EVOLUTION AND EFFECTIVENESS OF TREATIES: MARINE POLLUTION CONTROL

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The importance of international treaties as a medium for diffusion of information on co-operative process between sovereign nations has not been addressed vigorously by political scientists, geographers, or librarians. An examination has been made of international agreements involving marine pollution on three scales - pollution of international rivers and freshwater lakes (involving as few as two states), pollution of regional seas and gulfs (numerous participants) and pollution of the high seas (with reference to the new Law of the Sea). Refinements in pollution control are incremental, and there is much exchange between municipal law and international law in regulatory measures proposed in these treaties. Examples will be given to alert the marine science librarian of the importance of collecting treaty texts as a forecasting tool for future domestic policy, and domestic legislation as forerunner for international policy.

I'd like to begin with a quotation from Thomas Jefferson, which may give relevance to my presentation:

"I am not an advocate for frequent changes in laws and constitutions. But laws and institutions must go hand in hand with the progress of the human mind. As that becomes more developed, more enlightened, as new discoveries are made, new truths discovered and manners and opinions change, with the change of circumstances, institutions must advance also to keep pace with the times. We might as well require a man to wear still the coat which fitted him when a boy as civilized society to remain ever
under the regimen of their barbarous ancestors."

These are fine-sounding words, expressing an ideal for the nation to strive toward, if not yet to have attained. Similarly treaties, which in the realm of law are considered valid contracts between two or more sovereign nations, are often in reality only expressions of ideals toward which to strive.

My interest, as you have guessed from the title, is in marine pollution prevention on a global scale. I have examined treaties on water quality control. Taken over time, in my opinion the picture I will present to you indicates an encouraging trend in environmental control – in spite of the reality that many of the objectives have not been obtained, have even, in fact, been flagrantly disregarded at times.

In the latter part of the 19th century, protection of fishing "industry" was most important, and we find poisons and industrial wastes prohibited in many European bilateral "river treaties."

"In the Rhine, the Untersee and their tributaries certain fishing devices will not be permitted. Poisonous and explosive substances and instruments capable of injuring fish are prohibited...Industrial wastes may not be led into the water courses."
(Convention between the Grand Duchy of Baden and Switzerland concerning Fishing in the Rhine between Constance and Basel. Bern. 9 December 1869. Summary)

"In order to protect against pollution of fishing waters both Governments shall enact controls against the discharge of effluents from agriculture or industrial wastes in such quantities which are likely to endanger fishing."
"...Prohibited are fishing methods involving chemical or explosive substances. All factories or plants located along the Lake are required to discharge their waste products into the ground at their own cost and are prohibited to introduce them into the Lake."
(Convention between France and Switzerland Regulating Fishing in the Frontier Waters. Paris, 28 December 1880. Summary)

"The Contracting Parties are entitled...to take the necessary measures to prevent polluted waters from flowing into the Lake."
(Convention between Austria-Hungary and Italy concerning Fishing in the Lake Garda. Riva, 9 August 1883. Summary)

"It is prohibited to direct industrial waste waters harmful to the environment into the rivers."
(Convention between Switzerland, the Grand Duchy of Baden, and Alsace-Lorraine, Establishing Uniform Provisions on Fishing in the Rhine and its Tributaries, Including Lake Constance, with Final Protocol. Lucerne. 18 May 1887. Summary)

The Madrid Declaration of 1911 was the first co-operative effort to deal with problems of river basins other than navigational matters.

"...Neither State may, on its own territory, utilize or allow the utilization of the water in such a way as seriously to interfere with its utilization by the other State...
2. All alterations injurious to the water, the emptying therein of injurious matter (from factories, etc.) is forbidden..."
(International Regulations regarding the Use of International watercourses for Purposes Other than Navigation. Adopted by the Institute of International Law at Madrid. Madrid Declaration. 20 April 1911)

United States and Canada together made the first mention of health of the people a primary concern.
"...waters flowing across the boundary should not be polluted on either side to the injury of health or property on the other.
Whenever...it has been established that waters on one side of the boundary line have been polluted to the injury of health and property on that side, such pollution shall be deemed to be injurious to health and property on the other side until the contrary is proved...
The (IJC) may define...classes of vessels in which apparatus for the disinfection of the sewage, bilge-water or water ballast discharged therefrom should be installed to prevent the pollution of waters..."

Even colonies had concern for river pollution and its effect on the local populations.

"No operations of a mining or industrial nature shall be permitted by either of the Contracting Governments in Tanganyika or Ruanda-Urundi respectively which may pollute or cause the deposit of any poisonous, noxious or polluting substance in the waters of any river or stream forming part of the boundary between the Tanganyika Territory and Ruanda-Urundi or any tributary river or stream thereof, or in any river or stream flowing from one territory into the other."
(Agreement between the United Kingdom of Great Britain and Northern Ireland and Belgium Regarding Water Rights on the Boundary Between Tanganyika and Ruanda-Urundi. London, 22 November 1934.)

