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The Public Trust Doctrine:
A Viable Approach to International
Environmental Protection

Ved P. Nanda* & William K. Ris, Jr.**

There is growing realization that global measures are essential to the protection, preservation, and improvement of the human environment. An obvious first step is to strengthen existing institutional arrangements, norms, and procedures designed to regulate national activities which might adversely affect the world environment. Since 1960 several attempts have been made to strengthen international environmental control by adopting conventions to prevent marine pollution and by establishing, in 1972, the United Nations Environment Program (UNEP).³

However, it is necessary that new approaches to global regulation be explored. One such approach could be use of the public trust doc-

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1. The United Nations Conference on the Human Environment, which met in Stockholm in the summer of 1972, was convened in response to this growing realization. The Stockholm Declaration and subsequent United Nations actions to implement its recommendations will require global action. See notes 6-20 infra and accompanying text. For a representative sampling of the recent literature urging such action, see L. Caldwell, In Defense of Earth (1972); R. Fale, This Endangered Planet (1971); Law, Institutions & the Global Environment (J.L. Hargrove ed. 1972); Man in the Living Environment (R.F. Inger et al. eds. 1972); World Eco-Crisis (D.A. Kay & E.B. Skolnikoff eds. 1972); The Environmental Future (N. Polunin ed. 1972); T. Wilson, Jr., International Environmental Action (1971); Environmental Policy: Concepts and International Implications (A.E. Utton & D.H. Henning eds. 1973).


3. See generally notes 7-13 infra.
trine,\(^4\) one of the most flexible and innovative mechanisms of United States environmental law, to meet international needs. This paper explores the increasing recognition among nation states of the magnitude of threats to the environment. It then analyzes the public trust doctrine, tracing its historical roots in both civil and common law and exploring recent evolution of the concept, especially in the United States. It concludes by suggesting that a modified form of the doctrine offers a viable approach to international environmental protection, and should be adapted and used by the international community.

I

THE PROBLEM

The urgent need for international cooperation in environmental control was forcefully expressed in the Declaration on the Human Environment, adopted in June 1972, at the United Nations Stockholm Conference. The Conference pointed to

... growing evidence of man-made harm in many regions of the earth: dangerous levels of pollution in water, air, earth and living beings; major and undesirable disturbances to the ecological balance of the biosphere; destruction and depletion of irreplaceable resources; and gross deficiencies harmful to the physical, mental and social health of man, in the man-made environment, particularly in the living and working environment.\(^5\)

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It asserted that "[t]o defend and improve the human environment for present and future generations has become an imperative goal for mankind," and called upon "governments and peoples to exert common efforts for the preservation and improvement of the human environment, for the benefit of all the people and for their posterity." In addition to its declaration of basic principles, the Conference adopted a comprehensive Action Plan consisting of recommendations for a global environmental assessment program (Earthwatch), environmental management activities, and international measures to support such assessment and management actions.

Following the Stockholm Conference, the 27th Session of the United Nations General Assembly demonstrated its support of these initiatives by making a number of important decisions. The General Assembly resolved to establish a Governing Council for UNEP as a policy-making body and to establish a permanent UNEP secretariat located in Nairobi, Kenya. The General Assembly also voted to set up a voluntary international environment fund, the purpose of which is to finance costs of new environmental initiatives undertaken within the U.N. system such as monitoring, education, and assistance to environmental institutions, and to create an Environmental Coordinating Board, the purpose of which is to ensure co-operation and co-ordination among all bodies that implement environmental programs.

On December 13, 1973, the 28th Session of the General Assembly endorsed the decisions made by the Governing Council of UNEP about criteria and priorities, and stressed the need to protect and con-
serve resources of the marine environment through concerted national and international environmental action. At its second session in Kenya in May 1974, the UNEP Council considered the adoption of a convention and fund "for the protection of species comprising the common heritage of mankind.

While these United Nations efforts are encouraging, practical problems must be faced. To achieve even minimal prevention of environmental degradation and restoration of a damaged environment requires common enforcement among national, bilateral, and regional governments. That achievement is still more difficult on an international level.

The establishment of transnational legal standards on what constitutes environmental injury presents an especially difficult problem. There is little scientific knowledge about the international impact of environmental problems. Where such knowledge does exist, adequate funding for regulatory and restorative measures is not available. Moreover, nation states at varying stages of economic development often have conflicting interests in setting priorities between development and environmental protection.

Given the decentralized structure of the world community, securing international compromise and consensus often requires adopting vague declarations and ineffective institutional arrangements, thereby avoiding establishment of the strong

20. For example, the problems with control of pollution in the North Sea and in the Rhine river are well known. The dilemma of the European Community in managing the environment is contained in Burbenne & Shoenbaum, The European Community and Management of the Environment, 13 NATURAL RES. J. 494 (1973).
enforcement mechanisms needed. An example is adoption of the United Nations General Assembly resolution declaring oceans and their resources to be the “common heritage of mankind.” No means are suggested by which to secure that heritage or to define its parameters. Nations will only enter agreements for the regulation of international environmental problems on their own terms. At the Stockholm Conference, for example, the representative of Brazil demanded that the text of proposed principle 20 be amended to read:

Relevant information must be supplied by states on activities or developments within their jurisdiction or under their control whenever they believe, or have reason to believe, that such information is needed to avoid the risk of significant adverse effects on the environment in areas beyond their national jurisdictions. No State is obliged to supply information under conditions that, in its founded judgment, may jeopardize its national security, economic development or its national efforts to improve environment. . . .

The “have” and “have-not” nations have different perspectives on the problem of environmental control. Emphasis on economic development among the latter group, contrasted with a growing concern about environment among the former, has led to conflict over the issue of international standards for ecological preservation. Since development is regarded as a necessary and desirable goal, the question is whether different standards apply to a developing state’s exploitation of certain resources. Although Maurice Strong, Executive Director of UNEP, struck an optimistic note at Stockholm when he spoke of the “emergence of a new synthesis between development and environment,” his thesis has yet to be tested. Furthermore, some states have not even fully met their obligations under existing agreements or customary international law. The French have refused to halt atomic tests in the Pacific. The International Whaling Commission has been un-


27. France continued to conduct nuclear weapon tests despite the June 22, 1973, order of the International Court of Justice concerning interim measures of protection. The text of the order is reproduced in 12 Int’l Legal Materials 749 (1973). The 28th Session of the U.N. General Assembly discussed the question under an agenda item entitled “urgent need for suspension of nuclear and thermonuclear tests,” and adopted Resolution 3154A (by a vote of 86 to none against, with 28 abstentions), deploring environmental pollution by ionizing radiation from the testing of nuclear weapons. See G.A.
able to save endangered species of whales because of Japanese and Soviet intransigence; other transnational fishing compacts also have proven inadequate. The present threat of expanded exploitation of the ocean’s resources by certain nation states becomes increasingly ominous. Accordingly, there is a critical need to explore new international legal strategies to protect the global ecosystem.

