POLLUTION OF THE GREAT LAKES: A JOINT APPROACH BY CANADA AND THE UNITED STATES

This Comment concerns the causes and cure of the pollution of the Great Lakes. In order to fully comprehend and appreciate the nature of the problem, a brief review of the past and present status of the situation will be examined. There are several possible solutions which are considered and discussed, together with an evaluation of the wisdom and feasibility of each. The ultimate goal of pollution control is to return the Great Lakes to the natural conditions of earlier unadulterated days, before they are but a memory in the minds of only a few.

I. BACKGROUND AND EXTENT OF THE POLLUTION IN THE GREAT LAKES

The Great Lakes constitute nearly one-fourth of the earth's total supply of fresh surface water, measuring 5500 cubic miles and 95,000 square miles of surface area; larger than the surface area of the states of Pennsylvania and New York combined. Two-thirds of this area is within the jurisdiction of the United States and one-third is within the jurisdiction of Canada. Furthermore, sixty percent of the Canadian population and economy is located around the rim of the Great Lakes and the St. Lawrence Basins, as well as fifteen percent of the population and economy of the United States. The area presently supports over 40 million people, and a population of 60 million is projected for the year 2000.[1]

The aesthetic, recreational and economic character of the Lakes has served those in the area for as long as the region has been inhabited. Yet, the peoples of both nations have caused such deterioration in these natural resources that they are in a very real danger of dying.

The governments of Canada and the United States have been aware of this deterioration since 1912, when they requested the

1. THE CANADIAN DEPARTMENT OF ENERGY, MINES AND RESOURCES, KEYS TO A CONTINENT: THE GREAT LAKES (1970). *See* P. PIPER, THE INTERNATIONAL LAW OF THE GREAT LAKES (1967).

International Joint Commission (IJC) to study the sources of pollution in all boundary waters between the two countries.[2] The Commission made an extensive five year study and submitted its report in 1918.[3] The IJC research showed that there was substantial pollution in the Great Lakes and recommended that appropriate steps be taken to curtail the situation before an emergency resulted. However, with World War I raging, little was done and as a result the problem dragged on.

In 1946, the two countries again referred the issue of boundary water pollution to the IJC. The findings of the Commission, released in 1951, revealed that pollution from both sides of the border was continuing with the result that interests on each side were being adversely affected, because the currents and flow patterns spread the pollutants uniformly throughout the Lakes.[4] The IJC concluded that,

> the pollution of the boundary waters under reference is taking place to an extent which is injurious to health and property principally by reason of domestic sewage and industrial wastes discharged along the shores of the boundary waters, on tributaries of the boundary waters, and, to a lesser extent, by sewage and other wastes discharged from vessels engaged in passenger and freight traffic on these waters.[5]

One of the most comprehensive studies ever undertaken in the area of water pollution was completed by the IJC in 1969.[6]

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2. The International Joint Commission (IJC) was created by the 1909 Boundary Waters Treaty between the United States and Canada. 36 STAT. 2448. It is a permanent body composed of three commissioners from each country. It performs investigatory and research functions when problems concerning the international boundary between the two countries are referred to it by either or both of the countries. It has the power and obligation to report its findings to the two countries as to matters which are referred to it, but it cannot act of its own volition. Furthermore, it has no judicial or enforcement powers.

3. IJC, REPORT (1918).

4. IJC, REPORT OF THE INTERNATIONAL JOINT COMMISSION ON POLLUTION OF THE BOUNDARY WATERS (1951).

5. *Id.* at 20.

6. THE INTERNATIONAL LAKE ERIE WATER POLLUTION BOARD AND THE INTERNATIONAL LAKE ONTARIO-ST. LAWRENCE RIVER WATER POLLUTION BOARD, REPORT TO THE INTERNATIONAL JOINT COMMISSION ON THE POLLUTION OF LAKE ERIE, LAKE ONTARIO AND THE INTERNATIONAL SECTION OF THE ST. LAWRENCE RIVER, vol. I (1969). These two boards were created by the IJC for the purposes of this and future investigation and research in the area of water pollution in these bodies of water between the United States and Canada. The boards are composed of representatives from the governments of New York, Pennsylvania, Ohio, Michigan and the province of Ontario.

The Commission reported that over the years pollutants had been injected into the Lakes in such large quantities that the quality of the water has deteriorated. The IJC concluded that the source of the pollution was from both the United States and Canada and that the pollution had reached such an extent "that it is causing and is likely to cause injury to health and property on the other side of the boundary."[7] Furthermore, the Commission confirmed the findings of the 1951 IJC study re the flow patterns of the Lakes.

