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Acid Rain: Calling for a Transboundary Solution

by

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> Each generation, sharing in the estate and heritage of the earth, has a duty as trustee for future generations to prevent irreversible and irreparable harm to life on earth and to human freedom and dignity.
>
> Governments, non-governmental organizations, and the individuals are, urged therefore, imaginatively to implement these principles, as if in the very presence of those future generations whose rights we seek to establish and perpetuate.
>
> The Cousteau Society
> Articles 2 & 5 from The Rights
> of Future Generations

THE PROBLEM

One form of air pollution results when sulfur and nitrogen are transferred from one long-term geochemical reservoir to another with the help of the atmosphere.[1] Man disturbs the Earth's long-term geochemical reservoir to generate energy from fossil fuels and to extract minerals for manufacturing purposes.[2] As a by-product of these disturbances, sulfur and nitrogen oxides are emitted into the air and may travel hundreds to thousands of miles.[3] During this travel the compounds undergo chemical transformations producing sulfate and nitrate ions (SO and NO, respectively).[4] Eventually, (the time of travel ranges from hours to weeks), these compounds return to Earth as sulfuric and nitric acids via wet or dry deposition.[5] Sulfur dioxides cause approximately two-thirds of the acidity in these precipitations, while nitrogen oxides cause the other one-third.[6] This phenomenon was identified in the 1950s[7] and is known as acid rain, or more properly acid deposition.

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[1]Committee On Monitoring and Assessment of Trends In Acid Deposition, Environmental Studies Board, Commission on Physical Sciences, Mathematics, and Resources, ACID DEPOSITION Long Term Trends 48 (1986) [hereinafter cited as Long Term Trends].

[2]*Id.*

[3]*Id.* at 13.

[4]*Id.*

[5]*Id.*

[6]Sullivan, *Beyond the Bargaining Table: Canada's Use of Section 115 of the United States Clean Air Act to Prevent Acid Rain*, 16 Cornell Int'l L. J. 193, 195 n. 14 (1983).

[7]Cleutinx, *European Community Air Pollution Abatement Policy*, 17 U. Tol. L. Rev. 113, 122 (1985).

Wet deposition occurs through precipitation, while dry deposition involves the direct removal of gases and airborne particles from the atmosphere.[8] Wet deposition is easier to monitor and is the basis for most studies, though the term deposition includes both of the processes.

Depositions with a pH[9] below 7.0 are acidic, though normal rainfall, or "clean" rain, has a pH value of 5.6. When pH levels fall below 5.6 over an extended period of time, acidic depositions may accumulate and upset terrestrial and aquatic ecosystems.[10] This long term accumulation is called "loading" and is responsible for the environmental damage feared as a result of acid rain.[11] Because some of the elements and compounds that contribute to acidic depositions occur in the atmosphere naturally, and because of the large area affected by acid rain, it is difficult to precisely identify the source of particular injuries and to develop solutions to these problems. Nevertheless, over the past ten years much information has been gathered regarding the detrimental effects of acid rain.

Electric utilities, industrial boilers, and other industrial processes account for over ninety percent of the man-made sulfur dioxide emissions in the United States. Over ninety-five percent of man-made nitrogen oxides come from these sources along with automotive vehicles.[12] The major contributors in the United States are utility plants which burn high sulfur coal and are located in northern West Virginia, eastern Ohio, and eastern Pennsylvania.[13] There are so many of these facilities that it is more practical to address whole regions or areas of sources.[14] In Canada the major contributors are large nonferrous smelting plants, such as the International Nickel Company (INCO), and are easier to identify individually.[15] INCO, for example, produces more sulfur dioxide than any other single source in North America and is responsible for twenty percent of Canada's sulfur emissions.[16] Between the two countries it is estimated that the United States causes three to four times more deposition in Canada than Canada causes in the United States.[17]

The effects of acid deposition are extreme and include the acidification of lakes, rivers and groundwaters; reductions in forest productivity; and deteriorations of man-made structures.[18] The acidification of lakes in the Adirondack Mountains alone has caused estimated losses of over one million dollars a year due to the decline in sports fishing.[19] Hundreds of lakes in these mountains can no longer support aquatic life and many more are threatened.[20] In Ontario it is estimated that up to four thousand lakes can no longer support life and another forty-eight thousand are

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[8]Long Term Trends, *supra* note 1, at 13.

[9]Webster's Third New International Dictionary of the English Language 1692 (unbar. 1986). The symbol pH stands for the negative logarithm of the hydrogen-ion concentration in gram equivalents per liter on a scale of 0 to 14 which measures both acidity and alkalinity.

[10]Irene H. vanLier, ACID RAIN AND INTERNATIONAL LAW 15 (1980).

[11]*Id.*

[12]Smith, *Playing the Acid Rain Game: A State's Remedies*, 16 Envt'l. L. Nw. Sch. L. Lewis and Clark C. 255, 257 (1986).

[13]United States-Canada Research Consultation Group, The L.R.T.A.P. Problem In North America: A Preliminary Overview 4 (1979) [hereinafter cited as A Preliminary Overview].

[14]*Id.*

[15]*Id.* at 6.

[16]*Id.*

[17]*Id.* at 11.

[18]Sullivan, *supra* note 6, at 196 n. 17.

[19]*Id.* at 196.

[20]*Id.* at 196 n. 18.

threatened.[21] Estimates of damages to buildings are equally as staggering, with annual costs as high as two billion dollars in the United States alone.[22] Clearly the costs associated with acid rain are significant, but so are the costs of abatement. There are no easy solutions, and the transboundary nature of the problem only complicates things.

