscow, & Washington, Dec. 29, 1972, *reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 464 (U.N. Legislative Series 1974), U.N. Doc. ST/LEG/SER. B/16; International Convention for the Prevention of Pollution from Ships, *done at* London, Nov. 2, 1973, *opened for signature* Jan. 15, 1974, *reprinted in* 12 INT'L LEGAL MATERIALS 1319 (1973); Convention on the Protection of the Marine Environment of the Baltic Sea Area, *done at* Helsinki, Mar. 22, 1974, *reprinted in* 13 INT'L LEGAL MATERIALS 544 (1974).

28. For example, with regard to oil pollution it has been estimated that discharges of oil from coastal refining, industrial and municipal waste, urban and river run-off and atmospheric rainout during the period 1969-1971 comprised 3,300,000 tons out of a total of 6,113,000 tons which reached the marine environment from all sources. This means that over one half (54%) of all marine oil pollution comes from land-based sources. UNITED STATES NATIONAL ACADEMY OF SCIENCE, PETROLEUM IN THE MARINE ENVIRONMENT 6 (1975). A more extravagant estimate is that land-based activities account for as much as 90% of all marine oil pollution. COMM. ON THE PEACEFUL USES OF THE SEA-BED & OCEAN FLOOR BEYOND THE LIMITS OF NATURAL JURISDICTION, COMPETENCE TO ESTABLISH STANDARDS FOR THE CONTROL OF VESSEL SOURCE POLLUTION 1, U.N. Doc. A/AC. 138/SC. III/L. 36, at 1 (1973) (working paper presented to the United Nations Sea Bed Committee by the United States).

29. Mosler, *The International Society as a Legal Community*, ACADÉMIE DE DROIT INTERNATIONAL, 140 RECUEIL DES COURS 1, 127 (1974).

confirmed by the recent decision of the ICJ with regard to fishing rights in the *Fisheries Jurisdiction* cases:

> Two concepts have crystallised as customary law in recent years. . . . The first is the concept of the fishery zone, the area in which a State may claim exclusive fishery jurisdiction independently of its territorial sea; the extension of that fishery zone up to a 12-mile limit from the baselines appears now to be generally accepted. The second is the concept of preferential rights of fishing in adjacent waters in favour of the coastal State in a situation of special dependence on its coastal fisheries, this preference operating in regard to other States concerned in the exploitation of the same fisheries. . . .[30]

Would the ICJ similarly be able to find that an obligation not to pollute the high seas from land-based sources has crystallized as a matter of customary international law or would it be forced to admit a legal lacuna? Perhaps more to the point is the situation in which certain States wish to prevent pollution through cooperation with others. Would these States be able to point to some customary international law norm prohibiting land-based pollution of the high seas, thereby assuring other States that participation in pollution control regimes would merely amount to compliance with existing international law?

Both courts and States in reaching decisions concerning international law would not be likely to admit there is no law. Rather it is almost certain that they would generally look to see if existing international law is applicable by analogy and specifically if there exists any direct evidence of international law principles applicable to land-based pollution of the high seas.

Analogies from Existing International Law: Applications of Sic Utere Tuo

The notion of State responsibility for pollution is a natural outgrowth of one of the basic premises upon which State responsibility rests and which is embodied in the general and well-recognized principle of international law, *sic utere tuo ut alienum non laedas* (one must so use his own as not to do injury to another).[31] This is one of those international law norms which necessarily arose to accommodate the conflicts inherent in the concept of the sovereign rights of States. It also has roots in both Roman law and the common law concept of nuisance.[32]

30. Fisheries Jurisdiction (United Kingdom v. Iceland) (Merits), [1974] I.C.J. 4, 23.

31. Corfu Channel Case, [1949] I.C.J. 4, 22.

32. The Roman law prohibition of *immissio*—that water, smoke, fragments of stone and the like were not allowed to be introduced from one person's property to a neighboring property—was a forerunner of *sic utere tuo*. The most famous common law adoption of the principle is to be found in Rylands v. Fletch-

The United Nations Secretariat confirmed the existence of this principle. In discussing the proposed codification of international law in 1949, the Secretariat stated: "There has been general recognition of the rule that a State must not permit the use of its territory for purposes injurious to the interests of other States in a manner contrary to international law."[33] The Secretariat cited as applications of the rule, *inter alia*, the law of international rivers, air pollution and hostile expeditions.[34] With regard to these applications of *sic utere tuo* the Secretariat further expressed the view that "[i]n reality they form part of one aspect of international law as to which there exists already a substantial body of practice . . . ."[35] In the nearly thirty years since the Secretariat's 1949 Report it may now be permissible to add the law of outer space to its list. Assuming the Secretariat's Report is correct, it is appropriate to inquire whether any of these applications of *sic utere tuo* would permit courts or States to say the principle by analogy also applies to land-based pollution of the high seas.

International Rivers

Perhaps the clearest example of the application of *sic utere tuo* to pollution is in the area of international rivers. Inasmuch as this topic has been the object of repeated study, it would serve little purpose to go into great detail here. The most concise summary for present purposes of the general obligation not to pollute as applied to international rivers through the practice of States is the commentary to the International Law Association's (ILA) Helsinki Rules on the Uses of the Waters of International Rivers.[36] The Helsinki Rules, on the basis of the practice of States and other evidences of international

er, 159 Eng. Rep. 737 (Ex. 1865), *rev'd.*, L.R. 1 Ex. 265 (1866), *aff'd*, L.R. 3 E. & I. App. 330 (1868).

33. UNITED NATIONS SECRETARIAT, SURVEY OF INTERNATIONAL LAW 34, U.N. Doc. A/CN. 4/1/Rev. 1 (1949).

34. *Id.* at 35.

35. *Id.*

36. International law imposes general limitations upon action that one State may take which would cause injury in the territory of another State. In the *Corfu Channel Case*, the International Court of Justice stated that international law obliges every State "not to allow knowingly its territory to be used for acts contrary to the rights of other States". The Secretary-General of the United Nations has expressed the view that "[t]here has been general recognition of the rule that a State must not permit the use of its territory for purposes injurious to the interest of other States in a manner contrary to international law." This statement is no more than a reflection of the principle *sic utere tuo ut alienum non laedas*—"one must so use his own as not to do injury to another". The

law, articulate "general rules of international law"[37] with regard to water pollution of international rivers.[38] Assuming that the Helsinki Rules represent an accurate statement of international law, one can say that international law has applied, with certain refinements, the general principle of *sic utere tuo* to pollution of international rivers.

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same general thread of principle runs throughout the range of State-to-State relationships.

As to the law of water pollution, recently this general principle was favourably referred to in the *Lake Lanoux* Arbitration between France and Spain. In discussing the division of waters of Lake Lanoux and possible bases of France's responsibility, the Tribunal stated: "It could have been argued that the works would bring about a definite pollution of the waters of the Canal or that the returned waters would have a chemical composition or a temperature or some other characteristic which could injure Spanish interests."

Although not involving pollution of water, the *Trail Smelter Arbitration* between the United States and Canada illustrates the general international principle upon which the rules of this article are based. There, Canada was held responsible for the injury and damage resulting in the United States from fumes emitted from a smelter located in British Columbia and deposited over a large area of the State of Washington.

The Compromis for the arbitration directed the Tribunal to "apply the law and practice followed in dealing with cognate questions in the United States of America as well as international law and practice. . . " However, the Tribunal did not find it necessary to make a choice between the law of the United States and international law, as the former was found to be "in conformity with the general rules of international law". Thus the Tribunal concluded "that, under the principles of international law, as well as of the law of the United States, no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or the property of persons therein . . . "

The Supreme Court of Italy has had occasion to state: "If this [State], in the exercise of its sovereign rights is in a position to establish any regime that it deems most appropriate over the watercourse, it cannot escape the international duty. . . to avoid that, as a consequence of such a regime, other (co-riparian) States are deprived of the possibility of utilizing the watercourse for their own national needs."

Water treaties often incorporate provisions dealing with the pollution of waters by the signatory States. Agreements may be concluded and administrative machinery created specifically to deal with pollution.

Helsinki Rules on the Uses of the Waters of International Rivers, art. X CONFERENCE 477, 497-99 (1967) (bracket and parenthetical original) (citations omitted) [hereinafter cited as Helsinki Rules]. In addition to the materials already cited, see R. BAXTER, THE LAW OF INTERNATIONAL WATERWAYS (1964); F. BERBER, RIVERS IN INTERNATIONAL LAW (1959); INTERNATIONAL ENVIRONMENTAL LAW 154 (L. Teclaff & A. Utton eds. 1974); THE LAW OF INTERNATIONAL DRAINAGE BASINS (A. Garretson, R. Hayton, & C. Olmstead eds. 1967); Bourne, *International Law and Pollution of International Rivers and Lakes*, 6 U. BRIT. COLUM. L. REV. 115 (1971).

37. Article I of the Helsinki Rules, *supra* note 36, at 484, makes clear the drafters' intention to articulate the relevant general rules of international law. It provides in relevant part: "The general rules of international law as set forth in these chapters are applicable to the use of the waters of an international drainage basin. . . ." *Id.*

38. Water pollution is defined in Article IX as "any detrimental change resulting from human conduct in the natural composition, content, or quality of the waters of an international drainage basin." *Id.*, art. IX, at 494. Articles X and XI delineate the duties and responsibilities of States concerning water pollution.

However, before one attempts to analogize from international rivers to land-based pollution of the high seas, two important distinctions should be mentioned.

First, the application of *sic utere tuo* to international river pollution has had to accommodate the dominant concept of "equitable utilization,"[39] under which pollution of international rivers which is "consistent with the principle of equitable utilization" is not prohibited.[40] Hence, it may be said that under the Helsinki Rules pollution which is *inconsistent* with the principle of equitable utilization is prohibited. The Rules also require prevention of new forms of water pollution and cessation and compensation in the event new

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Article X

1. Consistent with the principle of equitable utilization of the waters of an international drainage basin, a State,
   (a) must prevent any new form of water pollution or any increase in the degree of existing water pollution in an international drainage basin which would cause substantial injury in the territory of a co-basin State, and
   (b) should take all reasonable measures to abate existing water pollution in an international drainage basin to such an extent that no substantial damage is caused in the territory of a co-basin State.
2. The rule stated in paragraph 1 of this Article applies to water pollution originating:
   (a) within a territory of the State, or
   (b) outside the territory of the State, if it is caused by the State's conduct.

Id., art. X, at 496-97.

Article XI

1. In the case of a violation of the rule stated in paragraph 1(a) of Article X of this Chapter, the State responsible shall be required to cease the wrongful conduct and compensate the injured co-basin State for the injury that has been caused to it.
2. In a case falling under the rule stated in paragraph 1(b) of Article X, if a State fails to take reasonable measures, it shall be required promptly to enter into negotiations with the injured State with a view toward reaching a settlement equitable under the circumstances.

Id., art. XI, at 501.

39. *Equitable utilization* is defined in Article IV of the Helsinki Rules: "Each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin." *Id.*, art. IV, at 486.

40. As the ILA explains in its commentary to Article X:

> The optimum goal of international drainage basin development is to accommodate the multiple and diverse uses of the co-basin States. The concept of equitable utilization of the waters of an international drainage basin has the purpose of promoting such an accommodation. Thus, uses of the waters by a basin State that cause pollution resulting in injury in a co-basin State must be considered from the overall perspective of what constitutes an equitable utilization.
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> Any use of water by a basin State . . . that denies an equitable sharing of uses by a co-basin State . . . is in violation of international law. . . . By parallel reasoning, a State that engages in a use or uses causing

forms of pollution cause substantial damage. In addition, *sic utere tuo* requires States to undertake "reasonable measures" to abate existing pollution and further requires States to enter into "prompt negotiations" in the event existing pollution causes substantial damage. While it is true that equitable principles have been frequently applied to accommodate conflicting interests in the high seas, this application has not resulted in the evolution of a specialized doctrine of "equitable utilization" for the high seas in the same way as it has for international rivers.[41] Thus, if the concept of equitable utilization is removed from the equation (as might be required in applying the Helsinki Rules by analogy to land-based pollution of the high seas), it would appear that the Rules impose a strict liability standard for new forms of pollution.[42]

Second, the application of *sic utere tuo* to pollution of international rivers is restricted to injury "caused in the territory of a co-basin State."[43] Admittedly, there is a significant difference between a State's interests in its own territory and its interests in the high seas, particularly with regard to a State's assertion of injury by land-based pollution to its *res communis* interests in the high seas. It might be said that in the high seas generally there is a lesser foreseeability of harm, a lesser assumption of "good neighborliness" and a more difficult task in establishing evidence of injury than exists with regard to international rivers. However, if the injury from land-based pollution of the high seas was to ships or to persons engaged in legitimate activities (such as navigation or fishing), the situs of harm (State territory or the high seas) would make little difference because it is clear that international law entitles States to protect their vessels and nationals from injury caused by other States on the high seas.

Despite these differences, a parallel does exist between the pollution of oceans from land-based sources and the pollution of international rivers. As Judge Manner said in regard to the ILA's preparat-

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pollution is not required to take measures with respect to such pollution that would deprive it of equitable utilization.

Id., art. X comment (b), at 499. *See* Utton, *International Water Quality Law*, in INTERNATIONAL ENVIRONMENTAL LAW 154, 167-69 (L. Teclaff & A. Utton eds. 1974).

41. *See* note 216 *infra*. *See also* Davis, *Theories of Water Pollution Litigation*, 1971 WIS. L. REV. 738, for the common law distinctions between the United States equivalent of "equitable utilization," "reasonable use," and nuisance concepts with regard to riparian rights and the discharge of wastes.

42. Helsinki Rules, *supra* note 36, arts. X(1)(a) & XI(1), at 496-97, 501. The ILA Draft Articles on land-based marine pollution abandon the concept of equitable utilization in adapting the Helsinki Rules to land-based marine pollution. *See* text accompanying notes 205-24 *infra*.

43. Helsinki Rules, *supra* note 36, art. X, at 496-97.

ory work on the Helsinki Rules: "The problems concerning pollution of coastal waters may not be included in our programmes but these problems have however a very close connection with the pollution of fresh waters."[44] Both rivers and the high seas involve pollution of international waters. In addition, they both share many of the same land-based sources of pollution, and the ultimate recipient of pollution discharged to international rivers is the marine environment. The connection between the high seas and international rivers was considered sufficiently close by the ILA for it to assign the task of drafting land-based marine pollution rules to the same committee that drafted the Helsinki Rules. The results of its adaptation of the Helsinki Rules to land-based high seas pollution is examined below.[45]

Air Pollution

The United Nations Secretariat in its Report on the codification of international law cited the *Trail Smelter Arbitration*[46]—in which it was held that a State is responsible for injury to the neighboring territory by noxious fumes emanating from works within the State—as an "instructive example" of "duties grounded in the exclusive jurisdiction of States over their territory . . . [including] the obligation of the State to prevent its territory from causing economic injury to neighboring territory in a manner not permitted by international law."[47]

With the exception of the principle of equitable utilization, what was said with regard to international rivers also applies to air pollution. As with the case of international rivers, the *Trail Smelter* situation is limited to injuries caused to territorial interests and not to State interests in the high seas. However, the evidentiary problems involved in establishing injury by air pollution of the high seas are considerably more complex than for international river pollution. Nevertheless, the *Trail Smelter Arbitration* deals with an important source of land-based pollution of the high seas, and it would be reasonable to assume that its pronouncements concerning State re-

44. INTERNATIONAL LAW ASSOCIATION, REPORT OF THE FIFTIETH CONFERENCE 421 (1962).
45. *See* text accompanying notes 205-24 *infra*.
46. Trail Smelter Arbitration (United States-Canada), 3 R. Int'l Arb. Awards 1905 (1949), 35 AM. J. INT'L L. 684 (1941).
47. UNITED NATIONS SECRETARIAT, SURVEY OF INTERNATIONAL LAWS 34, U.N. Doc. A/CN. 4/1/Rev. 1 (1949).

sponsibility would be taken into consideration by the International Court and States in determining whether an obligation not to pollute the high seas exists.