The 1969 IJC Report addressed itself primarily to the pollution of Lake Erie and Lake Ontario. Notwithstanding the fact that these two lakes are the smallest of the five Great Lakes, they have been the major recipients of pollution, since over one-half of the population of the Great Lakes region work and live around these two lakes. The report indicates that the pollution level in these two basins has already reached alarming proportions. In addition, the projected population and industrial growth study indicates that by 1986 there will be a doubling of the adulterated materials that are now produced by municipalities and industries in the area.[8]

On the basis of these extensive studies, the IJC has recommended that both the United States and Canada take effective action immediately in order to reverse the deteriorating conditions of the Lakes. The IJC stated that

> [p]ollution impairs the quality and usefulness of water. It makes it unfit for domestic or industrial use, and recreation, and may cause serious illness. It destroys fish and wildlife. It creates offensive conditions and interferes with navigation. It may create areas of desolation and render the stream useless for constructive purposes. It causes economic losses and it reduces the capacity of waters to perform their many beneficial and necessary functions.[9]

To that end, the two governments have begun to legislate and enforce pollution control on either side of the boundary waters.

II. THE U.S. POSITION ON WATER POLLUTION CONTROL

In 1948, the United States Congress passed the first comprehensive measure aimed specifically at the control of water pol-

7. *Id.* at 7.
8. *See* note 6 *supra*, vol. II (Lake Erie) and vol. III (Lake Ontario).
9. IJC, SAFEGUARDING BOUNDARY WATER QUALITY 14 (1961).

lution in the United States.[10] Since that time there has been a parade of theories which has governed the legislation and the position of the federal government in the United States regarding water pollution control.[11]

Federal regulation and codification in the area of water pollution control is an effort to strike a balance between the sovereignty of the states and power of the federal government. The earlier statutes sought a balance in favor of the states. Early U.S. Supreme Court decisions were substantially in accord with that theory.[12] Although Congress has authority either under the commerce, navigation, or promotion of the general welfare power to

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10. 62 STAT. 1155. This Act created and established the Federal Water Pollution Control Administration. The Act also provided for federal support of research, funding, and general federal assistance to the states for water pollution control.

11. a. 66 STAT. 755. This 1952 Act extended the provisions of the 1948 Act through 1956.
    b. In 1956 an Act was created to be more comprehensive and to increase federal-state cooperation in developing programs like building sewage treatment plants. 70 STAT. 498.
    c. The 1961 Act increased federal participation both money-wise and structure-wise as the administration of the program was vested in the office of the Secretary of Health, Education and Welfare. 75 STAT. 204.
    d. The Water Quality Act of 1965 and the Clean Waters Restoration Act of 1966 were the forerunners to the current U.S. legislation and position.
        1. The 1965 Act (79 STAT. 897) set up a program which called for the states to adopt water quality standards in cooperation with the Secretary of the Interior (the F.W.P.C.A. was transferred to the Secretary of the Interior from the Secretary of Health, Education and Welfare under Reorganization Plan No. 2 in 1966). This Act called for more federal research in cooperation with the states as well as more federal funding proportionate to that of the states.
        2. The 1966 Act (89 STAT. 753) called for large federal spending in order to construct sewage treatment plans, but only 50% of the money was ever appropriated.
    e. The National Environmental Policy Act of 1969 (83 STAT. 852) created the Council on Environmental Quality.
    f. The Water Quality Act of 1970 (84 STAT. 91) deals mainly with oil pollution in waterways and the pollution caused by vessels. It does create, though, the Office of Environmental Quality to furnish staff support for the Council on Environmental Quality (which will monitor national federal pollution control).

12. *See* Arizona v. California, 375 U.S. 546 (1963); Nebraska v. Wyoming, 325 U.S. 589 (1945); Colorado v. Kansas, 320 U.S. 383 (1945); Wyoming v. Colorado, 259 U.S. 419 (1922). *See also* 11 STAN. L. REV. 665, for a complete bibliography of American interstate water cases.

take over the fight against water pollution in the United States *en toto*, the authority has never been exercised. As a result of the continuing effort to balance the responsibilities for the control of water pollution between the states and the federal government, there has been a steady deterioration of the nation's lakes and waterways. Therefore, Congress has been forced to take responsibility that it had never before assumed.[13] The intrusion by the federal government was prompted by the belief in Washington that the limited financial resources of the individual states could not effectively cope with the problem.[14]

Current federal policy has not completely preempted the local pollution control efforts. Federal involvement has been restricted to financial and technical aid whenever possible. Washington has intervened only when such action has appeared to have been the most efficient way to control pollution, either because the local governments were ignoring the problem or were inept.[15]

The major factor limiting local control of water pollution is the necessitated billions of dollars that an effective control program must consume in order to be operative.[16] President Johnson faced this reality in the mid-1960's when he aimed the federal spending program along its current course of supplementing local efforts. The 1969 and 1970 Acts have followed suit.[17] The current federal position has been summarized as follows:

> Financial constraints on local governments, perhaps reinforced by expectations of Federal assistance, have created a general dependence on Federal revenues; and any expansion of local government services may be expected to require Federal as-

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13. 112 CONG. REC. 321 (daily ed. Feb. 23, 1966). Message delivered by President Lyndon B. Johnson.