One new approach would be to apply on an international level the doctrine of public trust. The analysis which follows shows that the doctrine contains two important features that make it a viable approach to the problem. First, its roots exist both in the civil and common law systems. Thus, the basic concepts, if not the precise formulation, are familiar within a broad spectrum of legal systems. Second, as it has evolved in recent years, the doctrine has qualities of breadth and flexibility that make it particularly useful to the solution of complex international environmental problems.

II

TRENDS IN DECISION

A. Definition of Public Trust

The doctrine of public trust, as it has evolved in the United States, recognizes that certain defined property is held by the sovereign in trust for the public. Specifically, the state and federal governments serve as “public guardian[s] of those valuable natural resources which are not capable of self-regeneration and for which substitutes cannot be made by man.”

Although it borrows many concepts from classic trust law, the
doctrine is less rigid in its application.\textsuperscript{83} It permits both individual citizens\textsuperscript{84} and public interest groups adversely affected\textsuperscript{85} to bring legal actions to force government to protect the environment; at the same time it gives the government legal authority to protect the public's interest in property which it controls.\textsuperscript{86}

\section*{B. Historical Development of the Public Trust Doctrine and its Application in the United States}

\subsection*{1. Navigable Waters and Tidelands Trust}

Of all the evolutionary lines of the public trust doctrine, protection and control of navigable waters and shorelines is the oldest and best developed.\textsuperscript{87} Under Roman law, the seashores, while not strictly the property of the Roman people, were "subject to the guardianship of the Roman people."\textsuperscript{88} However, this concept of guardianship was not well defined. Strictly speaking, the seashores "were not considered subject to the ownership of the State, but simply as under its supervision or jurisdiction."\textsuperscript{89} Harbors and their underlying soil also were dedicated to the public use under Roman law, but this status left only "an extremely shadowy sort of ownership in the State."\textsuperscript{90} These rather vague concepts from Roman law are the roots of modern public trust doctrine. Its development lapsed during the Dark Ages when "[p]ublic ownership of waterways and tidal areas frequently gave way to ownership by local powers and feudatories."\textsuperscript{91}

At early English common law, the sovereign was deemed to have ownership of lands under navigable waters; title was treated as "private

\begin{itemize}
\item Parallels between public trust law and classic trust law should be drawn very carefully. The "settlor," the "beneficiaries," and trust duties are less clearly defined in public trust law, the result being less certainty but more flexibility. Historically, the two legal concepts had separate roots.
\item 33. Sax suggests that "perhaps the most striking impression produced by a review of public trust cases in various jurisdictions is the sense of openness which the law provides." Sax, supra note 4, at 553.
\item 37. Sax, supra note 4, at 475.
\item 38. T.C. SANDARS, THE INSTITUTES OF JUSTINIAN 159 (1865) [hereinafter cited as SANDARS].
\item 39. W.A. HUNTER, ROMAN LAW 311 (1897) [hereinafter cited as HUNTER].
\item 40. Id.
\item 41. \textit{The Public Trust in Tidal Areas}, supra note 4, at 764.
\end{itemize}
and alienable." With the signing of the Magna Carta in 1215, England adopted the guardianship concept of Roman law concerning public rights both in the tidelands and in navigable waters. The law thereby guaranteed to the public basic rights of fishing and navigation. An early case affirmed that the right to fish in the high seas was common to all subjects of the King; thus any exclusive rights based on prescription were void. In a judicial session more than a century later, the House of Lords defined the concept more explicitly by invalidating a nearly one hundred-year-old fee for anchoring in navigable waters. The Lords declared:

The bed of all navigable rivers where the tide flows and refloows, and of all estuaries or arms of the sea, is by law vested in the Crown. But this ownership of the Crown is for the benefit of the subject, and cannot be used in any manner so as to derogate from, or interfere with the right of navigation, which belongs by law to the subjects of the realm.

This basic concept limiting the rights of the sovereign was incorporated into American law and became the basis of modern public trust doctrine. The special status of tidelands and navigable waters became firmly established in the United States through both legislation and adjudication. Coastal states have adopted either constitutional provisions or specific legislation guaranteeing public rights in these resources. California's Constitution, for example, ensures that "access to the navigable waters of this State shall always be attainable for the people thereof." A number of state courts have affirmed this type of trust in a variety of factual situations. In the landmark decision of Illinois

42. Cohen, supra note 4, at 389.
43. Id. See also I. Williams, The Institutes of Justinian Illustrated by English Law 50 (2d ed. 1893); The Public Trust in Tidal Areas, supra note 4, at 768-69.
47. Under the public trust doctrine the state may prohibit filling of navigable lakes by owners of shorefront property (New York State Water Resources Comm'n v. Liberman, 326 N.Y.S.2d 284 (App. Div. 1971); People ex rel. MacMullan v. Babcock, 38 Mich. App. 336, 196 N.W.2d 489 (1972)), discharge of harmful substances into tidal areas (State Dep't of Environmental Protection v. Jersey Central Power & Light Co., 125 N.J. Super. 97, 308 A.2d 671 (1973)), and restrict development of wetlands adjacent to navigable waters (Just v. Marinette Co., 56 Wis. 2d 7, 201 N.W.2d 761 (1972)). The state's duty to preserve the trust property forbids it from conveying a fee interest in tidelands to private individuals for private purposes (Marks v. Whitney, 6 Cal. 3d 251, 491 P.2d 374, 98 Cal. Rptr. 790 (1971); South Carolina v. Hardee, 193 S.E.2d 497 (S.C. 1972)), exchanging large areas of tidelands with private individuals to facilitate development of a public harbor (County of Orange v. Heim, 30 Cal. App. 3d 694, 106 Cal. Rptr. 825 (1973)), and conveying a fee interest in land under navigable rivers except by specific grant under legislative authority (Nat'l Resort Communities, Inc. v. Cain, 479
Central Railroad Co. v. Illinois, the United States Supreme Court held that the government could not abandon its responsibility and authority over an area of the public trust.