The *Trail Smelter Arbitration* makes an additional refinement on the application of *sic utere tuo* with regard to the scope of State responsibility for the extraterritorial effects of pollution. The private status of the Smelter factory and Canada's responsibility for its polluting activities affecting the United States relates to the twofold aspect of strict liability; in other words, under the Tribunal's decision there would appear to be a greater degree of care required by a State over polluting activities originating on its territory and a greater range of persons for whom responsibility must be assumed. The private law equivalent of the latter aspect would be the attachment of liability not merely for the acts of servants but also for independent contractors. Thus, it might be said that under *Trail Smelter* the application of *sic utere tuo* to pollution includes State responsibility for the acts of private individuals and not just responsibility for purely *State* activities. Indeed, if one were to view the *Corfu Channel Case* in a similar light, it might even be said that prima facie State responsibility attaches for the injurious polluting effects of conditions created on State territory by trespassers of which the territorial sovereign has knowledge or the means of knowledge.[48]

The Law of Hostile Expeditions

The general principle of *sic utere tuo* has also been applied to the law of hostile expeditions. The particular factual setting which has parallels with land-based pollution of the high seas involves "State complicity in, or toleration of, the activities of armed bands" within one State's territory directed against other States.[49] The United Nations General Assembly, after many years of debate on the matter, accepted by consensus the following definition of aggression, which includes the activities of armed bands:

> Aggression is the use of armed force by a State against the sovereignty, territorial integrity or political independence of another State, or in any other manner inconsistent with the Charter of the United Nations . . . [including] the sending by or on behalf of a State of armed bands, groups, irregulars or mercenaries, which carry out acts of armed force against another State . . . .[50]

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48. [1949] I.C.J. 4. *See also* Brownlie, *A Survey of International Rules of Environmental Protection*, in INTERNATIONAL ENVIRONMENTAL LAW 2 (L. Teclaff & A. Utton eds. 1974). It should be noted that in the *Corfu Channel Case* the injury occurred within Albania's territory, and thus caution must be exercised in making analogies to injuries occurring outside a State's territory.

49. Brownlie, *International Law and the Activities of Armed Bands*, 7 INT'L & COMP. L.Q. 712, 734 (1958).

50. G. A. Res. 3314, 29 U.N. GAOR, Supp. (No. 31) 143, U.N. Doc. A/9631 (1974).

Further, the General Assembly holds the view that acts of aggression are unlawful.[51]

Little conceptual difference exists between the application of *sic utere tuo* to establish State responsibility for extraterritorial effects of attacks by armed bands and its application to the effects of land-based pollution of the high seas, at least to the extent that another State's individual legal interests in the high seas are involved (for example, the activities of its nationals engaged in lawful activities such as navigation or fishing). Here again, the shift in the situs of harm from State territory to the high seas makes little difference, for international law clearly entitles States to protect their vessels or nationals from direct attack on the high seas. Thus, the only significant difference between armed bands and land-based pollution of the high seas is in the *form* of injury.

Outer Space

The controlling general principles of international law relating to outer space[52] are found in two interrelated documents. The first is the 1963 General Assembly Resolution (adopted unanimously) which contains a Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space.[53] The second is the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other

51. "No consideration of whatever nature, whether political, economic, military or otherwise, may serve as a justification for aggression. . . . A war of aggression is a crime against international peace. Aggression gives rise to international responsibility." *Id.* at 143-44. *See also* Brownlie, *International Law and the Activities of Armed Bands*, 7 INT'L & COMP. L.Q. 712, 734 (1958) ("an examination of the State practice . . . shows conclusively that no State can now claim that such behavior is lawful"); Lillich & Paxman, *State Responsibility for Injury to Aliens Occasioned by Terrorists*, 26 AM. U.L. REV. 219, 275 (1977) ("[W]here States give support to non-local terrorism by permitting individuals to use their territory as bases for their operations, such States are engaged in unlawful conduct.").

52. The law of outer space illustrates quite clearly that when the question of legal rules for outer space arose in the early 1960's States did not say that because there was insufficient State practice in this new area there was, therefore, no law to apply. Rather, the General Assembly of the United Nations adopted the view that "International Law, including the Charter of the United Nations, applies to outer space and celestial bodies." G.A. Res. 1721, 16 U.N. GAOR, Supp. (No. 17) 6, U.N. Doc. A/5100 (1961). Implicit in this statement is the indispensable reliance on legal analogy for establishing rights and duties in new areas of human activity, such as land-based pollution of the high seas.

53. G.A. Res. 1962, 18 U.N. GAOR, Supp. (No. 15) 15, U.N. Doc. A/5515 (1963).

Celestial Bodies of 1967,[54] which incorporates several unanimously adopted General Assembly Resolutions, including the 1963 declaration of legal principles.

Accepting that the 1967 treaty represents the best evidence of applicable principles of international law for outer space, its provisions are relevant to land-based high seas pollution in several respects.[55] In Article I the treaty characterizes outer space in terms akin to the *res communis* status of the high seas: "The exploration and use of outer space . . . shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind."[56] Thus, the general regime of outer space is, like that of the high seas, based upon community interests, free use and a prohibition of the exercise of sovereignty by individual States.

Of particular interest is Article IX, which applies the general principle of *sic utere tuo* to pollution of outer space:

> States Parties to the Treaty shall pursue studies of outer space, including the moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose. If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space . . . would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space . . . it shall undertake appropriate international consultations before proceeding with any such activity or experiment.[57]

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54. *Done at* London, Moscow, and Washington, Jan. 27, 1967, *in force* Oct. 10, 1967, 610 U.N.T.S. 205, *reprinted in* 6 INT'L. LEGAL MATERIALS 386 (1967). As of 1971 there were over 60 Contracting Parties, including the United States, the Soviet Union, and the United Kingdom.

55. However, J. FAWCETT, INTERNATIONAL LAW AND THE USES OF OUTER SPACE 15-16 (1963) (citations omitted), criticizes the Treaty as follows:

> In the Outer Space Treaty we have then a rigidly contractual instrument, in essence a bilateral arrangement between the principal space-users. Apart from its provisions for partial demilitarization of outer space, tracking and inspection, it does little or nothing to elaborate or secure the principles already set out in General Assembly Resolutions. It may even be that this ill-constructed and precarious instrument is a retrograde step. For in the wise words of Dr. Jenks, written before the conclusion of the Outer Space Treaty. . . , "The authority of the Declaration of Legal Principles may be expected to grow with the passage of years. While it is somewhat less than a treaty it must already be regarded as rather more than a statement of custom." Though Resolution 1962-XVIII is for the most part a declaration, not of rules of international law, but of directive principles, it may, like other similar General Assembly Resolutions, be regarded as forming part of an international *ordre public*, to which States should strive to make their policies conform . . . .

56. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, art. I, 610 U.N.T.S. 205, 207-08, *reprinted in* 6 INT'L. LEGAL MATERIALS 386, 386 (1967).

57. *Id.*, art. IX, 610 U.N.T.S. 205, 209-10, *reprinted in* 6 INT'L. LEGAL MATERIALS 386, 388 (1967).

Concerning the range of persons for whom responsibility for pollution must be assumed, Article VI provides that States party to the treaty "shall bear international responsibility for national activities in outer space . . . , whether such activities are carried on by governmental agencies or by non-governmental entities . . . ."[58] Thus, responsibility would attach for acts of pollution committed by private individuals as well as purely State instrumentalities.

Concerning the degree of care required, Article VII imposes a standard of strict responsibility:

> Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the Earth, in air space or in outer space . . . .[59]

In addition, Article VII, if applied by analogy to land-based pollution of the high seas, would raise the possibility of responsibility attaching to States other than the State from whose territory pollution reached the high seas. Thus, if a State polluted the high seas as a result of the reprocessing of nuclear fuels under contract for another State, the reprocessing State might be held responsible along with the contracting State for any material damage.

The foregoing discussion of analogous areas of existing international law permits several observations. First, there is ample precedent in the law of international rivers, air pollution, hostile expeditions and outer space to say that *sic utere tuo* applies by analogy to land-based pollution of the high seas. Second, the shift in the situs of harm from State territory to the high seas makes little or no conceptual difference in the application of *sic utere tuo* to land-based pollution of the high seas. Third, the range of persons for whom State responsibility must be assumed may extend to private individuals as well as State organs. In addition, responsibility may attach to third States which procure the use of another State's territory for activities

58. *Id.*, art. VI, 610 U.N.T.S. 205, 209, *reprinted in* 6 INT'L. LEGAL MATERIALS 386, 387 (1967).

59. *Id.*, art. VII, 610 U.N.T.S. 205, 209, *reprinted in* 6 INT'L. LEGAL MATERIALS 386, 388 (1967). Article VII may receive its first practical application in light of the damage caused to Canada by the crash of a Soviet satellite on Canadian territory early in 1978. *See also* Convention on International Liability for Damage Caused by Space Objects, *signed* Mar. 29, 1972, *reprinted in* 66 AM. J. INT'L L. 702 (1972).

resulting in pollution of the high seas. Fourth, there is room for the view that under the objective theory of State responsibility States may be held strictly liable for land-based pollution of the high seas in the event its activities cause injury.[60] Finally, if the discussion of international rivers, air pollution, armed bands and outer space accomplishes nothing else, it demonstrates that if State practice so applies *sic utere tuo* as to prohibit pollution of the high seas from land-based sources, it would be wholly consistent with existing international law.

The 1958 Geneva Convention on the High Seas

The best evidence of customary international law on pollution affecting the high seas up to 1958 is contained in the Geneva Convention on the High Seas, which in its preamble states that the drafters desired "to codify the rules of international law relating to the high seas," thus making its provisions "generally declaratory of established principles of international law."[61] This prefatory language, which is not contained in the preambles of the other three Geneva Conventions, "leads one to think that the different language of the preambles was intentionally adopted and that the Convention on the High Seas must therefore be taken *presumptively* to be declaratory of customary international law."[62]

60. In general, under the preferred objective theory a State must bear responsibility for pollution originating within its territory if it is caused by State organs or officials acting with at least apparent authority, without regard to fault. *See* I. BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 418-44 (2d ed. 1973); B. CHENG, GENERAL PRINCIPLES OF LAW 218-32 (1953); C. EAGLETON, THE RESPONSIBILITY OF STATES IN INTERNATIONAL LAW 209-14 (1928); 1 G. SCHWARZENBERGER, INTERNATIONAL LAW 632-41 (3d ed. 1957); INTERNATIONAL ENVIRONMENTAL LAW 119-22 (L. Teclaff & A. Utton eds. 1974); Jiménez de Aréchaga, *International Responsibility*, in MANUAL OF PUBLIC INTERNATIONAL LAW 531, 531-64 (M. Sørenson ed. 1968).

The objective theory clearly applies to private entities engaged in polluting activities, for, as acknowledged by the Tribunal in the Trail Smelter Arbitration (United States-Canada), 3 R. Int'l Arb. Awards 1905, 1965 (1949), 35 AM. J. INT'L L. 684 (1941), "no State has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another." *See* I. BROWNLIE, *supra* at 425; 1 G. SCHWARZENBERGER, INTERNATIONAL LAW 633 (3d ed. 1957); Jiménez de Aréchaga, *International Responsibility*, in MANUAL OF PUBLIC INTERNATIONAL LAW 531, 537-38 (M. Sørenson ed. 1968). *Contra*, H. LAUTERPACHT, THE DEVELOPMENT OF INTERNATIONAL LAW BY THE INTERNATIONAL COURT 88 (1958); 1 L. OPPENHEIM, INTERNATIONAL LAW 343 (8th ed. H. Lauterpacht 1955); Hardy, *International Protection against Nuclear Risks*, 10 INT'L & COMP. L.Q. 739, 756-67 (1961).

61. Convention on the High Seas, *done at* Geneva, Apr. 29, 1958, 13 U.S.T. 2312, T.I.A.S. No. 5200, 450 U.N.T.S. 82. As of 1976, over 50 States have become parties to the Convention.

62. Baxter, *Multilateral Treaties as Evidence of Customary International Law*, [1965-1966] 41 BRIT. Y.B. INT'L L. 275, 288 (1968).

To claim that the High Seas Convention raises more than a presumption of existing customary international law and that all of its provisions are conclusive evidence of customary law as of 1958 would be to deny that a measure of progressive development of the law inevitably creeps into any attempt at codification. Nevertheless, certain of the Convention's bedrock provisions have come to be generally accepted as accurate articulations of customary international law, and it provides a solid launching point for a discussion of customary international law and land-based pollution of the high seas.

Foremost among these bedrock provisions is Article 2, which provides:

> The high seas being open to all nations, no State may validly purport to subject any part of them to its sovereignty. Freedom of the high seas is exercised under the conditions laid down by these articles and by the other rules of international law. It comprises, *inter alia*, both for coastal and non-coastal States:
>
> (1) Freedom of navigation;
>
> (2) Freedom of fishing;
>
> (3) Freedom to lay submarine cables and pipelines;
>
> (4) Freedom to fly over the high seas.
>
> These freedoms, and others which are recognized by the general principles of international law, shall be exercised by all States with reasonable regard to the interests of other States in their exercise of the freedom of the high seas.[63]

It is clear that customary international law envisages a wider range of freedoms than the four listed in Article 2. The article itself refers to "others" which are recognized, and, as the International Law Commission has said in its commentary to Article 2: "The list of freedoms of the high seas contained in this article is not restrictive. The Commission has merely specified four of the main freedoms, but it is aware that there are other freedoms . . . ."[64] Surely, as the use of the high seas' resources increases, new freedoms will, in the natural course of events, also come to be recognized. These could include, if it is not already the case, freedoms to farm the plant life of the high seas such as seaweed and phytoplankton, to extract salt and other chemicals and minerals suspended in its waters, to utilize the waters for drinking purposes and even to capitalize on its potential as a habitat for man.[65]

63. Convention on the High Seas, *supra* note 61, art. 2.

64. Report of the International Law Commission to the General Assembly, 11 U.N. GAOR, Supp. (No. 9) 24, U.N. Doc. A/3159 (1956), *reprinted in* [1956] 2 Y.B. INT'L L. COMM'N 253, 278, U.N. Doc. A/CN. 4/Ser. A/1956/Add. 1.

65. *See* Goldie, *The Management of Ocean Resources: Regimes for Structur-*

However, Article 2 also recognizes that "a regime of unqualified freedoms is not a regime of law."[66] While Article 2 confirms the *res communis* status of the high seas and an open-ended number of exercisable freedoms, it also recognizes the correlative duty of States to exercise these freedoms or rights with "reasonable regard to the interests of other States in their exercise of the freedom of the high seas." As explained by the International Law Commission, "reasonable regard" means "States are bound to refrain from any acts which might adversely affect the use of the high seas by nationals of other States."[67]

The principle of reasonable regard for the interests of other States has been recently confirmed by the ICJ in the *Fisheries Jurisdiction Case*:

> It is one of the advances in maritime international law, resulting from the intensification of fishing, that the former *laissez-faire* treatment of the living resources of the sea in the high seas has been replaced by a recognition of a duty to have due regard to the rights of other States and the needs of conservation for the benefit of all. Consequently, both Parties have the obligation to keep under review the fishery resources in the disputed waters and to examine together, in the light of scientific and other available information, the measures required for the conservation and development, and equitable exploitation, of those resources . . . .[68]

The inevitable increase in exercisable rights in the high seas will result in a greater likelihood of conflict between competing freedoms and hence a greater reliance on the principle of reasonable regard to resolve these conflicts.

The question Article 2 raises with regard to customary international law as of 1958 is whether the scope of rights and duties of States in the high seas and the standard for their exercise embrace the proposition that an act of land-based pollution amounts to an unreasonable regard to the interests of other States in their exercise of recognized freedoms. This question requires examination of two further provisions of the High Seas Convention, Articles 24 and 25.