14. *See* Birmingham, *The Federal Government and Air and Water Pollution*, 23 BUS. LAW. 467 (1968); Hines, *Nor Any Drop To Drink: Public Regulations of Water Quality Part III: The Federal Effort*, 52 IOWA L. REV. 799 (1967).

15. Hines, *supra* note 14.

16. THE U.S. DEPARTMENT OF THE INTERIOR, REPORT OF THE DEPARTMENT OF THE INTERIOR, FEDERAL WATER POLLUTION CONTROL ADMINISTRATION TO THE CONGRESS OF THE UNITED STATES: THE COST OF CLEAN WATER, vol. I (Jan. 10, 1968); THE U.S. DEPARTMENT OF THE INTERIOR, THE ECONOMICS OF CLEAN WATER (March 1970).

17. Message by President Lyndon B. Johnson to the Congress of the United States on March 8, 1968, *To Renew A Nation*, Weekly Compilation of Presidential Documents, vol. IV, No. 10, 407-483 (March 11, 1968); *see* note 11 *supra*.

sistance—particularly under conditions of money market restraints.[18]

As to the federal position on water pollution control it should be remembered that the riparian states hold the title to water and lake beds[19] subject to the paramount authority of the federal government on matters of navigation and commerce.[20] But even though the federal government has intervened in the pollution control problem, it has done so only to help the local governments operate, and not with the intention of usurping the power of the local governments, or challenging their sovereignty. Because of aid from the federal government, many municipalities have become active and effective in the pollution control field.[21]

The federal government has sought to provide the necessary means for the fight against pollution in the Great Lakes. For example, the United States has developed a working and effective contingency plan for the clean up of oil spills in the Lakes.[22] The

18. THE U.S. DEPARTMENT OF THE INTERIOR, THE ECONOMICS OF CLEAN WATER, 6-7 (March 1970), which reported that:

a. Just to handle public waste treatment, transmission and disposal within the next five years (up to 1975) for facilities to comply with water quality standards will cost ten billion dollars.
b. It will cost 1.2 billion dollars a year for collection sewers.
c. Separation of storm centers will cost from 15 billion to 49 billion dollars.
d. Industrial waste treatment control will cost from 2.2 to 4.4 billion dollars.
e. Industrial cooling facilities will cost 1.9 billion dollars.
f. Sediment control and acid mine drainage reduction will cost from 1.7 to 6.6 billion dollars.

19. *See* THE SUBMERGED LAND ACT OF 1953, 67 STAT. 29; 65 C.J.S. NAVIGABLE WATERS § 92; and 56 AM. JUR. WATERS § 52.

20. *See* U.S. CONST. art. 1, § 8; 56 AM. JUR. WATERS §§ 190-200; The Daniel Ball, 10 Wall. 563 (1870).

21. In 1955 the riparian states of the Great Lakes formed the Great Lakes Compact which recommends measures to the states pertaining to the utilization and development of the Lakes. There was a provision for the membership of Ontario and Quebec, but Congress never gave its approval to their membership. *See* U.S. Congress, Senate, Subcommittee on Foreign Relations, *Hearings, The Great Lakes Basin,* 84th Cong. 2d Sess., 6-8, 14, 17, 31-32 (1956); and the U.S. Congress, Senate, Subcommittee of the Committee on the Judiciary, *Hearings, Great Lakes Basin Compact,* 85th Cong., 2d Sess., 5 (1958). Furthermore, the riparians of each lake have formed water pollution enforcement agencies which meet and exchange ideas and plans concerning water pollution problems in the Great Lakes.

22. IJC, THIRD INTERIM REPORT ON POLLUTION OF LAKE ERIE, LAKE ONTARIO AND THE INTERNATIONAL SECTION OF THE ST. LAWRENCE RIVER: SPECIAL REPORT ON POTENTIAL OIL POLLUTION EUTROPHICATION AND POLLUTION FROM WATERCRAFT, at 25 (1970).

1970 Water Quality Improvement Act provides for aid to the states or any political subdivision for the development of effective control of pollution in the Great Lakes.[23] Furthermore, the 1970 pollution control report by the Department of the Interior recognizes the problem in the Great Lakes and has provided for technical assistance to the IJC through the Federal Water Quality Administration.[24]

III. THE CANADIAN POSITION ON WATER POLLUTION CONTROL

Until 1970, the federal government of Canada had very little in the way of either effective water pollution control legislation or enforcement agencies.[25] There was some legislation both at the provincial and federal levels, but for the most part it was an ineffective and uncoordinated effort.

In 1970, Canada passed the Canada Water Act.[26] It is the first operational attack on water pollution in Canada at the national level. The legislation provides the mechanism for multipurpose water resource planning and comprehensive water management. The Act is a vehicle not only for purposes of study and planning, but for the implementation of water quality standards as well. If put to its fullest and most beneficial use, the Act will be integrated with the already existing provincial legislation and agencies and will serve to be an effective water control and planning device. Although Henry Landis, General Counsel of the Ontario Water Resources Commission, points out that the control of water and water pollution in Canada is a matter of provincial concern, the Canada Water Act may be used to supplement the operations and efforts of the provinces.