NEGOTIATIONS

In 1978 the United States and Canada established the Bilateral Research Consultation Group on Long-Range Transport of Air Pollutants (L.R.T.A.P.).[23] This group's work led to the signing of the Memorandum of Intent (MOI) concerning transboundary air pollution on August 5, 1980.[24] MOI emphasized the urgent problem of acid rain and the need for cooperative action and expressed a commitment to develop a bilateral agreement to combat transboundary air pollution.[25] The agreement did not bind either country to undertake abatement measures but merely served as a "symbolic gesture" that each country would enter a binding agreement in the future.[26] Technical work groups were established to assist with negotiations of this anticipated treaty.[27] One of these groups determined that there was a ceiling below which acid rain was environmentally acceptable. This level of deposition was eighteen pounds of wet sulphate per acre per year.[28] Currently, depositions occur at nearly twice this amount.[29]

More recently the United States and Canada appointed Special Envoys Drew Lewis and William Davis to research the acid rain problem and come up with a recommendation for a solution. In January, 1986 the Joint Report of the Special Envoys on Acid Rain recommended that the U.S. institute a five billion dollar demonstration program on technology to control acid rain and reduce emissions affecting Canada. Both governments fully endorsed the report.[30]

Despite this progress the Reagan Administration has failed to follow it up with any substantive action and has taken the position that more research is needed to justify stricter regulations of utilities' emissions.[31] The Administration maintains that since 1973 $150 billion has been spent to reduce air pollutants and that further reductions of sulfur dioxide would cost billions of dollars with no guarantees that acid rain would subside.[32] Representing a source state, Senator Byrd of West Virginia reinforced this position in a 1984 address to the Senate stating, "I hope that we will not rush into a judgment here which could be a very costly judgment, which could be ineffective

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[21] *Id.* at 196 n. 19.
[22] Id. at 196.
[23] *Id.* at 201.
[24] Memorandum of Intent Concerning Transboundary Air Pollution, August 5, 1980, United States-Canada, 32 U.S.T. 2521, T.I.A.S. No. 9856 [hereinafter cited as Memorandum of Intent].
[25] *Id.* at 2522-2524.
[26] Sullivan, *supra* note 6, at 202.
[27] Memorandum of Intent, supra note 24, at 2529.
[28] Harris, *Canadian Positions, Proposals, and the Diplomatic Dilemma: Acid Rain and Emerging International Norms*, 17 U. Tol. L. Rev. 121, 129 (1985).
[29] *Id.* at 129.
[30] Acid Rain: Issues In The 100th Congress, IB87045 Issue Brief (CRS) 5 (Jan. 27, 1987) [hereinafter cited as Issue Brief].
[31] Sullivan, *supra* note 6, at 203.
[32] Green, *Public Diplomacy and Acid Rain*, 17 U. Tol. L. Rev. 133, 134 (1985).

in the long run, and in the short run would close down industries, close down coal mines, put people out of work, and raise utility bills."[33]

Suffering greater consequences than the U. S., Canada has taken a more committed stand to solving the acid deposition problem. In 1982 Canada offered to reduce its sulfur dioxide emissions in eastern Canada 50% by 1990 if the United States would do the same east of the Mississippi River. The United States rejected the offer as premature and too costly.[34] Nevertheless, in 1984 Canada announced a program to unilaterally reduce sulfur emissions by 1994,[35] and in an address at the "Acid Rain and Emerging International Norms" Symposium held in February, 1985 at the University of Toledo, Sydney G. Harris, Consul General for Canada, stated, "we are firmly of the belief that the alternative of doing nothing will be far more devastating than the expense of cleaning up the problem."[36]

Both countries have questioned each other's sincerity in what has become a sensitive issue of dispute. In a recent interview with *The Washington Post*, United States Interior Secretary Donald Hodel accused the Canadians of "doublespeak" by lobbying for stricter United States controls on acid rain while simultaneously pushing sales of electricity to the northeastern United States.[37] Consul General Harris believes such claims are misguided and are simply an excuse to avoid action. Harris points to the fact that several of Canada's hydro and nuclear electricity plants which do not contribute to acid rain were planned long before acid rain became a prominent issue. He cites the example of the James Bay Power Project which began preliminary studies for development in the 1950s, was approved in 1968, and will not operate at full power until the mid 1990s.[38] It is clear that both countries are approaching this problem with a sense of mistrust that will only serve to hinder future negotiations.

EXTERNAL RESPONSIBILITY

The principle that one territory is responsible for any activity carried on within its borders which causes injury or damage in another territory has become an important issue internationally. A corollary of this principle is the "effects doctrine" which holds that one must be accountable for the effects of his actions.[39] A common example of the application of this principle is found in most long-arm statutes which typically provide ways for a state court to exercise jurisdiction over a non-citizen who has acted outside of the state but has caused tortious injury within that state.

The principle of limited territorial sovereignty applies this concept to the international arena.[40] This doctrine maintains the right of every nation to independently regulate all activity within its

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[33]130 Cong. Rec. S908 (daily ed. Feb. 3, 1984) (statement of Senator Byrd).

[34]Sullivan, *supra* note 6, at 203.

[35]Harris, *supra* note 28, at 129.

[36]*Id.* at 121.

[37]*Hodel Criticizes Canada on Energy, Environment*, Washington Post, Feb. 19, 1987, at A12, col. 1.

[38]Harris, *supra* note 28, at 130-131.