It seems clear that pollution of the kind referred to in Articles 24 and 25 of the Convention violates the principle of due regard to other States' interests in the high seas. But do these articles apply to land-based pollution?

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ing the Maritime Environment, in THE FUTURE OF THE INTERNATIONAL LEGAL ORDER 155, 155-68 (C. Black & R. Falk eds. 1972).

66. Jennings, *General Course of International Law*, ACADEMIE DE DROIT INTERNATIONAL, 121 RECUEIL DES COURS 323, 406 (1967).

67. Report of the International Law Commission to the General Assembly, art. 27 commentary (1), U.N. GAOR, Supp. (No. 9) 24, U.N. Doc. A/3159 (1956), *reprinted in* [1956] 2 Y.B. INT'L L. COMM'N 253, 278, U.N. Doc. A/CN. 4/Ser. A/1956/Add. 1.

68. [1974] I.C.J. 31.

Article 24 provides: "Every State shall draw up regulations to prevent pollution of the seas by the discharge of oil from ships or pipelines or resulting from the exploitation and exploration of the seabed and its subsoil, taking account of existing treaty provisions on the subject."[69] It confirms that "the 'abuse of rights' involved in the indiscriminate discharge into the seas of waste products has long been recognized in relation to oil."[70] However, in requiring regulations for preventing oil pollution "from ships . . . or resulting from exploitation and exploration of the seabed and its subsoil," Article 24, by its words, omits from its ambit oil pollution originating on land and carried to the high seas by rivers, the atmosphere or agricultural run-off. The only remaining land-based source to which the article might apply is "pipelines" transporting waste containing oil from the land to the high seas. However, Article 24 cannot sustain such an expansive reading.

In the commentary to Article 24's predecessor (Article 48), the International Law Commission explains that the term "pipelines" refers only to "[p]ollution . . . caused by *leaks* in pipelines or defects in installations for the exploitation of the seabed and its subsoil."[71] The use of the word "leaks" implies necessarily that "pipelines" does not refer to waste pipelines designed for the very purpose of discharging waste containing oil to the high seas but rather refers only to "pipelines" used to transport oil from oil wells located on the seabed to land or to tanker ships.

The limited scope of Article 24 was not, however, the result of a conscious attempt by the drafters to exclude land-based oil pollution from coverage. It indicates only that in 1958 the international community was not aware of the potential adverse effects that land-based oil waste might have on the high seas. This is confirmed by the United States Department of State, which said: "[A]rticle 24 . . . deals with the problem of oil pollution from the two potentially chief sources, namely, surface vessel traffic and the operation of oil wells and related activities on the continental shelf."[72] Thus, Article 24

69. Convention on the High Seas, *supra* note 61, art. 24.
70. D. BOWETT, THE LAW OF THE SEA 45 (1967).
71. Report of the International Law Commission to the General Assembly, art. 48 commentary (4), 11 U.N. GAOR, Supp. (No. 9) 31, U.N. Doc. A/3159 (1956), *reprinted in* [1956] 2 Y.B. INT'L L. COMM'N 225, 286, U.N. Doc. A/CN. 4/Ser. A/1956/Add. 1 (emphasis added).
72. *Conventions on the Law of the Sea: Hearing Before the Senate Comm. on Foreign Relations*, 86th Cong., 2d Sess. 82, 86 (1960), *reprinted in* 4 M. WHITEMAN, DIGEST OF INTERNATIONAL LAW 713 (1965).

confirms the application of the general principle of *sic utere tuo* to pollution of the high seas.

However, one must look to Article 25 for specific application of the principle to land-based pollution. Article 25 provides:

> 1. Every State shall take measures to prevent pollution of the seas from the dumping of radio-active waste, taking into account any standards and regulations which may be formulated by the competent international organizations.
> 2. All States shall co-operate with the competent international organizations in taking measures for the prevention of pollution of the seas or air space above, resulting from any activities with radio-active materials or other harmful agents.[73]

"Thus, when pollution does occur, and can be proved to have damaged the interests of other States or their nationals, the disposer State may well be deemed to be in breach of a duty of prevention laid down in Article 25."[74] Article 25's treatment of radioactive materials is not as restrictive as Article 24's in that it does apply to land-based radioactive waste: first, by requiring, in paragraph 1, measures "to prevent pollution of the seas from the dumping of radio-active waste"; and second, by requiring in paragraph 2 State cooperation in preventing pollution of the seas from "any activities with radio-active materials or other harmful agents."

The closing phrase—"other harmful agents"—has been seized upon by some publicists[75] as a catchall provision intended to require preventive measures for all types and sources of pollution and not restricted to harmful agents of radioactive materials. Such an interpretation would amount to a recognition by the drafters that customary international law, as of 1958, imposed a duty on States to prevent all forms of land-based high seas pollution. It would include the duty of State cooperation in taking measures to prevent discharges of oil (not covered by Article 24), mercury, sewage, pesticides, chemicals, and so forth from rivers, agricultural run-off, coastal discharges and the atmosphere.

However, Article 25 is not susceptible to such an expansive reading. It is doubtful, as mentioned above, whether the international community in 1958 was aware of the potential threat from non-radioactive land-based sources of pollution. In addition, consistent with accepted principles of treaty interpretation, it might be said that the term "other harmful agents" should be interpreted according to its ordinary meaning in the context of the treaty as a whole.[76]

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73. Convention on the High Seas, *supra* note 61, art. 25.
74. D. BOWETT, THE LAW OF THE SEA 48 (1967).
75. *E.g.*, E. BROWN, THE LEGAL REGIME OF HYDROSPACE 195 (1971).
76. Vienna Convention on the Law of Treaties, U.N. Doc. A/Conf. 39/27, art. 31 (1969), *reprinted in* [1971] UNITED NATIONS CONFERENCE ON THE LAW OF TREATIES 287, 293, U.N. Doc. A/Conf. 39/27.

The words appear at the end of an article which has as its sole purpose, up to these final three words, the prevention of pollution from radioactive materials; the only other pollutant expressly covered in the Convention is ocean-based oil pollution. Arguably, it would be an extraordinary rather than ordinary meaning if the addition of these words so altered the purpose of Article 25 as to include every conceivable ocean pollutant. If other land-based pollutants were to be singled out for treatment, the ordinary course consistent with the Convention as a whole would have been to make them the object of additional separate articles rather than hidden as a sort of buried torpedo at the end of Article 25. According to the doctrine of *ejusdem generis*, general words in a treaty which follow special words are usually limited to the genus indicated by the special words. Here the general words "other harmful agents" follow the special words "radioactive materials" and under the doctrine would be limited to that genus. This interpretation of Article 25 is buttressed by the International Law Commission commentary on this provision which makes no mention of any pollutant other than radioactive materials and atomic radiation:

> (4) Finally, the Commission considered the case of the pollution of the seas or air space above resulting from experiments or activities with radioactive materials or other harmful agents. . . . In adopting this provision, the Commission in no way intended to prejudge the findings of the Scientific Committee set up under General Assembly resolution 913 (X) of 3 December 1955 to study the effects of atomic radiation.[77]

However, if one were to apply the teleological method of treaty interpretation, it might be said that the term "other harmful agents" must be given the widest possible scope in order to ensure achievement of the underlying purpose of Article 25, the prevention of pollution.[78] Thus, "other harmful agents" would embrace all forms of ocean-based and land-based pollution presently known to exist. Given the controversial nature of the teleological approach, it is doubtful whether it serves as an adequate bootstrap to a more expansive

77. Report of the International Law Commission to the General Assembly, art. 48 commentary (4), 11 U.N. GAOR, Supp. (No. 9) 31, U.N. Doc. A/3159 (1956), *reprinted in* [1956] 2 Y.B. INT'L L. COMM'N 253, 286, U.N. Doc. A/CN. 4/Ser. A/1956/Add. 1.

78. Under this somewhat radical approach to treaty interpretation, the overall objectives and purposes of the treaty are determined, and then any ambiguity is resolved by importing the necessary substance to give effect to those overall objectives and purposes. *See generally* I. BROWNLIE, PRINCIPLES OF PUBLIC INTERNATIONAL LAW 610-11 (2d ed. 1973).

reading of "other harmful agents." Of course, it may well be the case that since 1958 the customary international law principle of *sic utere tuo* has been applied by States to other types of land-based pollution.

Evidence of Customary International Law Since 1958

International Protest

It should again be mentioned that there is little evidence to date of State practice in the form of protest against land-based pollution of the high seas. Several factors help to explain the absence of a greater amount of "negative" practice. First, with the exception of nuclear waste, land-based pollution of the high seas has come to be recognized as a problem only in the last decade. Second, there are at present severe scientific and technological limitations placed on the ability of States to prove injury and to establish by convincing evidence the land-based origin of high seas pollution. As these scientific and technical barriers are inevitably removed protest will undoubtedly play a more prominent role in the further refinement of any general norm. Third, the most effective way of controlling land-based pollution is by collective preventive action on the part of States rather than by the protest of one State to another.

There is nothing unique in positive practice playing a dominant role in custom formation. For example, the law of outer space and the basic doctrine of the continental shelf arose quite rapidly with a minimum of protest. The law of outer space evolved in large part through United Nations Resolutions and the 1967 Outer Space Treaty.[79] The concept of coastal State jurisdiction over the adjacent continental shelf first came about through the declaration of the United States contained in the Truman Proclamation of September 28, 1945.[80] In general, the response of States to this declaration was not to protest but to issue similar positive declarations of their own.[81] So too, the primary evidence of the application of *sic utere tuo* to land-based pollution of the high seas is manifested by the positive practice of States. However, there have been three relevant protests which deserve mention.

The first protest was by the Japanese Government against atmospheric nuclear tests conducted by the United States in the Pacific Ocean, "generally taking place over an area within the jurisdiction of

79. *See* text accompanying notes 52-60 *supra*.

80. Pres. Proc. No. 2667, 3 C.F.R. 67 (1945), *reprinted in* 13 DEP'T STATE BULL. 485 (1945).

81. *See* 4 M. WHITEMAN, DIGEST OF INTERNATIONAL LAW 752-814 (1965). The general principles of customary international law reflective of this positive practice are enshrined in the first three articles of the Convention on the Conti-

the United States (such as over Eniwetok atoll or its territorial waters)."[82] In part, as a result of previous injuries sustained by a Japanese fishing vessel and its crew on the high seas from United States nuclear testing on March 1, 1954,[83] outside the prescribed danger zone, the Japanese Government protested against the announced plans of the United States to conduct another series of nuclear tests (the Hardtack series) at the Eniwetok proving grounds. The Japanese protest of February 20, 1958, in relevant part was as follows:

> The United States Government states that every possible precaution will be taken to prevent damage and injury to human lives and property in the danger zone and that there is no probability of any accidents outside the danger zone. Whatever precaution is taken, however, the Japanese Government is greatly concerned over conducting of nuclear tests and establishment of a danger zone for that purpose in view of the fact that said zone is near to routes of the Japanese merchant marine and to fishing grounds of Japanese fishing boats.
>
> Accordingly, the Japanese Government would like to make clear its views that in the event the United States Government conducts nuclear tests in defiance of the request of the Japanese Government, the United States Government has the responsibility of compensating for economic losses that may be caused by the establishment of a danger zone and for all losses and damages that may be inflicted on Japan and the Japanese people as a result of the nuclear tests. The Japanese Government wishes to reserve the right to demand complete compensation for such losses and damages.[84]

The United States reply of March 5, 1958, contained the following passage:

> Finally, as the United States has previously indicated, it cannot be regarded as established on the basis of present information that substantial economic losses will result from the establishment of the danger area. Moreover, in view of precautions which will be observed during the tests and existing public information with respect to maximum permissible levels of radiation, the United States Government anticipates no economic losses from radioactive contamination of marine life.
>
> However, if, after the test series has ended, any evidence is officially presented that substantial economic losses for Japan or Japanese nationals have been incurred as a result of establishment of the dan-

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nental Shelf, *done at* Geneva, Apr. 29, 1958, 15 U.S.T. 471, T.I.A.S. No. 5578, 499 U.N.T.S. 311. *See also* the North Sea Continental Shelf Cases, [1969] I.C.J. 39.

82. 4 M. WHITEMAN, DIGEST OF INTERNATIONAL LAW 546-47 (1965) (parenthetical original).

83. The United States paid $2,000,000 to the Japanese Government in *ex gratia* compensation for the injuries resulting from the 1954 nuclear weapons tests.

84. 4 M. WHITEMAN, DIGEST OF INTERNATIONAL LAW 585-86 (1965).

> ger area and the tests, the United States is prepared in the interest of the fullest understanding and cooperation between the two countries to give consideration to the question of compensation in the light of such evidence.[85]

Aside from questions relating to the rights and duties of States with regard to nuclear testing per se, the preceding passages from the exchange of notes between the Governments of Japan and the United States are pertinent to land-based pollution of the high seas. First, as a general proposition, the principle of *sic utere tuo* is recognized as applicable to injuries sustained by States or their nationals as a result of the land-based activities of other States. Second, the United States Government's note suggests that State reponsibility for land-based activities affecting the high seas is not reduced or eliminated by evidence of due care on the part of the polluting State, provided "substantial economic loss" is suffered by another State. In other words, it can be inferred from these diplomatic notes that the United States recognizes that it may be strictly liable for land-based pollution of the high seas.[86]

The second protest involves the proceedings brought by the Governments of Australia and New Zealand (as well as the attempted intervention in the proceedings by Fiji) before the ICJ against French nuclear tests carried out on the French territory of Muruoa in the Pacific Ocean in the recent *Nuclear Tests* case. This case is discussed in detail below.[87] Thus, it suffices to say here that the conclusions which may be drawn from these protests are consistent with those drawn from the exchange of notes between Japan and the United States.

The third protest involves the recent Finnish proposal to dump arsenic wastes in the South Atlantic. Following reports of the proposed dump, the Governments of Brazil, Uruguay and Argentina protested to the Finnish Foreign Ministry. Later, with the apparent support of several other countries, Brazil requested the Permanent Council of the Organization of American States to call upon Finland to prevent the dumping. In a special session held the day before the scheduled meeting of the OAS, the Finnish Council of State responded to the protests by deciding that the dumping might be contrary to the 1972 London Dumping Convention and to other environmental agreements which Finland supported and by announcing that permission to dump the wastes had been denied.[88]

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85. *Id.* at 587.

86. Of course, it could be argued that the United States note was careful to avoid any admission of a potential legal liability.

87. *See* text accompanying notes 135-44 *infra*.

88. Professor Bilder lucidly describes the incident:

> In March 1975, it was reported, particularly in the Brazilian press, that

This incident demonstrates the effectiveness of protest when used as a tool for preventing pollution. Of course, this effectiveness in turn depends upon the availability of prior information which in most cases is not readily at hand. The incident also demonstrates that Finland abandoned its proposed dumping at least in part due to emerging norms of international law prohibiting dumping of land-based waste on the high seas.

Treaties

A significant portion of State practice with regard to land-based pollution of the high seas in the years following the High Seas Convention has been manifested through bilateral and multilateral treaties.

In contrast to the High Seas Convention, which was declaratory of customary international law, the treaties dealing with land-based high seas pollution discussed below appear best to be categorized as the type of "agreement that does not expressly purport to codify or to be declaratory of customary international law and . . . did not at the time of drafting create new international law which only subsequently gained the acquiescence of States . . . [but which

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the Finnish tanker *Enskeri* was planning to dump several hundred barrels of industrial waste with substantial arsenic content into international waters in the South Atlantic. The ship belonged to Neste Oy, the Finnish State-owned oil importing and refining operations. The company had apparently loaded the waste without first seeking the Finnish Government's approval.