2. **Wildlife Trust**

It is well recognized in the United States that wild animals, including fish, are a part of the public trust. However, the development of this protected interest is less clear than that of the tidelands interest. While some authorities find its recognition in Roman law, contending that wild animals were considered common property in much the same way as the shoreline, others suggest that wild animals were considered res nullius under Roman law and not subject to any special protection. In either case, the subsequent development in England of a wildlife trust closely paralleled development of the navigable waters trust. Before the signing of the Magna Carta, wildlife was owned exclusively by and for the sovereign; after the signing, “ownership was vested in the office of the king, to be held in sacred trust for the people.”

A judicial analysis of the conceptual development is found in Geer v. Connecticut. In upholding a state statute prohibiting the killing of certain birds, the United States Supreme Court traced the evolution of the doctrine, discussing in turn Roman law, feudal law, French civil law, English common law, and United States law. The Court concluded that at all stages game was considered to be common property. In modern society, control over wildlife is vested in the state and must be exercised “as a trust for the benefit of the people.” The Court reaffirmed this position in Lacoste v. Louisiana Department of Conservation. In upholding a severance tax on hides and skins, the Court held that “wild animals within its borders are, so far as capable of ownership, owned by the State in its sovereign capacity for the common

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S.W.2d 341 (Tex. Civ. App. 1972) (dictum)). County of Hawaii v. Sotomura, 517 P.2d 57 (Ha. 1973) held that land below the vegetation line at ocean beaches is held by the state in trust and that if wave action causes the vegetation line to move inland the boundary of the land held in trust moves inland with the vegetation line.

48. 146 U.S. 387 (1892). For an incisive analysis of this and other cases, see Sax, supra note 4, at 471.
51. SANDARS, supra note 38, at 160.
52. W. SIGLER, WILDLIFE LAW ENFORCEMENT 17 (2d ed. 1972) [hereinafter cited as SIGLER].
54. Id. at 522-28.
55. Id. at 529.
56. 263 U.S. 545 (1924).
benefit of all of its people."  

In the United States, trust ownership of wild animals is vested primarily in the individual states. Some states have codified this duty, and others have recognized it judicially. The federal government also has implicitly accepted responsibility to hold and preserve the public trust in wildlife by adopting legislation to preserve and protect various species. Among important federal laws are those establishing general protection of migratory game and birds and protection of specific endangered species such as the bald and golden eagles.

3. Parks and Historic Sites as Trusts

The concept of national parks is uniquely American. Beginning with Yellowstone Park in 1872, the federal government has designated certain scenic and historic areas as property to be preserved for the public interest. While the Supreme Court has held that all public lands are held in trust for the people, national parks have acquired a special status. Creation of the national parks was based on the principle that "certain interests are so particularly the gifts of nature's bounty that they ought to be reserved for the whole of the populace." A federal agency has been created specifically to administer these trust duties.

Federal protection now covers a variety of objects of national importance. In 1906, an act was passed to preserve "historic landmarks, [and] historic or prehistoric structures." The act provides that such

57. Id. at 549.
58. Eting, Who Owns the Wildlife?, 3 ENVIRONMENTAL L. 23, 31 (1973); Sigler, supra note 52, at 17-18; YANNACOME, COHEN, & DAVISON, supra note 4, at 33.
59. Ohio is one example. Its statute provides that "the ownership of and the title to all wild animals in this state, not legally confined or held by private ownership legally acquired, is in the state, which holds such title in trust for the benefit of all the people." OHIO REV. CODE § 1531.02 (1974).
60. Fields v. Wilson, 186 Ore. 491, 207 P.2d 163 (1949); Arkansas v. Mallory, 73 Ark. 236, 83 S.W. 955 (1904).
64. J. ISE, OUR NATIONAL PARK POLICY 1 (1961) [hereinafter cited as Ise].
65. Id. at 13.
67. Sax, supra note 4, at 484.
68. The National Park Service was created in 1916 to "conserve the scenery and the natural and historical objects and the wild life therein, and to provide for the enjoyment of the same in such a manner and by such means as will leave them unimpaired for the enjoyment of future generations." 16 U.S.C. § 1 (1970).
areas may be designated for protection by presidential proclamation. In 1935, Congress passed the Historic Sites and Buildings Act, declaring "that it is a national policy to preserve for public use historic sites, buildings and objects of national significance for the inspiration and benefit of the people of the United States." 70 Through this act the United States government has the power to acquire by eminent domain any such sites designated by the Secretary of the Interior. 71

The result of these laws and proclamations is a system of over 50 national parks and numerous national monuments, memorials, seashores, recreation areas, historic sites, forests, and wilderness areas. All are owned or managed by the government in trust for the people. 72

A system of state parks also has emerged. Beginning with the Niagara Falls State Reservation in New York in 1885, states have attempted to protect areas on behalf of the public. 73 California, for example, has established a state park system consisting of wilderness areas, state reserves, parks, recreation units, historical units, and natural preserves. State law requires that "[i]mprovements which do not directly enhance the public's enjoyment of the natural, scenic, cultural, or ecological values of the resource . . . shall not be undertaken . . ." within the state's parks. 74 It should be noted, however, that at both state and federal levels, public trust in parks, recreational areas, and historical sites developed only by statutory creation or dedication. There was no common law basis for their existence. Thus, in the absence of legislative action, the courts were powerless to act, even though a site had important historical significance. 75

C. Elements of Modern Public Trust in the United States

The foregoing survey of three primary types of public trust in the United States illustrates the doctrine's long evolution. Recently, the public trust has become recognized as a powerful tool for general environmental protection. Developments in the application of the doctrine

71. See Barnridge v. United States, 101 F.2d 295 (8th Cir. 1939).
74. CAL. PUB. RES. CODE § 5001.5 (West 1975).
have broadened its potential scope and have made it a strong and flexible mechanism for confronting complex environmental problems.

1. Interests Protected

The original purpose of the doctrine was "to preserve for the use of all the public natural water resources for navigation and commerce, waterways being the principal transportation arteries of early days, and for fishing, an important source of food." The most important development has been the expansion of values to be protected beyond strictly economic ones.

In England, protection of vital economic interests was the sole rationale for the doctrine. In an 1821 trespass case contesting the rights of carriages to travel over private land to the sea, an English court held that recreational bathing was not an enforceable right under the doctrine. It asserted that "the public may have a right of navigation, which is for the general benefit of all the kingdom; and a right of fishing, which tends to the sustenance and beneficial employment of individuals; but it does not thence follow that they have also the right of bathing."

Early American courts accepted "commerce, trade, and intercourse" as the only applicable standards of public trust inherited from the English common law. In recent years, however, United States courts have extended the doctrinal standards to include values of recreational and aesthetic enjoyment. A major focus has been on a recreation corollary to the shoreline trust—public access to beaches. A number of recent state court decisions have established a public right to use the shore and beaches for recreation. One court held that "[t]he public trust doctrine, like all common law principles, should not be considered fixed or static, but should be molded or extended to meet changing conditions and needs of the public it was created to benefit."