Oil pollution was seriously considered by diplomats in conference as early as 1926, and again in 1935, but no agreement was ever reached regarding facilities for receiving oily discharge until the 1954 Law of the Sea.

"Article I.
The respective Governments may establish areas in waters adjacent to their coasts within which discharge...of oil or oily mixtures...shall be prohibited..."
Article II.
The discharges which may be prohibited in any area pre-
scribed pursuant to Article I are (a) crude, fuel or die-
sel oil, or (b) any mixture containing more than .05 of
one per cent of such oil, or having a content of such
oil sufficient to form a film on the surface of the sea
visible to the naked eye in daylight in clear weather."
(Final Act and Draft Convention of the Preliminary Confer-
ence on Oil Pollution of Navigable Waters, Washington,
16 June 1926)

Explosive materials leaking pollution was
a post-war phenomenon which shaped our per-
ception of nuclear pollution in the succeeding
decades.

"...the problems raised by the installation in the vicin-
ity of the frontier of storage depots of explosive materi-
als for civil use, and...the problem of water pollution
requir(e) detailed technical study...
The joint technical sub-committee shall have the following
terms of reference:
(A) to define the pollution factors (industrial or com-
munal origin, degree of intensity, etc.), collect any
appropriate technical opinions, assess each State's share
of responsibility for the pollution;
(B) to draw up a report...on the action to be recommen-
ded...
The Tripartite Standing Committee on polluted waters re-
serves the right to set up further technical sub-commit-
tees when it takes up the study of the pollution of other
waterways deemed to be the cause of unhealthy conditions
in the territory of one of the three signatory States."
(Protocol Between France, Belgium and Luxembourg to Estab-
lish a Tripartite Standing Committee on Polluted Waters,
Brussels, 8 April 1950)

"...take whatever action is necessary to assist States
in controlling the discharge or release of radio-active
materials to the sea, in promulgating standards, and in
drawing up internationally acceptable regulations to pre-
vent pollution of the sea by radio-active materials in
amounts which would adversely affect man and his marine resources."

"...the High Contracting Parties shall ensure that the waters of the canal in the vicinity of the Belgian-Netherlands frontier meet the standards of quality set forth in Annex III to this treaty...
The two Governments shall supply each other with all such particulars concerning existing or future installations that discharge liquid and/or solid radioactive waste into the section of the canal situated in their territory as are needed to determine the extent to which the waters of the canal have become radioactive as a result of such discharge."
(Treaty between the Kingdom of Belgium and the Kingdom of the Netherlands concerning the Improvement of the Terneuzen and Ghent Canal and the Settlement of Various Related Matters, Brussels, 20 June 1960)

"Article II.
1. The operator of a nuclear ship shall be absolutely liable for any nuclear damage...caused by a nuclear incident involving the nuclear fuel of, or radioactive products or waste produced in such a ship."

"Article II.
1. The operator of a nuclear installation shall be liable for nuclear damage upon proof that such damage has been caused by a nuclear incident
   (A) in his nuclear installation; or
   (B) involving nuclear material coming from or originating in his nuclear installation..."
(Convention on Civil Liability for Nuclear Damage, Vienna, 21 May 1963)

Eutrophication was first addressed in this 1952 document.
"In order to maintain the frontier water in proper condition each Contracting Party undertakes...

(4) To prevent, by appropriate means and installations, any waters... and any effluents from towns, settlements or industrial plants from introducing into the said rivers physical, chemical or bacteriological impurities of such nature and in such quantities as:

(A) To affect adversely the use of the water of the said rivers for domestic requirements, water supply, industry and agriculture;

(B) To cause bridges, dams, other water engineering works and installations, and vessels to become corroded and overgrown with slime and aquatic flora and fauna;

(C) To cause the excessive accumulation of slime on the bed and banks;

(D) To affect adversely the normal development of the typical aquatic flora and fauna of the said rivers."

(Agreement between the Government of the Polish Republic and the Government of the German Democratic Republic concerning Navigation in Frontier Waters and the Use and Maintenance of Frontier Waters. Berlin, 6 February 1952)

Canadians were the first to mention concern for fish and wild-life protection.

"That any machine, plant, vessel, barge or operators or crews thereof, used on these works, shall not be permitted to tie up, discharge ashes, fuel oil, waste oil, etc. or to commit any other nuisance in a manner prejudicial to the health, well-being and activities of the owners and/or users of land or water areas...during the progress of, or subsequent to, the carrying out of these works; the attention...is also drawn to... the Fisheries Act of Canada, and ... the Migratory Birds Convention Act which refer to the pollution of waters with specific reference to the effect upon fish and migratory birds;"

(Exchange of Notes Constituting an Agreement between the United States of America and Canada relating to Navigation Improvements of the Great Lakes Connecting Channels of the Saint Lawrence Seaway, Ottawa, 30 November 1956, and 8-9 April 1957)
"Article II - General Water Quality Objectives

These waters should be:

(A) Free from substances that enter the waters as a result of human activity and that will settle to form putrescent or otherwise objectionable sludge deposits, or that will adversely affect aquatic life or waterfowl;

(B) Free from floating debris, oil, scum and other floating materials entering the waters as a result of human activity in amounts sufficient to be unsightly or deleterious;

(C) Free from materials entering the waters as a result of human activity producing colour, odour or other conditions in such a degree as to create a nuisance;

(D) Free from substances entering the waters as a result of human activity in concentrations that are toxic or harmful to human, animal or aquatic life;

(E) Free from nutrients entering the waters as a result of human activity in concentrations that create nuisance growths of aquatic weeds and algae.