Following these reports, the Brazilian, Uruguayan and Argentinian Governments made joint protests to the Finnish Foreign Ministry. The Brazilian press gave extensive coverage to statements by the head of Brazil's Special Secretariat for the Environment that "Brazil is not the garbage pail of the world . . . we still do not know exactly what the Finnish ship is carrying, but we can guarantee that if it were something good, they would not come here to the South Atlantic to throw it away . . ." However, these initial protests to the Finnish Foreign Ministry produced no immediate results; the Finnish Government reportedly initially took the position that the dumping plans were neither illegal nor contrary to international agreements. At this point, Brazil, apparently supported by several other Latin American States, requested the Permanent Council of the Organization of American States to call upon Finland to prevent the dumping, noting their concern that Gulf Stream currents might spread this waste throughout the South Atlantic region. A meeting of the Permanent Council was set for 24 March. At the same time, Brazil and several other Latin American countries asked the UN Secretary-General Waldheim to urge the Finnish Government not to proceed with the dumping and he agreed to do so.

On 23 March, an extraordinary Sunday meeting of the Finnish Council of State was held to discuss the problem. Late that same day, the Finnish Government announced that Neste Oy had been denied

nevertheless] is consistent with customary international law as it exists independently of the treaty."[89]

Reliance on treaties as evidence of customary international law has certain advantages:

> The advantage of the employment of a treaty as evidence of customary international law, as it was at the time of the adoption of the treaty or as it has come to be, is that it provides a clear and uniform statement of the rule to which a number of States subscribe. There is no problem of reconciling ambiguous and inconsistent State practice of varying antiquity and varying authority. The treaty speaks with one voice as of one time.
>
> Reliance on a multilateral treaty as evidence of customary international law is not conditional on any demonstration that the signatory States have actually observed the norms of the treaty for any length of time. The process of establishing the state of customary international law is one of demonstrating what States consider to be the measure of their obligations. The actual conduct of States in their relations with other nations is only a subsidiary means whereby the rules which guide the conduct of States are ascertained. The firm statement by the State of what it considers to be the rule is far better evidence of its position than what can be pieced together from the actions of that country at different times and in a variety of contexts.[90]

The provisions of some of the treaties discussed below might be said to confirm only a local or special application of customary international law inasmuch as they apply only to defined geographical areas (*i.e.*, the North Sea, the Baltic Sea and the Mediterranean Sea).[91] However, such a restrictive view is unwarranted for several

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permission to dump these wastes at sea. On the basis of its further investigations, the Finnish Government had decided that the dumping might be contrary both to the 1972 London Dumping Convention and to other environmental agreements which Finland supported. Upon hearing the Finnish Government's decision, the Brazilian Government issued an announcement praising Finland's understanding of the concern of nations subject to potential damage, and indicating that it had informed the appropriate international organizations of Finland's decision. Therefore, no action was taken either in the OAS or in the UN.

The international furor about the proposed dumping was reportedly of great concern to the Finnish Government, which has vigorously supported international environmental protection efforts. There was considerable domestic criticism of the proposed dumping. And the Brazilian press subsequently reported that the Brazilian Government might have withheld agreement for the recently-appointed Finnish Ambassador if Finland had not taken the desired action, and that the nomination was accepted only after the Government was informed of the Finnish decision. The arsenic wastes were removed from the ship and will be stored on land in Finland while a programme for safe disposal is developed and approved.

Bilder, *The Settlement of Disputes in the Field of the International Law of the Environment*, ACADÉMIE DE DROIT INTERNATIONAL, 144 RECUEIL DES COURS 139, 190-91 (1975).

89. Baxter, *Multilateral Treaties as Evidence of Customary International Law*, [1965-1966] 41 BRIT. Y.B. INT'L L. 275, 278 (1968).

90. *Id.* at 299-300.

91. *See generally* A. D'AMATO, THE CONCEPT OF CUSTOM IN INTERNATIONAL LAW 233-64 (1971).

reasons. As was mentioned earlier, where the opportunity to practice is limited by the subject-matter involved to a relatively few States, the consistent practice of those States may be sufficient to confirm and further amplify general customary international law for the world community. At present the opportunity to practice land-based high seas pollution control is limited by geographic, scientific, technological and practical considerations to enclosed and semi-enclosed seas. Only in a relatively few small, self-contained areas can the present techniques for determining physical causation and material damage be employed. The opportunity to practice is further confined to ocean areas bordered by States economically and technologically equipped to act. However, the application of customary international law contained in these treaties is not confined to only one local area. Rather, the treaties apply to three separate seas, and the application of *sic utere tuo* to land-based high seas pollution in these treaties is uniform. In addition, other agreements to which reference will be made involve parties of widely varying geographic locales. Further, the high seas by definition are shared by all without restriction to any particular region or to any one group of States. Even if one could argue persuasively in favor of only a local custom on the basis of the particular treaties, the wealth of other evidence in addition to treaties confirms the general rather than local nature of the customary international law obligation not to pollute the high seas from land-based sources.

It might also be said that, in any event, some of these treaties are incapable of confirming customary international law because they have yet to enter into force. While this may affect the implementation of specific provisions, it does not detract substantially from their use as evidence of State practice confirming customary international law. Even the draft of a treaty or a treaty which has been signed but which has not yet entered into force may have an influence as evidence of customary international law.[92] All the treaties in question here have passed through the signature stage, and the texts have been authenticated and adopted. These are evidences of State practice from which tangible legal effects flow. For example, the act of signature carries with it the legal obligation "to refrain from acts which would defeat the object and purpose of a treaty prior to its entry into force."[93] In addition, in adopting a treaty text, a State agrees to take

92. Baxter, *Multilateral Treaties as Evidence of Customary International Law*, [1965-1966] 41 BRIT. Y.B. INT'L L. 275, 299 (1968).

93. Vienna Convention on the Law of Treaties, U.N. Doc. A/Conf. 39/27, art.

that particular text as authentic and definitive and further is bound to the text's procedural provisions for entry into force.[94] Except where noted the treaties cited below are silent on the question of a standard of liability.

Global Conventions

This category considers any signed conventions or agreements which either have world-wide application to one or more sources of land-based high seas pollution or have been concluded by States from widely differing geographic locales.

The London Convention on the Dumping of Wastes at Sea.[95]

In the Preamble the Contracting Parties recognize "that States have . . . the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction" and note "that marine pollution originates in many sources, such as dumping and discharges through the atmosphere, rivers, estuaries, outfalls and pipelines and that it is important that States use the best practicable means to prevent such pollution . . . ."[96]

The application of *sic utere tuo* to the dumping, *inter alia*, of land-based waste on the high seas is accomplished in Articles I, II and IV:[97]

Article I.

> Contracting Parties shall individually and collectively promote the effective control of all sources of pollution of the marine environment, and pledge themselves especially to take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

Article II.

> Contracting Parties shall . . . take effective measures individually, according to their scientific, technical and economic capabilities, and

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18, *reprinted in* [1971] UNITED NATIONS CONFERENCE ON THE LAW OF TREATIES, OFFICIAL RECORDS 287, 291, U.N. Doc. A/Conf. 39/11/Add. 2.

94. *Id.*, arts. 9 & 10, *reprinted in* [1971] UNITED NATIONS CONFERENCE ON THE LAW OF TREATIES, OFFICIAL RECORDS 287, 290, U.N. Doc. A/Conf. 39/11/Add. 2. The position might be otherwise if after a long period of time has elapsed, the treaty does not enter into force.

95. *Opened for signature* Dec. 29, 1972, *in force* Sept., 1975, *reprinted in* 11 INT'L LEGAL MATERIALS 1291, 1296 (1972).

96. *Id.*, Preamble, *reprinted in* 11 INT'L LEGAL MATERIALS 1291, 1294 (1972). Dumping of land-based waste is distinguishable from purely ocean-based discharges from ships.

97. Article III defines "dumping" as "any deliberate disposal at sea of wastes or other matter from . . . waterborne or airborne craft of any type whatsoever." It also defines "sea" as "all marine waters other than the internal waters of States." *Id.*, art. III, *reprinted in* 11 INT'L LEGAL MATERIALS 1291, 1296 (1972).

> collectively, to prevent marine pollution caused by dumping and shall harmonize their policies in this regard.
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> . . . .
>
> Article IV.
>
> 1. In accordance with the provisions of this Convention Contracting Parties shall prohibit the dumping of any wastes or other matter in whatever form or condition except as otherwise specified . . . .[98]

Prohibited outright is the dumping of land-based organohalogen compounds (DDT, for instance), mercury, cadmium, persistent synthetic materials, oil, high-level radioactive wastes, biological and chemical warfare materials and materials which taint edible marine organisms.[99] A prior special permit is required for dumping land-based waste containing significant amounts of arsenic, lead, copper, zinc, organosilicon compounds, cyanides, fluorides, beryllium, chromium, nickel, vanadium and bulk wastes as well as medium and low-level radioactive wastes.[100] A prior general permit is required for dumping of all wastes not covered by the above categories.[101]

Concerning liability Article X provides:

> In accordance with the principles of international law regarding State responsibility for damage to the environment of other States or to any other area of the environment, caused by dumping of wastes and other matter of all kinds, the Contracting Parties undertake to develop procedures for the assessment of liability and the settlement of disputes regarding dumping.[102]

The article stops short of imposing any standard of liability, but its wording indicates the parties' belief that States are responsibile for environmental damage to the high seas.

United States Cooperation Agreements

Between 1972 and 1974 the United States entered into a series of cooperation agreements on the mutual prevention of pollution. Because an agreement to cooperate is not necessarily tantamount to an admission of a potential *legal* liability, these "cooperation" agreements are less persuasive than the other agreements. Nevertheless, they indicate both an awareness of the sources of marine pollution

98. *Id.*, arts. I, II & IV, *reprinted in* 11 INT'L LEGAL MATERIALS 1291, 1295-97 (1972).
99. *Id.*, art. IV (1)(a) & Annex I, *reprinted in* 11 INT'L LEGAL MATERIALS 1291, 1297, 1310 (1972).
100. *Id.*, art. IV (1)(b) & Annex II, *reprinted in* 11 INT'L LEGAL MATERIALS 1291, 1297, 1310 (1972).
101. *Id.*, art. IV (1)(c) & Annex III, *reprinted in* 11 INT'L LEGAL MATERIALS 1291, 1297, 1311 (1972).
102. *Id.*, art. X, *reprinted in* 11 INT'L LEGAL MATERIALS 1291, 1302 (1972).

and a recognition of the pressing need to take steps to control all sources of marine pollution on the part of some of the major world powers.

United States-Union of Soviet Socialist Republics on Cooperation in the Field of Agreement — Environmental Protection. Under this agreement the parties aim "at solving the most important aspects of the problems of the environment and will be devoted to working out measures to prevent pollution, to study pollution and its effects on the environment, and to develop the basis for controlling the impact of human activities on nature."[103] Areas specifically cited for implementation of the agreement include "air pollution, water pollution, environmental pollution associated with agricultural production . . . , [m]arine pollution . . . [and] legal and administrative measures for protecting environmental quality."[104]

United States-Federal Republic of Germany Agreement on Cooperation in Environmental Affairs. Under this agreement the parties are acting in the belief that

> the national environment of each country as well as the global environment must be protected for the health and well-being of present and future generations [and that] cooperation between the two Governments is of mutual advantage in coping with similar problems in each country and is important in meeting each Government's responsibilities for the maintenance of the global environment.[105]

Listed as "[p]ollution problems of mutual concern" in the agreement's Article II are "waste water treatment for industrial, municipal, and agricultural pollution . . . , sludge disposal . . . , air pollution . . . , pesticides, toxic and other harmful substances, marine pollution [and] environmental effects of energy use . . . ."[106]

United States-Commission of European Communities. In an exchange of letters, the parties noted as an area of common interest for cooperation the exchange of information "on pollution problems posed by certain industries . . . , on the effects of the production of

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103. Agreement on Cooperation in the Field of Environmental Protection, art. 2, May 23, 1972, United States-Union of Soviet Socialist Republics, *reprinted in* 66 DEP'T STATE BULL. 921, 922 (1972).

104. *Id. See also* 67 DEP'T STATE BULL. 451 (1972). The Agreement was implemented by the Memorandum of 21 September 1972 in which the parties set out specific joint projects for pollution control covering land-based sources of pollution and the effects of pollution on the marine environment. Union of Soviet Socialist Republics-United States: Memorandum of Implementation of Environmental Agreement, Sept. 21, 1972, *reprinted in* 11 INT'L LEGAL MATERIALS 1408 (1972).

105. Agreement on Cooperation in Environmental Affairs, May 9, 1974, United States-Federal Republic of Germany, *reprinted in* 70 DEP'T STATE BULL. 673, 673 (1974).

106. *Id.*, art. II, *reprinted in* 70 DEP'T STATE BULL. 673, 674 (1974).

energy on the environment . . . , on procedures for testing toxicity of certain pollutants . . . , about toxic wastes . . . , [and] concerning the input of certain agricultural activities on the environment . . . ."[107]

Regional Treaties

The most comprehensive effort to control land-based pollution of the high seas from all sources is found in multilateral treaties concluded for the areas of the North East Atlantic (including the North Sea), the Baltic Sea and the Mediterranean Sea.

The Oslo Dumping Convention[108]

Similar in form and purpose to the London Dumping Convention, the Oslo Dumping Convention applies to the territorial waters and high seas of the North East Atlantic (including the Arctic Ocean and the North Sea), although the parties in Article 3 also undertake to apply measures adopted so as not to pollute other ocean areas outside those covered by the Convention.

In the Preamble the Contracting Parties recognize

> that the marine environment and the living resources which it supports are of vital importance to all nations . . . , that the ecological equilibrium and the legitimate uses of the sea are increasingly threatened by pollution . . . , that concerted action by Governments at national, regional and global levels is essential to prevent and combat marine pollution . . . , that this pollution has many sources, including . . . discharges through rivers, estuaries, outfalls and pipelines within national jurisdiction . . . , [and] that the States bordering the North East Atlantic have a particular responsibility to protect the waters of this region.[109]

Defining dumping in terms identical to the London Dumping Convention so as to include dumping of land-based pollution, the Oslo Convention's basic obligations are contained in Articles 1, 5 and 6.[110] Black-listed are toxic organohalogen and organosilicon

107. Exchange of Letters Regarding the Means of Cooperation Between the Commission of European Communities and the United States Government in Environmental Matters, Brussels, Washington, June 4, July 1, 1974, *reprinted in* 71 DEP'T STATE BULL. 237 (1974).

108. Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, *done at* Oslo, Feb. 15, 1972, *in force* Apr. 7, 1974, *reprinted in* 11 INT'L LEGAL MATERIALS 262 (1972). Signatory countries include Federal Republic of Germany, Belgium, Denmark, Spain, Finland, France, United Kingdom, Iceland, Norway, the Netherlands, Portugal and Sweden.

109. *Id.*, Preamble, *reprinted in* 11 INT'L LEGAL MATERIALS 262, 262 (1972).

110. Article 1.
The Contracting Parties pledge themselves to take all possible steps to

compounds, carcinogenic substances, mercury, cadmium and persistent plastics and synthetic materials. Specific permits are required to dump arsenic, lead, copper, zinc, cyanides, fluorides and solid waste.

The Paris Convention[111]

Covering the same geographic maritime area as the Oslo Convention and undertaking to apply adopted measures to avoid increasing pollution in the seas outside the Convention's maritime area, the Paris Convention represents the first substantive step taken by States at the international level to treat the problem of land-based marine pollution of the high seas by means other than dumping. It applies under Article 3 to land-based pollution of the internal waters of States seaward of the fresh-water limit, the territorial waters and the high seas emanating from "watercourses, . . . from the coast [including pipelines and] . . . from manmade structures" within the maritime area under a State's jurisdiction.[112] It does not apply to atmospheric sources of land-based pollution.[113]

In the Preamble the Contracting Parties recognize the "vital importance to all nations" of the marine environment, the threat of pollution to "the ecological equilibrium and the legitimate uses of the sea" and the need for "concerted action" at all levels which "can and should be taken without delay."[114] Articles 1, 4 and 5 set out the basic

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prevent the pollution of the sea by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

Article 5.

