Apostrophe to a Troubled Ocean

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Recommended Citation
George P. Smith II, Apostrophe to a Troubled Ocean, 5 IND. LEGAL F. 267 (1972).
APOSTROPHE TO A TROUBLED OCEAN

GEORGE P. SMITH II *

Roll on, thou deep and dark blue ocean, roll!
Ten thousand fleets sweep over thee in vain;
Man marks the earth with ruin, his control
Stops with the shore; upon the watery plain
The wrecks are all they deed, nor doth remain
A shadow of man's ravage, save his own,
When for a moment, like a drop of rain,
He sinks into thy depths with bubbling groan,
Without a grave, unknelled, uncoffined, and unknown.

. . .

Time writes no wrinkle on thou azure brow;
Such as creation's dawn beheld, thou rollest now . . .

Dark-hearing; boundless, endless, and sublime . . .

Apostrophe to the Ocean
from Childe Harold's Pilgrimage
GEORGE GORDON BYRON

The oceans have always been considered the common heritage of mankind and essential to his survival. They were long considered both too productive and too vast to be damaged. Today, however there is a realization that the existing threats to the health and productivity of the oceans are very real and, in fact, grave. No longer can the myth be

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Several former students of the author contributed to the development of this article: Paul Benham, Dan F. Bufford, Wilson Bynum, David V. Capes, D. Derrell Davis, Michael L. Gibson, Jerry Harner, and John K. Martensen. Particular recognition is owing Kent Rubens.

The author attended the 1970 meeting of Pacem In Maribus.

The attitudes developed and the conclusions reached should not be taken as representative of any official position of the Environmental Protection Agency.

1. Oceans and seas—liquid salt water—constitute about 97 percent of all water, with an equivalent depth of between 2,700 and 2,000 meters; the greater part is locked up in solid form in the polar ice caps and in glaciers. Penman, The Water Cycle, 223

perpetuated that the oceans are an unlimited cornucopia for unbridled exploitation by man.\(^3\)

Jacques Yves Cousteau, the noted French underwater explorer, continues in his efforts to make others aware of the real dangers of marine pollution. He comments, “The oceans are in danger of dying. The pollution is general.”\(^4\) Although a note of fatalism might easily be attached to these words, Cousteau himself believes that damage to marine life can be stopped. “Some scientists are sure that it is too late. I don’t think so.”\(^5\)

In order to postulate workable proposals for resolution of this problem, it will be necessary to discuss the menacing growth of pollution and the work that has been started towards containing it. In June 1970, a *Pacem in Maribus* Convocation was convened in Malta.\(^6\) Although this was an official assembly organized by the Center for the Study of Democratic Institutions, the program was conducted—and participated in—by many leaders from the various nations of the world.\(^7\) The United Nations has scheduled a Universal Conference on Human Environment to be held in Sweden during the summer of 1972. Hopefully,

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5. *Id.*
6. Among the significant propositions formulated by the Conference were that: (a) the problems posed by the impending industrialization of the oceans are global in nature and cannot be encompassed by traditional devices employed by nations in their relations with each other; (b) vast areas of seabed and ocean floor are, and must continue to be, beyond the limits of national jurisdiction; their protection and conservation cannot wait for the settlement of present boundary disputes; (c) ocean management requires systematic planning—functionally rather than territorially directed; (d) planning must consider the interfaces between scientific research and commercial exploration, industrial and military development, the needs of the developing nations for growth and conservation and the requirements of private and public enterprises. *Pacem In Maribus* Convocation, Malta, June 28—July 3, 1970, at 171-72 [hereinafter cited as *Pacem In Maribus I* Proceedings].
7. Participants came from over 30 countries, with representatives from the United States, Britain and France being foremost among the delegations. While invited the Soviet Union at the last moment declined to send a representative to the conference. *See also Time*, July 20, 1970, at 34.
8. A second *Pacem In Maribus* Convocation was held June 29—July 5, 1971, at Malta. One of the principal topics of research and discussion was the feasibility of an ocean development tax of one percent—as proposed by *Pacem In Maribus I*—on ocean produce (including living and non-living resources as well as services) anywhere in the oceans, regardless of boundaries, for the duration of the first international ocean decade. The purpose of the tax would be to provide funds—quite roughly estimated, $150 to $300 million annually—to advance the rational development of the ocean environment for the benefit of mankind as a whole.
definite advances will be made toward structuring a resolution to the problems confronting the total environment.

If any lasting international directions for curbing pollution are to emerge from the work of independent organizations such as the Center for the Study of Democratic Institutions, together with the United Nations, the United States and the foreign governments of the world, genuine universal collaboration must be engendered. Guidelines—taking the form of recommendations, reports, case studies, and manuals to assist the international world community in resolving their hydraheaded environmental problems—should be postulated. Legislative and administrative controls of pollution would, then, naturally follow as a complementary part of the guidelines. Land use planning, new techniques for combating soil erosion and the introduction of advanced methods of waste disposal would, additionally, emerge. 8

International agreements, both of a universal and regional nature, should be employed as a prerequisite to establishing an international network which would register, measure and monitor pollutants throughout the ecological system (i.e., in the atmosphere, oceans, lakes and rivers). These international conventions would, ideally, set permissible standards for emission of certain substances or effluents and go further in prohibiting or reducing the manufacture and use of certain pollutants, such as pesticides and heavy metal compounds. 9

It will become more obvious to even the casual student of this area, throughout the subsequent analysis, that the enforcement of international rules designed to protect the international environment will be a matter of great technical and political complexity. No matter how equitable rules and agreements may be, their chances for enforcement remain exceedingly clouded unless an informed and, indeed, sustained international public opinion is evidenced. 10 Public awareness of the problems, or the lack thereof, is the real gravamen.

In a memorandum to the participants at Pacem in Maribus, the following was used as a major source of consideration during the entire series of meetings:

The Marine Revolution is upon us and we must assign it its place somewhere on the long list of revolutions that have jolted mankind throughout modern history. . . . The Marine Revolu-

9. Id.
10. Id.
tion may be wholly destructive. . . . If the prophets of gloom and doom are right, the oceans may be dead by the end of the century. Bereft of this essential reservoir of life, the earth would not be able to sustain us much longer. . . . The only realistic method, then, is to harness and rationally direct the forces of the Marine Revolution, minimizing its harmful and destructive side effects.11

The purpose of this article is, quite simply then, to consider in broad-brush the various aspects of this “revolution.” A basic understanding of the development of the principles of law emerging here and similarly determining the limits of containment—together with an appreciation of concomitant advances in technology—will go far toward providing structural insights into the “revolution”12 and hopefully defuse its negative force as well.

A. The Emerging Law of the Seas

With regard to the development of the coastal ocean for such activities as fishing, prospecting for minerals, scientific research, and recreation, it is well settled that the federal government has paramount authority.13 It is customary for nations to claim a 3 to 12-mile limit14 as

11. The Center for the Study of Democratic Institutions, Memorandum to Participants of Pacem In Maribus Convocation, June 28, 1970, at 1, 2.
14. See generally BRIERLY, LAW OF NATIONS ch. 5 (5th ed. 1955); 1 HACKWORTH, INTERNATIONAL LAW ch. 4, 5 (1940); Alexander, National Jurisdiction and the Use of the Sea, 8 Nat. Res. J. 373 (1968).

The 3-mile figure is generally attributed to the distance of a cannonball shot. See P. JESSUP, TERRITORIAL WATER (1927); Kent, Historical Origin of the Three Mile Limit, 48 AM. J. INT’L L. 537 (1945).

At the 1958 Geneva Conference, 21 states asserted 3 miles as the limit of the territorial sea; three claimed 4 miles; one claimed 5 miles; 12 claimed 6. Mexico claimed 9 miles and Albania 10. Eleven states claimed 12 nautical miles. Chile might be listed as claiming either 50 kilometers or 200 miles. Chile, Costa Rica, Ecuador, El Salvador and Peru appeared to claim 200 miles, so as to control all fishing within that distance from shore. The Soviet and Arab bloc insisted, at the 1958 Conference, on 12 miles as the limit of territorial waters—while the United Kingdom and the United States led groups advocating a 3-mile limit. Canada, in fact, supported a 3-mile limit, with an additional 9 miles for exclusive fishing by the coastal states. The 1960 Geneva Conference produced basically the same stands as taken in the 1958 Conference, with no compromise position being successfully adopted. See Bishop, Who Owns the Ocean Along Ecuador’s Shore, Wall Street Journal, Feb. 17, 1971, at 1, col. 4.