Article V - Programs and Other Measures

(A) Pollution from Municipal Sources...

(B) Pollution from Industrial Sources...

(C) Eutrophication...

(D) Pollution from Agricultural, Forestry and Other Land Use Activities...

(E) Pollution from Shipping Activities...

(F) Pollution from Dredging Activities...

(G) Pollution from Onshore and Offshore Facilities...

(H) Contingency Plan...

(I) Hazardous Polluting Substances..."

(Agreement Between the United States of America and Canada Concerning the Great Lakes Water Quality, Ottawa, 15 April 1972)

The International Law Association, while not an official international power, has made recommendations quite often followed in later treaties. In this document of recommendations from their biennial meetings, the ILA redefined rivers in a drainage basin as an "integrated whole," long before ecology was a household word.
"Agreed principles of International Law.
1. A system of rivers and lakes in a drainage basin should be treated as an integrated whole (and not piecemeal).
Comment: Until now international law has for the most part been concerned with surface waters. It may be necessary to consider the interdependence of all hydrological and demographic features of a drainage basin.
Agreed Recommendations.
8. Co-riparians should take immediate action to prevent further pollution and should study and put into effect all practicable means of reducing to a less harmful degree present uses which lead to pollution."
(Statement of Some Principles of International Law Governing, and Recommendations Respecting, the Uses of the Waters of Drainage Basins within the Territories of Two or More States, as to which the Members of the Committee Present at the New York Conference have Reached Unanimous Agreement, adopted by the International Law Association at its 48th Conference at New York, 1958)

The London Convention in May 1954 mandated oily-water separation as treatment for bilge water in lieu of dumping at sea, but then issued an amendment in stronger language advocating complete avoidance of discharge, which, along with such publicized oil-spill disasters as "Torrey Canyon" off the British coast in 1967, and the "Amoco Cadiz" spill on the French coast in 1978 have created pressure on the shipping industry.

"Resolution 1.
The Conference have noted that the coasts and coastal waters of many countries are seriously affected by oil pollution, the results of which include great damage to coasts and beaches and consequent hindrance to healthful recreation and interference with the tourist industry, the death and destruction of birds and other wild life, and probable adverse effects on fish and the marine organisms on which they feed. There is widespread public concern
in many countries about the extent and the growth of this problem.
The pollution is caused by persistent oils, that is to say, crude oil, fuel oil, heavy diesel oil and lubricating oil. While there is not conclusive evidence that these oils persist indefinitely on the surface of the sea, they remain for very long periods of time and are capable of being carried very considerable distances by surface drifts caused by winds and currents and of building up into deposits on the sea-shore. Very large quantities of persistent oils are regularly discharged into the sea by tankers as a result of the washing of their tanks and the disposal of their oily ballast water. Dry cargo ships which habitually use their fuel tanks for ballast water also discharge oily ballast water into the sea and this also gives rise to pollution. It is practicable for tankers to adopt a procedure whereby their oily residues can be retained on board and discharged into reception facilities at oil loading ports or repair ports.
Pollution resulting from the discharge of ballast water from dry cargo ships can be reduced or prevented by the installation of efficient oily water separators or other means, such as the provision in ports of adequate reception facilities for oil residues.
The only entirely effective method known of preventing oil pollution is the complete avoidance of the discharge of persistent oils into the sea and, as stated above, measures are possible which would enable this to be substantially achieved."
(Resolutions Adopted by the International Conference on Prevention of Pollution of the Sea by Oil, London, April 1962 as Amendment to the London Convention on Prevention of Pollution of the Sea by Oil, 1954)

Voluntary agreements by the oil tanker owners in 1969 and 1974 addressed costs of oil-spill damages, and further efforts at oil spill prevention and detection will be indicated later.