[39]*Jurisdictional Conflicts Arising From Extraterritorial Enforcement: The Broader Context of the Conflict Panel Discussion*, 54 Antitrust L. J. 787, (1985) (remarks by Dr. Louis B. Sohn, University of Georgia).

[40]Comment, *Who'll Stop the Rain: Resolution Mechanisms for U.S.-Canadian Transboundary Pollution Disputes*, 12 Den. J. Int'l L. and Pol'y 51, 52 (1982).

borders subject to the nation's obligation not to infringe on the rights of its neighbors. Recognition of this doctrine by the United States and Canada was apparent as early as 1909 when the two countries entered into an agreement relating to the boundary waters between them.[41] Article II of this Treaty states that each country is to have exclusive control over the use of all waters on its own side of the border, but it is agreed that "any interference with or diversion from their natural channel of such waters on either side of the boundary, resulting in any injury on the other side of the boundary, shall give rise to the same rights and entitle the injured parties to the same legal remedies as if such injury took place in the country where such diversion or interference occurs".[42]

Article VII of the Treaty established the International Joint Commission (I.J.C.) which is to be composed of six commissioners, three from each country.[43] Article IX grants this Commission the authority to issue recommendations and reports regarding any matters of difference between the two countries after such matters are referred to the I.J.C.[44]

The principal of limited sovereignty established precedence in international environmental injury cases when it was applied in the Trail Smelter Arbitration of 1941.[45] In the nineteen twenties and thirties a smelter in Trail, British Columbia was emitting sulfur dioxide which was causing pollution damage in Washington State.[46] In 1928 the problem was submitted to the I.J.C., and after three years of investigation, the I.J.C. concluded that Canada should install some pollution control device on the smelter and pay the United States $350,000 in damages.[47]

The finding by the Commission covered damages through 1931, but in 1935 there was still a problem. Although Canada admitted liability, the two countries disagreed on the amount of damages; so they submitted the dispute to an ad hoc tribunal established pursuant to a treaty between the United States and Canada.[48] In widely quoted dicta the tribunal stated,

> [N]o State has a right to use or permit the use of its territory in such a manner as to cause injury by fumes in or to the territory of another or to the persons or property therein when the case is of serious consequence and it is established by clear and convincing evidence.[49]

Although the Trail Smelter Case dealt with a solution to a specific problem, namely pollution emissions from a single source, it represents the successful enforcement of the principal that one country should be held accountable for the external damages caused by the generation of internal pollution. The principle was given broader recognition in 1972 when the United Nations met in

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[41]Treaty Relating to Boundary Waters Between the United States and Canada, Jan. 11, 1909, United States-Great Britain, 36 Stat. 2448, T.S. No. 548 [hereinafter cited as Boundary Waters Treaty].

[42]*Id.* at 2449.

[43]*Id.* at 2451.

[44]*Id.* at 2452.

[45]Trail Smelter Case (U.S. v. Can.), 3 R. Int'l Arb. Awards 1905 (1941).

[46]Comment, *supra* note 40, at 52.

[47]*Id.* at 53.

[48]Convention Relative to the Establishment of a Tribunal to Decide Questions of Indemnity and Further Regime Arising From the Operation of Smelter at Trail, British Columbia, April 15,1935, United States-Canada, 49 Stat. 3245.

[49]Trail Smelter Case, supra note 45, at 1965.

Stockholm for a conference and adopted a Declaration for the preservation and enhancement of the human environment.

Principle 21 of the Declaration proclaims:

> States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies, and the responsibility to ensure that activities within their jurisdictions or control do not cause damage to the environment of other states or of areas beyond the limits of national jurisdiction.[50]

Interestingly, the last phrase of Principle 21 was drafted by Canada.[51] Nevertheless, this principle imposes no binding authority over any country.

PROGRESS IN EUROPE

Pursuant to this recognition some international organizations have taken up the issue of transboundary pollution. In 1972 the Organization for Economic Cooperation and Development (O.E.C.D.) began collecting data regarding the transport of air pollutants. The study estimates that in five European countries fifty percent of all sulfur depositions were coming from foreign sources. These five countries were Norway, Austria, Sweden, Finland, and Switzerland.[52]

In attempting to define the "most efficient and equitable use of the European airshed", the O.E.C.D. recommended three guidelines to help deal with the problem.[53] "Non-discrimination" would require emitting nations to treat transboundary pollution the same as national pollution. "Equal access" would give foreign nationals standing to participate in administrative and judicial proceedings. The third guideline, "notification and consultation", would require emitting countries to consult others before expanding facilities which were likely to increase transboundary pollution. Finally, the O.E.C.D. anticipated the creation of an international body to resolve transboundary disputes. The O.E.C.D. continued to research and publish reports on transboundary pollution until 1980 when it began to cut back on its efforts in this field, possibly as a result of pressure from the United States.[54]

The Economic Commission for Europe (ECE) is one of the major regional economic commissions in the United Nations and consists of all United Nations members in Europe along with Canada and the United States.[55] In 1979 the ECE met in Geneva and drafted the Convention on Long-Range Transboundary Air Pollution.[56] The agreement is aimed at gradually reducing and preventing air pollution. To this end the convention appointed an executive body and strengthened the Co-operative Program for the Monitoring and Evaluation of Long-Range Air Pollution in Europe (EMEP).[57]

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[50]Report of the United Nations Conference on the Human Environment, U.N. Doc. A/CONF. 48/14 and Corr. I (1972), *reprinted in* 11 I.L.M. 1416 (1972).