In early August, 1971, the United States did a “turnabout” and suggested a
constituting the territorial jurisdiction of their surrounding waters.\textsuperscript{18} A more important question, though, concerns the high seas which comprise nearly three-quarters of the world’s surface.\textsuperscript{16} As a consequence of the rapid advances being made in technology, which in turn are paving the way for man to extract the riches of the oceans, there is a pressing need to determine basic rights and principles in this area.

The principle that the high seas were open and free to the use of all nations was not fully recognized until the early part of the 19th century.\textsuperscript{17} Originally, the Romans, in formulating their legal codes, treated the oceans in much the same way as the air above; by this method the seas were considered as common to the whole of mankind rather than something—such as land—which might be privately acquired.\textsuperscript{18} This concept
was formulated before the rise of commerce which developed during the Middle Ages. Coincident with this rise in trading came claims by various countries that certain portions of the oceans and seas belonged to them and that movement on them by ships of other nations was something which could be easily regulated. When the existing countries began to realize the need for the free use of the seas, various proposals were submitted.

One of the first attempts made to limit any restrictions on the right to travel the high seas is to be found in the pamphlet, *Mare Liberum*, commissioned by the Dutch government and written by Hugo Grotius. There Grotius argued that since, a priori, the sea could not in fact be occupied, principles of natural law pointed to the fact that the seas were to be free to the use of all. As could be expected, many vigorous dissents were registered following its publication. The voices of dissent were understandable since the acceptance of Grotius' thesis would have had its most direct and immediate effect on the treasuries of countries such as Spain, Portugal, Sweden, Denmark, and city states such as Venice and Genoa which had been collecting lucrative taxes from those who used their ocean waters. The most widely noted attack on the Grotius position was written by the Englishman, John Selden, in a pamphlet entitled *Mare Clausum*. Selden's basic argument was that Grotius was com-

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interestingly, that the principle, *cujus est solum ejus debet esse usque ad coelum*, has been attributed to Accursuis of Bologna, Italy.

19. Id.

20. During the 16th century, Genoa claimed the Ligurian Sea; Venice claimed the Adriatic; and the Baltic was divided by Sweden, Poland, and Denmark. Other claims included Britain's attempt to rename the North Sea the "British Sea." Probably the most extravagant of these claims was the division of the Atlantic and Pacific by Portugal and Spain which was approved by Papal Bull. See Fenwick, supra note 18, at 496-513; Marx, supra note 16, at 181-91.

21. The Dutch were looking for a justification of their sailing on the waters of the Indian Ocean which was—at that time—claimed by Portugal. A complete discussion of the problem may be found in the English translation of *Mare Liberum* by R. Van. D. Magoffin, THE FREEDOM OF THE SEAS (1916).

The idea of natural law, in Grotius' work, assumed once more a constructive and practical function—comparable to that which it exercised at the time of the growth of Roman law. In both cases, principles both partly deduced and partly observed by general acceptance provided the basis. In international law, natural law was gradually and subtly reduced from a position of superiority over state practice to a shallow formula good enough to give resonance to claims put forward by states—but too weak to interfere with them effectively. W. Friedman, Legal Theory 115 (5th ed 1967).


23. J. Selden, Mare Clausum seu De Domino Maris (1935); see also W. Friedman, The Changing Structure of International Law 75 (1964). It is interesting to note a factor perhaps significant for Selden in helping him arrive at his decision: he had been commissioned by the Royal Family of England to undertake this very project. Selden's formulation of the law was: "First, that the sea, by the law of nature or nations, is not common to all men, but capable of private
completely mistaken in his concept of ownership; for Selden considered the seas to be property just as land was property—accordingly, in the same manner in which land was owned or possessed by man, the sea could be claimed by individual nations.24

Although debated for some time, various treaties and practices of convention soon made it apparent that the right to freely navigate the high seas was to be the rule rather than the exception.25 The Convention on the High Seas, submitted at Geneva in April, 1958, proclaimed, “The high seas being open to all nations, no state may validly purport to subject any part of them to its sovereignty.”26 It is also specified in the convention that inland states are to have the same right to sail their ships as do the coastal states.27

Freedom of the seas is only one aspect of a larger “Law of the Sea.” There is considerably more at stake than the mere right to travel on or about the oceans. Cognizant of the fact that the ocean and the land beneath (seabed) was indeed a source of wealth, the nations of the world were again faced with the problem of devising some method for determining various and sometimes conflicting claims to rights in the resources of the ocean.

The first country to attempt to take advantage of the long-range benefits of the oceans was the United States. On September 28, 1945, President Harry S Truman made the opening gesture28 creating one of the greatest “land rushes” since the days of the gold rushes on the western frontier of the United States. The President proclaimed the United States dominion or property as well as the land; second, that the King of Britain is Lord of the Sea flowing about, as inseparable and perpetual appendant of the British Empire.”


Grotius, at a time when the Netherland was the first maritime nation, stipulated the freedom of the seas as a principle of natural law. Selden, on the contrary, sought to demonstrate that natural law permitted private and public dominion over the seas. Id. 24.

Id.

25. Freedom of the sea is no absolute—and never has been. It is, as it was in the beginning, only a legal conclusion invoked to justify a policy preference for certain unilateral assertions as against others. The claims it favors are those which produce the utmost freedom for navigation, fishing, and other pursuits thought to further the most productive use of the sea and its resources—and thus to promote the community interest. It combats monopolistic claims and, at the same time minimizes international friction by confining each state's regulatory power, where possible, to ships flying their own flags, thereby avoiding wrangles over seizure of ships and crews and other incidents of enforcement. M. McDOUGAL, et al., STUDIES IN WORLD PUBLIC ORDER 782-83 (1960); see also Lauterpacht, Sovereignty Over Submarine Areas, 27 Brit. Y. B. I. 376 (1950).


27. Id. at 843.

to be the owner of its continental shelf, its subsoil, and its potential natural resources. Other countries quickly followed suit, and the "continental-shelf-grab" was on. With respect to claims made on the Atlantic seacoast of the United States pursuant to the proclamation of the President, few problems were encountered. Conflicting claims made by countries in Western Europe, however, proved to be a different matter.

The North Sea is bounded by no less than seven independent states of Western Europe. The sea is almost entirely enclosed by the sur-

29. Since President Truman failed to accurately define the continental shelf, its description must be found elsewhere. For the present accepted measurement, see Finlay, The Outer Limit of the Continental Shelf, 64 Am. J. Int'l L. 42 (1970), where the following definition is given (Article I of the Geneva Convention on the Continental Shelf):

The seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of two hundred meters, or beyond that limit to where the depth of the superadjacent waters admits of the exploitation of the natural resources of said areas . . . .


30. Precisely what this includes seems to be left to the interests of the parties involved. Two American guidelines are:
   . . . the term 'natural resources' includes without limiting the generality thereof, oil, gas, and other minerals and fish, shrimp, oysters, clams, crabs, lobsters, sponges, kelp and other marine and plant life . . . .
B. The Geneva Convention on the Continental Shelf (Articles 2 and 4):
   . . . the natural resources referred to in these articles consist of the mineral and other non-living resources of the seabed and subsoil, together with living organisms belonging to the sedentary species, that is to say, organisms which at the harvestable stage, neither are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil.

31. A dozen states made similar claims during the next five years; six more between 1950-55 and an additional six before the 1958 Geneva Convention on the Law of the Seas. See U. N. Doc. A/CONF 19/8 (1960). Claims to the continental shelf fall into two categories:
A. Claims limited to the seabed and subsoils (Australia, Bahrein, Brazil, Dominican Republic, Guatemala, Iran, Israel, Kuwait, Nicaragua, Pakistan, Philippines, Saudi Arabia, Trucial Sheikhdoms, Venezuela, Bahamas, British Honduras, Falkland Islands, and Jamaica).
B. Claims including waters above (Argentina, Chile, Costa Rica, Honduras, and Peru).