The dumping of the substances listed in Annex I to this Convention is prohibited.

Article 6.

No waste containing such quantities of the substances and materials listed in Annex II to this Convention as the Commission established under the provisions of Article 16 . . . shall define as significant, shall be dumped without a specific permit in each case from the appropriate national authority or authorities. When such permits are issued, the provisions of Annexes II and III to this Convention shall be applied.

Id., arts. 1, 5, & 6, *reprinted in* 11 INT'L LEGAL MATERIALS 262, 262-63 (1972).

111. Convention for the Prevention of Marine Pollution from Land-Based Sources, *done at* Paris, Feb. 21, 1974 (not yet in force), *reprinted in* 13 INT'L LEGAL MATERIALS 352 (1974). Participants in the adopting Conference were, in addition to the parties to the Oslo Convention, Austria, Luxembourg and Switzerland. On June 6, 1974, the Convention was signed by Denmark, France, Federal Republic of Germany, Iceland, Luxembourg, the Netherlands, Norway, Spain, Sweden and the United Kingdom. Sweden has since announced its intention to ratify.

112. *Id.*, art. 3, *reprinted in* 13 INT'L LEGAL MATERIALS 352, 354-55 (1974).

113. However, Article 7 also requires implementation of the Convention so as not to increase pollution in the maritime area from other sources. By implication this would include atmospheric pollution.

114. Convention for the Prevention of Marine Pollution from Land-Based Sources, *done at* Paris, Feb. 21, 1974 (not yet in force), *reprinted in* 13 INT'L LEGAL MATERIALS 352, 352 (1974).

undertakings.[115]

Discharges to the maritime area slated for elimination under Article 4(1)(a) are "organohalogen compounds . . . , mercury . . . , cadmium . . . , persistent synthetic materials . . . [and] persistent oils and

115. Article I

1. The Contracting Parties pledge themselves to take all possible steps to prevent pollution of the sea, by which is meant the introduction by man, directly or indirectly, of substances or energy into the marine environment (including estuaries) resulting in such deleterious effects as hazards to human health, harm to living resources and to marine ecosystems, damage to amenities or interference with other legitimate uses of the sea.

2. The Contracting Parties shall adopt individually and jointly measures to combat marine pollution from land-based sources in accordance with the provisions of the present convention and shall harmonize their policies in this regard.

Article 4

1. The Contracting Parties undertake:

(a) to eliminate, if necessary by stages, pollution of the maritime area from land-based sources of substances listed in Part I of Annex A to the present Convention.

(b) to limit strictly pollution of the maritime area from land-based sources of the substances listed in Part II of Annex A to the present Convention.

2. In order to carry out the undertakings in paragraph 1 of this Article, the Contracting Parties . . . shall implement programmes and measures:

(a) for the elimination, as a matter of urgency, of pollution of the maritime area from land-based sources by substances listed in Part I of Annex A . . . .

(b) for the reduction or, as appropriate, elimination of pollution of the maritime area from land-based sources by substances listed in Part II of Annex A. . . . These substances shall be discharged only after approval has been granted by the appropriate Authorities within each contracting State . . . .

3. The programmes and measures adopted under paragraph 2 above shall include, as appropriate, specific regulations or standards governing the quality of the environment, discharges into the maritime area, such discharges into watercourses as affect the maritime area, and the composition and use of substances and products and shall take into account the latest technical developments. The programmes shall contain time-limits for their completion.

4. Furthermore, the Contracting Parties may . . . implement programmes or measures to forestall, reduce or eliminate pollution of the maritime area from land-based sources by a substance not then listed in Annex A to the present Convention, if scientific evidence has established that a serious hazard may be created in the maritime area by that substance and if urgent action is necessary.

Article 5

1. The Contracting Parties undertake to adopt measures to forestall and, as appropriate, eliminate pollution of the maritime area from land-based sources by radio-active substances referred to in Part III of Annex A of the present Convention.

hydrocarbons of petroleum origin."[116] The "less noxious" substances, which may be discharged subject to strict limitations under Article 4(1)(b), include "organic compounds of phosphorous, silicon and tin . . . , elemental phosphorous . . . , non-persistent oils . . . , arsenic, chromium, copper, lead, nickel, zinc" and substances which may taint edible sea products.[117] Radioactive substances, "although they display characteristics similar to those" earmarked for elimination, are dealt with separately in Article 5 because "they are already the subject of research, recommendations and, in some cases, measures under the auspices of several International Organisations and Institutions."[118]

The Helsinki Convention[119]

What the States in the North East Atlantic attempt to accomplish in two conventions (the Oslo and Paris Conventions), the Baltic States attempt to accomplish in one. That is, the Baltic Sea States place under a single umbrella provisions covering both ocean-based and land-based marine pollution.

In the Preamble the Contracting Parties recognize

> the indispensible economic, social and cultural values of the marine environment of the Baltic Sea Area[120] and its living resources . . . , [note] the rapid development of human activities in the Baltic Sea Area . . . , [the] deep concern [over] the increasing pollution of the Baltic Sea Area, originating from many sources such as discharges through rivers, estuaries, outfalls and pipelines, dumping and normal operations of vessels as well as through airborne pollutants . . . , the responsibility of the Contracting Parties to protect and enhance the values of the marine environment of the Baltic Sea Area for the benefit of their peoples . . . , [and] that the relevant recent international conventions even after having entered into force for the respec-

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Id., arts. 1, 4 & 5, *reprinted in* 13 INT'L LEGAL MATERIALS 352, 353, 355-57 (1974) (parenthetical original). *See also* [Nordic] Convention on the Protection of the Environment, *done at* Stockholm, Feb. 19, 1974, *reprinted in* 13 INT'L LEGAL MATERIALS 591 (1974).

116. Convention for the Prevention of Marine Pollution from Land-Based Sources, Annex A, pt. I, *reprinted in* 13 INT'L LEGAL MATERIALS 352, 368 (1974).

117. *Id.*, Annex A, pt. II, *reprinted in* 13 INT'L LEGAL MATERIALS 352, 369-70 (1974).

118. *Id.*, Annex A, pt. III, *reprinted in* 13 INT'L LEGAL MATERIALS 352, 370 (1974).

119. Convention on the Protection of the Marine Environment of the Baltic Sea Area, *done at* Helsinki, Mar. 22, 1974 (not yet in force), *reprinted in* 13 INT'L LEGAL MATERIALS 544 (1974). Signatory States include Denmark, Finland, German Democratic Republic, Federal Republic of Germany, Poland, Sweden and the Soviet Union. Finland ratified on June 27, 1975, and Sweden has announced its intention to ratify.

120. Article 1 defines the Baltic Sea Area as "the Baltic Sea proper with the Gulf of Bothnia, the Gulf of Finland and the entrance to the Baltic Sea bounded by the parallel of the Skaw in the Skagerrak at 57° 44'8" N. It does not include the internal waters of the Contracting Parties." *Id.*, art. 1, *reprinted in* 13 INT'L LEGAL MATERIALS 544, 546 (1974).

> tive Contracting Parties do not cover all special requirements to protect and enhance the marine environment of the Baltic Sea Area.[121]

The fundamental principles and obligations are contained in Article 3, which provides:

> The Contracting Parties shall . . . take all appropriate legislative, administrative or other relevant measures in order to prevent and abate pollution and to protect and enhance the marine environment of the Baltic Sea Area.[122]

With respect to dumping (as opposed to operational vessel discharges and tanker spills) of land-based waste from vessels or any sort of floating craft, Article 9 provides quite simply that "[t]he Contracting Parties shall . . . prohibit dumping in the Baltic Sea Area."[123]

Concerning "hazardous substances" Article 9 provides:

> The Contracting Parties undertake to counteract the introduction, whether airborne, waterborne or otherwise, into the Baltic Sea Area of hazardous substances as specified in Annex I of the present Convention.[124]

At present the only items listed in Annex I are DDT (and its derivatives DDE and DDD) and PCBs.

Land-based pollution other than that classified as "hazardous substances" or as "dumping" is covered by Article 6.[125] Article 6, however, does not prohibit or ban outright the discharge of any substance into the Baltic Sea. Rather, it requires that certain noxious substances be controlled and strictly limited by a prior special permit

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121. *Id.*, *reprinted in* 13 INT'L LEGAL MATERIALS 544, 546 (1974) (author's footnotes).

122. *Id.*, art. 3(1), *reprinted in* 13 INT'L LEGAL MATERIALS 544, 547 (1974). Section 2 of Article 3 also notes that parties cannot comply with their treaty obligations simply by channelling pollutants which cause "an increase in the pollution of sea areas" to seas outside of the Baltic; *i.e.*, they may not divert pollutants into other seas, like the Arctic or North Seas or the Atlantic, either by sea dumping, as Finland was attempting to do in the South Atlantic, or by putting it into rivers, estuaries or pipelines which drain into other seas.

123. *Id.*, art. 9(1), *reprinted in* 13 INT'L LEGAL MATERIALS 544, 548 (1974). The only exceptions to the general ban on dumping are when human safety is involved or when a prior special permit has been issued for the dumping of certain dredged spoils.

124. *Id.*

125. Article 6

1. The Contracting Parties shall take all appropriate measures to control and minimize land-based pollution of the marine environment of the Baltic Sea Area.

2. In particular, the Contracting Parties shall take all appropriate measures to control and strictly limit pollution by noxious substances and materials in accordance with Annex II of the present Convention.

system to be administered by national authorities. These substances, as listed in Annex II to the Convention, include mercury and cadmium (for urgent consideration), antimony, arsenic, beryllium, chromium, copper, lead, molybdenum, nickel, tin, vanadium, zinc, elemental phosphorous, phenols, cyanides, persistent toxic organosilicic compounds, pesticides (other than DDT or PCBs), radioactive materials, acids and alkalis, oil, substances tainting edible sea products, bulk waste and lignin in industrial waste waters.

The goals and criteria for minimizing the effect of harmful substances mentioned in section 6 of Article 6 include, according to Annex III to the Convention, the reduction of the oxygen content and the amount of nutrients in municipal sewage to safe levels, the treatment of municipal sewage to maintain a safe hygenic quality, the control of the polluting load of industrial waste so as to reduce the presence of harmful substances and the minimization of cooling water discharges from nuclear power plants and other industries.

In addition to the prohibition of airborne "hazardous substances" contained in Article 5, there is, in section 8 of Article 6, a "best practicable means" test for the control of airborne pollution by noxious substances.

Concerning liability Article 17 provides:

> The Contracting Parties undertake, as soon as possible, jointly to develop and accept rules concerning responsibility for damage resulting from acts or omissions in contravention of the present Convention, including, inter alia, limits of responsibility, criteria and procedures for the determination of liability and available remedies.[126]

Thus, as with the London Dumping Convention, the Helsinki Convention fails to do more than recognize that rules for liability must be developed.

To this end they shall, inter alia, as appropriate co-operate in the development and adoption of specific programmes, guidelines, standards or regulations concerning discharges, environmental quality, and products containing such substances and materials and their use.

3. The substances and materials listed in Annex II . . . shall not be introduced into . . . the Baltic Sea Area in significant quantities without a prior special permit, which may be periodically reviewed, by the appropriate national authority.

. . . .

6. To control and minimize pollution of the Baltic Sea Area by harmful substances the Contracting Parties shall, in addition to . . . Article 5 . . . aim at attaining the goals and applying the criteria enumerated in Annex III . . . .

. . . .

8. The Contracting Parties shall endeavour to use best practicable means in order to minimize the airborne pollution of the Baltic Sea Area by noxious substances.

Id., art. 6, *reprinted in* 13 INT'L LEGAL MATERIALS 544, 548-49 (1974).

126. *Id.*, art. 17, *reprinted in* 13 INT'L LEGAL MATERIALS 544, 552 (1974).

The Barcelona Convention[127]

The Barcelona Convention takes the same approach as the Helsinki Convention in that it applies to both ocean-based pollution (from ships and from the exploration and exploitation of the continental shelf and seabed) and land-based pollution. The Convention is structured in such a way that many of the basic obligations undertaken are left to be implemented by later protocols.

The Preamble to the Barcelona Convention is similar in form to the preambles previously discussed in that it recognizes the values of the Mediterranean Sea Area,[128] the threat of marine pollution and the need for protective action. In addition, the Contracting Parties acknowledge

> their responsibility to preserve this common heritage [the economic, social, health and cultural value of the Mediterranean Sea Area] for the benefit and enjoyment of present and future generations . . . [and] that existing international conventions on the subject do not cover . . . all aspects and sources of marine pollution and do not entirely meet the special requirements of the Mediterranean Sea Area.[129]

The basic obligations assumed under the Convention for present purposes are contained in Articles 4, 5 and 8.[130] The Protocol on dumping is substantially the same as the London Dumping Convention in prohibiting outright the dumping of certain substances, requiring a prior special permit for other less dangerous substances and requiring a prior general permit for all other substances. The

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127. Convention for the Protection of the Mediterranean Sea Against Pollution, *done at* Barcelona, Feb. 16, 1976 (not yet in force), *reprinted in* 15 INT'L LEGAL MATERIALS 285, 290 (1976). States participating in the Conference which adopted the Convention were Cyprus, Egypt, France, Greece, Israel, Italy, Lebanon, Libyan Arab Republic, Malta, Monaco, Morocco, Spain, Syrian Arab Republic, Tunisia, Turkey and Yugoslavia. Observers included the Soviet Union, the United States, the United Kingdom and various international organizations and United Nations agencies. It is expected that the Convention will enter into force in early 1978.

128. The Mediterranean Sea Area is defined in Article 1 as

> the maritime waters of the Mediterranean Sea proper, including its gulfs and seas, bounded to the West by the meridian passing through Cape Spartel lighthouse, at the entrance of the Straits of Gibraltar and to the East by the southern limits of the Straits of the Dardanelles between Mehmetoik and Kumkale lighthouses.

Id., art. 1, *reprinted in* 15 INT'L LEGAL MATERIALS 285, 290 (1976).

129. *Id.*

130. Article 4
General undertakings

> 1. The Contracting Parties shall . . . take all appropriate measures . . . to prevent, abate and combat pollution of the Mediterranean Sea Area and to protect and enhance the marine environment in that Area.

only notable deviation from the London Dumping Convention is that the protocol prohibits the dumping in the Mediterranean Sea Area of not only high-level radioactive wastes but also of medium and low-level radioactive wastes. The protocol on pollution from other land-based sources is currently under joint preparation by the United Nations Environment Programme (UNEP) and the World Health Organization (WHO).

The foregoing conventions and cooperation agreements entered into by a large number of States of diverse geographic, economic and political backgrounds help to demonstrate, in language which is strikingly uniform and consistent, the application of the general principle of *sic utere tuo* to new forms of land-based pollution of the high seas by acts of States having tangible legal effects.

Judicial Decisions

Judicial decisions, as stated in Article 38(1)(d) of the Statute of the International Court of Justice (ICJ), are a valid "subsidiary means for the determination of rules of law" and include those of the ICJ and international arbitral decisions.[131] Strictly speaking, international judicial decisions bind only the parties to a particular dispute requiring adjudication.[132] In practice, however, this is not always the case. The ICJ itself has often referred to its prior decisions and to the decisions of arbitral tribunals.[133] In any event, the use here of judicial

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Article 5
Pollution caused by dumping from ships and aircraft
The Contracting Parties shall take all appropriate measures to prevent and abate pollution of the Mediterranean Sea Area caused by dumping from ships and aircraft.

Article 8
Pollution from land-based sources
The Contracting Parties shall take all appropriate measures to prevent, abate and combat pollution of the Mediterranean Sea Area caused by discharges from rivers, coastal establishments or outfalls, or emanating from any other land-based sources within their territories.