"The Parties to this Agreement are Tanker Owners whose vessels are engaged in the transportation of Oil in bulk
by sea, and who recognize that Coast Lines may on occasion sustain Damage by Pollution as a result of Oil discharged when marine casualties occur. They are furthermore aware of the fact that traditional maritime laws and practice do not always provide an adequate means for re-imburseing Governments which incur expenditures to avoid or mitigate such damages, as well as tanker owners who, on their own initiative, incur such expenditures...
In a voluntary effort to establish their responsibility...the Parties...do hereby agree as follows:
Article IV. Liability and Responsibility to Governments
(A) If a discharge of Oil occurs from a Participating Tanker through the negligence of that Tanker (and regardless of the degree of its fault), and if the Oil causes Damage by Pollution to Coast Lines within the jurisdiction of a Government or creates a grave and imminent danger of Damage by Pollution thereto, then the Participating Owner of that Tanker shall Remove the Oil so discharged, or pay the costs reasonably incurred by the Government concerned to remove the said Oil...
Article IX. Law Governing
This Agreement shall be governed by the laws of England."
(Tanker Owners Voluntary Agreement Concerning Liability for Oil Pollution "TOVALOP", London, 7 January 1969)

"The parties to this contract are Operators of or intend to be the Operators of Offshore Facilities used in connection with exploration for or production of oil and gas. Each of the Parties has resolved to provide an orderly means for compensating and reimbursing any Person who sustains Pollution Damage and any State which incurs costs for taking Remedial Measures as a result of a Discharge of Oil from any Offshore Facility so used...up to an overall maximum of U.S. $16,000,000 per Incident..."

U.S.S.R. signed bilateral agreements with every border state on issues of health. Interest-
ingly enough, these have not been repeated in later texts.

"It is prohibited to dump animal carcasses, animal litter or fodder wastes into the river, or to open hatchways to dump refuse.
On arrival in port, carcasses and wastes shall be burned or buried in accordance with the health and veterinary regulations in force in the state concerned."
(Recommendations concerning the Unification of the Regulations Governing the Protection of Fauna and Flora in the Danube, Adopted by the Danube Commission at its 16th Session, 1958)

"It is prohibited to dump into the river the corpses of persons who have died on board.
The corpses of persons who died from a disease requiring quarantine or from any other communicable disease shall be buried in the nearest port, in accordance with the health regulations of the state concerned."
(Recommendations Concerning the Unification of the Health Regulations relating to the Danube, adopted by the Danube Commission, 2 February 1962)

Timber or logging as a source of pollution is addressed in Scandinavian agreements.

"Article 4.
The Contracting Parties shall take measures to ensure that frontier watercourses are not polluted by untreated industrial effluents and sewage, by waste materials from timber-floating or wastes from ships or by other substances which, immediately or in the course of time, might cause shoaling of the watercourses, harmful changes in the composition of the water, damage to the fish-stock or substantial scenic deterioration or might endanger public health or have similar harmful consequences for the population and the economy."
(Agreement between the Republic of Finland and the Union of Soviet Socialist Republics concerning Frontier Watercourses, signed at Helsinki, 24 April 1964)

The Helsinki Rules on the uses of waters
of international rivers of 1966 - not to be confused with the Helsinki Agreement on Safety and Co-operation in Europe - are quoted almost verbatim in Articles to be found in the New Law of the Sea. These rules, it must be remembered, precede the Stockholm Conference and the "Environmental Movement" of the 1970s.

"Chapter 3 - Pollution
Article IX.
As used in this Chapter, the term 'water pollution' refers to any detrimental change resulting from human conduct in the natural composition, content, or quality of the waters of an international drainage basin.

Article X.
1. Consistent with the principle of equitable utilization of the waters of an international drainage basin, a State
   (a) must prevent any new form of water pollution or any increase in the degree of existing water pollution in an international drainage basin which would cause substantial injury in the territory of a co-basin State, and
   (b) should take all reasonable measures to abate existing water pollution in an international drainage basin to such an extent that no substantial damage is caused in the territory of a co-basin State.

   ...the State responsible shall be required to cease the wrongful conduct and compensate the injured co-basin State for the injury that has been caused to it."

(The Helsinki Rules on the Uses of the Waters of International Rivers, Adopted by the International Law Association at its Fifty-Second Conference, Helsinki, 20 August 1966)

Quantitative standards are spelled out in detail in the annexes to these European Community Council Directives, which are binding on member states, and reflected in national policies.
"Observing that the general household and industrial use of certain types of detergents might cause considerable prejudice to these interests (water supply, natural aquatic fauna and flora)...washing or cleaning products containing one or more synthetic detergents are not put on the market unless the detergents... are... at least 80% susceptible to biological degradation."

(European Agreement on the Restriction of the Use of Certain Detergents in Washing and Cleaning Products, Strasbourg, 16 September 1968)

"Whereas one of the pollutant effects of detergent on waters, namely the formation of foam in large quantities restricts contact between water and air, renders oxygenation difficult, causes inconvenience to navigation, impairs the photosynthesis necessary to the life of aquatic flora, exercises an unfavourable influence on the various stages of processes for the purification of waste waters, causes damage to waste water purification plants and constitutes an indirect micro-biological risk due to the possible transference of bacteria and viruses; Whereas it is desirable to maintain an average level of biodegradability of detergents of 90% and whereas technology and industrial practicalities make this possible...

Member States shall prohibit the placing on the market and use of detergents where the average level of biodegradability of the surfactants contained therein is less than 90% for each of the following categories: anionic, cationic, non-ionic and amphionic."