For a discussion of an American objection to this latter claim, see Selak, Recent Developments in High Seas Fishery Jurisdiction under the Presidential Proclamation of 1945, 44 Am. J. Int'l L. 670 (1950).

32. The North Sea waters are shallow and the whole bottom may properly be regarded as continental shelf—the western part of which incontestably belongs to Great Britain. The eastern part must be divided between Norway, Denmark, the Federal Republic of Germany, the Netherlands, Belgium, and France. Grisel, The Lateral
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rounding countries, and to add to this problem, practically all of the North Sea floor is composed of continental shelf.\(^3\) The problem may be more properly considered in terms of the Truman proclamation: for if every country is the owner of its continental shelf, how could this area in fact be divided among the countries? By mid-June 1965, after years of talks, negotiation, and diplomatic agreements, the greatest part of the North Sea continental shelf had been delimited as between the parties.\(^4\)

The major remaining dispute lay between the Federal Republic of Germany, Denmark, and the Netherlands. This conflict was eventually resolved when the parties brought the matter before the International Court of Justice for adjudication.\(^5\)

If the Presidential proclamation of 1945 was considered a paradigm of ambitious planning on the part of the United States, present-day considerations as to what properly “belongs” to the United States may appear somewhat more staggering. Today, the concern of nations is no longer restricted to the “narrow portion of the sea contiguous to territorial waters, but about all the one-hundred and thirty thousand miles of ‘deep ocean’ beyond the continental shelves.”\(^6\) Why the concern, then? As indicated earlier, most nations strongly believe that the wealth and riches of this part of the sea are untold and each is anxious to obtain its “fair” share. Before any country is willing to expend large amounts of time and money on research, it naturally desires some form of assurance that its interests will be protected. More succinctly stated: a country, before it is willing to advance funds in this area, wants a guarantee that it will be protected from “claim-jumping” by other nations if and when a discovery is made.

Since this is a comparatively new area, careful thought must be

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34. See Id. at 39.
35. See Id. at 2.

Although the Federal Republic of Germany had not ratified the 1958 Geneva Convention on the Continental Shelf, the Netherlands and Denmark argued that its principles had become mandatory on a customary law basis. The International Court of Justice concluded that the parties were under no legal obligation to apply either the 1958 Geneva Convention or the equidistance method as a rule of customary law. Claiming no duty to delimit the areas of the continental shelf, the court simply took responsibility to indicate to the parties methods for eventual delimitation. The court's delimitation was to be effected by agreement in accordance with equitable principles and consideration of all the relevant circumstances, leaving to each party all the continental shelf that constituted a natural prolongation of its land territory into and under the sea without encroaching on the territory of the other. See generally Grisel supra note 32.

given by the United States to any determination of international policy here. It can hardly be argued that this is not an area for the development and application of principles of international law. That the American oil interests have been aggressively spanning the seas in search of new mineral deposits is no secret. Other possible uses for the sea such as man-made islands to help ease population problems, prospective military uses of the sea, and other related uses make it obvious that there is an almost desperate need for legal standards in this area. New conditions inevitably call forth new legal doctrines. To this end, it should be noted that the United Nations has already been actively engaged in developing and structuring political and economic alignments in this field.\textsuperscript{87}

B. Vexatious Problems

The first problem which is encountered when analyzing any proposed law for the seabed is the realization that there is a myriad of interrelated factors—of equal importance—to evaluate. For example, should the United States favor a policy which provides for major emphasis to be centered around the discovery of new sources of minerals—a policy which is reminiscent of the colonial days—with no concern for the effects of this policy on the sea's use for other purposes? What would be the effect on other countries if the United States encouraged a policy of laissez-faire—leaving to the wealthy and advanced nations the first choice to all the desirable areas of the ocean's seabed?\textsuperscript{88} More crucially determinative is the question of the scope of the national interest of the United States, as a member of the world community, when measured against the economic interests of certain corporate enterprises in the United States and their stockholders (the majority of whom are presumably citizens of the United States) who are likely to engage in the exploration of the sea. In the long run, is it more significant for the United States to agree


\textsuperscript{38} An answer to this question would appear to have been given as early as 1966 by former President Lyndon Johnson. See Remarks of the President, Commissioning of the New Research Ship, the Oceanographer, Navy Yard Pier 2, July 13, 1966, where the following statements were made:

Under no circumstances, we believe, must we ever allow the prospects of rich harvest and mineral wealth to create a new form of colonial competition among the maritime nations. We must be careful to avoid a race to grab and to hold the lands under the seas. We must ensure that the deep seas and the ocean bottoms are and remain, the legacy of all human beings.

For other statements of policy in accord with the above see Resources of the High Seas, Res. 15 of the Geneva World Peace Through Law Conference, adopted July 13, 1967; Res. 1112 (XL), 40 U.N. ECOSOC, Supp. 1, at 3.
to principles which would limit its share in the wealth of the ocean hope-
fully in order to foster a feeling of world peace and tranquility? No
one definitive answer is likely to emerge. Yet, these factors along with
others not mentioned must now be considered in setting policy largely
suitable to the interests of each nation.

Not to be overlooked is the fact that that part of the ocean which is
of present concern is not the territorial waters of a country or the area
encompassed by the continental shelf but, rather, those areas of the sea
commonly known as the deep sea where no one really knows what—if
any—applicable law exists. One of the major obstacles to the formul-
ation of any law has been the determination of the basic nature of the
seabed. Similar to the conflicting claims made about the high seas during
the time of Grotius, the question of whether the seabed can be owned by
various countries is widely debated.

Is the seabed res nullius, belonging to no one but subject to appro-
priation by any nation, or res communius, belonging to everyone and not
subject to ownership by individual nations? Convincing arguments for
either theory can and have been advanced. If the concept of freedom of
the seas—the right of each nation to navigate freely the high seas—be
accepted, a theory of res nullius allowing private ownership of the seabed
below poses a direct contradiction. The right to travel freely would be
seriously impaired by granting nations the right to control the seabed
below. If the air above the sea and the sea itself belong to everyone, it
simply does not appear plausible that the seabed below should be entitled
to a different status. Supporters of res nullius propound their arguments
in just the opposite fashion. For these advocates the question is, “What
is the special significance of the seabed?” They assert that it is the right
to travel the seas and not the seabed, itself, which must be protected.
They opine that so long as navigation remains unfettered, ownership
of the seabed below should raise no particular problem. The analogy
between the severability of mineral rights from the land appears appro-
priate to this position.

39. See, e.g., 1956, ILC Report at 4-12.
40. See note 29 supra.
41. Henklin, supra note 29, at 27.
42. In order to accept the theory of res nullius, a basic assumption must first
be made, that is, that seabed beneath the high seas is of no different character than any
other land found out of water. If this be true, then it can readily be seen that just as
rights in real property may be privately acquired, so too, may the seabed in much the
same manner.
43. See Henklin, supra note 29, at 27-37.
44. Id.
45. Id. at 31.
These differences of opinion relative to the nature of the seabed have served as a strong impediment to structuring a viable law for the seas. To argue this question for any great length of time closely parallels the "fruitful" discussions of certain philosophers whose sole problem was in determining the number of angels that could be seated on the head of a pin. Regrettably, form is more exalted than substance here. Whether the seabed, by its very nature, can or cannot be owned by individual countries seems secondary to any agreements that the nations of the world might enter into for their mutual benefit. What is needed, then, are concrete proposals and a working concept of co-operation among the nations in implementing them.

There have been many significant plans offered by various individuals, groups, and countries directed toward a resolution of the problem. Because of its timeliness and relevancy to the position of the United States on this matter, the statement by President Richard M. Nixon on the United States Ocean Policy merits discussion and analysis. The basic thrust of President Nixon’s proposal is:

. . . that all nations adopt as soon as possible a treaty under which they would renounce all national claims over the natural resources of the seabed beyond the point where the high seas reach a depth of two hundred (200) meters (218.8 yards) and would agree to regard these resources as the common heritage of mankind. (Emphasis added.)