In upholding recreational rights, many courts also have recognized application of the trust doctrine to aesthetic values. The Wisconsin Su-

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preme Court, for example, has held that "[t]he active public trust duty . . . requires the state not only to promote navigation but also to pro-
tect and preserve those waters for fishing, recreation, and scenic beauty."81 While judicial protection of aesthetic values is still in a
formative stage,82 a recent federal district court case suggests the pos-
sible future scope of judicial action in this area. In Walton v. St. Clair,83 the court was required to weigh two statutory provisions con-
cerning the Boundary Waters Canoe Area (BWCA) in Minnesota. A
general provision designated the BWCA as a wilderness area, but a
specific provision granted mining rights on the same land. While con-
ceding that under basic rules of construction the specific provision relat-
ing to mining would be deemed to control the general public trust rights
to wilderness protection, the court ruled that the wilderness objectives
should control in order “to secure for future generations the beauty,
pristine quality and primitiveness of one of the few remaining small
areas of this Country.”84

2. Duties of the Trustee

Of all the concepts of classic trust law, the nature of duties of the
trustee is the most applicable to the public trust doctrine. The govern-
ment-trustee “has a high fiduciary duty of care and responsibility to the
general public.”85 This includes the obligation not only to preserve the
property subject to the trust, but also to seek injunction against and
compensation for any diminution of the trust corpus.86 Thus the public
trust doctrine can be used either against the government for a breach
of its duties, or by the government to protect the trust property.87

In administering the public trust, government agencies must bal-
ance competing interests. The most difficult situations arise when gov-
ernments attempt to transfer or lease trust property. Initially, United
States courts adopted a strict rule of inalienability, but this rule soon
gave way to more flexible standards.88 At the present time “there is
no general prohibition against the disposition of trust properties, even
on a large scale.”89 Nevertheless, the state cannot effectively give up

81. Just v. Marinette County, 56 Wis. 2d 7, 18, 201 N.W.2d 761, 768 (1972).
82. See generally Note, Beyond the Eye of the Beholder: Aesthetics and Ob-
rev’d on other grounds, 497 F.2d 849 (D. Minn. 1974).
84. Id. at 715.
85. Cohen, supra note 4, at 388.
86. State Dep’t of Environmental Protection v. Jersey Central Power & Light Co.,
87. See, e.g., Maryland Dep’t of Natural Resources v. Amerada Hess Corp., 350
88. Cohen, supra note 4, at 390.
89. Sax, supra note 4, at 486.
its duties to protect the trust property. If the resource is transferred to a private party, the trust remains attached and enforceable.80

Any transfer of property must meet strict tests. It must be shown necessary for promotion of interests of the beneficiaries of the trust.81 Some courts have held that trust lands may be disposed of only when it is clear that "such lands are of no substantial public value for hunting, fishing, swimming, pleasure boating, or navigation and that the general public interest will not be impaired."82 The ultimate test of alienability is one of reasonableness. A balance must be struck "to retain the largest measure of public use consistent with needful development and industrialization."83 Trust standards are never rigid. They vary with the situation and needs of the trust beneficiaries. The public trust doctrine is not designed to be a barrier to progress; it is used to promote rational and balanced development. As such, it is a potentially useful doctrine wherever technological progress must be compromised with the needs of the environment.84

This brief survey has shown the development and application of the public trust concept in the United States legal system. However, the concept is not uniquely American. It is applied in many other countries as well.

D. The Concept of Public Trust in Other Nations

As applied to navigable waters and tidelands, the doctrine of public trust is part of the heritage of the civil law. It is not surprising that

90. Krier, supra note 4, at 281; Yannacone, Cohen, & Davison, supra note 4, at 17; Sax, supra note 4, at 487; The Public Trust in Tidal Areas, supra note 4, at 769-71; California Beach Access, supra note 4, at 584.
91. Cohen, supra note 4, at 391.
93. Defending the Environment, supra note 4, at 167.
94. Such a classic confrontation will surely arise concerning the production of petroleum products from oil shale in the western United States. The devastating environmental damage will have to be weighed against the critical shortage of fuels. See Shale Oil Development: A Controversial Venture, 31 CONG. Q. WEEKLY REP., Dec. 22, 1973, at 3383.
the basic concept appears in many foreign nations. In France, for example, a variety of resources are held for the public use, including highways and streets, navigable rivers, streams, canals, sea coasts, parks, bays, historical buildings, libraries, museums, and railroads. Limitations exist on ownership rights to forests, national monuments and sites, and historical monuments, "the conservation of which is in the public interest." These resources are regulated by the Ministries of Agriculture and Arts. The government alone is competent to designate which objects fall within the public domain; the courts may not do so. Another example is in Mexico, where the seashore up to the high tide line is "burdened with a right of commons quite similar to [American] tideland trust." The Mexican property of common use (bienes), equivalent to public trust lands, includes the seashore, navigable waters, fisheries, riverbanks, municipal commons, forests, and pastures.

Throughout the world, wildlife is also subject to a variety of protections. The Eastern European countries have systems similar to the United States. Wildlife is considered to be the collective property of the nation's citizens and is administered in their behalf by the state. In contrast are the laws of Spain, Portugal, Italy, and Greece. In these countries, everyone possessing a license has the right to hunt freely. Game is ownerless and the hunter acquires legal title upon its killing. In other Western European countries, sale of game on the open market is usually illegal; thus, private landowners have "an economic as well as recreational incentive to preserve and manage wildlife on [their] property."

In terms of public parks, only Canada and New Zealand have protected their resources in ways directly comparable to the United States. Canada dedicated its first national park at Banff in 1887, and has since developed an extensive system of wildlife preserves. New Zealand's first park was created in 1894. Several African countries also have created vast natural parks and wildlife refuges. Many

95. P. ESMEIN, 2 CIVIL LAW TRANSLATIONS (DROIT CIVIL FRANÇAIS) 51-52 (7th ed. 1966).
96. Id. at 201-03.
97. California Beach Access, supra note 4, at 597.
98. Id. at 602-06.
99. SIGLER, supra note 52, at 7-9.
100. Id.
101. Id. at 7. The most sophisticated laws are those of Germany and Austria where, in order to obtain a hunting license "a person must first pass a rigorous qualifying examination covering the identification and life histories of indigenous wildlife species, basic game management principles, use of firearms and some aspects of ballistics, game and nature preservation laws and a great deal of material on the traditions and ethics of hunting." Id. at 9.
102. Id. supra note 64, at 658.
103. Id. at 663-67.
other countries have developed limited protection for the few natural areas within their borders.\textsuperscript{104}

A system similar to public park trust is that of the commons and village greens, which often includes "private land held under ancient customs and century-old rights."\textsuperscript{105} In England, for example, over one and one-half million acres are held as commons for use as "grazing lands for . . . livestock, essential adjuncts of nearby farms, . . . nature reserves, [and] places of recreation."\textsuperscript{106}

The basic legal concept of public trust exists in many nations under a variety of labels, even though it is nowhere so fully developed as in the United States. The concept is not alien to other legal systems. The principles of public trust are such that they can be understood and embraced by most countries of the world.