The Scandinavian countries were the first to sign agreements pertaining to the sighting and co-operation on combating oil spills in the Baltic Sea and the North Sea.

"Recognizing that grave pollution of the sea by oil in the North Sea area involves a danger to the coastal states,
Noting that the Council of the Inter-Governmental Maritime Consultative Organization...decided to include among the matters requiring study as a matter of urgency, inter alia, procedures whereby States, regionally or inter-regionally where applicable, can co-operate at short notice to provide manpower, supplies, equipment and scientific advice to deal with discharge of oil or other noxious or hazardous substances...

Have agreed on the following:...

This Agreement shall apply whenever the presence or the prospective presence of oil polluting the sea within the North Sea area...presents a grave and imminent danger to the coast or related interests of one or more Contracting Parties.

Contracting Parties undertake to inform the other Contracting Parties about...

(c) new ways in which oil pollution may be avoided and about new effective measures to deal with oil pollution.

Article 7.

A Contracting Party requiring assistance to dispose of oil floating on the sea or polluting its coast may call upon the help of the other Contracting Parties..."

(Agreement for Co-operation in Dealing with Pollution of the North Sea by Oil, Bonn, 9 June 1969)

The Convention on the Protection of the Marine Environment of the Baltic Sea was the first regional seas accord to address all polluting agents recognized in 1974. The North Sea Treaty of 1969 addressed specifically oil spills, but the Baltic Treaty preceded the Mediterranean Regional Sea Accord by only a year, probably because the signatories of the former were of less cultural divergence than in the latter case.

"Noting with deep concern the increasing pollutions of the Baltic Sea Area, originating from many sources such as discharges through river, estuaries, outfalls and pipelines, dumping and normal operations of vessels as
well as through airborne pollutants;...
Noting that the relevant recent international conventions...do not cover all special requirements to protect and enhance the marine environment of the Baltic Sea Area;...
Conscious of the importance of regional intergovernmental co-operation in the protection of the marine environment of the Baltic Sea Area...
**Article 5 - Hazardous substances**
The contracting Parties undertake to counteract the introduction, whether airborne, waterborne or otherwise, into the Baltic Sea Area of Hazardous substances as specified in Annex I of the present Convention (DDT and its derivatives, and PCBs).
**Article 6 - Principles and obligations concerning land-based pollution measures to control and strictly limit pollution by noxious substances and materials in accordance with Annex II of the present Convention.**
(Annex II lists some 16 categories of chemicals, radioactive materials, substances having adverse effects on the taste and/or smell of products for human consumption from the sea, or effects on taste, smell, colour, transparency or other characteristics of the water seriously reducing its amenity values, and materials and substances which may float, remain in suspension or sink, and which may seriously interfere with any legitimate use of the sea).
To control and minimize pollution of the Baltic Sea Area by harmful substances the Contracting Parties shall... aim at attaining the goals and applying the criteria enumerated in Annex III of the present convention. (Municipal sewage treatment against eutrophication and health hazards, industrial wastes minimums, and effective nuclear power plant cooling water dispersal are addressed in Annex III.)...
**Article 8 - Pleasure craft**
The measures shall inter alia deal with adequate reception facilities for wastes from pleasure craft.
**Article 9 - Prevention of dumping.**
Dumping of dredged spoils... (require) prior special permit..."
(Convention on the Protection of the Marine Environment of the Baltic Sea Area, 22 March 1974)

About this same time, the Caribbean nations issued a Declaration calling for international agreements with power or authority of international law.

"Considering...
That such resources are not inexhaustible since even the living species may be depleted or extinguished as a consequence of irrational exploitation or pollution;
That international co-operation is indispensable to ensure the protection of the marine environment and its better utilization;
Formulates the following Declaration of Principles:

Patrimonial Sea...
2. The coastal State has the duty to promote and the right to regulate the conduct of scientific research within the patrimonial sea as well as the right to adopt the necessary measures to prevent marine pollution and to ensure its sovereignty over the resources of the area.

Marine Pollution
1. It is the duty of every State to refrain from performing acts which may pollute the sea and its sea-bed, either inside or outside its respective jurisdictions.
2. The international responsibility of physical or juridical persons destroying the marine environment is recognized. With regard to this matter the drawing up of an international agreement, preferably of a worldwide scope, is desirable.

Regional Co-operation
1. Recognizing the need for the countries in the area to unite their efforts and adopt a common policy vis-à-vis the problems peculiar to the Caribbean Sea relating mainly to scientific research, pollution of the marine environment, conservation, exploration, safeguarding and exploitation of the resources of the sea..."

(Declaration of Santo Domingo, The Specialized Conference of the Caribbean Countries on Problems of the Sea, Santo Domingo de Guzman, Dominican Republic, 9 June 1972)
Historical and tourist values of water areas now appear as needing protection, and container pollutants are first mentioned in the Mediterranean Accord - the first of the Regional Seas pacts which has since been duplicated and expanded in several other regional pacts, most of which have a general Declaration of Principle followed by one or more Protocols addressing more specific actions. This general pattern occurs in the Kuwait Accord, the Abidjan Accord, the Red Sea Accord, etc.