The considerations involved in arriving at this decision can readily be found within the proclamation itself. At stake is “whether the oceans will be used rationally and equitably and for the benefit of mankind or whether they will become an arena of unrestrained exploitation and conflicting jurisdictional claims in which even the most advantaged states will be losers.” The concern expressed by the President that all nations share in the future wealth of the sea is more than a protective attitude to

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47. Press Release from the Office of the White House Press Secretary, May 23, 1970.
48. Id. at 1.
49. Id.
assure the United States of its share of oceanic resources. The treaty urged in the proclamation is much broader in scope than a mere parceling out of the “mineral dole” to the various nations. Specifically mentioned is a plan whereby substantial mineral royalties would be collected for the benefit of the international community. Implicit in this plan is the concept of sharing for the mutual benefit of all nations. In order to further this idea, it is of interest to note that the plan seeks an equitable use of the oceans rather than a reliance on legal principles. Again, emphasis is not placed on the correct determination of the nature of the seabed. Rather, a plan is urged which is based on maximizing the benefits to all nations. In this light it appears pertinent to suggest that, if there is to be a form of world unity and cooperation, a plan such as this provides a good proving ground for testing the theory.

The Nixon proposal should, in the final analysis, be regarded as realistic and quite useful as a catalyst in precipitating the emergence of constructive counter-proposals. Although this treaty proposal is based upon the 200-meter criterion established by the 1958 Geneva Convention, it specifically excludes the dangerous exploitation criterion. If eventually accepted, the proposal would effectively prevent the competitive slicing of the ocean by the members of the world community.

Professor Louis Sohn of the Harvard University Law School, Legal Advisor to the State Department on International Affairs and chief architect of the Nixon proposal, has noted the crucial point of the proposal as being the position that the United States and all other states should renounce any claim beyond a depth of 200 meters. The whole area beyond that limit, as noted previously, would be recognized as the common heritage of mankind, to which a “true international regime” should apply.

The “international area” would be divided into two parts—a trustee-
ship zone under the administration and responsibility of the coastal nation, extending from the 200-meter depth limit, landward boundary, to the end of the continental margin, or seaward boundary; and the second part would be an international zone, beyond the continental margin, under international administration. Royalties, on a scale to be determined, would then be paid to an “international organization” on extraction of minerals within the “trusteeship zone.” Such payments could begin at once—or as soon as a sufficient number of nations agreed to this proposition, for an “interim period” up until the establishment of the final regime. This regime would be defined after prolonged negotiation in a United Nations Seabed Treaty.

Critics of the Nixon proposal have considered it to be but a compromise between conflicting pressures within the United States itself (oil interests and the Department of Interior versus the Defense Department and the Navy). They contend that the proposal gives nothing new to the coastal states nor does it effectively take away from them anything they presently have. It leaves the coastal states free to explore and, for that matter, exploit the sea bottom as far out as existing technologies will economically permit. The amorphous concept of a continental margin, the critics continue, will allow the coastal states to keep pace with technological capabilities for years to come. Additionally, it is contended, the proposal satisfies the demands of the oil companies for the widest practicable national jurisdiction. Where it does subject them to the still unspecified “code” of regulation to be promulgated by the suggested international regime, it hedges by providing for a “trusteeship zone” that will not be subject to any international enforcement machinery. Lastly, it is believed that royalties will eventually accrue to an international organization—but under an interpretation of the concept of the common heritage of mankind, that is far too restrictive to be acceptable to the international community. There will be no significant return to the world community until the deep-sea technology makes it economical to undertake large scale commercial exploitation of the seabed beyond a depth of 200-meters.

No valid prediction can be made as to what will be the final outcome in this area, nor really as to what remaining part of the seas will cause

55. Id.
56. Id.
57. Id.
58. Id.
59. Id.
60. Id.
61. Note 51 supra.
a need for further law. Any formulation of law in this area must necessarily avoid a rigidity that would cause immediate obsolescence. It would be preferable to adopt international agreements which are open-ended and which provide for equitable solutions to both known and unforeseen problems.

C. Uses and Abuses of the Oceans

Man is just beginning, in the sea, to push beyond the hunting and gathering stage; from limited shellfish farming he is proposing to extend his farming, fishing, and mining to all depths of the ocean. This statement made by Joseph Connell, a biologist, clearly indicates strong reasons for the development of a truly international law capable of handling the situation which has been previously discussed. It is of more than passing interest to observe the changes already caused by man perhaps for no other reason than to project an “outer limit” to which sea exploitation, subject to slight regulation, can lead.

The Swedish ecologist, Bengt Lundholm, reports that only 14 percent of Italy’s seacoast is now free of pollution. At the same time another colleague, Dr. Jerold M. Lowenstein, warns that wastes from nuclear plants may endanger all life in and around the oceans. Scientist John Craven, however, predicts that by the 1980’s there will be airports floating on the seas, and eventually these airports will in fact become cities that would summer off Cape Cod and winter off the coast of Florida. No complete listing of all existing areas of pollution can or will be attempted in this article. The examples presented, however, will be more than sufficient to point up the present focus and direction of the trends in this area.

Contemporary society is noted for its voracious appetite for catchphrases and slogans. Because of this, such bromides as “zero population
growth," "ecological imbalance," "overkill," and many others are bandied about with almost reckless abandon. Yet, within a short period of time, all will sooner or later join "the new frontier," "the great society," "the silent majority." It thus becomes apparent that to speak of pollution without some predetermined definition of the phrase may well serve little benefit. For the purposes of this article the use of the words, "marine pollution," is meant to convey the meaning as defined and accepted by the Inter-governmental Oceanographic Commission:

[T]he [i]ntroduction by man of substances into the marine environment resulting in such deleterious effects as harm to living resources, hazards to human health, hindrance to marine activities including fishing, impairment of quality for use of sea water and reduction of amenities.\(^6\)\(^7\)

Using the above as a working definition, examples of marine pollution can easily be seen as precipitated by such diverse components as: the waste products of industry, including industrial solvents and reagents; radioactive nuclides from nuclear devices and nuclear reactors; phosphates; oil spills; insecticides; and pesticides (especially those which are of the halogenated hydrocarbon type); nickel; lead; mercury; arsenic; copper; and zinc. It has been more succinctly stated that nearly all of the materials used in the world economy become or are converted to wastes.\(^6\)\(^8\) The stark realization is, then, that anything is potentially capable of upsetting the ecological balance of the sea and therefore is properly to be deemed a pollutant.

Still another observation which appears trite in its recital, nevertheless, must be made because of its underlying significance. As man continues his quest to master nature and make his environment more accommodative through various technological advances, the question arises, "Can he do so without destroying the world ecosystem?"\(^6\)\(^9\) At one point of time in recent history, little consideration was given to the replacement of trees cut from the land or where the next rich lode of gold might be found. It was literally assumed that the supply was

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68. Id. at 19-20.
69. See Murphy, Prolegomena to a Reform of Man's Behavior Toward Nature, 4 IND. LEGAL F. 425, 431 (1971), where one author noted that:

. . . man is outside nature imposing his will upon it for good or bad, making of nature, merely the human environment . . . When the fall finally occurs, it comes unexpectedly and without a chance of reversal by humans who more likely will merely increase the pressures to maintain the wealth-flow from areas dropping quickly to ecologic disaster.
inexhaustible. Inextricably related to this vast production was a considerable amount of destruction. It is with this in mind that the problems of pollution must be viewed.

Coupled with the need to reduce the destructive elements of production, there also must be a concerted effort—through a sound public relations program—to make all peoples realize the dimensions of the problems that do exist—with corrective legislation being the ultimate goal. Too often, the attitude has been that if no attention is paid to the problems, they will somehow vanish. What has been publicized often is not the most far-reaching problem, but rather the most spectacular. While national attention has been directed to blatant examples of pollution via radio, television, and news reports of such disasters as Santa Barbara and the Torrey Canyon, other problems which are in the long run more important have been shunted from public view. It is unfortunate that national tragedy and disaster are required in order to force political figures to take long needed action.

70. Man has been commonly referred to as a destroyer of nature—unable to survive without laying waste to everything around him and finding the price for his flourishing in the ultimate destruction of the life and landscape about him. Id. at 425.

71. After the Torrey Canyon disaster there came new efforts to control oil pollution of the sea resulting from the deliberate discharge of oils from tankers and other vessels. Message from the President to the Senate, Transmitting Two Conventions and Amendments Relating to Pollution of the Sea by Oil, May 20, 1970, at 5.

72. The accidental release of oil from the Santa Barbara offshore drilling rigs served to illustrate problems that conservationists have warned about. See Report: Global Ocean Research, supra note 67, at 5.