[51]Wetstone & Rosencrantz, *Transboundary Air Pollution: The Search for an International Response*, 8 Harv. Envtl. L. Rev. 89, 93 (1984) [hereinafter cited as Wetstone].

[52]*Id.* at 94-95.

[53]*Id.* at 96.

[54]*Id.* at 96-99.

[55]vanLier, *supra* note 10, at 146

[56]Wetstone, *supra* note 51, at 105.

[57]*Id.* at 105-106.

In 1982 a Conference on the Acidification of the Environment was held in Stockholm at which many national spokesmen took pro-environmental positions. The Conference issued an official statement maintaining that acidification was a serious problem requiring the implementation of greater control measures in order to prevent further deterioration of soil and water. The Conference led the way for the ratification of the ECE Convention in early 1983.[58] Since then the ECE has taken a more preventive approach.

In June, 1983 ECE members met in Geneva and proposed to reduce 1980 sulfur dioxide emissions levels 30% by 1993.[59] This proposal was opposed by the United States, France, Britain, and the Eastern European Countries. Nevertheless, preventive measures have been advanced within the European Economic Community (EEC), and in March, 1984 the Community adopted a directive for combatting air pollution.[60] The directive regulates certain categories of energy production including the authorization of new plants and significant alterations of existing plants.[61] Additionally, the EEC has drafted a proposal which calls for a sixty percent reduction in sulfur dioxide emissions levels by 1995 as well as reductions in nitrogen oxides and dust. In attaining these reductions, EEC member states are free to choose their own methods.[62]

It is important for the United States to examine the European approach to acid rain for several reasons. It was estimated that over fifty percent of twenty-two hundred square miles of forest in Germany may be damaged by acid rain. Acid rain also causes extensive damages to European buildings each year with costs estimated between 1.5 and 4 billion dollars annually.[63] Recognizing the severity of the problem, European nations have spent more money to improve their monitoring capabilities while at the same time taking steps to abate the problem. This progress has been accomplished in the international forum of the EEC with regulations placed on member states who reserve the autonomy to choose their own means to meet these regulations. While difficult decisions remain to be made, the success of an active and credible forum suggests an optimistic future.

On the other hand, Canada and the United States have been reluctant to bind themselves to a substantive agreement for fear of losing any autonomy over an abatement decision. The two countries have bilaterally recognized the problem and committed themselves to improving their scientific understanding of transboundary pollution. But while negotiations continue, no regulatory agreements, which would include abatement procedures, seem to be close to acceptance. Instead, both countries have chosen to focus on national policies and goals in addressing the problem. Unfortunately, unilateral progress has not resolved the situation, and such an approach should be abandoned in favor of a bilateral solution. Before defending this position, the laws regulating acid rain should be examined.

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[58] *Id.* at 108-110.
[59] *Id.* at 110-111.
[60] Cleutinx, *supra* note 7, at 117.
[61] *Id.*
[62] *Id.* at 118.
[63] *Id.* at 115.

THE CLEAN AIR ACT

The specific legislation governing air pollution in the United States is known as the Clean Air Act.[64] The Act generally sets out the procedures through which the Environmental Protection Agency (EPA) is to establish and regulate the national ambient air quality standards. States and local governments are given the primary responsibility of enforcing these standards subject to the EPA's approval. Section 7415 of the Act, more commonly referred to as section 115, governs international air pollution and may be implemented to help abate the acid rain problem. The applicable provisions in section 7415 include:

> (a) Endangerment of public health or welfare in foreign countries from pollution emitted in United States. Whenever the Administrator, upon receipt of reports, surveys or studies from any duly constituted international agency has reason to believe that any air pollutant or pollutants emitted in the United States cause or contribute to air pollution which may reasonably be anticipated to endanger public health or welfare in a foreign country or whenever the Secretary of State requests him to do so with respect to such pollution which the Secretary of State alleges is of such a nature, the Administrator shall give formal notification thereof to the Governor of the State in which such emissions originate.
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> (b) Prevention or elimination of endangerment. The notice of the Administrator shall be deemed to be a finding under section 7410(a)(2)(H)(ii) of this title which requires a plan revision with respect to so much of the applicable implementation plan as is inadequate to prevent or eliminate the endangerment referred to in subsection (a) of this section. Any foreign country so affected by such emission of pollutant or pollutants shall be invited to appear at any public hearing associated with any revision of the appropriate portion of the applicable implementation plan.
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> (c) Reciprocity. This section shall apply only to a foreign country which the Administrator determines has given the United States essentially the same rights with respect to the prevention or control of air pollution occurring in that country as is given that country by this section.[65]

Prior to implementing this section, the EPA Administrator must have "reason to believe" that emitted pollutants contribute to air pollution which may endanger public health in another country, and he must determine that the other country has given the Untied States "essentially the same rights" with respect to air pollution generated in the foreign nation. The Administrator's "reason to believe" may be based on reports, surveys, or studies, and this determination is clearly discretionary. Nevertheless, if the EPA wanted to take action, several reports could be relied upon including the IJC's 1980 report stating, "acid precipitation is one widely known and serious example of a problem associated with long-range transport of airborne pollution."[66]

The reciprocity requirement was added to the Clean Air Act of 1965, but there is little comment in the Congressional Records to indicate what exactly is meant by reciprocity.[67] A literal interpretation would require Canada's Clean Air Act to be identical to the United States. However,

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[64]Clean Air Act §§ 101 et. seq., 42 U.S.C. §§ 7401 et. seq. (1977).
[65]42 U.S.C. § 7415 (1977).
[66]Sullivan, *supra* note 6, at 207.
[67]*Id.* at 208.