"Article 1.
The Contracting Parties... shall co-operate in taking the necessary measures in cases of grave and imminent danger to the marine environment, the coast or related interests of one or more of the parties due to the presence of massive quantities of oil or other harmful substances resulting from accidental causes or an accumulation of small discharges which are polluting or threatening to pollute the sea...

Article 2.
...the term "related interests" means the interests of a coastal State directly affected or threatened and concerning, among others:
(a) activities in coastal water, in ports or estuaries, including fishing activities;
(b) the historical and tourist appeal of the area in question, including water sports and recreation;
(c) the health of the coastal population;
(d) the preservation of living resources.

Article 5.
In the case of release or loss overboard of harmful substances in packages, freight containers, portable tanks or road and rail tank wagons, the Parties shall co-operate as far as practicable in the salvage and recovery of such substances so as to reduce the danger of pollution of the marine environment."

(Protocol concerning Co-Operation in Combating Pollution of the Mediterranean Sea by Oil and other harmful Sub-
stances in Cases of Emergency, Barcelona, 16 February 1976)

Article 4.
"The dumping into the Mediterranean Sea Area of wastes or other matter listed in Annex I to this Protocol is prohibited.

Article 5.
The dumping into the Mediterranean Sea Area of all wastes or other matter listed in Annex II to this Protocol requires, in each case, a prior special permit from the competent national authorities.

Article 6.
The dumping into the Mediterranean Sea Area of all other wastes or other matter requires a prior general permit from the competent national authorities.

Article 8.
The provisions of Articles 4, 5, and 6 shall not apply in case of force majeure due to stress of weather or any other cause when human life or the safety of a ship or aircraft is threatened.

Annex III(c) - General considerations and conditions

1. Possible effects on amenities (e.g. presence of floating or stranded material, turbidity, objectionable odour, discoloration and foaming).

2. Possible effects on marine life, fish and shellfish culture, fish stocks and fisheries, seaweed harvesting and culture.

3. Possible effects on other uses of the sea (e.g. impairment of water quality for industrial use, underwater corrosion of structures, interference with ship operations from floating materials, interference with fishing or navigation through deposit of waste or solid objects on the sea floor and protection of areas of special importance for scientific or conservation purposes).

4. The practical availability of alternative land-based methods of treatment, disposal or elimination or of treatment to render the matter less harmful for sea dumping."

(Protocol for the Prevention of Pollution of the Mediterranean Sea by Dumping from Ships and Aircraft, Barcelona, 16 February 1976)
"Article 3.
The area to which this Protocol applies... shall be:
(A) the Mediterranean Sea Area as defined in Article 1 of the Convention;
(B) waters on the landward side of the baselines from which the breadth of the territorial sea is measured and extending, in the case of watercourses, up to the freshwater limit;
(C) saltwater marshes communicating with the sea.

Article 4.
1. This Protocol shall apply:
(A) to polluting discharges reaching the Protocol Area from land-based sources within the territories of the Parties, in particular;
   - directly, from outfalls discharging into the sea or through coastal disposal;
   - indirectly, through rivers, canals or other watercourses, including underground watercourses, or through run-off;
(B) to pollution from land-based sources transported by the atmosphere, under conditions to be defined in an additional annex to this Protocol and accepted by the Parties in conformity with the provisions of Article 17 of the Convention.

2. This Protocol shall also apply to polluting discharges from fixed man-made offshore structures which are under the jurisdiction of a Party and which serve purposes other than exploration and exploitation of mineral resources of the continental shelf and the seabed and its subsoil."

(Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources, Athens, 17 May 1980)

The Economic Council of Europe ruled that the "polluter pay principle" should be adopted as policy, but in reality it must be noted that if the victim shares some clean-up costs, the recovery program advances, as is evidenced by Switzerland, and also by the long-delayed cleanup of potash pollution
in the Rhine River, created by France, harming the downstream nation of Holland, and only now being attacked when Holland agreed to pay some large part of the cost.

"Principles:...

2. Water pollution control should be handled taking account of possible interactions of pollutants on air, land and water.

5. ...In setting criteria and standards, all types of water resources (surface, ground and sea water) and/or effluents should be covered...

9. Each country should take all appropriate steps to prevent pollution of the sea, namely by the direct or indirect introduction by man into the marine environment - including estuaries - of substances or energy which may endanger human health, harm living resources and the marine ecosystem, affect amenities or interfere with other legitimate uses of the sea. Governments should therefore seek to reduce progressively land-based pollution provided by toxic, non-degradable and bio-accumulative substances enumerated in the appropriate supplements to different international conventions;

10. It is essential that legislation on water use and pollution control should be drawn up and applied in such a way that if violations occur effective sanctions can be imposed.

11. The general principle should be adopted that, as far as possible, the direct or indirect costs attributable to pollution should be borne by the polluter."