E. The Efficacy of Public Trust

Professor Joseph Sax, a leading authority on the public trust doctrine, argues that "its underlying concept is readily adaptable to the whole range of issues that comprise our environmental dilemma—air and water pollution, the dissemination of pesticides, radio-activity, congestion, noise, and the destruction of natural areas and open space."\textsuperscript{107} He suggests, however, that if the doctrine is to be a satisfactory tool, it must meet three requirements: "It must contain some concept of a legal right in the general public; it must be enforceable against the government; and it must be capable of an interpretation consistent with contemporary concerns for environmental quality."\textsuperscript{108}

As the following discussion will show, the first requirement has been met in the international arena by the adoption of several multilateral conventions as well as various resolutions and declarations at the United Nations and regional governmental organizations which recognize the concept of a legal right in the general public. Similarly, there should be little or no problem in satisfying the third requirement, since international agreements and conventions usually provide a built-in mechanism for amendments, and the ongoing process of decisionmaking in international organizations is fairly sensitive to contemporary concerns.

\textsuperscript{104} Among them are Argentina, Belgium, Brazil, Chile, Colombia, Denmark, Ecuador, England, France, Greece, Iceland, Italy, Japan, the Netherlands, Nicaragua, Peru, the Philippines, Poland, Spain, Sweden, Switzerland, and Venezuela. \textit{Id.}


\textsuperscript{106} \textit{Id.}

\textsuperscript{107} \textit{Defending the Environment}, \textit{supra} note 4, at 172.

\textsuperscript{108} Sax, \textit{supra} note 4, at 474.
However, if the second requirement of enforcement were to be strictly construed, serious questions pertaining to the viability of the concept would arise because of the nature of the international society, which lacks centralized structures of effective authority and control. While article 2(7) of the United Nations Charter\textsuperscript{109} prohibits intervention in the internal affairs of a nation state, chapter VII of the Charter provides the only basis for undertaking collective sanctions against states. These enforcement provisions, articles 39 to 42, are applicable only if a state action is considered by the Security Council to constitute a threat to the peace, breach of the peace, or an act of aggression. Notwithstanding the ambiguous nature of these categories, a violation of the proposed public trust doctrine is not the kind of a state activity contemplated to be resisted by the collective enforcement mechanism established under the United Nations Charter. On the other hand, if the term enforceability were construed liberally so as to imply self-enforcement (which at present seems to be the only effective means to induce compliance by nation states with recommendations and decisions of international organizations), the requirement could be considered satisfied. Thus, a common interest of nation states in the doctrine could be identified and encouraged. In view of the lack of centralized structures of authority in the international arena, incentives and informal sanctions such as reciprocity and retaliation may serve the same goals there as do formal sanctions and enforceability in the national arena. A modified form of the doctrine could be applied in the international arena as well.

\textbf{F. Public Trust Concept in the International Arena}

Several multilateral, regional, and bilateral agreements are already in operation to accomplish the objective of the public trust principle; that is, to secure the protection and conservation of resources of special significance for the common benefit. The resources covered under these agreements were, historically, the living resources of the marine environment. To illustrate, various fishery conventions governing specific regions or species have a major objective of conservation.\textsuperscript{110} Similarly, the thrust of the 1958 Geneva Convention on Fish-

\begin{footnotesize}
\begin{enumerate}
\item Article 2, paragraph 7 reads:
Nothing contained in the present Charter shall authorize the United Nations to intervene in matters which are essentially within the domestic jurisdiction of any state or shall require the Members to submit such matters to settlement under the present Charter; but this principle shall not prejudice the application of enforcement measures under Chapter VII.
\end{enumerate}
\end{footnotesize}
ing and Conservation of the Living Resources of the High Seas\textsuperscript{111} was toward conservation and protection. The 1958 Geneva Convention on the Continental Shelf obligates coastal states to "undertake, in the safety zones, all appropriate measures for the protection of the living resources of the sea from harmful agents."\textsuperscript{112}

A similar thrust is evident in more recent United Nations activities, which include (a) the Maltese proposal at the 1967 session of the General Assembly for international control and regulation of deep-sea resources;\textsuperscript{113} (b) the 1968 General Assembly Resolution on exploitation and conservation of living marine resources;\textsuperscript{114} (c) the Moratorium Resolution of 1969;\textsuperscript{115} (d) the 1970 Declaration of Principles governing the seabed, the ocean floor, and the subsoil thereof beyond the limits of national jurisdictions,\textsuperscript{116} which stated that the area mentioned and its resources are the "common heritage of mankind" and, therefore, not subject to exclusive appropriation or the exercise of sovereign rights; (e) the 1970 Draft Convention on the International Seabed Area presented by the United States;\textsuperscript{117} and (f) drafts and working papers presented by several states before the seabed committee\textsuperscript{118} and, more recently, offered in preparation for the year's Law of the Sea Conference.\textsuperscript{119} In addition to proposals presented by single states at the United Nations, the following proposals have been made by various groups and individuals: (a) a 1968 draft statute on the ocean regime by Elizabeth Mann Borgese of the Center for Democratic Institutions;\textsuperscript{120} (b) the 1968 Stockholm International Peace Re-