it is more likely that Congress was concerned with requiring cooperation and consistency when adding this clause.[68]

Canada is divided into provinces which are more autonomous than American states. The federal government acts as an advisory body allowing the provinces to pass their own legislation. In the past the provinces have taken a pro-environment view and have adopted the federal governments' recommendations concerning air quality objectives.[69] Nevertheless, in 1980 the Canadian Parliament amended its Clean Air Act to allow the Environmental Minister the right to recommend specific standards for provinces to follow. Some technical discrepancies between the acts still exist, but the legislative comments regarding these amendments state that their purpose was to comply with the United States' reciprocity agreement.[70]

In light of the I.J.C. report and Canada's amendments, EPA Administrator Douglas Costle sent a letter in early January,1981 to then Secretary of State Edmund Muskie and to Senator George Mitchell of Maine to express his belief that pollution emitted in the United States was partly responsible for acid deposition in Canada and that it was endangering public welfare in that country.[71] Days later President Reagan took office, and Anne Gorsuch took over as the EPA Administrator. Costle's findings were not pursued and were later characterized as having no "legal significance".[72] The Reagan Administration did not intend to try to control acid rain with the Clean Air Act.

Nevertheless, the EPA could act under section 7415 and require states to revise their implementation plans under section 7410 to reduce SO and NO emissions by power plants. The EPA could also act pursuant to sections 7408-7410 and issue stricter air quality criteria for SO and NO emissions which the states would be required to enforce.[73] Though these options exist as a means of attempting to reduce acid deposition in North America, the executive branch has been unwilling to implement such controls in order to protect the cost efficient productivity of coal and fossil fuel burning power plants across the country. The Canadian government launched a public awareness campaign in 1983 in an effort to influence policy in the United States. While this campaign has had a successful impact on the legislative branch of government, the Reagan Administration has not altered its stand.[74]

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[68] *Id.* at 208-212.

[69] *Id.* at 213-215.

[70] Sullivan, *supra* note 6, at 219.

[71] Thomas v. State of New York, 802 F.2d 1443, 1445 (D.C. Cir. 1986).

[72] Wooley, *Acid Rain: Canadian Options In U.S. Court and Agency Proceedings*, 17 U. Tol. L. Rev. 139, 142 (1985).

[73] 42 U.S.C §§ 7408-7408 (1977). The current national primary ambient air quality standards for sulfur dioxide is 80 micrograms per cubic meter (0.03 ppm) on an annual arithmetic mean, and 365 micrograms per cubic meter (0.14) for a maximum 24-hour concentration not to be exceeded more then once a year. The current secondary ambient air quality standard for sulfur dioxide is 1,300 micrograms per cubic meter (0.5 ppm) for a maximum 3-hour concentration not to be exceeded more then once a year. The air quality standard (both primary and secondary) for nitrogen dioxide is 100 micrograms per cubic meter (0.053 ppm). Primary limits govern the public health; while secondary limits govern the public welfare. Figures were taken from 40 C.F.R. §§ 50.4, 50.5, 50.11 (1986).

[74] Green, *supra* note 32, at 136. The Administration continues to call for more research while pointing out that States are complying with the Clean Air Act and that the U.S. has reduced sulfur emissions by 36% in the last ten years.

With the increase of public awareness, Congress has debated the problem of acid deposition every session, and several bills calling for the abatement of the problem have been proposed.[75] Of these proposals, "The Acid Deposition Control Act of 1986" HR 4567, has received much attention and support.[76] The bill calls for significant reductions in emissions of sulfur dioxide and oxides of nitrogen by 1997, which could have a dramatic effect on electric utilities.[77] Because of the division within Congress on the issue of the necessity of such action, and the Administration's position, no significant legislation on abatement is predicted to be passed within the next two years.

PRIVATE ACTION

Canada, several states, private citizens, and environmental groups have searched for ways to compel regulation of these harmful emissions. Section 7604(a)(2) of the Clean Air Act allows any person to bring an action against the EPA Administrator for the Administrator's failure to perform a non-discretionary duty.[78] As a remedy the district court may order the Administrator to perform any such duty. In *Thomas v. State of New York* several states along with environmental groups and property owners brought an action to compel EPA Administrator Lee Thomas to enforce section 7415.[79] Plaintiffs argued that Costle's letters of January, 1981 imposed a non-discretionary duty on the current EPA Administrator to identify states in violation and to issue state implementation plan revision notices to them.[80] The District Court granted relief for plaintiffs and the EPA appealed. Judge Scalia for the Court of Appeals concluded that section 7415 requires the Administrator to give formal notification to the Governor of the State responsible for the pollution problem before the agency can act, and that such notification requires notice and comment procedures.[81] The court found that no such notification had been exercised and reversed the lower court's ruling stating, "how and when the agency chooses to proceed to the stage of notification triggered by the findings is within the agency's discretion and not subject to judicial compulsion."[82]

Given this decision it is doubtful that a private person or foreign country could compel the EPA to regulate acid rain without showing that a person or state is in violation of approved EPA standards. If an actual violation of current standards is shown, a suit could be brought based on the Administrator's failure to enforce section 7413, but it is assumed that the Administrator will enforce the EPA standards independently. Indeed, it is the currently allowable level of emissions which are of concern to acid rain opponents.

Private actions by Canadians and or United States citizens could be brought directly against emitting companies for alleged injuries caused to forest or fishery related businesses; however, success in such a suit is unlikely. Some procedural problems include a question of standing (especially for a Canadian national), jurisdiction over many defendants (including the foreseeability re-

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[75]Issue Brief, *supra* note 30, at 7.