(Economic Council of Europe: Declaration of Policy on Prevention and Control of Water Pollution, Including Transboundary Pollution, as Adopted by the Economic Commission for Europe at its 35th Session, Geneva, 26 April 1980)

"The Republic and Canton of Geneva shall pay a financial contribution for the benefit of the public bodies of the catchment basin of Lake Geneva undertaking the de-phosphatation of the waste water..."

(Agreement Between the Swiss Federal Council, Acting on Behalf of the Republic and Canton of Geneva, and the

Summary

I have not mentioned the Law of the Sea Treaties before - you are all familiar with them —

1) International Convention for the Prevention of Pollution of the Sea by Oil, May 1954

2) International Convention on the High Seas, April 1958

3) International Convention on Civil Liability for Oil Pollution, 1969

4) Convention for the Prevention of Marine Pollution by Dumping of Wastes and Other Matters, 1972

5) Convention for the Prevention of Marine Pollution by Dumping from Ships and Aircraft, 1973

6) Protocol Relating to Intervention on the High Seas in Cases of Marine Pollution by Substances Other than Oil, 1973

7) Convention on the Prevention of Marine Pollution from Land-Based Sources, 1974

8) Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration for and Exploitation of Seabed Mineral Resources, 1976

the last one following the tenor of Japanese-Korean exchange of notes of two years earlier, and most of these concepts are found repeated in the Articles of the New Law of the Sea, 1982.

"...to confirm...the following arrangements concerning the prevention and removal of pollution of the sea resulting from activities relating to exploration or ex-
ploitation of natural resources in the Joint Development Zone.

1. Blow-out Preventor, etc.

(1) (a) A well which is being drilled shall be equipped with blow-out preventor in case blow-out of oil or natural gas is likely to occur.

(3) (a) When drilling of a well or oil testing is performed, muddy water or its materials for emergency use and such materials as are necessary for making heavy muddy water or for controlling the quality of muddy water shall be stocked at the drilling site."

(Japanese Note and Korean Note, exchanged at Seoul, Korea, 30 January 1974)

"Recognizing that the capacity of the sea to assimilate wastes and render them harmless, and its ability to regenerate natural resources, is not unlimited; Recognizing that States have... the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction;

Article I.
Contracting Parties shall...take all practicable steps to prevent the pollution of the sea by the dumping of waste and other matter that is liable to create hazards to human health, to harm living resources and marine life, to damage amenities or to interfere with other legitimate uses of the sea.

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

Article XII.
The Contracting Parties pledge themselves to promote... measures to protect the marine environment against pollu-
tion caused by:

(a) hydrocarbons, including oil, and their wastes;
(b) other noxious or hazardous matter transported by vessels for purposes other than dumping;
(c) wastes generated in the course of operation of vessels, aircraft, platforms and other man-made structures at sea;
(d) radio-active pollutants from all sources, including vessels;
(e) agents of chemical and biological warfare;
(f) wastes or other matter directly arising from, or related to the exploration, exploitation and associated off-shore processing of sea-bed mineral resources."

(Convention for the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, London, Mexico City, Moscow, Washington, 29 December 1972)

"Convinced that international action to control the pollution of the sea from land-based sources can and should be taken without delay, as part of progressive and coherent measures to protect the marine environment from pollution, whatever its origin, including current efforts to combat the pollution of international waterways;..."

Article I.

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


"Article 1.

2. "Installation" means:
(a) any well or other facility, whether fixed or mobile, which is used for the purpose of exploring for, producing, treating, storing, transmitting or regaining
control of the flow of crude oil from the seabed or its subsoil;

(b) any well...which has been abandoned...

(c) any well...during the period that any such well is being drilled, including completion, or worked on except for normal maintenance operations;

(d) any well...where such exploration involves the deep penetration of the subsoil of the seabed;...

(Convention on Civil Liability for Oil Pollution Damage Resulting from Exploration for and Exploitation of Seabed Mineral Resources, London, 17 December 1976)

"Article 194 - Measures to prevent, reduce and control pollution of the marine environment

3. The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, inter alia, those designed to minimize to the fullest possible extent:...

(c) pollution from installations and devices used in exploration or exploitation of the natural resources of the sea-bed and subsoil....

5. The measures taken in accordance with this Part shall include those necessary to protect and preserve rare or fragile ecosystems as well as the habitat of depleted, threatened or endangered species and other forms of marine life.

Article 195 - Duty not to transfer damage or hazards or transform one type of pollution into another

In taking measure to prevent, reduce and control pollution of the marine environment, States shall act so as not to transfer, directly or indirectly, damage or hazards from one area to another or transform one type of pollution into another.