\begin{thebibliography}{99}
\bibitem{118} \textit{See}, e.g., U.N. Doc. A/AC 138/26, at 46 (United Kingdom); 27 (France); 33 (Tanzania); 43 (U.S.S.R.); 44 (Poland); 49 (Chile, Colombia, Ecuador, El Salvador, Guatemala, Guyana, Jamaica, Mexico, Panama, Peru, Trinidad and Tobago, Uruguay, and Venezuela); 53 (Malta); 55 (Afghanistan, Austria, Belgium, Hungary, Nepal, the Netherlands, and Singapore); 59 (Canada); 63 (Japan); and SC.IU/L.4 (U.S.).
\bibitem{119} Pertinent documents containing these proposals are located in 12 \textit{Int'r L. Legal Materials}, 560-602, 1200-74 (1973).
\end{thebibliography}
search Institute (SIPRI) Report;\textsuperscript{121} (c) the 1969 Ditchley Report;\textsuperscript{122} (d) a 1971 draft treaty proposed by the World Peace Through Law Center;\textsuperscript{123} (e) a draft Declaration of Principles suggested by the International Law Association;\textsuperscript{124} (f) Senator Claiborne Pell's declaration of legal principles, also submitted by him as a resolution in the United States Senate;\textsuperscript{125} (g) recommendations of the Commission to Study the Organization of Peace;\textsuperscript{126} (h) recommendations of Pacem in Maribus;\textsuperscript{127} (i) proposals by non-aligned nations;\textsuperscript{128} (j) proposals by the Organization of African Unity;\textsuperscript{129} (k) proposals by the Organization of American States;\textsuperscript{130} and (l) proposals by the Ministerial Meeting of the Group of 77.\textsuperscript{131}

Many of these proposals reflect not only a continuing concern about threats to and conservation of living resources but also an added concern about non-living resources as well. The apprehension is growing that unless regulatory mechanisms are introduced now, the non-living resources face in the near future a threat of irresponsible exploitation and possible depletion because of the accelerated pace of technological capabilities to exploit them commercially.\textsuperscript{132} Various conventions and agreements on marine pollution indirectly seek to achieve this goal of preservation and conservation. Such developments include (a) the 1954 International Convention for the Prevention of Pollution of

\begin{itemize}
  \item \textsuperscript{121} International Institute for Peace and Conflict Research, Towards a Better Use of the Ocean (SIPRI Monograph, 1969).
  \item \textsuperscript{122} The Resources of the Ocean Bed (Ditchley Paper No. 23, 1969).
  \item \textsuperscript{123} See U.N. Committee of the World Peace Through Law Center, Draft Treaty Covering the Exploration and Exploitation of the Ocean Bed (Revision No. 1 by A. Danzig, 1970).
  \item \textsuperscript{124} The declaration is contained in S. ODA, THE INTERNATIONAL LAW OF OCEAN DEVELOPMENT 255 (1972) [hereinafter cited as ODA].
  \item \textsuperscript{125} S. Res. 33, 91st Cong., 1st Sess. (1969). The text is contained in id. at 272.
  \item \textsuperscript{126} The Commission's latest proposals are contained in The United Nations and the Oceans—Current Issues in the Law of the Sea (Twenty-Third Report, Commission to Study the Organization of Peace, June 1973).
  \item \textsuperscript{127} The report of the latest Pacem in Maribus is contained in Borgese & Krieger, \textit{Pacem in Maribus III}, 1 SYRACUSE J. INT'L L. & COM. 153 (1973).
  \item \textsuperscript{128} See U.N. Doc. NAC/CONF. 3/RES. 11 (1970). The text also is contained in ODA, supra note 124, at 360.
  \item \textsuperscript{130} The Montevideo Declaration of 1970 and the Lima Declaration of 1970 are contained in ODA, supra note 124, at 347 & 349 respectively. For the latest proposals by Ecuador, Panama, and Peru, see U.N. Doc. A/AC.138/SC.II/L.27, at 54 (1973).
  \item \textsuperscript{131} The text is contained in ODA, supra note 124, at 364.
  \item \textsuperscript{132} See, e.g., Brand, supra note 30.
\end{itemize}
the Sea by Oil, as amended in 1967, 1969, and 1971 and the 1958 Geneva Convention on the High Seas; (b) the 1969 Bonn Agreement to deal with pollution of the North Sea by oil; (c) the 1972 Oslo Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft; (d) the 1972 Convention on the Prevention of Marine Pollution by Dumping of Waste and Other Matter; (e) the 1973 International Convention for the Prevention of Pollution by Ships; and (f) the 1974 Convention for the Prevention of Marine Pollution from Land-based Sources.

Although the concern with conservation and protection of resources of benefit to all mankind began with those of the marine environment, a similar concern is reflected for other environments. For examples, the 1959 Antarctic Treaty has as one of its purposes the "preservation and conservation of living resources in Antarctica;" the 1967 Treaty on Principles Governing Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (the Outer Space Treaty) prohibits exclusive national appropriation of outer space by claims of sovereignty, explicitly stating that the exploration and use of outer space "shall be carried out for the benefit and in the interests of all countries . . . and shall be the province of all mankind." Efforts to save the environment from radio-active pollution are contained in several agreements, including

136. The amendments are contained in 11 INT'L LEGAL MATERIALS 267 (1972).
139. See 11 id. at 262 (1972).
140. See id. at 1291. The Convention was opened for signature on Dec. 29, 1972.
141. The text is contained in 12 INT'L LEGAL MATERIALS 1319 (1973).
142. The text is contained in 13 id. at 352 (1974).
the Partial Nuclear Test Ban Treaty, the Non-Proliferation Treaty, the Sea-bed Demilitarization Treaty, the Outer Space Treaty, and the Antarctic Treaty. General Assembly Resolution 3063 (XXVIII) of November 9, 1973, “deplores environmental pollution by ionizing radiation from the testing of nuclear weapons.”

The 1970's show an expanding recognition of the need to protect and preserve resources, including those of primarily aesthetic, cultural, genetic, or historic value. For examples, a 1971 draft convention on Wetlands of International Importance Especially as Waterfront Habitat obligates parties to promote conservation of such wetlands; a proposed convention for the world's cultural and natural heritage was drafted in 1972 by the 17th General Conference of the United Nations Educational, Scientific and Cultural Organization; the establishment of a “World Heritage Fund” is underway; a United Nations Environment Fund is already in operation; and a Convention on International Trade in Endangered Species of Wild Fauna and Flora was signed in Washington in 1973. Additional bilateral and regional actions taken in the 1970's include the 1972 Agreement on Co-operation in the Field of Environmental Protection between the United States and the Soviet Union; the 1969 European Convention on the Protection of the Archaeological Heritage and other activities undertaken by the Council of Europe, including the 1970 European Conservation Conference; several bilateral and regional arrangements on multinational


149. Article IV of the Treaty, supra note 144.

150. Article V(1) of the Treaty, supra note 143.


152. The text is contained in 11 INT'L LEGAL MATERIALS 969 (1972).


155. The Fund of the United Nations Environment Programme was created pursuant to G.A. Res. 2997, supra note 11. General Procedures governing the operations of the Fund are contained in 12 INT'L LEGAL MATERIALS 1193 (1973).