Id., arts. 4, 5, 8, *reprinted in* 15 INT'L LEGAL MATERIALS 285, 291-92 (1976).

131. Statute of the Court, art. 38(1)(d), *reprinted in* DOCUMENTS ON THE INTERNATIONAL COURT OF JUSTICE 60, 77 (S. Rosenne ed. 1974). To the writer's knowledge there are no municipal law decisions dealing with land-based pollution of the high seas. Of course, there are obvious analogies from the decisions recognizing the obligation not to pollute rivers and waterways.

132. *E.g.*, Statute of the Court, art. 59, *reprinted in* DOCUMENTS ON THE INTERNATIONAL COURT OF JUSTICE 60, 85 (S. Rosenne ed. 1974), provides: "The decision of the Court has no binding force except as between the parties and in respect of that particular case."

133. *E.g.*, Barcelona Traction Case (Second Phase), [1970] I.C.J. 40; Nottebohm Case, [1955] I.C.J. 119; Fisheries Case, [1951] I.C.J. 131; Legal Status of Eastern Greenland Case, [1933] P.C.I.J., ser. A/B, No. 53, at 45-46; Cases Concerning the Factory at Chorzów, [1928] P.C.I.J., ser. A, No. 17, at 31, 47; The S.S. Lotus, [1927] P.C.I.J., ser. A, No. 10, at 26; Advisory Opinion on Polish Postal

decisions is not as binding precedent but rather as evidence of the application of customary international law to land-based pollution of the high seas.

To date there have been no international or municipal law decisions on the merits concerning land-based pollution of the high seas. However, one recent decision, the *Nuclear Tests Case*, reveals the willingness of the ICJ to assume jurisdiction over a case which raises, *inter alia*, the issue of land-based pollution of the high seas.[134]

The *Nuclear Tests Case*,[135] although resolved without a consideration on its merits, nevertheless provides valuable insight into the ICJ's attitude regarding State protests against land-based pollution of the high seas. Australia and New Zealand instituted proceedings against France concerning atmospheric nuclear weapons tests conducted by the French Government at its test center located on the French Territory of Muruoa in the South Pacific Ocean.[136] Australia claimed *inter alia* in its application that:

> (ii) The deposit of radio-active fall-out on the territory of Australia and its dispersion in Australia's airspace without Australia's consent:
>
> (*a*) violates Australian sovereignty over its territory;
>
> (*b*) impairs Australia's independent right to determine what acts shall take place within its territory and in particular whether Australia and its people shall be exposed to radiation from artificial sources;
>
> (iii) the interference with ships and aircraft on the high seas and in the superjacent airspace, and the pollution of the high seas by radioactive fall-out, constitute infringements of the freedom of the high seas.[137]

The ICJ, at the request of Australia and because of the "immediate possibility of a further atmospheric nuclear test being carried out by France in the Pacific," issued a temporary injunction in 1973 pro-

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Service in Danzig, [1925] P.C.I.J., ser. B, No. 11, at 30; S. ROSENNE, THE INTERNATIONAL COURT OF JUSTICE 424-27 (1957).

134. See also the Trail Smelter Arbitration (United States-Canada), 3 R. Int'l Arb. Awards 1905 (1949), 35 AM. J. INT'L L. 684 (1941), which held the United States responsible for injury to neighboring Canadian territory by noxious fumes originating from United States territory. *See* text accompanying notes 46-48 *supra*.

135. Nuclear Tests Case (Australia v. France) (Judgment), [1974] I.C.J. 253. New Zealand's pleadings were virtually identical to Australia's and thus reference need only be made to the disposition of the Australian claim.

136. Fiji sought to intervene in the case but its application was deferred pending resolution of the jurisdictional issues. *Id.* at 255.

137. Nuclear Tests Case (Australia v. France) (Order), [1973] I.C.J. 99, 103.

hibiting further tests pending final resolution of the dispute.[138] The ICJ in its 1973 order referred to Australia's claims:[139]

> [I]t cannot be assumed *a priori* that such claims fall completely outside the purview of the Court's jurisdiction, or that the Government of Australia may not be able to establish a legal interest in respect of these claims entitling the Court to admit the Application.[140]

In passing, it should be noted that the form of the Australian allegations, if representative of the sort of claim which would be pursued in the future, would minimize the need for precise rules for liability, damages and compensation. This is so because Australia was pursuing a cause of action designed primarily to seek prevention of demonstrable prospective material damage resulting from pollution of the high seas rather than *ex poste facto* compensation for damage done. Subsequently the ICJ ruled that it had jurisdiction over the case, but it failed to decide the merits of Australia's and New Zealand's claims. Instead, it declared the dispute moot in light of a unilateral obligation which it found to have been assumed by France to refrain from future atmospheric tests.[141]

In a joint dissent, four judges felt that a legal dispute existed entitling Australia to have the case adjudicated notwithstanding the cessation of testing by France. The dissenting judges expressed their view that "the claims submitted to the ICJ in the present case and the legal contentions advanced in support of them appear to be based on rational and reasonably arguable grounds."[142] Specifically, the joint dissent referred to:

> [a] right, said to be derived from the character of the high seas as *res communis* and to be possessed by Australia in common with all other maritime States, to have freedoms of the high seas respected by France; and, in particular, to require her to refrain from (a) interference with ships and aircraft of other States on the high seas and in the superjacent airspace, and (b) the pollution of the high seas by radioactive fall-out. As support for this alleged right, the Australian Government referred to [*inter alia*] Articles 2 and 25 of the Geneva Convention of 1958 on the High Seas . . . .[143]

Thus, if Articles 2 and 25 are taken as at least presumptively de-

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138. *Id.* at 104.

139. Australia also alleged

> [t]hat any effects of the French nuclear tests upon the resources of the sea or the conditions of the environment can never be undone and would be irremediable by any payment of damages; and any infringement by France of the rights of Australia and her people to freedom of movement over the high seas and superjacent airspace cannot be undone . . . .

Id.

140. *Id.* at 103.

141. [1974] I.C.J. 269-72.

142. *Id.* at 366 (joint dissenting opinion of Judges Onyeama, Dillard, Jiménez de Aréchaga, and Waldock).

143. *Id.* at 361.

claratory of customary international law, the majority of the ICJ and the four dissenting judges seem to agree that customary international law may be invoked before the ICJ to prohibit land-based pollution of the high seas by radioactive materials.[144]

United Nations Activities

The Stockholm Conference on the Human Environment

The United Nations Conference on the Human Environment was held in Stockholm in June 1972.[145] Representatives of 114 countries participated in the Conference and over 500 observers were in attendance representing more than 250 nongovernmental organizations.[146] The Conference adopted a Declaration on the Human Environment consisting of a Preamble and twenty-six Principles.[147] It has been said of the Declaration and its Principles that "the general tone [was] one of a strong sense of dedication to the idea of trying to establish the basic rules of international environmental law . . . ."[148]

However, the Preamble of the Declaration contains no reference to a lawmaking or a codifying intention on the part of the participants, and it is doubtful that the Declaration on the Human Environment demonstrates sufficiently the element of *opinio juris* required for all its principles to play a direct role in the formation of customary international law.[149] In other words, the actions of the various State representatives in adopting the Declaration could not be said to have

144. Quite apart from the pronouncement of the ICJ, it should be mentioned that the acts of Australia and New Zealand in bringing their claims and the application of the Republic of Fiji to intervene, as well as the act of France in refraining from conducting future nuclear tests from Muruoa, could all be said to constitute State practice confirming, *inter alia*, the customary international law prohibition against land-based high seas pollution.

145. United Nations Conference on the Human Environment, U.N. Doc. A/Conf. 48/14 and Corrigenda 1 (1972), *reprinted in* 11 INT'L LEGAL MATERIALS 1416 (1972).

146. The most notable absentee was the Soviet Union.

147. It also adopted 109 Recommendations, comprising an ambitious action plan for the future.

148. Sohn, *The Stockholm Declaration on the Human Environment*, 14 HARV. INT'L L.J. 423, 463 (1973).

149. The Preamble states the purpose of the Declaration as a response to the "need for a common outlook and for common principles to inspire and guide the peoples of the world in the preservation and enhancement of the human environment." United Nations Conference on the Human Environment, U.N. Doc. A/Conf. 48/14 and Corrigenda 1 (1972), *reprinted in* 11 INT'L LEGAL MATERIALS 1416, 1416 (1972). *See also* G.A. Res. 2581, 24 U.N. GAOR, Supp. (No. 30) 44, U.N. Doc. A/7630 (1969).

any real or potential legal effect sufficient to establish *opinio juris*.[150] Thus, the Declaration's proper use must be as subsidiary evidence of State practice confirming the application of *sic utere tuo* to land-based pollution of the high seas.

Principles 6, 7 and 21 of the Declaration all state in various ways the belief that an obligation exists not to pollute the high seas from land-based sources. Principle 6[151] begins with the general recognition by the conferees that present discharges of toxic substances and harmful discharges of heat into the environment must be halted. This recognition is sufficiently broad to include toxic and harmful discharges of land-based pollutants into the high seas.

Principle 7[152] states in unambiguous terms, through the use of the word "shall," the belief that a prohibition exists against pollution of the seas from, *inter alia*, land-based sources. It further expresses the conviction of the participants that this pollution must be prevented if it either damages the marine environment in general (including the high seas) or if it interferes with other States' legitimate uses of the sea (including the exercise of freedom of the high seas).[153] As with similar provisions contained in the particular pollution treaties discussed above, the phrase "all possible steps" refers only to the method of implementation of the recognized obligation.

Principle 21[154] is significant for two reasons. First, by invoking "the Charter of the United Nations and the principles of internation-

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150. *See* text accompanying notes 17-24 *supra*.

151. Principle 6

> The discharge of toxic substances or of other substances and the release of heat, in such quantities or concentrations as to exceed the capacity of the environment to render them harmless, must be halted in order to ensure that serious or irreversible damage is not inflicted upon ecosystems. The just struggle of the people of all countries against pollution should be supported.

United Nations Conference on the Human Environment, U.N. Doc. A/Conf. 48/14 and Corrigenda 1 (1972), *reprinted in* 11 INT'L LEGAL MATERIALS 1416, 1418 (1972).

152. Principle 7

> States *shall* take all possible steps to prevent pollution of the seas by substances that are liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

Id. (emphasis added).

153. *See* Lauterpacht, *Sovereignty Over Submarine Areas*, [1950] 27 BRIT. Y.B. INT'L L. 376 (1962).

154. Principle 21

> *States have, in accordance with the Charter of the United Nations and the principle of international law*, the sovereign right to exploit their resources pursuant to their own environmental policies, and *the responsibility to ensure that activities within their jurisdiction or control do not cause damage to* the environment of other states or of *areas beyond the limits of national jurisdiction.*

United Nations Conference on the Human Environment, U.N. Doc. A/Conf. 48/14 and Corrigenda 1 (1972), *reprinted in* 11 INT'L LEGAL MATERIALS 1416, 1420 (1972) (emphasis added).

al law" the participants demonstrate their common conviction that Principle 21 reflects existing law.[155] Second, the conferees express a firm belief that a State's legal responsibility includes the prevention of land-based pollution ("activities within their jurisdiction") reaching the high seas ("areas beyond the limits of national jurisdiction"). Or, as one commentator has noted, the rule of responsibility articulated by Principle 21 "applies not only to damage caused to the environment of other States but also to any injury inflicted on the environment of 'areas beyond the limits of national jurisdiction,' such as the high seas . . . ."[156]

United Nations Resolutions[157]

Subsidiary evidence of an international legal obligation on the part of States not to pollute the high seas from land-based sources may also be found in resolutions adopted by the United Nations General Assembly. Before mentioning specific resolutions a brief clarification should be made concerning their legal effect. There are those who contend that resolutions adopted by the General Assembly are creative of customary international law.[158] While this may be true with regard to resolutions addressed solely to the internal functioning of the United Nations or its Charter (which is not material to the present discussion), for several reasons it is generally inappropriate to ascribe to resolutions the power of creating customary international law obligations for States. First, resolutions of United Nations organs are not listed in Article 38 of the Statute of the International Court as one of the recognized sources of international law. Second, resolutions promulgated by the United Nations organization do not constitute State practice for the obvious reason that the United Nations is *not* a *State*. Third, even if one were to consider resolutions as acts of States by looking to the votes of States in favor of resolu-

155. Professor Oda holds the view that Principle 21, as applied to land-based pollution of the high seas "causing harm to the immediate interests of other States . . . , is a reflection of customary international law." *See Colloquium*, ACADÉMIE DE DROIT INTERNATIONAL 549-50 (1973).

156. Sohn, *The Stockholm Declaration on the Human Environment*, 14 HARV. INT'L L.J. 423, 493 (1973).

157. *See generally* J. CASTAÑEDA, LEGAL EFFECTS OF UNITED NATIONS RESOLUTIONS (A. Amoia trans. 1969).

158. *E.g.*, O. ASAMOAH, THE LEGAL SIGNIFICANCE OF THE DECLARATIONS OF THE GENERAL ASSEMBLY OF THE UNITED NATIONS (The Hague 1966); Cheng, *United Nations Resolutions on Outer Space: "Instant" International Customary Law?*, 5 INDIAN J. INT'L L. 23 (1965).

tions, it is doubtful that these votes or the resolutions themselves fulfill the requirement of *opinio juris* because they do not have a tangible legal effect on States and are not regarded by member States as imposing legal obligations.

This is not to say that resolutions of the United Nations General Assembly are without effect in confirming the existence of a norm of customary international law. A resolution formally adopted by an organization as universal as the United Nations may provide strong corroboration of an asserted customary rule, particularly when, as is the situation with land-based marine pollution, there exists more than one resolution.

On January 15, 1974, the General Assembly adopted a resolution on State cooperation concerning natural resources shared by two or more States,

> *[r]eaffirming* principle . . . 21 . . . of the Declaration of the United Nations Conference on the Human Environment . . . , *[r]ecalling* its resolutions 2995 . . . [and] 2996 of 15 December 1972 relating to co-operation between States in the field of the environment [and] to international responsibility of States in regard to the environment . . . , [and] *[r]eaffirming* the duty of the international community to adopt measures to protect and improve the environment, and particularly the need for continuous international collaboration to that end . . . .[159]

As was seen above, Principle 21 of the Stockholm Conference as reaffirmed by the General Assembly would prohibit land-based pollution of the high seas.[160] Certainly the reaffirmation of the general duty of States "to protect and improve the environment" includes protecting the high seas from land-based pollution.

Further corroboration of this duty can also be found in Resolutions 2995 and 2996, adopted by the General Assembly in 1972. Resolution 2995 on cooperation between States in the field of the environment "[*e*]*mphasizes that*, in the exploration, exploitation and development of their natural resources, States must not produce significant harmful effects in zones situated outside their national jurisdiction."[161] The high seas qualify as one of the zones situated outside a State's national jurisdiction, and the term "significant harmful effects" embraces those land-based pollutants which reach the high seas.

In Resolution 2996, entitled International Responsibility of a State in regard to the Environment, the General Assembly *"[r]ecall[s]*

159. G.A. Res. 3129, 28 U.N. GAOR, U.N. Doc. A/Res./3129 (1974), *reprinted in* 13 INT'L LEGAL MATERIALS 232 (1974). This resolution was passed by a vote of 77 in favor to 5 against, with 43 abstentions.

160. *See* note 154 *supra*.

161. G.A. Res. 2995, 27 U.N. GAOR, Supp. (No. 30) 42, U.N. Doc. A/8730 (1972).

principle 21 . . . of the Declaration of the United Nations Conference on the Human Environment concerning the international responsibility of States in regard to the environmental, [and] [*b*]*ear*[s] in mind that [this] principle [*inter alia*] lay[s] down the basic rules governing this matter . . . ."[162] By Resolution 2996 the General Assembly once again invokes Principle 21 of the Stockholm Conference and further states the belief that it is an accurate statement of the existing law governing the environment.