The oil leak from a runaway well off the coast of Santa Barbara reached 21,000 gallons a day, and the slick covered over 800 square miles of ocean. A second leak from the same well was discovered later in February. N. Y. Times, Feb. 6, 1969, at 1.

Union Oil Company, which was responsible for the Santa Barbara incident, was recently reported as still encountering difficulties in containing leakage. Platform A, in fact, is leaking about 10 barrels of oil a day. Arkansas Gazette, Jan. 16, 1971, at 1, col. 6.

73. The loss of approximately 100,000 tons of oil from the tanker, Torrey Canyon, is still another striking example of the effects of pollution. See Business Week, Feb. 15, 1969, at 30-32.

74. “A 25 mile-long slick moved slowly along the North Florida coast today... The Navy acknowledged that two barges loaded with oily sludge pumped from the bilges of ships that had visited the Mayport Naval station near Jacksonville (Florida) dumped 2,000 tons of waste into the ocean... A Navy spokesman said barges routinely dumped bilge oil into the sea eight times a year...” N. Y. Times, Dec. 5, 1970, at 16 col. 4.

“This U. S. Senators, Jennings Randolph (D.—W. Va.) and John Sherman Cooper (R.—Ky.) said the Navy dumping violated the Water Quality Improvement Act passed last spring and they asked Secretary of Defense Melvin R. Laird to hold accountable the Navy officers responsible for the week’s incident.” N.Y. Times, Dec. 5, 1970, at 65, col. 1.

A spokesman for Shell Oil Company in New Orleans, which has been operating a platform of wells that have been burning out of control since December 1, 1970, reported two wells were gushing oil beneath the surface. Efforts were being made
Fortunately, many other forms of pollution have been widely exposed and publicized. The dumping of nerve gas in the Atlantic Ocean by the Army not only brought forth the angered cries of environmentalists and a large number of politicians, but also sparked protests from former United Nations Secretary General UThant and the British government. Another example of belated cognizance of potential environmental hazards is to be found in the discovery of mercury in commercial waterways. It was not until 1970 that mercury was listed as one of the substances to be tested for by the Federal Water Quality Administration, the former agency within the Interior Department, charged with policing the nation's waters, which has now been absorbed by the Environmental Protection Agency. Once the danger was finally perceived, the Administration moved with remarkable dispatch. But prophylactic rather than remedial measures are needed. This is so especially in light of other "unknowns" which may soon be discovered in the lakes, rivers, and oceans. Dr. Henry to rupture bent pipes so that the oil would squirt into the air where it can be set afire instead of remaining on the water. Arkansas Gazette, Jan. 16, 1971, at 1, col. 6.


The growth in demand for oil has been phenomenal. Between 1938 and 1967 world production of oil increased over 700 percent from 278 million tons per year to 1,828 million tons. In 1967, it was estimated that more than 700 million tons of this annual production were being transported by sea. The great search for oil is on. Almost 6,000 submarine oil wells have been drilled in the Gulf of Mexico alone since 1960. Comment, Oil Pollution of the Sea, 10 Harv. Int'l L.J. 316, 317 (1969). See McDougal & Burke, supra note 2, at 1122.


75. The United States plan to dispose of deadly nerve gas rockets at a point 282 miles off Cape Kennedy in 16,000 feet of water caused the citizens of seven southern states, through which it was transported, many anxious moments. Attempts by former Governor Kirk of Florida and the New York Environmental Defense Fund to block the dumping were to no avail. Time, Aug. 24, 1970, at 9.

76. The British were concerned because of the close proximity of the selected site to the Bahamas and Bermuda.

77. Until the Norwegian chemist, Fimreite, found traces of mercury in fish taken from Lake St. Clair in the spring of 1970, few scientists considered it a pollutant. Time, Sept. 28, 1970, at 64.

78. Id. At first it was thought that mercury was to be found only in the Great Lakes region. It has since been discovered in 33 states.

79. Id.
Schroeder of the Dartmouth Medical School, speaking before a Senate subcommittee, warned "that such substances as lead, cadmium, and nickel carbonyl are much more insidious in their effect than pesticides or other polluters of [the] air and water." The inescapable fact is that pollution of the waterways is real and sufficiently serious that it cannot be postponed for resolution by the next generation while the present generation seeks only a higher return from its investments. An even more startling example of unabated pollution is evidenced in the wholesale dumping of garbage into the ocean waters off New York City. The pollution is massive and the cause is immediately perceptible—for more than 40 years, the area approximately five miles southwest of Ambrose Light has been used for the dumping of dredge, spoil, and sewage sludge. The volume of noxious material dumped in this area, over the years, has been so great that it has far exceeded the ability of the ocean waters to cleanse themselves. The net effect of the dumping is obvious. Using data collected by the United States Marine Laboratory at Sandy Hook, New Jersey, former Congressman Richard Ottinger of New York announced that the 21 square mile patch of pollution—dubbed by many the "Dead Sea" because of the damage to marine life—at the mouth of New York Harbor was spreading rapidly toward the respective shores of New York and New Jersey.

A primary obstacle confronting those individuals protesting this needless destruction of the environment is not the failure to find scientific means to stop further pollution so that eventually the blight might be removed. Instead, incredible though it may appear, the principal stumbling block has been the attempt to convince successfully the people in positions of authority that there is a real problem to which attention must be directed. In his testimony before a House Fisheries and Wildlife subcommittee, Mr. Ottinger repeated his earlier statements: "In February

80. Id.
81. Speaking about the effects of the massive oil spill off West Falmouth, Massachusetts, three prominent scientists argued that, "Life conditions in the deep ocean have been constant for millions of years and the introduction of pollution into this stable but fragile environment could be more than the marine life could survive. This . . . could upset the marine food chain with severe and perhaps catastrophic implications in the deep sea." Arkansas Gazette, Aug. 14, 1970, at 14A.
83. Id.
84. Id.
of this year [1970] we were in possession of scientific evidence proving
the existence of an 'ecological catastrophe' in our coastal waters. Today
six [6] months—and at least three studies—later, we know the only
change is that the disaster is growing—and the Administration's only
proposal is more study."

While the immediate crisis is local, the problem is national—and
even international—in scope. At present, under the auspices of the
Army Corps of Engineers, 210 areas in coastal waters are being used
as repositories for sewage sludge, dredge sludge, and industrial waste.88

86. Id.
87. Id.

"All avenues of disposal lead to the ocean . . . ." President's Science Advisory
Pollution of the ocean from industrial wastes alone is presently increasing at a rate
of 4.5 percent per year. In the future, many may live around a worthless "dead"
sea rather than today's beautiful and valuable living sea. See Gerber, 1 Coastal Con-
servation Editorial Reports (No. 8, 1970). In 1959, industrial wastes disposed of
at sea approximated 2.2 million tons. This amount had, by 1968, increased to over 4.7
million tons or a 114 percent increase in but 9 years. The amount of sewage sludge
disposed of at sea increased by 61 percent in the same period: from 2.8 million tons
to 4.5 million tons. It can be anticipated that, in all likelihood, the volume of ocean-dumped wastes will increase greatly as a direct consequence of the decreasing capacity
of existing disposal facilities, lack of nearby land sites, higher costs and political
problems in acquiring new sites. COUNCIL ON ENVIRONMENTAL QUALITY, REPORT

The Council's report on ocean dumping, supra, suggests guidelines to be followed
by the Administrator of the Environmental Protection Agency in exerting his authority
to limit ocean dumping: "Ocean dumping of materials clearly identified as harmful
to the marine environment or man should be stopped . . . while existing information
on the effects of ocean dumping are inconclusive, yet the best indicators are that if the
materials could create adverse conditions if dumped, such dumping should be phased
out." Id. at vi. A priority should, it was noted, be given to protecting estuaries and
the shallow, nearshore areas where many marine organisms breed or spawn. "Ocean
dumping of industrial wastes should be stopped as soon as possible. Ocean dumping
of toxic industrial wastes should be terminated immediately, except in those cases in
which no alternative offers less harm to man or the environment." Id. at vii.