The value of the Canada Water Act is that it demonstrates the facing of a financial reality by the Canadian federal government. Although Mr. Landis is undoubtedly correct in his assertion of the provincial sovereignty in the area of water control in Canada, the budgets of the provinces, as those of the states in the

23. 84 STAT. 91, at 104, § 15.

24. FEDERAL WATER QUALITY ADMINISTRATION, CLEAN WATER FOR THE 1970's: A STATUS REPORT, at 72 (1970).

25. For an in depth survey of the past and present Canadian legislation at both the provincial and federal level, *See* Landis, *Legal Controls of Pollution in the Great Lakes Basin*, 48 CAN. B. REV. 66 (1970).

26. Bill C-144, introduced in the Second Session, Twenty-eighth Parliament, 18 ELIZ. II, 1969; s. 2 (1)(i).

United States, cannot be expected to shoulder the financial strain of cleaning up the adulteration in the Great Lakes. The fact is that only the province of Ontario borders on the Lakes, and without federal support it would be economically unable to bear the cost of effective water pollution control.[27]

IV. THE CURRENT UNITED STATES—CANADIAN JOINT APPROACH

The current joint approach consists of submitting any problem concerning pollution of the Great Lakes to the IJC for its consideration. When either the United States or Canada make a reference to the IJC, the Commission assembles experts provided by each country and forms a research body to report to the IJC so that recommendations can be made to the two governments. Through this procedure the Commission has managed to remain a small, well-organized body with a minimum of staff, and has been able to avoid the rigidity that frequently accompanies a large permanent organization.[28]

The theory behind the IJC is to operate as an impartial body of fact finders, working together, rather than three members from each country representing and promoting the interests of each nation.[29] This philosophy has been so successful that in approximately ninety questions that the IJC has been asked to investigate, the Commissioners have been unable to reach a united decision in only three isolated instances.[30]

The governments of the United States and Canada have referred the question of pollution of the waters of the Great Lakes to the IJC on three different occasions.[31] As a result, both governments have recognized the value in turning to the IJC for pollution research, notwithstanding the fact the Commission has no enforcement powers.[32] This is in part because the United States and

27. *See* note 25 *supra.*

28. Heeney and Welsh, *International Joint Commission: United States and Canada,* International Conference on Water for Peace 217 (At Washington, D.C., May 23-31, 1967). The co-authors of the paper are A.D.P. Heeney, Chairman of the Canadian Section of the IJC, and Mathew E. Welsh, Chairman of the U.S. Section. *See also* Heeney, *Diplomacy with a Difference: The International Joint Commission,* INCO MAGAZINE, 1 (Fall 1966).

29. *See* Heeney and Welsh, *supra* 28.

30. *Id.*

31. *See* notes 3, 4 & 6 *supra.*

32. *See* Heeney, *supra* note 28.

Canada have a long history of peaceful settlement and arbitration of disputes,[33] and because the IJC machinery is the best that is available at the present time for the limited function that it performs.[34]

There is no open or international water in the Great Lakes. Each country owns and exercises dominion over its water as part of its own national territory.[35] For that reason, the federal government of the United States has made provision for curbing pollution that is destined for the Great Lakes and has demonstrated its willingness to work with the IJC. As J.P. Ericksen-Brown, Solicitor of the Ontario Water Resources Commission, wrote,

> [p]ollution of boundary waters is of concern to the federal governments of both Canada and the United States and to the border provinces and states. This concern arises from the political responsibility of public authorities to safeguard the public interest in clean water from the point of view of health, recreation, and the conservation of fish and wildlife.[36]

However, with all of its usefulness, the IJC, as it stands today, can neither codify nor enforce pollution control regulations in the Great Lakes. The Commission does not even have the power to coordinate the activities of the concerned governments on either side of the boundary.

V. SUGGESTED SOLUTIONS TO THE PROBLEM OF WATER POLLUTION CONTROL IN THE GREAT LAKES

A. General Principles of International Law and their Application to the Great Lakes

The waters of the Great Lakes are not "international waters" in the narrowest sense of the term. They are part of the national territories of the United States and Canada by virtue of the 1925 Boundary Treaty between the two countries.[37] As pointed out above, the federal governments of the two countries do not hold title to the water or the beds of the Lakes; the states and

33. *See* P.E. CORBETT, THE SETTLEMENT OF CANADIAN-AMERICAN DISPUTES (1937).

34. Ericksen-Brown, *Legal Implications of Boundary Water Pollution,* 17 BUF. L. REV. 65 (1967).

35. *See* The Boundary Treaty between the U.S. and Canada, February 24, 1925, 44 STAT. 2102.