Finally, the General Assembly, "desirous of contributing to the creation of conditions for . . . the protection, preservation and enhancement of the Environment," adopted by resolution on December 12, 1974, the Charter of Economic Rights and Duties of States, which contains the following provision relevant to land-based high seas pollution:

> Article 30. The protection, preservation and enhancement of the environment for the present and future generation is the responsibility of all States. All States shall endeavor to establish their own environmental and developmental policies in conformity with such responsibility. The environmental policies of all States should enhance and not adversely affect the present and future development potential of developing countries. All States have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond limits of national jurisdiction. All States should cooperate in evolving international norms and regulations in the field of the environment.[163]

The Third United Nations Conference on the Law of the Sea

Following the Sixth Session of the Third United Nations Conference on the Law of the Sea in New York, which ended on July 15, 1977, an Informal Composite Negotiating Text (ICNT) was issued, which included Draft Articles on the Protection and Preservation of the Marine Environment.[164] Because it is a draft its use must be as subsidiary evidence confirming the application of *sic utere tuo* to land-based high seas pollution. In addition, it should be mentioned that many of the revised draft's provisions may be subject to radical change before any convention is adopted by the Conference. Nevertheless, if the conferees eventually agree on a new law of the

162. G.A. Res. 2996, 27 U.N. GAOR, Supp. (No. 30) 42, U.N. Doc. A/8730 (1972).
163. G.A. Res. 3281, 29 U.N. GAOR, Supp. (No. 31) 50, U.N. Doc. A/9631 (1974).
164. U.N. Doc. A/Conf. 62/WP. 10/pt. XII (1977). The original Informal Single Negotiating Text was issued following the 1975 Geneva Session of the Conference, U.N. Doc. A/Conf. 62/WP. 8/pt. 3 (1975), and revised following the fourth session ending May 7, 1976, U.N. Doc. A/Conf. 62/WP. 8/Rev. 1/pt. 3 (1976).

sea convention, it can be reasonably expected that the basic obligations presented below will survive more or less in their present form.

The ICNT on the marine environment recognizes in Article 193 that "States have the obligation to protect and preserve the marine environment."[165] It further provides in Article 195 in particular reference to land-based pollution as follows:

> States shall take all necessary measures consistent with the present Convention to prevent, reduce and control pollution of the marine environment from any source . . . [and] shall take all necessary measures to ensure that . . . pollution arising from incidents or activities under their jurisdiction or control does not spread beyond the areas where they exercise sovereign rights. . . . These measures shall include . . . those designed to minimize to the fullest possible extent:
>
> (a) Release of toxic, harmful and noxious substances, especially those which are persistent:
>
> (i) from land-based sources;
>
> (ii) from or through the atmosphere;
>
> (iii) by dumping.[166]

These basic provisions have been preserved without major change from the original 1975 Negotiating Text, and the belief that they will also survive later negotiating sessions of the Conference essentially intact is substantiated when one views the uniformity of earlier Draft Articles on the topic submitted by various delegations before the original negotiating text was issued in 1975. These earlier Draft Articles were among the sources utilized in preparing the original Negotiating Text.

Kenya:

> Article 3
>
> States . . . have the obligation to protect and preserve the quality and the resources of the marine environment . . . .
>
> Article 4
>
> States shall take all necessary measures to prevent or control pollution of the marine environment. . . . In particular, States shall take measures to ensure that activities carried out under their control or within the area under their jurisdiction do not cause damage by pollution of the marine environment.
>
> Article 5
>
> States shall ensure that measures taken . . . shall deal with all sources of pollution of the marine environment, whether land, marine or any other sources including, rivers, estuaries, the atmosphere, pipelines, outfall structures, vessels. . . . Such measures shall include, *inter alia*:
>
> (a) with respect to land-based sources of pollution . . . measures designed to minimize the release of toxic, harmful and persistent substances into the marine environment. . . .[167]

165. U.N. Doc. A/Conf. 62/WP. 10, art. 193 (1977).
166. *Id.*, art. 195.
167. U.N. Doc. A/Conf. 62/C. 3/L. 2 (1974).

Israel:

> *Article 1.* Every State undertakes to make the discharge of pollutants into the sea an offence punishable by adequate penalties.[168]

Joint Draft Articles of Canada, Fiji, Ghana, Guyana, Iceland, India, Iran, New Zealand, Phillipines and Spain:

> I.
>
> States have the obligation to protect and preserve the marine environment.
>
> . . . .
>
> III.
>
> (1) States shall take all necessary measures to prevent pollution of the marine environment from any source, using for this purpose the best practicable means in accordance with their capabilities, individually or jointly as appropriate, and according to their own environmental policies.
>
> . . . .
>
> (3) The measures taken . . . shall deal with all sources of pollution of the marine environment, whether air, land, marine, or any other sources. They shall include *inter alia*:
>
> (a) In respect of land-based sources of pollution of the marine environment, including rivers, estuaries, pipelines and outfall structures, measures designed to minimize the release of noxious and harmful substances, especially persistent substances, into the marine environment to the fullest possible extent.[169]

Joint Draft Articles of Belgium, Bulgaria, Denmark, German Democratic Republic, Federal Republic of Germany, Greece, Netherlands, Poland and the United Kingdom:

> Article 1.
>
> States shall establish [international and national] regulations to prevent, reduce and control pollution of the marine environment from land-based sources.[170]

Union of Soviet Socialist Republics:

> Article 1.
>
> States shall take all necessary measures to ensure that pollution of the marine environment arising from activities under their jurisdiction or control does not spread to the marine environment outside their territorial sea and does not cause damage to other States and their environment.[171]

Concerning the liability question, the ICNT also recognizes in general terms State responsibility for damage caused to the marine

168. U.N. Doc. A/Conf. 62/C. 3/L. 5 (1974).
169. U.N. Doc. A/Conf. 62/C. 3/L. 6 (1974).
170. U.N. Doc. A/Conf. 62/C. 3/L. 24 (1975).
171. U.N. Doc. A/Conf. 63/C. 3/L. 25 (1975).

environment in violation of international law (for example, under Draft Articles 193 and 195 above), the duty to provide municipal law mechanisms for facilitating compensation or injunctive relief and a present duty to cooperate in the further development of international law in these regards:

Article 236.

1. States are responsible for the fulfillment of their international obligations concerning the protection and preservation of the marine environment. They shall be liable in accordance with international law for damage attributable to them resulting from violations of these obligations.

2. States shall ensure that recourse is available in accordance with their legal systems for prompt and adequate compensation or other relief in respect of damage caused by pollution of the maritime environment by persons, natural or juridical, under their jurisdiction.

3. States shall co-operate in the development of international law relating to criteria and procedures for the determination of liability, the assessment of damage, the payment of compensation and the settlement of related disputes.[172]

Although Draft Article 236 is silent about whether liability is strict or limited, it does recognize that the scope of acts for which a State is responsible also includes the acts of private individuals as well as acts of State instrumentalities.

Declarations of Regional Organizations[173]

Declarations of regional organizations do not carry with them tangible legal effects sufficient to satisfy the requirements of *opinio juris*. However, they do share with treaties the advantage of providing a clear and uniform statement of a viewpoint to which a number of States openly subscribe and as such constitute a useful source of evidence of customary international law.

Declaration of the Council of European Communities[174]

On November 22, 1973, the Council of European Communities declared a Programme of Action of the European Communities on the Environment, which contained the following statement:

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172. U.N. Doc. A/Conf. 62/WP. 10, art. 236. Caution must be exercised in reading too much into Article 236 because it fails to define what "international obligations" States have to preserve and protect the marine environment.

173. *See also*, Organisation for Economic Co-Operation and Development: Council Recommendation on Principles Concerning Transfrontier Pollution, O.E.C.D. Doc. C (74) 224, Nov. 21, 1974, *reprinted in* 14 INT'L LEGAL MATERIALS 243 (1975). "[T]hese principles deal with pollution originating in one country and having effects within other countries." *Id.*

174. Declaration of the Council of European Communities and Representatives of Governments of the Member States Meeting in Council of November 22, 1973 on the Programme of Action of the European Communities on the Enviroment, 16 O.J. EUR. COMM. (No. C 112) 1 (1973).

> [T]he serious problems posed by the pollution of certain zones of common interest (marine pollution, pollution of the Rhine basin and certain frontier zones) will require the introduction of special measures and procedures in a suitable framework, taking into account the geographical characteristics of such zones. Thus as far as marine pollution is concerned, Community action will consist of . . . implementing projects to combat land-based marine pollution along the coastline of the Community.[175]

Declaration of Santo Domingo[176]

At the initiation of the Colombian Government, a Specialized Conference of Caribbean Countries Concerning the Problems of the Sea (held in Santo Domingo in June, 1972) issued a declaration containing provisions dealing with the territorial sea, patrimonial sea, continental shelf, deep seabed and the following provision on marine pollution:

> 1. [It] is the duty of every State to refrain from performing acts which may pollute the sea and its seabed, either inside or outside its respective jurisdictions.
>
> 2. The international responsibility of physical or juridical persons damaging the marine environment is recognized . . . .[177]

Organization of African Unity Declaration on the Law of the Sea[178]

The Council of Ministers of the Organization of African Unity, meeting in May, 1973, issued a Declaration on the Issues of the Law of the Sea which recognized "that every State has . . . an obligation in the prevention and control of pollution of the marine environment"[179] and which contained the following provision:

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175. *Id.*, Annex I, ch. 1, § 8, 16 O.J. EUR. COMM. (No. C 112) 1, 10 (1971).

176. Specialized Conference of Caribbean Countries Concerning the Problems of the Sea: Declaration of Santo Domingo, *done at* Santo Domingo de Guzman, June 9, 1972, *reprinted in* 11 INT'L LEGAL MATERIALS 892 (1972). Fifteen countries took part in the proceedings, and the Final Declaration was signed by Colombia, Costa Rica, Guatemala, Haiti, Honduras, Mexico, Nicaragua, Dominican Republic, Trinidad and Tobago, and Venezuela. *See also* Declaration of the Latin American States on the Law of the Sea, U.N. Doc. A/AC. 138/28 (1970).

177. Specialized Conference of Caribbean Countries Concerning the Problems of the Sea: Declaration of Santo Domingo, *done at* Santo Domingo de Guzman, June 9, 1972, *reprinted in* 11 INT'L LEGAL MATERIALS 892, 893 (1972) (bracket original).

178. Committee on the Peaceful Uses of the Sea-bed and the Ocean Floor Beyond the Limits of National Jurisdiction, U.N. Doc. A/AC. 138/89 (1973). *See also* Conclusions in the General Report of the African States Regional Seminar on the Law of the Sea, U.N. Doc. A/AC. 138/79 (1972).

179. Committee on the Peaceful Uses of the Sea-bed and the Ocean Floor Beyond the Limits of National Jurisdiction, U.N. Doc. A/AC. 138/89 (1973).

> African States shall take all possible measures, individually or jointly, so that activities carried out under their jurisdiction or control do not cause pollution damage to other States and to the Marine environment as a whole.[180]

Thus the Organization of African Unity expresses the view that States are obligated not to pollute the high seas ("marine environment as a whole") from land-based sources ("activities carried out under their jurisdiction or control").

Municipal Legislation[181]

Municipal legislation used as evidence of State practice confirming the application of *sic utere tuo* to land-based pollution of the high seas must meet two requirements. First, the municipal legislation in question must, in fact, apply to land-based pollution of the high seas. Second, it must be demonstrated that the legislators were motivated by either a sense of conforming to an international duty or the need to control land-based pollution of the high seas.[182]

The second requirement is by far the most difficult to establish. Of course, if the legislation in question states that it is being enacted to fulfill an international law obligation there is no problem. However, even where the particular municipal law is silent about its *raison d'être*, as is usually the case, the second requirement may be implied, provided there is either an urgent need for pollution control or a significant number of States which have enacted similar pieces of legislation. As Oppenheim says, such "uniform municipal legislation constitutes in a substantial sense evidence of international custom."[183]

In recent years a growing number of States have enacted legislation which fulfills this two-step requirement.

Canada

By the Arctic Waters Pollution Prevention Act of 1970[184] Canada extended its functional control over pollution to a portion of the Arctic waters up to 100 nautical miles beyond the Canadian mainland and archipelagic baseline. Without entering into the controversy this Act has provoked with regard to ocean-based pollution, it is significant to observe that it also applies to the deposit of detrimental waste by "any person who carries on any undertaking on the main-

180. *Id.*
181. *See also* WHO/UNEP SECRETARIATS: PROTECTION OF THE MEDITERRANEAN SEA AGAINST POLLUTION FROM LAND-BASED SOURCES: A SURVEY OF NATIONAL LEGISLATION, WHO AND UNEP, Geneva (1976).
182. *See* text accompanying note 11 *supra*.
183. 1 L. OPPENHEIM, INTERNATIONAL LAW 32 n.3 (8th ed. H. Lauterpacht 1955).
184. CAN. REV. STAT. ch. 2 (1st Supp. 1970).

land or islands of the Canadian arctic," imposing a standard of strict liability for pollution from land-based sources. The Act also makes the pollutor subject to criminal prosecution.[185] The Canadian legislation was enacted because of the fragility of the Arctic—its "minute rate of decomposition" and its "relatively low restorative capacity."[186] In other words, Canada felt its action was "necessary for the effective prevention of pollution which could cause damage or injury to the land or marine environment under its exclusive or sovereign authority."[187]

Denmark

In 1972, the Danish Ministry of Pollution Control issued a Notice prohibiting dumping of certain materials from ships.[188] It provides in relevant part:

> Article 1.
>
> 1. It shall be unlawful to dump in the seas from Danish ships any materials loaded on board with a view to dumping, which contain substances that could have harmful effects on marine animal or plant life. The prohibition shall, in particular, apply to dumping of
>
> (1) Persistent organic halogen compounds and
>
> (2) Compounds of toxic metals.
>
> 2. It shall also be unlawful to dump from Danish ships any materials that could cause serious inconvenience to navigation and fisheries and other lawful uses of the sea.[189]

Finland

In 1965, Finland passed a law containing the following provisions:

> Article 1.
>
> The discharge or disposal in the sea of residue or other substances from the territory of Finland or from a Finnish ship shall be pro-

185. *Id.* § 6(1)(b).

186. Beesley, *Rights and Responsibilities of Arctic Coastal States: The Canadian View*, 3 J. MAR. L. & COM. 1, 4 (1972).

187. Canadian Working Paper on Preservation of the Marine Environment, U.N. Doc. A/AC.138/SCIII/L. 26 (1972).

188. Notice of Jan. 18, 1972, Prohibiting the Dumping of Certain Materials from Ships, *reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 117 (U.N. Legislative Series, preliminary issue, 1973), U.N. Doc. ST/LEG/SER.B/16/Add. 2. *See also* Act No. 285 of June 7, 1972, prohibiting marine pollution by land-based exploitation of stone, gravel and other natural deposits in the ground in the territorial seas. *Id.* at 210-11.

189. Notice of Jan. 18, 1972, Prohibiting the Dumping of Certain Materials from Ships, *reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 117 (U.N. Legislative Series, preliminary issue, 1973), U.N. Doc. ST/LEG/SER.B/16/Add. 2.

hibited, if such action either directly or after its effects have spread, causes harmful pollution on the high seas. . . . The same rule shall apply to mining and other activities of the same nature in the territory of Finland . . . .

Article 2.

Discharge in the sea of untreated radiated nuclear fuel and of radioactive waste developed in connection with the first phase of the chemical separation of its nuclear fission products shall be prohibited.

Article 3.

Discharge of radioactive materials, other than those referred to in Article 2, from the territory of Finland or from Finnish ships, in a way which can harm the human beings, the environment or the living resources of the sea or expose them to danger, is prohibited.[190]

Japan

The Japanese in 1970 passed the Marine Pollution Prevention Law which provides:

Article 2.