The report recommends that the United States lead the effort to achieve inter-
national co-operation on ocean dumping by developing proposals which would control
or abate the problem through co-operative research on the marine environment and
on the impacts of various dumping materials on the ocean, development of a world wide
monitoring capability to provide continuing information on the state of the world's
marine environment, development of technological and economic data on alternatives
to ocean dumping, a system for global monitoring of dumping activities and a positive
program for attacking the individual problems confronting the United States at this
time. Id. at 36-37.

Nearly 25 percent of all DDT manufactured to date is now in the world's oceans,
where it is killing baby fish, according to the National Academy of Science. Washing-
ton Post, June 13, 1971, at A7, col. 1. A worldwide system for monitoring ocean
pollution was advocated by the Academy. N. Y. Times, June 17, 1971, at I, cols. 6,
7, 8; see also G. Davison, A. Schuckrow, W. Swift, Control of Spillage of

88. While the exact amount of waste being dumped is uncertain, in six dumping
areas around New York Harbor, the total was 17.5 million cubic yards in 1969, and
the volume is increasing about four percent each year. See note 82 supra.
No respectable estimate has been given for the total amount of dumping in these areas. However, using the knowledge obtained from the experience of the "Dead Sea" debacle, it should not be difficult to extrapolate facts and conditions which are surely inevitable and, indeed, convincing.

The enumeration of other various pollution problems in the United States would serve little purpose except to add publicity to a problem that requires much of this. The scope of this article, however, precludes further exploration of this facet of the problem.

The pollution problems of today are not indigenous to the United States alone. The mere thought of conceptualizing the total amount of worldwide marine pollution is indeed staggering. For example, the Baltic Sea, which separates Scandinavia from the European Continent and serves the industrial centers of northern Europe and the U.S.S.R., is taking on the chemical and organic wastes of these same centers with the resulting effect seen as a lessening of the life-supporting capacity of the Baltic. A comparison might easily be drawn with Lake Erie, which has undergone similar abuse, but for one major consideration: the Baltic is 15 times larger than Lake Erie. The problem is worldwide in


The Refuse Permit Program began in July, 1971, and will force approximately 20,000 industrial plants to report extensively on their wastes and to control them more effectively. A strong working relationship with the water pollution offices of all 50 states has been evidenced under this program to date and it is anticipated that an even stronger and more creative partnership will be undertaken, thus enabling the states to fully benefit from the vast resources of the federal government and—at the same time—allowing the federal authorities to profit from the expertise of the states developed over time as a consequence of their work in water quality administration.

89. Of 200 permit areas, 61 are located off the East Coast; 26 in the Gulf of Mexico; 17 off the West Coast and 95 in the Great Lakes areas.

90. For further discussion of this problem, see Fonselius, Stagnant Sea, 12 ENVIRONMENT 2 (1970); Lundholm, The Oceans—Their Production and Pollution with the Baltic Sea as a Case Study, in the Ocean Environment, PROCEEDINGS OF THE PREPARATORY CONFERENCE ON ECOLOGY AND THE ROLE OF SCIENCE 77 (1970) (The Center for the Study of Democratic Institutions).

91. Nearly 20 million people live along the Baltic coastal areas. Enormous amounts of urban and industrial wastes are discharged into the Baltic reducing the oxygen content of the water, thereby damaging the marine life. See Lundholm, supra note 90.
magnitude; the solution likewise must be forthcoming from the same sector.

The analysis thus far has been concerned mainly with exposing areas of widespread marine pollution and noting that a large part of the problem has been the result of non-action by responsible parties during the early stages. While the approach of Armageddon still looms as a slight possibility rather than a sure probability,92 there must be a determination of what approaches should be followed along with a presentation of valid and convincing reasons for the selections made.

D. Resolutions—Compromises

In order to develop the various approaches needed to help explain and correct the present state of affairs in the area of marine pollution, it will be necessary to examine representative sources of those attitudes intrinsic to this topic. At the 1970 summer meeting of Pacem In Maribus,93 the western Mediterranean was likened to Lake Erie in that it, too, is fast becoming a "dead sea."94 The use of these two words, "dead sea," although accurate in perhaps one sense is unfortunate in another.

The use of the word, "dead," "is poisoning the public morale, and making more complex an already difficult problem."95 It is not unusual for man to attribute human characteristics to inanimate objects. The anthropomorphic description of a river as dead is understandable to a degree, but highly misplaced and exaggerated. Irreparable damage is done when an attitude of helplessness and hopelessness is subsequently engendered in an area which has not yet reached that desperate stage. Whether intentional or unintentional, dire predictions and scare tactics do little to stimulate effective programs. Instead, they usually contribute to frenzied efforts to solve the problem without understanding its basis—thereby not really solving the problem at hand and perhaps creating more complicated situations. The problems are quite real—with most of them having defied resolution. Their magnitude is all encompassing; this being all the more reason why the answers must, themselves, be decided calmly and in a rational manner.

92. Little is achieved by continual discussion of whether doomsday is imminent. Instead, efforts should be directed toward the development of effective techniques to combat present ecological imbalances.
93. Notes 4 & 5 supra.
94. It should be remembered that the western Mediterranean is not the first body of water to be declared "dead." News from Congressman Richard L. Ottinger, July 28, 1970.
95. "However lifeless, they have the quality of Lazarus: they can be raised to life again." Note 69 at 438 supra.
APOSTROPHE TO AN OCEAN

The polluted area previously described as New York's "Dead Sea," found near the mouth of New York Harbor, is spreading at an alarming pace. Several very practical solutions have been postulated in an attempt to resolve this problem: incineration and sludge processing being the principal ones. Incineration will reduce most wastes by 94 to 96 percent. In the case of dredge spoil the incineration produces "clean" earth which can be used as fill as well as a harmless "frit" which, in turn, may be used as building blocks, as fireproofing for shingles and even as road surfacing material. For sewage sludge, the long range answer is to recapture its valuable nutrients for use in agriculture as a fertilizing agent. Any immediate cost arising as a consequence of the initiation of such program will—it is believed—be offset by the added protection to human and marine life afforded by it.

On an international basis, the use of the sea's resources along with the prevention of further pollution has been widely discussed. United States Senator Claibourne Pell, long an advocate of international cooperation in the use of the seabed, writes: "Unless international law soon determines how it shall be shared . . . a new era of colonial[ism] may be a reality." Professor Carleton Ray of Johns Hopkins University divides the problem into five major areas. He believes that the root of the problem is ecological and that no solution has been sought solely on this basis. Perhaps more important is his pragmatic appraisal of what directions must be sought if the problems are to be solved. Ultimately, the answer will, quite simply, depend upon value judgments made concerning the type of world people wish to live and work in. Professor Roger Revelle of Harvard has proposed an international ocean agency which would concern itself with conserving the high seas and fisheries, establishing regulations to prevent pollution by tankers and other ships at sea, conducting surveillance of nuclear submarines, promoting inter-

96. See note 88 supra.
97. See note 82 supra.
100. The areas are: development of international law with enforcement provisions for exploitation of the sea; development of ecosystem-based exploitation and conservation practices; the cessation of all existing destructive practices; assessment of marine environments relative to the carrying capacity of earth for man; and the creation of marine parks, sanctuaries, and control areas for continued research. Ray, Ecology, Law and the Marine Revolution, PROCEEDINGS OF THE PREPARATORY CONFERENCE ON ECOLOGY AND THE ROLE OF SCIENCE 201 (1970) (The Center for the Study of Democratic Institutions).
101. Id. at 201-202.
national co-operation in oceanography and seeking equitable control in monitoring ocean weather.\textsuperscript{102}

The Federal Water Pollution Control Act, as amended,\textsuperscript{103} records the national policy for the United States as being against discharges of oil into or upon its navigable adjoining shorelines or into or upon the waters of the contiguous zone.\textsuperscript{104} Knowing discharges of oil may be assessed a civil penalty of not more than $10,000 for each offense. The Oil Pollution Act of 1961\textsuperscript{105} prohibits discharges of oil or oily mixtures from a tanker or ship within any zones designated to be prohibited. These prohibited zones are designated as sea areas within 50 miles from the nearest land—subject to extensions or reductions effectuated in accordance with the 1954 International Convention for the Prevention of the Pollution of the Sea by Oil.\textsuperscript{106}

In spite of a national prohibition against discharges of oil into the navigable waters of the United States, a basic realization that such a policy is impractical to enforce at all times is expressed in the National Oil and Hazardous Materials Pollution Contingency Plan released June 2, 1970.\textsuperscript{107} This plan provides for a unified response to pollution spills by departments and agencies of the federal government. It sets guidelines for the establishment of regional contingency plans and response teams as well.\textsuperscript{108} Various other federal regulations provide for containing discharges of oil.\textsuperscript{109}


\textsuperscript{105} \textit{Id.}, § 1001 et seq. (1970).