36. *See* note 34 *supra.*

37. *See* PIPER, *supra* note 1; *see also* note 35 *supra.*

provinces are the title holders. However, the federal governments do exercise jurisdiction over certain aspects of the water use, such as navigation.[38] The waters of the Great Lakes (with the exception of Lake Michigan which is wholly within the territory of the United States) are boundary waters, and are subject to all of the jurisdictional complexities that flow therefrom.[39] The Lakes form the internatonal boundary between the two countries and the general principles of international law should be applied to a dispute therein.[40] As former U.S. President Lyndon B. Johnson stated in 1969, the Great Lakes have an "international nature" and all dealings with reference to them must be conducted accordingly.[41]

The question that arises in this particular context is the application of current international law to the use of the water lying wholly within the territorial limits of the United States and Canada, i.e., the rights and interests of the other sovereign, and the responsibilities flowing therefrom.

The Institute of International Law, in 1911, stated that the "exploitation of water for industrial, agricultural, and other purposes, remains outside the provisions of the [international] law."[42] In other words, the theory embelishes the doctrine of the absolute sovereignty of each nation. Former Attorney General of the United States Judson Harmon was an advocate of this theory. It was the cornerstone of the Harmon Doctrine, that a state can do as it pleases with the waters located within its territory.[43] Harmon wrote that "the fundamental principle of international law is the absolute sovereignty of every nation as against all others, within its own territory."[44] But the well-known authority on international water law Professor Berber, characterizes this view of absolute sovereignty with respect to the use of water as "based upon an individualistic, anarchical conception of international law, in which selfish interests are exclusively taken as the rule of con-

38. 56 AM. JUR. WATERS §§ 190-200.

39. Welsh, *Role of the International Joint Commission,* delivered at Proc. 12th Conf. Great Lakes Res. 1969, 871-875, Int'l Assoc. Great Lakes Res.

40. *See* note 37 *supra.*

41. *See* note 39 *supra.*

42. 24 ANNUAIRE DE L'INSTITUT DE DROIT INTERNATIONAL 365 (1911).

43. *See* 21 OPS. ATTY. GEN. (1895). Harmon's Doctrine was formulated in his reply to a protest by Mexico that the U.S. was diverting waters of the Rio Grande in 1895.

44. *Id.* at 281.

duct and no solution is offered regarding the opposite interests of upper and lower riparians."[45]

There is in contrast, a theory in international law which is based upon the principle, *sic utere tuo ut alienum non laedas*.[46] Every state is obliged not to knowingly allow its territory to be used for acts contrary to the rights of other states.[47] The Secretary-General of the United Nations has expressed the view that "there has been a general recognition of the rule that a State must not permit the use of its territory for purposes injurious to the interests of other States in a manner contrary to international law."[48]

As to the specific aspect on the use of water, the principle of *sic utere tuo* is most certainly applicable. This is true of co-riparians in an internatonal drainage basin such as the Great Lakes.[49] One state can use the water in its territory for its own purposes but not to the injury or detriment of another state.[50]

The U.S. Department of State has reasoned that "a riparian has the sovereign right to make maximum use of the part of a system of international waters within its jurisdiction, consistent with the corresponding right of each co-riparian."[51] The Department has concluded that

> [s]overeignty exists and is absolute in the sense that each state has exclusive jurisdiction and control over its territory. Each state possesses equal rights on either side of a boundary line. Thus riparians each possess the right of exclusive jurisdiction and control over the part of a system of international waters

45. J. BERBER, RIVERS IN INTERNATIONAL LAW (1959).

46. *Sic utere tuo ut alienum non laedas* means one must so use his own as not to do injury to another. *See*, Eagleton, *The Use of the Waters of International Rivers*, 33 CAN. B. REV. 1018, 1023 (1955); and T. BRIERLY, LAW OF NATIONS 205 (5th ed. 1955).

47. Manner, *Water Pollution in International Law: The Rights and Obligations of States Concerning Pollution of Inland Waters and Enclosed Seas*, UNITED NATIONS CONFERENCE ON WATER POLLUTION PROBLEMS IN EUROPE, vol. II, at 456-457 (Conference held in Geneva, 1961), 61.II.E/Mim.24.

48. *See* Survey of International Law 34 (1949), U.N. Doc. A/CN.4/1, Rev. 1.

49. A.H. GARRETSON, THE LAW OF INTERNATIONAL DRAINAGE BASINS (1967). An international drainage basin is a geographical area extending to or over the territory of two or more states and is bounded by watershed extremities of the system of waters, including surface and underground waters, all of which flow into a common terminus. *See* INTERNATIONAL LAW ASSOCIATION, HELSINKI RULES ON THE USES OF THE WATERS OF INTERNATIONAL RIVERS, Art. II (1967); and the REPORT OF THE FIFTY-SECOND CONFERENCE OF THE INTERNATIONAL LAW ASSOCIATION (Helsinki, 1966).