[76]H.R. 4567, 99th Cong., 2d Sess. (1986).

[77]Brown & Steinway, *The Federal Legislative Agenda Affecting Electric Utilities: Outlook for 1986 and Beyond*, 117 Pub. Util. Rprt. No. 13, at 30, 31 (June 26, 1986).

[78]42 U.S.C. § 7604 (1977).

[79]Thomas v. State of New York, *supra* note 71, at 1444. New York, Maine New Jersey, Connecticut, Minnesota, Indiana, and Ontario were all represented on the side of plaintiff; while Kentucky, Ohio, and West Virginia were present on defendant's side.

[80]*Id.* at 1443, 1445.

[81]*Id.* at 1446-1447.

[82]*Id.* at 1448.

quirement with regard to due process and proof of jurisdictional injury), venue requirements, and the necessary size of the litigation.[83] Even if these obstacles could be overcome there remain major substantive questions including causation and determining liability.[84] These substantive problems may be addressed under the theory of market share liability,[85] but success is doubtful.

In an effort to enhance a non-citizen's chances of recovering for injuries, caused by pollution originating 'across the border', the National Conference of Commissioners on Uniform State Laws and the Uniform Law Conference of Canada joined together and drafted the Uniform Transboundary Pollution Reciprocal Access Act.[86] The Act allows a person "injured or threatened with injury" caused by pollution to maintain an action in the jurisdiction where the pollution originated. According to Professor Louis B. Sohn, this Uniform Act has been approved by Montana, New Jersey, and Ontario.[87] The original proposal by the Joint ABA-CBA Committee recommended that this Act be adopted by treaty, but the joint uniform law committee has chosen to pursue enactment through uniform state and provincial laws.[88]

The Uniform Transboundary Pollution Reciprocal Access Act is an innovative and positive approach to dealing with this complex question. It anticipates future transboundary problems and establishes a procedure for addressing these issues. However, before this Act could have an impact on acid deposition, it would have to be adopted by the polluter state since this would be the likely forum for a suit. Such adoption seems unlikely.

There are so many adverse interests involved with the acid rain issue that any solution should be addressed on a broad scale. National courts are not in a position to implement a policy of abatement where so many conflicting interests exist. The proper avenue with this and future transboundary disputes is through an international forum which could be established in a bilateral agreement. Unilateral and local alternatives exist, but they are too narrow to provide adequate relief to what will continue to be a sensitive area. Acid deposition has produced many regional conflicts, and in part it is a regional problem, but to pursue abatement of the problem regionally might lead to different forms of control. Discrepancies would result with regions suffering the greatest damages today developing the strictest controls, and because of the long-range nature of the pollutants, these areas would probably continue to suffer the most.

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[83]Fischer, *The Availability of Private Remedies for Acid Rain Damage*, 9 Ecology L. Q. 429, 433-449 (1980).

[84]*Id.* at 449-464.

[85]*Id.* at 459-462. The theory of market share liability was applied in Sindell v. Abbott Laboratories, 26 Cal. 3d 588, 607 P.2d 924, *cert. den.* 101 S. Ct. 286 (1980).

[86]National Conference of Commissioners on Uniform State Laws, Uniform Transboundary Pollution Reciprocal Access Act with prefatory note and comments, (1982) [hereinafter cited as Reciprocal Access Act]. This Act was first proposed in 1979 by the American Bar Association and the Canadian Bar Association in a joint resolution titled, Settlement Of International Disputes Between Canada And The USA.

[87]Telephone interview with Louis B. Sohn, Professor at the University of Georgia and Co-Rapporteur for the Joint Working Group on the Settlement of International Disputes Between Canada and the USA (Feb. 19 1987).

[88]Reciprocal Access Act, *supra* note 86, at 3.

THIRD-PARTY SETTLEMENT

The I.J.C.

One option available to the two countries is the use of the I.J.C. Article IX of the Boundary Waters Treaty provides that the I.J.C. shall issue recommendations whenever either Canada or the United States refer any question "involving the rights obligations or interests of either in relation to the other".[89] This section has been applied over one hundred times since 1909 mostly with concern of water disputes.[90] The Environmental Law Institute has recommended that the I.J.C. expand its efforts into the arena of air pollution.[91] Given the history of its uses this seems like a natural extension for the I.J.C. The Commission would provide a proven forum in which to settle the acid rain dispute and future transboundary air pollution problems.

I.J.C. recommendations are not binding and are acted upon only at the discretion of each government, but such recommendations are very influential and have helped solve disputes in the past.[92] The I.J.C. is noted for its expertise in pollution matters, its nonpolitical character, and its investigation into transboundary water pollution resulted in the Great Lakes Water Quality Agreement of 1972 which is considered by many as the leading international agreement of its kind to date.[93] The I.J.C. has not been asked to make an investigation or recommendation regarding acid rain because both parties are pursuing negotiations.[94]

Article X of the Boundary Waters Treaty states that "(a)ny questions or matters of difference arising between the High Contracting Parties involving the rights, obligations, or interests of the United States or of the Dominion of Canada either in relation to each other or to their respective inhabitants, may be referred for decision to the International Joint Commission by the consent of the two parties."[95] This article allows the Commission to perform arbitrative functions with the consent of both; however, no dispute has ever been referred pursuant to this section.[96] The Environmental Law Institute's proposal incorporates this article by giving the I.J.C. binding authority to resolve disputes absent substantial evidence that its recommendation is wrong.[97]

Before the I.J.C. could be employed to meet these needs, the Commission would have to be significantly restructured. Not only would its research capabilities and resources need to be expanded, but a dispute settlement panel would have to be added. Traditionally the I.J.C.'s role has been one of fact finder and advisor; therefore, the Commission is not capable of settling questions of law. Of the six members, four are part-time and are able to keep in close contact with the

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[89]Boundary Water Treaty, *supra* note 41, at 2452.