\textsuperscript{106} \textit{Id.}, § 1011 (1970).


\textsuperscript{108} \textit{Id.}


Of course, under the President’s Reorganization Plan #4 of 1970, the establishment of the National Oceanic and Atmospheric Administration (NOAA) in the Department of Commerce, definite steps were taken to bring together in a single administration the major Federal programs dealing with the seas and atmosphere. The central mission of NOAA, then, is to organize a unified approach to the problems of the ocean and at the same time to create a center of strength within the civilian sector of the Federal Government for this purpose. NOAA, the Environmental Protection Agency, also created by Presidential Reorganization Plan #3 of 1970, and the Council on Environmental Quality, which arose under the National Environmental Policy Act of 1969, are the three new administrative bodies in the United States charged with leading the fight to conserve the environment. Other traditional agencies—HEW, Agriculture, Interior, Federal Power Commission, Commerce and States—also deal with various environmental problems.
Consistent with the Report to the President on Ocean Dumping requesting legislative standards for correcting the problems of ocean pollution, Senate bill 1238\(^{110}\) was introduced March 16, 1971. Cited as the Marine Protection Act of 1971, the bill would basically follow the suggestions in the Ocean Dumping Report regarding the matter.

Congress declares that it is the policy of the United States to regulate the dumping of all types of material in the oceans, coastal, and other waters and to prevent or vigorously limit the dumping into oceans, coastal, and other waters of any material which could adversely affect human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities.

Section 4 of the Act prohibits the transportation of material from the United States for the purpose of dumping it into the oceans, coastal and other waters. Further provision is made that no material will be dumped into those waters within the territorial jurisdiction of the United States or in a zone contiguous to the "territorial sea of the United States, extending to a line twelve nautical miles seaward from the base line of the territorial sea." Yet, practical needs and considerations of the occasional need for dumping are provided for in the Act.

The Administrator of the Environmental Protection Agency is allowed, under provisions of section 5 of the Act, to issue permits for the dumping of material into the ocean, coastal and other waters where, in his judgment, the transportation and/or dumping will not unreasonably degrade or endanger "human health, welfare, or amenities, or the marine environment, ecological systems, or economic potentialities." For each violation under the Act, a civil penalty of not more than $50,000 may be assessed. Nothing in the proposed Act would abrogate or negate any existing responsibility or authority contained in the River and Harbor Act of 1899.

Section 10 of the proposed Act is most important from the standpoint of establishing a guideline for international co-operation. It provides:

The Secretary of State, in consultations with the Administrator, shall seek effective international action and co-operation to insure protection of the marine environment, and may for this purpose, formulate, present, or support specific proposals in the United Nations and other competent international organizations for the development of appropriate international rules and regulations in support of the policy of this Act.

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110. S. 1238, 92 Cong., 1st Sess. (1971); see note 85 supra.
This Act, if passed, together with existing legislation and regulations, would strengthen the program designed to combat continued degradation of the oceans. Additional steps, of course, need to be considered on a regular basis if ecological momentum is to be maintained.

The Treaty on the Prohibition of the Employment of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea Bed and the Ocean Floor and in the Subsoil Thereof, which approximately 60 governments signed and opened for ratification on February 11, 1971, is another creative undertaking directed toward regulating the use of the ocean. Under the treaty, the parties undertake not to emplant or emplace on the seabed (except within 12 miles of their coast) any nuclear weapons or any other types of weapons of mass destruction.111

The Senate recently took significant steps toward strengthening an international standard for water pollution control when it gave unanimous final ratification of both the International Convention Relating to Intervention on the High Seas in Cases of Oil Pollution Casualties (also referred to as the Brussels Intervention Convention), the International Convention on Civil Liability for Oil Pollution Damage and passed several amendments to the International Convention for the Prevention of Pollution of the Sea by Oil.112 Three basic goals were met with this legislation: the Convention Relating to Intervention on the High Seas established the right of a coastal state to undertake whatever course of action it deems necessary “to prevent, mitigate, or eliminate” the threat of oil pollution arising from a maritime accident beyond its territorial sea. The Convention on Civil Liability for Oil Pollution Damage wrote into international law the standard of strict liability against the owner of a tanker involved in a maritime accident which causes oil pollution. Finally, the amendments to the 1954 Convention tightened the existing rules and regulations governing the international discharge of oil at sea.118


On February 15, 1972, in Oslo, Norway, twelve European countries signed a convention controlling the dumping at sea of waste. The Convention bars the disposal of poisonous substances and the like that may find their way into the food chain, in the high seas and territorial waters in the Northeast Atlantic region. It covers the North Sea, part of the Arctic Ocean as well as extending westward to Greenland and southward to the Straits of Gibraltar. Neither the Baltic nor Mediterranean seas is included in the agreement. The signatories were: the United Kingdom, Belgium, Denmark, West Germany, Finland, Iceland, the Netherlands, Norway, Portugal, Spain and Sweden. THE JOURNAL OF COMMERCE, Feb. 18, 1972, at 24.

113. Hearings before the Subcomm. on Oceans and International Environment
The Commission to Study the Organization of Peace has structured a set of basic principles which it urges all nations to endorse. In essence, the Commission encourages the family of nations to recognize that the seabed and ocean floor underlying the high seas and beyond the limits of national jurisdiction are the "common heritage of mankind." Accordingly, a definite boundary—large enough to preserve the greatest amount of resources for mankind's benefit—should be set; the theory being that the larger the area, the less grounds for controversy among the individual nations. Since all states, including the landlocked, have an equitable interest in developing the resources of their common heritage, the Commission submitted the proposition that no state be permitted to either claim or exercise sovereignty, jurisdiction or any other exclusive rights over this area; and no part of the area should be subject to national appropriation by any means.

International scientific co-operation should be encouraged by the United Nations in order to fully explore and realize the area. The seabed and its subsoil should be used only for peaceful purposes. No unjustified interference with the freedom of the high seas should be allowed, however. All activities in this area should conform to basic guidelines which are aimed at protecting all those rightful interests of all interested states and at minimizing harmful effects such as pollution of the sea and the seabed.

The United Nations is given the task of enforcing these working principles and is charged by the Commission with establishing an appropriate international regime. Ideally, the regime would include arrangements for dedicating a reasonable portion of the value of such resources to international community purposes—including the economic, social, scientific, and technological progress of the developing countries. Such an international regime would, further, consider the economic interests of the developing countries and ensure that all states seeking commercial exploration or exploitation rights be treated equally and without discrimination by the regime. Under such circumstances, the regime would allocate leases on the basis of a purely competitive set of criteria.

The recommendations of the Commission are sound. Of course, the central determination to be made by any country is the extent to


The Oil Pollution Convention of 1954 was the first attempt made by international agreement to control the problems of sea pollution by oil. The amendments to this Convention which were just ratified by the Senate were adopted by the Assembly of the International Maritime Consultative Organization on October 21, 1969.

which a national policy may be posited when stronger, competing state and private interests are involved. It is indeed most difficult to balance competing interests in such a situation and hope that a permanent resolution can be maintained.

As was suggested by *Pacem In Maribus I*, a new multi-national, multidisciplinary, nongovernmental body, flexible enough to secure and accommodate support and co-operation from all appropriate public and private agencies, is desperately needed. Such a body would have as one of its primary purposes the encouragement of an interchange among scientists, diplomats, legal experts, statesmen, and commercial interests who share a common concern with the impending development of oceanic resources. To this end, the *Pacem In Maribus* Center just recently has been incorporated at Malta and will seek to carry out three specific functions: first, to provide a systematic interpretation of information available from existing sources—with emphasis on that dealing with the causes and degree of pollution and with other threats of disruption of the ecological chain; second, to examine the long-range consequences—for a 50-year period or more—of different human actions on ocean ecology as it exists in the context of planetary ecology; third, to assemble, analyze, and collate information provided by the biological and social sciences, as well as other appropriate disciplines, as it bears upon narrow legal questions of ocean boundaries and related matters. This ambitious project will go far to help resolve the multi-national problems relevant to the preservation of the natural resources of the ocean waters. Yet, of necessity, its scope of activity and inquiry has been limited in order that it may attempt to achieve the very purpose for which it was created—specifically to serve as a center for research and investigation.