50. *See* note 43 *supra*, from a resolution of the Tenth Conference of the Inter-American Bar Association, Buenos Aires, November 19, 1957.

51. *Id.* at 89.

> in their territory, and these rights reciprocally restrict the freedom of actions of the others.[52]

This is in accord with the prevailing theory that co-riparians have mutual rights and obligations between them in their uses of waters which they share, thereby creating a condition of limited sovereignty.[53]

The mutual rights theory is lodged in the principle of equitable utilization (equitable apportionment or beneficial use). The Helsinki Rules on the Use of Waters of International Rivers contain a resolution that "each basin State is entitled, within its territory, to a reasonable and equitable share of the beneficial uses of the water of an international drainage basin."[54] This doctrine has been extended specifically to encompass the area of water pollution.[55] E. J. Manner, Vice Chancellor Justice of Finland, states that there is a

> principle which is gaining increasing acceptance in international practice: that an extension of the consequences of pollution into another State's territory must be regarded as a violation of that State's integrity or as a certain kind of interference in international law.[56]

1. International Case Law.—There have only been two disputes over the economic use of international waters which were resolved by judicial decision, and neither of them concerned the problem of water pollution.[57] However, in the collateral problem of air pollution, the *Trial Smelter* decision may offer authority for the application of the equitable utilization principle in the area of wa-

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52. *Id.* at 89-90.

53. Laylin and Bianchi, *The Role of Adjudication in International River Disputes*, 53 AM. J. INT'L L. 30 (1959).

54. HELSINKI RULES ON THE USE OF THE WATERS OF INTERNATIONAL RIVERS, Chap. 2, Art. IV.

55. *Id.*, Chap. 3, Art. X. This article reads as follows:

> 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.

See also note 49 *supra*, at 62-63.

56. 3 WHITEMAN, DIGEST OF INTERNATIONAL LAW 23 (1964).

57. *See* note 49 *supra*. *See also* Diversion of Waters from the Meuse, P.C.I.J., Ser, A/B, No. 70 (1937); Lake Lanoux Case (Spain v. France), 24 I.L.R. 101 (1957).

ter pollution, because that case is the *locus classicus* on the responsibility of a state for extraterritorial injury.[58]

2. *Remedies.*—The International Law Association has resolved that "preventable pollution of water in one state which does substantial injury to another state renders the former state responsible for damage done."[59] There appears to be no doubt that the injured state may collect compensatory damages from the injuring state caused by polluted waters.[60] However, this remedy is available only after the harm has resulted and is not an effective solution to the control and prevention of the problem, i.e., pollution. What is needed is an order or an injunction that will prevent the states from further polluting common waters. There is some authority for preliminary relief, but there is no degree of certainty that it will be granted by an international tribunal applying the rules of international law.[61]

3. *Summary of Solutions Through International Law Principles.* —When considering the application of the general rules of international law to the control of water pollution in the Great Lakes, the issue must be stated in reference to the situation that now exists between the United States and Canada. Not only are the theories uncertain, but the results to be derived by such an application are dubious. Even if the problem was submitted to an international tribunal for adjudication, it would be an after-the-fact response which would not effectively aid control of water pollution in the Lakes in the future. Effective water pollution control must be a coordinated effort which originates in the two countries and is aimed toward the future. Submission to an international tribunal to apply principles of international law to reach an adjudication does not serve this end, nor does it create an atmosphere

58. Trial Smelter Case, 3 U.N. Rep. Int'l Arb. Awards 1905 (1949). This case between the United States and Canada involved the international flow of air pollution from a smelter at Trial, British Columbia. The flow adversely affected agriculture in the state of Washington just south of the international boundary. A special convention was created by the two countries to settle the claim, and such was done in favor of those in Washington.

59. COMMITTEE ON THE USES OF WATERS OF INTERNATIONAL RIVERS, INTERNATIONAL LAW ASSOCIATION (Conference at Dubrovnik, Yugoslavia (1956)). *See* note 49 *supra,* at 62-63.

60. *See* note 49 *supra,* at 102.

61. Trial Smelter Case, *supra* note 56; Anglo-Iranian Oil Co. Case, I.C.J. Rep. 89, 93-95 (1951); The Electricity Company of Sofia and Bulgaria Case, P.C.I.J. Ser, A/B, No. 79, 194, 199 (1939); Belgina-Chinese Case, P.C.I.J., Ser, A. No. 8, 6, 7-8 (1927).

of conciliation and mediation or facilitate coordination of planning and enforcement. International law is only as operative as the participating countries desire it to be. Since there is currently a spirit of cooperation between Canada and the United States, it would appear that there are more effective avenues to curb pollution in the Great Lakes than application of the general principles of international law.