156. The text is contained in 12 INT'L LEGAL MATERIALS 1085 (1973).


waterways,\textsuperscript{161} including those on the Rhine,\textsuperscript{162} the Danube,\textsuperscript{163} Indus,\textsuperscript{164} and the Great Lakes;\textsuperscript{165} and agreements to prevent and control air pollution.\textsuperscript{166}

It is especially noteworthy that several principles of the Stockholm Declaration and several recommendations contained in the Action Plan recognize elements of the public trust and urge states to take appropriate steps to implement them. Principle 2 calls for safeguarding the “natural resources of the earth . . . for the benefit of present and future generations . . .”\textsuperscript{167} Principle 3 calls for maintaining and, wherever practicable, restoring or improving “the capacity of the earth to produce vital renewable resources.”\textsuperscript{168} Principle 4 reminds man of his “special responsibility to safeguard and wisely manage the heritage of wildlife and its habitat which are now gravely imperiled . . . .”\textsuperscript{169} Principle 5 urges man to guard against the danger of future exhaustion of the nonrenewable resources of the earth by taking appropriate measures now.\textsuperscript{170} Principle 6 calls for halting excessive “discharge of toxic substances or of other substances and the release of heat . . . in order to ensure that serious or irreversible damage is not inflicted upon ecosystems.”\textsuperscript{171} Principle 7 calls upon states to “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.”\textsuperscript{172} Recommendation 38 asks governments to “take steps to set aside areas representing ecosystems of international significance for


166. Brown, \textit{supra} note 159, at 317-18 cites several European agreements.


168. \textit{Id.}

169. \textit{Id.}

170. \textit{Id.}

171. \textit{Id.}

172. \textit{Id.}
protection under international agreement. Recommendations 20 to 27 concern soil conservation and preservation, agro-chemicals, livestock, and forests. Recommendations 30 and 31 concern wildlife resources and management. Recommendation 32 is on the protection of "species inhabiting international waters or those which migrate from one country to another." Recommendation 33 calls for "a ten-year moratorium on commercial whaling" under the auspices of the International Whaling Commission. Recommendations 39 to 45 concern the preservation of genetic resources. Recommendations 46 to 50 are on fisheries. Recommendations 51 to 55 are on water resources and water management problems. Recommendations 56 to 69 deal with other resources. Recommendations 70 to 94 are on pollution. Recommendation 98 asks national governments, with the assistance of the Secretary-General, Food and Agriculture Organization, U.N. Educational, Scientific, and Cultural Organization, and other international and regional organizations to "continue the preparation of the present and future conventions required for conservation of the world’s natural resources and cultural heritage." Recommendation 99 urges the adoption of UNESCO's draft convention concerning the protection of the world’s natural and cultural heritage and asks governments to sign the Convention on Conservation of Wetlands of International Importance. Recommendations 102 to 109 are on development and environment. In addition to these principles and recommendations, there are many recent suggestions in the legal literature on environmental control.

173. Id. at 24.
174. Id. at 16-21.
175. Id. at 22.
176. Id.
177. Id. at 23.
178. Id. at 24-31.
179. Id. at 31-33.
180. Id. at 33-36.
181. Id. at 36-39.
182. Id. at 40-49.
183. Id. at 52.
184. Id.
185. Id. at 54-58.
186. To illustrate, Stewart Udall, former Secretary of the United States Department of the Interior, has proposed that the United Nations establish an Institute for Planetary Survival to "cope with the ecological crisis." Udall, Some Second Thoughts on Stockholm, 22 AM. U.L. Rev. 717, 730 (1973). Professor Gray Dorsey proposes "a treaty that would obligate all industrially advanced nations to test, or require their nationals to test, proposed new products and technologies" so that environmental damage can be anticipated and avoided. Dorsey, A Proposed International Agreement to Anticipate and Avoid Environmental Damages, 6 INDIANA L. REV. 190, 201 (1972). E.W. Seabrook Hull, Editor, Ocean Science News, and Albert Koers have proposed a draft "Convention on the International Environmental Protection Agency." Hull & Koers, Con-
APPRAISAL AND RECOMMENDATION

The developments noted in Part II are significant, for they demonstrate increasing sensitivity to and awareness of environmental problems by a large number of states. Such developments are also helpful in creating expectations that states may undertake some unilateral as well as cooperative measures in the pursuit of environmental protection and preservation.

Various elements of the public trust doctrine are identifiable in most of the proposals and suggestions mentioned in Part II. An explicit acknowledgment of the doctrine, however, would provide an authoritative basis for encouraging and promoting a wider acceptance of the notion that states are responsible not only to their own nationals, but also to all humankind for the maintenance, preservation, and conservation of selected uses and resources that fall into two categories. The first category consists of uses and resources of the commons, while the second consists of uses and resources of global importance lying within exclusive jurisdiction of nation states.

A United Nations declaration adopted by the General Assembly, followed by an international convention establishing a public trust doctrine, would be an appropriate medium for such an acknowledgment. This proposed United Nations acknowledgment of the public trust docu-
trine is designed to deal with transnational environmental problems and should include four essential features: (1) a recognition that nation states with resources of unique importance lying within their exclusive jurisdiction should hold them in trust for all mankind; (2) an international agency to serve as a trustee over areas and resources of commons outside national jurisdictions; (3) a method of identifying resources anywhere in the world that should be subject to the public trust; and (4) strong incentives for states to identify and submit areas and resources within their individual jurisdictions to the public trust.

A superficial reading of the first feature is likely to sound inconsistent with the prevailing norms of international law under which states are granted sovereignty over natural resources. Resolution 1803 of the United Nations General Assembly acknowledges that "the right of peoples and nations to permanent sovereignty over their natural wealth and resources must be exercised in the interest of their national development and of the well being of the people of the state concerned."187 This resolution has been invoked frequently in recent controversies over the nature and quantum of compensation for expropriation and nationalization, especially in the Chilean expropriation of copper188 and the Libyan expropriation of oil189 controversies. However, the first feature does not contemplate coercion of a nation state to hold resources lying within its jurisdiction in public trust, with threats of enforcement measures in cases of noncompliance. Instead, states would be offered international assistance and incentives to encourage adoption of a trust concept as a preferable alternative to protecting precious resources alone. The underlying common interest is assumed in protecting, conserving, and preserving territorial uses and resources of global importance because of genetic, aesthetic, cultural, or historical values. The type of action envisaged in this proposal is illustrated by Iran's announcement at the Stockholm Conference that it "had selected an area of 130,000 hectares constituting an ecosystem of global importance, which it was prepared to place in joint trust with an appropriate international agency to conserve and administer for the benefit of all mankind."190