Apart from the work of the *Pacem In Maribus* Center, a new international ocean regime must be structured which fully reflects the evolutionary pattern of international law and international relations experienced during the past quarter century. All presently functioning organizations and agencies concerned with the ocean environment must be integrated into the new regime, for no constructive purpose would be served by totally discarding the old merely for the sake of complementing a utopian urge.

New regulation of the ocean floor beyond the limits of national jurisdiction is also needed. Here again, however, any new structure of

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116. *Id.*
117. *Id.*
118. *Id.* at 112-15.
the ocean regime must guarantee a forum for dialogue between the old and the new—both territorially and functionally. More specifically as to the territorial concept, this would mean that while the old rights accruing to nations through their sovereignty over a coastal zone must be respected, the new regime must—at the same time—provide procedure to solve, through a form of common accord, problems circumscribed by ecological boundaries which do not coincide with political boundaries. From a functional standpoint it means that while traditional uses of the sea (i.e., fishing and navigation) will continue to be regulated by traditional law, the new proposed regime must provide dialogue between old and new users of ocean space. This provision is necessary in order to reconcile conflicting uses and facilitate harmonious balanced planning.

As a consequence of the truly unprecedented role which science and industry play in the exploration and use of the ocean environment, the structure of the proposed new regime must in turn reflect this role. New ways must be provided for their participation in decision-making and planning. This could, in fact, very well imply a new status under international law for nongovernmental or intergovernmental entities with new responsibilities and—very likely—a new type of standing before a maritime court or ocean floor tribunal. The growth of the small, developing and landlocked nations must be reflected in the regime—provision being made for their participation in the governance of the regime.

Rather than continue pondering various intricate networks of boundaries, the simplest solution would be to have but one boundary. Ideally, the limit of national jurisdiction over the shelf should coincide with the limit of the territorial sea. This would take into account the interdependence of all uses of the sea. It is safe to state—considering the rigidity of technological change—that the closer this one boundary is drawn to shore the more stable it will be in the long run.

The proposals arising from *Pacem In Maribus I*, in many ways, complement those structured by the Peace Commission. From these suggestions, it is hoped that a proposal for positive action may be fashioned.

**Conclusions**

The value of the oceans to man is incalculable. For, as man con-
continues in his relentless pursuit of higher technological success, inverse relationships come into focus: specifically, high population numbers with corresponding high cultural levels demand high levels of environmental productivity—yet, exploitation of nature invariably produces environmental destruction and ecological collapse. Stated more succinctly, man's progressive achievements have been accompanied by progressive imbalances in the world ecosystem. After nearly exhausting the resources of the land for centuries, man has now turned his attention toward the oceans with an exceedingly voracious appetite. And, well he should, for it has been discovered that replacements for food stuffs and minerals taken foolishly from the land are to be found in the oceans. Here again is a chance to start afresh!

What is past history on land must never be allowed to become a prologue for the future to the oceans. Unlike the frontier pioneers, both exploration and exploitation cannot be undertaken simultaneously with equal success here. Rather, new working concepts must be employed in order to allow continued scientific advances. Law and science must, indeed, march together toward a common goal of conserving the oceans. The issues raised by pollution of the ocean environment, conservation and development of ocean resources, and the pressing economic needs of the developing countries require an innovative approach that must not be deterred by the old complexities of disarmament and continued efforts to achieve an international balance of power.

The concept of a "marine revolution" is a vital recognition for this age of dynamism. Unless the forces of the revolution can be harnessed and rationally directed to minimize its otherwise harmful effects, no comprehensive regime will emerge and the oceans will ultimately meet the same fate as the land. Man will have then suffered the total realization of his all too painful role as a self-destroyer.

Epilogue

Whether the United Nations is philosophically and financially bankrupt as has been recently asserted and, consequently, incapable of developing and co-ordinating an effective program for combating international ocean pollution is a vexatious conundrum. The U.N.'s adop-

124. Ray, supra note 100 at 199, 201. See generally Ottinger, supra note 89.
tion, for example, during its 25th General Assembly, of the Declaration of Principles Governing the Ocean Floor and the Subsoil Thereof Beyond the Limits of National Jurisdiction, while of unquestioned noble purpose, adds little forceful direction to the immediate problem area. Thus far, the proposals generated from Pacem In Maribus have been processed through the Seabed Committee of the United Nations and then—in many cases—sent to the entire Assembly. Pacem In Maribus must, however, be ever cognizant of its “free spirit” and pursue its task outside the United Nations when it becomes obvious that little can ever be accomplished in a setting where nationalistic self-interests prevail over an ideal of global ecological good.

Pacem In Maribus II drew about 150 participants and observers from thirty-five nations this past summer on the Island of Malta. The Soviet Union—absent from Pacem In Maribus I—was represented this year by three scientists. Considerable analysis was given at this second international convocation to: reasoning and justification for abandoning the concept of a seabed regime and its replacement with the concept of an ocean-space regime, together with an examination of the geographic, functional, economic, and legal implications of such an acceptance; expanding the concept of the oceans being the common heritage of mankind to cover all resources and sources of energy as well as science, technology, and transnational services and communications; considering the direction and reach of the marine revolution within the international

126. This Declaration affirmed that there is an area of the seabed and the ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, the precise limits of which are yet to be determined. It called for the establishment of an international regime for this area and stated that this undefined area, once defined, was the “common heritage of mankind,” and as thus was reserved exclusively for peaceful purposes. Exploration of the area and the exploitation of its resources is to be carried out for the benefit of mankind as a whole. The prevention of pollution and the protection and conservation of the natural resources of the area—once (if ever) uniformly defined—are to be of uppermost consideration. Resolution 2749 (XXV), Dec. 17, 1970, Resolutions adopted on the Reports of the First Committee at 24, 25, United Nations General Assembly.


128. Id.

129. Id. at 4.

130. Id. at 5.
community. Means of correcting the polluted condition of the Mediterranean, the economic potential of the oceans and the feasibility of an ocean development tax, together with the necessary conditions for effective conduct of ocean research were also studied.

Dr. Arvid Pardo, formerly Malta's Ambassador to the United Nations and now Minister Plenipotentiary for Ocean Affairs, presented a Draft Open Space Treaty, which was subsequently introduced as the official Draft of the Government of Malta in the United Nation's Seabed Committee, for Pacem In Maribus II to consider. The Draft Treaty has 194 articles and thirty chapters. It attempts to update the present law of the seas and, consistent with the present concept of a "marine revolution," abolishes the rather eroded concept of the continental shelf. The Draft Treaty eschews a one ocean space—although divided into "national" and "international" ocean space. The dividing line is set at 200 miles from shore. Within that line, there are lines—at 12, at 25 miles from shore—which determine the space for various functions such as security and research. Basic rules for activities on the ocean are set at the international level although their enforcement is delegated to the coastal state. Revenues, both from living and non living ocean resources inure to the benefit of the international community.

The freedom to fish on the open seas was deleted in the Draft Treaty by Dr. Pardo in favor of a "freedom of scientific research." This concept fully recognizes the fact that today freedom to fish is both economically wasteful and, indeed, ecologically dangerous. Management of fisheries at an international level is needed in order to safeguard the common heritage of mankind.

Frank and open discussion of this Draft Open Space Treaty will do much to establish an ultimate symbiotic rather than incompatible climate for resolution of the present marine revolution. In the final analysis, however, it will largely remain for such institutions as The Center for

131. Id. at 6.
132. Id. at 16.
133. Id. at 28.
134. Id. at 38.
135. Id. at 42 passim.
136. Id. at 44.
137. Id.
138. Id. at 45.
139. Id. at 48.
140. Id.
141. Id.
142. Id. at 48.
the Study of Democratic Institutions and its *Pacem In Maribus* Center—working both with the United Nations and, wherever necessary, as a free agent—to ensure a lasting *Pacem In Maribus* for all mankind.