B. Treaties

Many of the co-riparian nations of the world have enacted treaties to deal with the problems of water use and pollution.[62] The treaties as well as the negotiations leading to them seem to employ theories which limit the power of sovereigns to utilize their waters in any way that they desire, without regard to the effects on the water or the injuries that would be sustained by other co-riparian nations.[63] Professor Berber has written that "the conclusion of specific and specialized water treaties remains far and away the best solution [to the problems of water use and pollution control]."[64] Nearly all of these treaties call for arbitration in reference to the use of these waters.[65]

1. Considerations Favoring a Treaty.—An obligation to submit the problem of water pollution to arbitration or adjudication arguably promotes reasonableness in the dealings between co-riparians.[66] The obligations and the resultant commitment to arbitration or adjudication will frequently induce agreement by negotia-

62. Griffin, *The Use of Waters of International Drainage Basins Under Customary International Law*, 53 AM. J. INT'L L. 50 (1959); and for the Western Hemisphere, *see* Claggett, *Survey of Agreements Providing for Third-Party Resolution of International Water Disputes*, 55 AM. J. INT'L L. 645 (1961).

63. *See* Griffin, *supra* note 62, at 50.

64. *See* note 45 *supra*, at 270.

65. *See* Claggett, *supra* note 62. *See, e.g.*:
   a. Treaties in U.N. Doc. A/5409, between Austria and Hungary (UN Treaty Series, vol. 438, No. 6315, (1959));
   b. Columbia River Treaty, 44 DEP'T OF STATE BULL. 234 (1961), and the Indus. Waters Treaty, 123 WORLD AFFAIRS 99 (1960), which call for arbitration;
   c. There are, in addition to bilateral or regional agreements, two world wide conventions on the uses of watercourses which mention third-party settlement of disputes:
      1. Convention of Barcelona, 7 L.N.T.S. 37 (to which neither the U.S. nor Canada is a signatory), and
      2. Geneva Convention, 36 L.N.T.S. (to which the U.S. and Canada are not signatories, nor has either ratified this convention).

66. *See* note 53 *supra*, at 49.

tion at the outset of the situation.[67] The same theory underlies the Charter of the United Nations which calls on nations to use mediation, arbitration, or adjudication, among other prescribed means, to promote peaceful dealings between nations.[68] This theory revolves around the recognition that all nations believe themselves to be completely sovereign, when in fact there is a need for nations to restrict their sovereignty. Thus the provision that an independent agency or institution shall decide the conflicts between them is professed with the hope that it will create a conciliatory attitude on the part of each nation in its relations with the other.

2. *Considerations Opposing a Treaty.*—There are significant arguments against the idea that a treaty providing for mandatory arbitration is the most advantageous manner to solve the problem of water pollution. In any case, such provisions are an after-the-fact consideration. Joint planning may be more effective in order to initially prevent or eliminate possible threats to water quality.[69]

The Supreme Court of the United States in *Colorado v. Kansas*, held that there is a further consideration when dealing with sovereigns or quasi-sovereigns (states) in the area of arbitration and adjudication.

> The reason for judicial caution in adjudicating the relative rights of States in such cases [water use cases in this instance] is that, they invoke the interests of delicate questions, and, due to the possibility of future change of conditions, necessitate expert administration rather than judicial imposition of a hard and fast rule. Such controversies may appropriately be composed by negotiation and agreement, pursuant to the compact clause of the federal Constitution. We say of this case, as the Court has said of interstate differences of like nature, that such mutual accommodation and agreement should, if possible, be the medium of settlement instead of invocation of our adjudicatory power.[70]

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67. *Id.* at 41.

68. Article 33(1) of the Charter of the United Nations, in part, calls for nations to "seek solution by negotiation, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or arrangements, or other peaceful means of their choice. . . ."

69. HELSINKI RULES, PROCEDURES FOR THE PREVENTION AND SETTLEMENT OF DISPUTES, Chap. 6, Art. XXX states that "Although certain disputes about international rivers and international river basins may lend themselves to third-party adjudication under established international law, the maximum utilization of an international drainage basin can more effectively be secured through joint planning."

70. Colorado v. Kansas, 320 U.S. 383, 392 (1943).

It would appear that the Court's reasoning could be applied *a fortiori* to the situation between the United States and Canada in the Great Lakes.

3. Special Convention.—Another treaty-related consideration is that of a special convention, which normally provides for the solution of a particular problem and is limited to that instance. An example is the agreement reached between the United States and Canada in the *Trial Smelter* case which, dealt with the analogous and collateral problem of air pollution.[71] The drawback however, is that a special convention is limited to the instant problem before it. The convention provides the means to investigate the underlying facts and provide for a mediator. However, it too is an after-the-fact consideration which has little or no lasting effect outside the actual problem considered. Thus, its relative worth to a permanent and long-range solution to water pollution is diminished. The real issue is the protection of present and future uses of the water, and not just the adjudication of past misuse.