[90]ABA-CBA, Settlement of International Disputes Between Canada and the USA, 27 (1979) [hereinafter cited as ABA-CBA Resolution]. This resolution included two draft treaties along with comments and a report. One was the Draft Treaty On A Regime Of Equal Access And Remedy In Cases Of Transfrontier Pollution. The other was the Draft Treaty On A Third-Party Settlement Of Disputes which covered arbitration.

[91]Wetstone, *supra* note 51, at 133.

[92]*Id.* at 134.

[93]Comment, *supra* note 40, at 70.

[94]Telephone interview with Dr. Fischer, representative of the International Joint Commission in Washington, D.C. (Feb. 24, 1987).

[95]Boundary Waters Treaty, *supra* note 41, at 2453.

[96]Comment, *supra* note 40, at 71.

[97]Wetstone, *supra* note 51, at 135.

constituencies they serve.[98] One of the recognized advantages of this Commission is its informality which helps it to reach agreements relatively easily. Though the workload for the I.J.C. is increasing,[99] expansion of this unit should be controlled to preserve these unique qualities.

Recent examples suggest the I.J.C.'s inability to effectively resolve transboundary disputes. In the late 1970's the United States proposed shipping oil from Valdez to Cherry Point, Washington. The Canadians requested a referral to the I.J.C. regarding the question of marine pollution. The United States refused, and the two countries sent the matter to a joint committee on trans-border environmental problems. The joint committee resolved the dispute with contingency plans for spills and other noxious substances.[100]

In 1977, Canada and the United States called on the I.J.C. to investigate the likely effects of a coal-fire thermal plant being built in Saskatchewan just north of the Montana border. The I.J.C.'s interim report recommended delaying further action on the plant until boron emissions which were contaminating the Poplar River could be reduced. Because of a delay of the final recommendation, the two governments along with representatives from Montana and Saskatchewan established a four member committee to monitor the waterway, and if at any time pollutants are found to be too concentrated, the plant is to be shut down. When the I.J.C. finally submitted its report, it was basically a concurrence in what had already been done.[101]

The ABA-CBA Proposal

The International Joint Commission is an effective and important research organization whose work will continue to be instrumental in solving transboundary disputes; however, there are more suitable means in which to carry out the settlement of these disputes. The most common method of settling disputes is through negotiations. This is also the preferred method since governments are allowed to work out problems as they see fit; however, negotiation does not always result in an acceptable solution to the problem. Thus a report by the American and Canadian Bar of International Disputes concluded that, "negotiations cannot, by themselves, constitute an adequate dispute settlement system for two countries with a relationship as close, extensive, and complicated as that of the United States and Canada."[102] The mere fact that an alternative means for settling a dispute exists will put pressure on both governments to settle the problem themselves.

Pursuant to these beliefs the ABA and the CBA adopted the Draft Treaty on a Third-Party Settlement of Disputes (Draft Treaty) in August, 1979.[103] Though the United States Department of State rejected this proposal and the current Administration has taken a firm position in favor of negotiation for solving the acid rain dispute, Canada and the U.S. should eventually adopt a treaty similar to this draft. Many past boundary disputes have been resolved through the use of conciliation, arbitration, and adjudication, and many more disputes will arise in the future. Not until this type of treaty is adopted will the two countries be able to handle such disputes efficiently and confidently.

The ABA-CBA Proposal only provides for the settlement of legal disputes leaving political decisions and other related issues outside the Treaty's jurisdiction. The proposal endorses an ar-

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[98]ABA-CBA Proposal, *supra* note 90, at 29.
[99]*Id.* at 28.
[100]ABA-CBA Proposal, *supra* note 90, at 6-7.
[101]Comment, *supra* note 40, at 71-72.
[102]ABA-CBA Proposal, *supra* note 90, at 17.
[103]*Id.* at vii, ix.

bitration system created for the settlement of disputes over treaty interpretations.[104] The comments by the Joint Group indicate that binding settlement of these disputes is the primary goal of the Draft Treaty. Article I provides for compulsory jurisdiction over both nations at the written request of either party regarding a treaty dispute. An analysis of treaty disputes is outside the scope of this paper; however, several articles of the Draft Treaty could effectively serve as a basis for a treaty on transboundary disputes.

Article 2 provides for third-party settlement of questions of international law by special agreement of the parties. "Environmental issues" is specifically mentioned as an appropriate subject for such agreements.[105] Before a legal dispute of this type may be submitted to a third-party for resolution, both parties must enter an ad hoc agreement. This optional jurisdiction provision is mandatory given that the object of any proposal should be to resolve present and future transboundary environmental disputes. Governments are not likely to bind themselves to arbitrate unforeseeable disputes; nevertheless, one of the parties could use this section to pressure the other into reaching an agreement. After all it is not how an acceptable agreement is reached but when it is reached which becomes important to the issue of abatement and to preventing further damage.