188. For a recent comment, see Note, The Libyan Expropriations: Further Developments on the Remedy of Invalidation of Title, 11 Houston L. Rev. 924 (1974).
189. For a recent comment, see Vicuna, Some International Law Problems Posed by the Nationalization of the Copper Industry by Chile, 67 Am. J. Int'l L. 711 (1973).
For areas and resources outside any national jurisdiction, an international agency affiliated with the United Nations system should be established. Such a relationship would ensure that the proposed agency can avail itself of United Nations resources, know-how, and prestige, while benefiting from the universality of membership. Any of several models for the proposed agency-United Nations relationship could be selected. At the outset, however, one possibility, the establishment of the proposed body as a part of the United Nations Secretariat, is not recommended. While such an arrangement would ensure efficient functioning as a bureaucratic organization, thereby perhaps minimizing political pressures which afflict most United Nations bodies, the very nature of the subject matter (geographical areas and resources) requires that active political interaction in which nation states are the decisionmakers be preferred over the delegation of functions to an international bureaucracy. Among the possible models are the establishment of another specialized agency of the United Nations such as UNESCO, an organization established on the model of the International Bank for Reconstruction and Development (World Bank), the International Monetary Fund (IMF), or the expansion of a UNEP mandate authorizing it to undertake the public trust functions as well. Since UNEP is already actively engaged in coordinating international environmental action, it would seem to be the most likely candidate to act as a trustee under the public trust doctrine.

The mandate of UNEP or any newly established agency should include the authority to license or dispose of trust property, to acquire trust property, to regulate activities of states, multinational enterprises, and individuals pertaining to the trust property, and to prevent damages to and seek damages for diminution of the trust corpus. Through a small executive or governing council and a larger general assembly consisting of all member state parties to the convention establishing such a body, the proposed agency would discharge its functions pertaining to the uses of both living and nonliving resources in ocean space, air space, such other common areas as Antarctica, and the uses and potential resources of outer space.

Identification of trust property could be made either by the proposed agency or by some separate process. The identification of national trust areas would be the most difficult task. One alternative is that panels of experts in environmental and related sciences could make the initial determination either on their own initiative or on the initiative of (a) any state, including the one within whose jurisdiction the uses or resources in question lie; (b) any intergovernmental organization; or (c) a selected nongovernmental organization in a consultative capacity either to the United Nations or to the above-proposed
agency. A prima facie case would have to be made to show why public trust should apply. Written statements, public hearings, and the use of witnesses and experts at these hearings would be the normal procedure in the presentation of a case. A review of the initial determination could take place, at the call of any party mentioned above, by a board of advisers. These advisers could be selected from a group of experts called the Permanent Board of Environmental Experts, which would be structured similarly to the Permanent Court of Arbitration. If the decision were made to bring some resources and uses under public trust, the subject could be brought before the United Nations General Assembly for endorsement, treating the matter as an important question requiring a two-thirds majority vote for its adoption. This proposed requirement for Assembly endorsement pursuant to the application of the important question procedure contained in the United Nations Charter should ensure wider participation of nation states in making decisions about an area primarily within national jurisdiction. It also would provide adequate safeguards to prevent and deter hasty action, while minimizing resistance to collective community action.

An important feature of the proposal presented here is that incentives, instead of sanctions, should be used to induce states to comply with the agency decisions. One such incentive might be an international program of insurance against liability for environmental damage, once standards on international environmental injury and environmental liability are established. Nations undertaking development projects, whose preventive and precautionary measures against environmental damage were approved by the agency, would be insured against unforeseen damage. An insurance liability trust fund would be created for this purpose. Another possible incentive would be to devise and implement a coordinated plan, in conjunction with the International Bank for Reconstruction and Development and with regional banks, to encourage environmental responsibility through low interest loans or even grants for those portions of projects devoted to preventing pollution or protecting the environment. A link between Special Drawing Rights and such projects could be a useful mechanism. Finally, the proposed agency could develop a program utilizing the expertise and resources of other specialized agencies of the United Nations such as

192. See notes 21-24, 27-30 supra and accompanying text.
193. For a similar proposal on ocean dumping from oil tankers, see Nanda, International Liability Trust Fund, 4 Trial, Aug./Sept. 1968, at 50.
194. For recent developments pertaining to Special Drawing Rights, see IMF Survey, July 8, 1974, at 209-14.
FAO, UNESCO, WHO, UNIDO, UNDP, and WMO to provide extensive technical and perhaps financial assistance to those states agreeing to place particular resources and uses in the public trust. The World Heritage Fund and the International Environmental Fund could be used to assist in facilitating protection of cultural and national heritage of global significance, to conduct research into environmental problems of these states, to finance international environmental impact statements, and to pay for costs of pollution control in these states. It seems proper that the beneficiaries of the public trust should bear a reasonable share of the cost.

This proposal prefers incentives over coercion and enforcement mechanisms. The reasons for this choice are inherent in the present system. As already mentioned, the Security Council is the only United Nations organ authorized to take enforcement measures against a nation state; authority to do so is limited to three enumerated situations—threats to the peace, breaches of the peace, and acts of aggression. Furthermore, the use of enforcement measures in the Korean War and, more recently, against South Africa and Rhodesia does not commend itself for wider use. Thus, it is advisable to opt for persuasion, encouragement, assistance, and incentives, especially in areas pertaining to uses and resources. However, this proposal does not rule out enforcement proposals such as those setting international product standards and other global standards to prevent transnational environmental injury; nor does it rule out proposals requiring global environmental impact statements when a country seeks to undertake a project which will have significant environmental impact, especially any project that entails financing by World Bank or bilateral projects.

IV
CONCLUSION

It seems imperative that existing mechanisms to facilitate and promote cooperative, concerted environmental action be further strengthened. Such mechanisms include various bilateral and regional arrangements and several recent conventions and institutions, including UNEP, set up under United Nations auspices. Additionally, new mechanisms should be created to deal with specific situations. One such mechanism proposed here is an extension of the public trust doctrine to encompass (1) the uses of both living and nonliving resources of ocean space, air space, and such other common areas as Antarctica; (2) the uses and potential resources of outer space; and (3) territorial uses and resources of global importance because of their genetic, aesthetic, cultural, or historical value.
The extension and application of the doctrine in the international arena offers an intriguing opportunity to use an innovative approach in dealing with global environmental problems. Broad outlines of the doctrine have been presented here. Details of operationalizing it and making it politically acceptable and feasible will have to await presentation at the United Nations and further discussions and refinements in the world body.