C. Creation of a Joint Agency for the Control of Water Pollution in the Great Lakes

Although the IJC has no enforcement power, it has been a constructive organization. It has promoted a sense of community between Canada and the United States, and has created an atmosphere of mutual understanding and respect. However, the pollution problem has reached such a stage that there is a need for greater cooperative planning and coordination; a need which is beyond the present scope of the authority of the IJC. The creation of a new joint agency, vested with the power to coordinate the efforts of both countries toward the solution of this monumental problem before it destroys the Lakes is a necessity.

The control of pollution in the boundary waters is the responsibility of the local and federal governments of Canada and the United States. The work and funds must originate from the two countries. To recommend a supranational agency with the power of total direction and adjudication is utopian, even between two governments which have a history of conciliation and cooperation such as the United States and Canada. However, an agency with the power to promote and coordinate the objectives and implementations of the two governments (a power that is lacking in the IJC) is sorely needed.

71. *See* note 58 *supra.*

In 1969, after an exhaustive study of the pollution problem in the Lakes, the IJC itself recommended "that an appropriate Board be appointed on a continuing basis for the coordination of joint international programs in water pollution control of the Great Lakes."[72] After the IJC conducted its first survey of the pollution problem in the Lakes between 1912 and 1918, it recommended that the power and authority of the IJC be expanded so as to allow it to take a more active role in regulating the use of the Lakes and prohibiting pollution of the waters crossing the boundary.[73] The two governments accepted the report and requested that the IJC prepare a convention that made provision for the implementation of the recommendations. The draft convention was drawn and submitted to the governments for consideration. However, no action was taken on these recommendations and the IJC remained powerless either to coordinate the pollution control efforts in the Lakes, or to begin studies and make recommendations on its own volition without reference by the two governments.

To change the powers of the IJC or to vest the powers in a new joint agency would require a convention or a new treaty between Canada and the United States. Thought here must be given to the constitutional limitations in which each government is shrouded.

The consideration of constitutional restraints may not pose the problem that one might first imagine. What is proposed is not an agency with the power to manage all aspects of the Great Lakes, or to dictate to the responsible agencies on each side of the border, or even to have all encompassing powers of enforcement. The fact that any joint agency between countries is only as effective as the two nations want it to be, and neither will likely surrender any of its sovereignty to obtain such a powerful institution. What is needed, and what would be desirable for both nations, is to increase the powers of the IJC, or to vest the powers in a new joint agency that would be able to coordinate the pollution control efforts of all governmental agencies of each country.

One current example of the need for such coordination is illustrated by the 1969 report of the IJC. Therein the Commis-

72. *See* note 6 *supra*, at 13.

73. *See* note 3 *supra*; *see also Hearings Before the National Resources and Power Subcommittee of the House Committee on Government Operations*, "Water Pollution—Great Lakes", July 22, 1966, Statement by Hon. Matthew E. Welsh, Chairman, U.S. Sect. International Joint Commission.

sion recommended an international contingency plan to deal with pollution incidents, such as oil spills and other problems that might arise and need immediate response by each nation in a joint effort.[74] The IJC, as it stands today is powerless to coordinate this type of action. Canada and the United States need an agency that can do so immediately on its own volition. The welfare and future of the Great Lakes and the people and economy which depend on the Lakes is at stake, and we should not be bound by the ineffectual consequences of the present arrangement.

VI. CONCLUSION

The water pollution problem in the Great Lakes has reached emergency proportions. Any effective solution must have as its goal the present and future *unadulterated* use of those bodies of water. Neither the general principles of international law, nor a treaty which calls for mandatory arbitration or adjudication can provide a workable answer. The current structure of the IJC does not lend itself toward solving the problem. When one realizes that the pollution in the Great Lakes is mainly from the internal territorial limits of the United States and Canada, one must recognize that each of these nations, together with their respective political subdivisions, has both the obligation and responsibility to stop pollution.[75]

It is apparent that a coordinated effort by both the United States and Canada is the only answer to the current pollution problem in the Great Lakes. As recently as June 12, 1971, the governments of these two countries met and announced the beginning of negotiations for a new treaty that will provide for an effective, joint water pollution control program to aid the clean-up of the Great Lakes.[76] It is only hoped that the treaty will provide for an effective, workable, coordinating agency that will be empowered to exercise supervision and direction over the efforts of the two

74. *See* note 6 *supra*, at 11; and *see* INTERNATIONAL LAKE ERIE WATER POLLUTION BOARD, REPORT ON POTENTIAL OIL POLLUTION INCIDENTS FROM OIL AND GAS WELL ACTIVITIES IN LAKE ERIE: THEIR PREVENTION AND CONTROL, 17 (1969).

75. On August 17, 1971, the Conference of Great Lakes Governors and Premiers recognized the obligation of the two countries to clean up the Great Lakes. The resolutions of the conference called for a beefing up of the IJC and for a quick negotiation and implementation of the new treaty designed for that purpose. N.Y. Times, August 18, 1971, at 75, col. 4.

76. N.Y. Times, June 13, 1971, § 4, at 2, col. 3.

countries and thus bring about an immediate implementation of the valuable research and recommendations made by the IJC.

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