Article 196 - Use of technologies or introduction of alien or new species

1. States shall take all measures necessary to prevent, reduce and control pollution of the marine environment resulting from the use of technologies under their jurisdiction or control, or the intentional or accidental introduction of species, alien or new, to a particular part of the marine environment, which may cause signifi-
cant and harmful changes thereto.
Article 197 - Co-operation on a global or regional basis
States shall co-operate on a global basis and, as appropriate, on a regional basis, directly or through competent international organizations, in formulating and elaborating international rules, standards and recommended practices and procedures consistent with this Convention, for the protection and preservation of the marine environment, taking into account characteristic regional features.
Article 204 - Monitoring of the risks or effects of pollution
2. In particular, States shall keep under surveillance the effects of any activities which they permit or in which they engage in order to determine whether these activities are likely to pollute the marine environment.
Article 208 - Pollution from sea-bed activities
1. Coastal States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment arising from or in connection with sea-bed activities subject to their jurisdiction and from artificial islands, installations and structures under their jurisdiction,...
Article 210 - Pollution by dumping
6. National laws, regulations and measures shall be no less effective in preventing, reducing and controlling such pollution than the global rules and standards.
Article 217 - Enforcement by flag States
8. Penalties provided for by the laws and regulations of the States for vessels flying their flag shall be adequate in severity to discourage violations wherever they occur.
Article 234 - Ice-covered areas
Coastal States have the right to adopt and enforce non-discriminatory laws and regulations for the prevention, reduction and control of marine pollution from vessels in ice-covered areas within the limits of the exclusive economic zone,...pollution of the marine environment could cause major harm to or irreversible disturbance of the ecological balance. Such laws and regulations shall have due regard... based on the best avail-
able scientific evidence.

Article 235 - Responsibility and Liability

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


Lastly, I ask you to consider the document produced following the U.N. Water Conference of 1977, called the Mar del Plata Action Plan. I have five single-spaced pages extracting just (1) water use and efficiency, (2) environmental and health, and (3) pollution control recommendations, from which I have selected a few statements.

"B. Water Use and Efficiency.

19. (f) Intensify work on determining crop-water requirements, integrate schemes for swamp reclamation and drainage in schemes for comprehensive river development, bearing in mind their effect on hydrological regime and the environment; give due attention to problems of salinity intrusion, particularly in coastal areas, and integrate measures for salinity control;

C. Environment, Health and Pollution Control.

36. (c) Ensure an interdisciplinary approach to such studies so that the full and all-round impact of the water projects can be assessed in a more comprehensive, effective and co-ordinated manner than would otherwise be possible;

36. (g) Ensure that due consideration is given to fisheries, wildlife protection and preservation and water-weed control in the planning and construction of water projects;

36. (l) Identify, protect and preserve superlative examples of unique and scenic lakes, rivers, springs, waterfalls, wildlife and natural areas which embody inspirational national heritage values,...
36. (m) Recognize that fresh-water and coastal wetlands are among the most vital and productive of ecological systems because of their values for flood-water storage, as breeding grounds for fish and wildlife, and for their recreational and scientific use....
36. (n) Recognize that while monetary values are often difficult to assign to the benefits of water as a recreational, cultural, aesthetic and scientific resource, the benefits are none the less real and substantial, and should be taken into consideration in the environmental assessment of development projects;
36. (q) Recognize that the range of environmental considerations...needs to...include not only physical, chemical or biological changes, but also the resulting social and economic changes;
39. (e) Devote careful attention to the availability of water and the effects of environmental pollution when deciding on the location and selection of facilities;
39. (g) Adopt the general principle that, as far as possible, direct or indirect costs attributable to pollution should be borne by the polluter;'

This is a very forward-looking document, and in my opinion should be held in high regard as is the Stockholm Declaration of 1972 on the Environment. I strongly urge you to have a copy of the text of this document in your library, for this is the "Year of the Ocean," but it is also the "Decade of Clean Water."

Effective?
Well, for one example, in 1818 the Rhine River Commission was established, in 1909 the International Joint Commission between Canada and U.S.A., in 1944 the International Boundaries and Water Commission (U.S.A. and Mexico), in 1945 the Pilcomayo River Commission, in 1946 the Uruguay River Com-

In 1967 the first Baltic Sea Treaty was accepted, in 1969 the North Sea Treaty, in 1974 a treaty protecting the Adriatic, and also the Sea of Japan Treaty.

In 1972, an important article in a legal journal, entitled "Should Trees Have Standing," by Christopher Stone, appeared which has changed the legal perception of environmental protection. In 1978, from India came an article, "Do Animals Have Rights?"

It is said that imitation is the sincerest form of flattery, and in these cases the replication of an ideal to other locations and situations indicates to me that the basic intent is morally good and practically expedient. Public opinion and "customary acceptance", as they say in legalese, set the cultural or societal norm. Even domestic laws are violated daily, but public opinion demands punishment for the offenders, not neglect by those in authority. So with international law -- as public opinion leads to a global consensus on what is normative behavior, the international agreements gain in authority, and violations lessen. For that reason, I beg all of you to keep an ear or an eye open on trends forecast by national policies as well as on trends appearing in international or bilateral agreements. I hope a treaty section in libraries will become commonplace in the future.