Every person shall endeavour oneself not to pollute the ocean by the discharge of oil or wastes and by other acts.[191]

The Netherlands

The Dutch Pollution of Surface Water Act of 1969[192] provides:

1. The depositing of waste, pollutants or harmful substances in whatsoever form without a permit in surface water [including areas of the open sea designated by the Government] by means of installations for that purpose is prohibited.[193]

Norway

The Norwegian Government in 1971 issued regulations containing the following section:

Section 1. In accordance with the prohibition of water pollution . . . [set out in the Water Pollution Law of June 26, 1970] Norwegian ships shall be prohibited from discharging the following substances in international waters, provided that such substances were taken on board for the purpose of being discharged:

(1). Persistent organic substances, i.e. organic compounds which can only be broken down slowly in organisms or by natural chemical processes.

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190. Law No. 146, Concerning the Prevention of Pollution of the Sea, Mar. 5, 1965.

191. Law No. 136 of 1970, *reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 126 (U.N. Legislative Series, preliminary issue, 1973), U.N. Doc. ST/LEG/SER.B/16/Add. 2.

192. *Reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 66 (U.N. Legislative Series 1974), U.N. Doc. ST/LEG/SER.B/16.

193. Pollution of Surface Water Act, ch. I, § 1(1), Nov. 13, 1969, *reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 66 (U.N. Legislative Series 1974), U.N. Doc. ST/LEG/SER.B./16.

(2). Waste which is composed of the above mentioned substances or of organic or inorganic compounds of heavy metals or other toxic metals.

Similarly Norwegian nationals and companies shall be prohibited from taking action with the object of causing such discharge.[194]

Oman

Oman's Marine Pollution Control Law of 1974[195] imposes an absolute liability standard and makes subject to fine violation of the following provision:

Article 2

(1)(a). It shall be unlawful for any person to discharge a pollutant into the pollution-free zone [extending 38 miles seaward of the outer-limits of the territorial sea] from a vessel, a place on land, or an oil transmission apparatus.[196]

Spain

On May 27, 1967, the Council of Ministers issued an order laying down rules prohibiting the discharge into the sea of petroleum products, which provides in relevant part:

Article 1. Factories and industries of all kinds are hereby prohibited from discharging into the sea petroliferous products or residues containing petroliferous substances, whether persistent . . . or non-persistent [without a permit].[197]

Sweden

Sweden's Dumping Act of December 1971[198] contains the following Article:

Article 1.

Waste matter, whether solid, liquid or gaseous, may not be discharged (dumped) . . . by a Swedish vessel or aircraft in the open sea. Waste matter intended to be discharged in the open sea may not be taken out of the country [without a permit].[199]

194. Regulations Concerning the Discharge or Dumping of Certain Substances Having Harmful Effect on Marine Life or Human Health, June 11, 1971.

195. *Reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 51 (U.N. Legislative Series, preliminary issue, 1975), U.N. Doc. ST/LEG/SER.B/18/Add. 2.

196. *Id.* at 53.

197. *Reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 182 (U.N. Legislative Series 1972), U.N. Doc. ST/LEG/SER.B/16.

198. *Reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 26 (U.N. Legislative Series, preliminary issue, 1974), U.N. Doc. ST/LEG/SER.B/18/Add 2.

199. *Id.*

United Kingdom

In 1974 the United Kingdom placed the following restrictions on dumping of land-based waste on the high seas:

> Article 1
>
> (1). [N]o person, except in pursuance of a license granted . . .
>
> (b) shall dump substances or articles in the sea outside United Kingdom waters from a British ship, aircraft, hovercraft or marine structure; or
>
> (c) shall load substances or articles on to a ship, aircraft, hovercraft or marine structure in the United Kingdom or United Kingdom waters for dumping in the sea, whether in United Kingdom waters or not . . . .[200]

United States

Among the laws and promulgated regulations concerning pollution of the high seas in the United States are the following provisions:

> The President shall undertake to enter into international agreements to apply uniform standards of performance for the control of the discharge and emission of pollutants from new sources, uniform controls over the discharge and emission of toxic pollutants, and uniform controls over the discharge of pollutants into the ocean. For this purpose the President shall negotiate multilateral treaties, conventions, resolutions, or other agreements, and formulate, present, or support proposals at the United Nations and other appropriate international forums.[201]
>
> No permit shall be issued for any discharge to . . . the waters of the contiguous zone, or the oceans, prior to the promulgation of guidelines under section 403(c) of the [Federal Water Pollution Control] Act unless the Regional Administrator [of the Environmental Protection Agency] determines it to be in the public interest.[202]
>
> Except as may be authorized by a permit . . .
>
> (1) no person shall transport from the United States, and
> (2) in the case of a vessel or aircraft registered in the United States or flying the United States flag or in the case of a United States department, agency, or instrumentality, no person shall transport from any location
>
> any material for the purpose of dumping it into ocean waters.[203]

Union of Soviet Socialist Republics

The Government of the Soviet Union has decreed with regard to high seas pollution as follows:

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200. Dumping at Sea Act 1974, ch. 20, *reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 73 (U.N. Legislative Series 1975), U.N. Doc. ST/LEG/SER.B/18/Add. 2.

201. Water Pollution Prevention and Control, Pub. L. No. 92-500, §7, 86 Stat. 896 (1972) (codified at 33 U.S.C. §1251 (Supp. V 1975)).

202. Environmental Protection Agency, National Pollutant Discharge Elimination System, 38 Fed. Reg. 13528, 13533 (1973).

203. 33 U.S.C. § 1411(a) (Supp. V 1975).

> In order to intensify action to counter pollution of the . . . high seas by substances harmful to human health or to the living resources of the sea, the Presidium of the Supreme Soviet of the USSR hereby decrees that: [p]ollution of the . . . high seas as a result of the discharge from Soviet ships or other floating structures, or as a result of failure to take the requisite steps to prevent the escape therefrom, of the aforementioned substances or mixtures in violation of international agreements to which the USSR is a party, shall be punishable by imprisonment for a term of not more than two years, or by correctional labour for a term of not more than one year or by a fine of not more than 10,000 roubles.
>
> Where such acts cause substantial harm to human health or to the living resources of the sea, they shall be punishable by imprisonment for a term of not more than five years, or by a fine of not more than . . . 20,000 roubles.[204]

ILA Draft Articles on Marine Pollution of Continental Origin[205]

The recent work of the International Law Association's (ILA) Committee on the Uses of the Waters of International Rivers[206] represents the primary effort thus far by publicists to deal directly with land-based pollution of the high seas. Naturally, the work of publicists cannot constitute State practice, but "the teachings of the most highly qualified publicists" are, like judicial decisions, referred to by Article 38 (1)(d) of the Statute of the ICJ "as [a] subsidiary means for the determination of rules of law."[207] At the very least this means the work of publicits may evidence the existence of customary international law.

In accordance with its task of codification and study of certain selected aspects of water resources law, the Committee in 1972 presented to the New York Conference of the ILA a report containing, *inter alia*, a set of six proposed rules entitled "Draft Articles on Marine Pollution of Continental Origin," which was subsequently adopted by the Conference.[208] The report noted that marine pollution

204. *Reprinted in* NATIONAL LEGISLATION AND TREATIES RELATING TO THE LAW OF THE SEA 72 (U.N. Legislative Series, preliminary issue, 1975), U.N. Doc. ST/LEG/SER.B/18/Add. 2.

205. INTERNATIONAL LAW ASSOCIATION, REPORT OF THE FIFTY-FIFTH CONFERENCE 97-106 (1972) [hereinafter cited as ILA]. These Draft Articles are an adaptation of the well-known Helsinki Rules on the Uses of the Waters of International Rivers, note 36 *supra*, which were adopted by the ILA in 1966 at its 52d Conference. The Committee began exploring the topic of marine pollution of continental origin in 1968.

206. The Committee is composed of approximately 36 members from some 20 countries.

207. Statute of the Court, art. 38(1)(d), *reprinted in* DOCUMENTS ON THE INTERNATIONAL COURT OF JUSTICE 60, 77 (S. Rosenne ed. 1974).

208. ILA, *supra* note 205, at 97.

originates, *inter alia*, from land-based sources and that rules are needed for its control.[209]

While the work of a private scholarly organization such as the ILA may not be as authoritative as the work of a public body such as the International Law Commission, whose members are selected by the General Assembly of the United Nations, the General Assembly has nevertheless noted the special worth of recent studies such as the Draft Articles: "It was agreed in the Sixth Committee that intergovernmental . . . studies . . . , especially those which are of a recent date, should be taken into account by the International Law Commission."[210] It was the intention of the ILA Water Resources Committee to issue the Draft Articles in order to "make precise the relevant basic rules of international law."[211] In fact, the Draft Articles are, in large part, an extension of the ILA's Helsinki Rules, which, as was seen earlier, have had a significant influence in the evolution of customary international law with regard to international rivers.[212]

Draft Articles I and II on Marine Pollution of Continental Origin confirm the application of the general principle of *sic utere tuo* to land-based pollution of the high seas:

> *Article I.*
>
> As used in this chapter "Continental sea-water pollution" means any detrimental change in the natural composition, content or quality of sea water resulting from human conduct taking place within the limits of the national jurisdiction of a State.
>
> This conduct shall include, *inter alia*, the discharge or introduction of substances directly into the sea from pipelines, extended outlets, or ships, or indirectly through rivers or other watercourses whether natural or artificial, or through atmospheric fall-out.
>
> *Article II.*
>
> Taking into account all relevant factors referred to in Article III, a State
>
> (a) shall prevent any new form of continental sea-water pollution or any increase in the degree of existing continental sea-water pollution which would cause substantial injury in the territory of another State or to any of its rights under international law or to the marine environment, and
>
> (b) shall take all reasonable measures to abate existing continental sea-water pollution to such an extent that no substantial injury of the kind referred to in paragraph (a) is caused.[213]

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209. *Id.*
210. *Id.* at 42-43.
211. *Id.* at 98.
212. *See* text accompanying notes 36-45 *supra*. The ILA also adopts the commentary to the Helsinki Rules where the text of the Draft Articles corresponds *mutatis mutandis* with the Helsinki Rules. ILA, *supra* note 205, at 98.
213. ILA, *supra* note 205, at 98-99, 100-01. The reference to the "relevant

These two Draft Articles, while not limited in scope to high seas pollution only, nevertheless sum up neatly the foregoing evidence of customary international law on land-based high seas pollution.[214]

Draft Article I incorporates the definitional distinction between the legitimate disposal of land-based waste and pollution, the latter being waste introduced by man which causes a "detrimental change" in the marine environment.[215] It further confirms that dumping from ships, discharges from rivers, the coast and the atmosphere are sources of land-based high seas pollution.

Article II confirms in unequivocal terms the existence of a general obligation on the part of States not to pollute the high seas.[216] In section (a) States must prevent all future pollution, including any increase in present levels of existing pollution, which causes substantial injury,[217] *inter alia*, to any State rights under international law (which includes rights inherent in the concept of freedom of the high seas such as fishing or navigation) and to the marine environment (recognizing that sea-water constitutes a "sort of global resource . . . [which] must be protected in the interests of all"[218]). The only difference in treatment between preventing future pollution and abating existing pollution is in the words of section (b), "all reasonable measures," by which the ILA Committee "took into account that it is in general much more complicated to cope effectively with existing than with future pollution."[219]

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factors" in Article III concerns the establishment of international standards and interim criteria.

214. The ILA makes clear that the definition of "continental sea-water pollution" includes certain ocean-based activities as well, notably pollution originating in the territorial sea and the continental shelf. ILA, *supra* note 205, at 100.

215. The use of "detrimental change" corresponds to the use of "deleterious effect" in the more frequently used definition of marine pollution.

216. The ILA, *supra* note 205, at 101, stresses that the use of the word "shall" in place of the less obligatory term "should" (*cf.* Article X of the Helsinki Rules, which employs the less obligatory term "should," *reprinted in* note 38 *supra*) was to effect the drafters' intention to "make it an *obligation* to take measures to stop fouling sea-water." ILA, *supra* note 205, at 101. It should also be observed that Article II, which is an adaptation of Article X of the Helsinki Rules, abandons the concept of equitable utilization because the Committee was uncertain "whether States might claim an 'equitable share' of the beneficial uses of maritime waters . . . outside the limits of national jurisdiction of another State." *See* ILA, *supra* note 205, at 102-03, and text accompanying notes 39-42 *supra*.

217. The commentary to Article X of the Helsinki Rules, from which Article II was borrowed, defines an injury as "substantial" if it "materially interferes with or prevents a reasonable use of the water." Helsinki Rules, *supra* note 36, art. X comment (c), at 500.

218. ILA, *supra* note 205, at 101.

219. *Id.*

Concerning standards of State responsibility, the commentary to Article X of the Helsinki Rules suggests that a State is responsible for land-based pollution causing substantial injury to the high seas, "whether the pollution results from public activity of the State itself, within or outside its territory, or from conduct of private parties within its territory."[220] Further, Draft Article V on marine pollution provides:

Article V.

> In the case of violation of the rules in Article II [prevention of new, and abatement of existing land-based pollution causing or likely to cause substantial injury], the State responsible shall cease the wrongful conduct and shall compensate the injured State for the injury that has been caused to it.[221]

Thus, the drafters make no distinction in the standard of responsibility for violation of the duty either to prevent new pollution or to abate existing pollution. Further, Draft Articles II and V taken together appear to suggest a strict standard of State responsibility.[222] The comments to Draft Article V make clear that the drafters envisage the possibility that both States and non-States—such as international environmental organizations—could demand the cessation of polluting activities.[223] However, the drafters reached "no conclusion . . . on the question whether compensation will be due—and to whom—in cases where pollution has caused substantial injuries to the marine environment-at-large or whether in such cases it suffices to claim that the wrongful conduct is brought to an end."[224]

CONCLUSION

The introduction of land-based waste to the high seas is, in general, a necessary and legitimate consequence of human activity unless it "pollutes" the marine environment. To qualify as pollution, land-based waste reaching the high seas through rivers, coastal discharges, the atmosphere, ocean currents, or by dumping must be shown to result in real or potential material damage. Only in such a case does general customary international law by application of the generial principle *sic utere tuo* operate to prohibit land-based pollution of the high seas. The application of *sic utere tuo* to land-based high seas pollution is consistent with its accepted application to analogous areas of international law, notably pollution of international rivers, air pollution, hostile expeditions and pollution of outer space. Evidence of the obligation not to pollute the high seas from

220. Helsinki Rules, *supra* note 36, art. X comment (d), at 500.
221. ILA, *supra* note 205, at 104.
222. *See also* Helsinki Rules, *supra* note 36, art. XI comments, at 502.
223. ILA, *supra* note 205, at 104-05.
224. *Id.* at 105.

land-based sources is to be found in the protests of States, bilateral and multilateral treaties, judicial decisions, the activities of the United Nations (particularly the Stockholm Conference on the Human Environment, United Nations Resolutions and the Third United Nations Conference on the Law of the Sea), declarations of regional organizations, and a growing body of municipal legislation as well as in the work of the ILA.

Concerning the question of liability for the violation of the customary international law obligation not to pollute, there is a growing tendency to suggest a strict standard of liability in accordance with the objective theory of State responsibility under which States are responsible without regard to fault for injuries resulting from all land-based high seas pollution introduced by private individuals as well as State instrumentalities.

It must be recognized, however, that the international community has made only an initial foray toward resolution of the ambiguities inherent in the concepts of freedom of the high seas and the control of land-based pollution. A vague definition of injury, a broad customary international law norm prohibiting pollution, and an uncertain standard for State responsibility at best leave many important and difficult legal questions unanswered as grist for the international lawyer's mill.

Finally, it should be stressed that international law is but one element in the pollution-control equation. Science, technology, economics and politics all will play a significant if not decisive role in determining to what extent States will practice conservation by controlling their land-based pollution of the high seas.