Organization of third-party settlement is covered in article 3 which establishes time limits for appointing members of the tribunal by common agreement. The Draft Treaty envisions a three member tribunal consisting of one neutral party, but the comments suggests that a five member tribunal consisting of three neutral parties would be more appropriate for complex disputes.[106] A provision allowing for a five member panel should be added so that political pressure will not play as important a role in settling complex issues. Ad hoc arbitration has been used several times by the United States and Canada to resolve disputes.[107]

Under article 3, if the parties are unable to agree on the make-up of a tribunal, the dispute may be submitted to the International Court of Justice to be decided by a Chamber established under the rules of the Court. Recently, Canada and the United States agreed to settle a boundary dispute over fishery and seabed rights in the Gulf of Maine.[108] After accepting proposals from both countries, the ad hoc Chamber for the International Court of Justice established a compromising boundary line in an opinion issued on October 12, 1984.[109] The willingness to use an independent tribunal for arbitration reinforces the argument for an adoption of a treaty which would establish guidelines in this area.

Articles 4 and 5 govern the scope of the tribunal's jurisdiction and authority. The Chamber of the International Court of Justice would have similar power under its rules.

Articles 6 and 7 govern the proceedings themselves including location and conduct. In addition, Draft Rules of Arbitral Procedure accompany the Treaty and govern the specific functioning of tribunals established under article 3. Paragraph two of article 7 allows any requested agency, sub-

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[104] *Id.* at 58.
[105] *Id.* at xxi.
[106] *Id.* at 73, comment 369.
[107] Examples include the Trail Smelter Case, *see supra* p. 7, and the Gulf of Maine Dispute Concerning Delimitation of the Maritime Boundary (Can. v. U.S.), 1984 I.C.J. 246 (Oct. 12, 1984), *reprinted* in 23 I.L.M. 1197 (1984).
[108] Treaty on Gulf of Maine Boundary Dispute Settlement, March 29, 1979, United States-Canada, 20 I.L.M. 1371 (1981).
[109] Gulf of Maine Dispute Concerning Delimitation of the Maritime Boundary (Can. v. U.S.A.), 1984 I.C.J. 246 (Oct. 12, 1984), *reprinted in* 23 I.L.M. 1197 (1984).

division, or national of either party to testify before the tribunal subject to the consent of the party whose agent is going to testify. This would allow States and Provinces affected by acid rain to participate in the settlement process.

Articles 9 and 10 cover the binding authority of tribunal decisions. Article 9 establishes that decisions by the tribunal shall be final and binding on both Parties. The Joint Committee felt this was an important provision and advocated the need for binding settlement.[110] Binding decisions may be required to settle treaty disputes; however, transboundary disputes will involve political issues, and governments may be unwilling to submit these disputes to binding third-party settlement.

Article 10 allows the parties to request an advisory opinion rather than a binding decision. With a problem as complex as acid rain, article 10 should be given priority. The effects of an adverse tribunal decision for the United States could be economically severe on a large number of power companies. The U. S. may not be willing to bind itself to the unpredictable outcome of a tribunal hearing; nevertheless, a nonbinding decision could still be effective to compel both countries to bargain in good faith and to reach an agreement.

If non-binding settlement is the standard, binding arbitration should remain an option. Once the parties become comfortable with these procedures and they establish a common jurisprudence, they may be more willing to participate in binding procedures.[111] First, it is important to set up procedures governing a forum which can handle disputes and which Canada and the United States will be willing to use. Once this is done, specific guidelines and procedures can be adopted as needed. Until such a forum is established, there may not be any effective or convenient means for either Canada or the U. S. to protect their individual interests from the harmful effects of activities carried on by their bordering neighbor.

The acid rain problem affects regions differently, so it is approached with conflicting points of view. It is probable that if Canada and the U.S. existed as one country With no border between them, acid rain would still prove to be a complex problem with no easy solution. What is good for one region may not be good for another region, just as both countries' interests are likely to differ. Therefore, the settlement procedures should allow the third-party tribunal to address abatement of a problem in stages. The tribunal could issue a directive covering the first stage of abatement and periodically determine the next stage required. Each Party could also have the right to limit the tribunals authority to a part of the problem. This would protect regional interests and allow the tribunal some leeway to soften its directives. Accordingly, the Parties would be more willing to use the settlement procedure.

The Best Answer

Acid rain is one of potentially many transboundary disputes between Canada and the U.S. Some additional areas include other environmental problems like damage to the ozone layer, marine resource management such as fishing rights, and bilateral trade disputes concerning imports and exports. These issues threaten both countries' public health and welfare, and they should be quickly and properly resolved. The best method for attaining such resolution is the establishment of third-party arbitration procedures.

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[110]ABA-CBA Proposal, *supra* note 90, at 58.
[111]*Id.* at 59.

Arbitration proceedings have been used by the U.S. and Canada to settle their disputes, but in the past, a procedure established specifically for settling disputes would reduce the time and expense incurred each time arbitration proceedings are sought. To begin from scratch is untimely and only presents several more points for debate and disagreement. Time and uncertainty are important when it comes to correcting situations which are injuring a country's public health and welfare.

A third-party settlement process could provide alternative solutions which are faster and more free of political pressure than negotiation or legislation. Both countries would be forced to address the problem pragmatically and to issue its own proposal to the tribunal. After consideration, the tribunal would adopt one of the proposals or issue its own directive. Being made by an independent body, the final decision should represent the fairest solution to the problem. Of course, actual implementation of the solution would be up to each country's cooperation since no enforcement agency is contemplated. Nevertheless, participation in the settlement process itself will achieve substantial results by requiring each country to come up with an abatement solution. Even if the tribunal's decision is non-binding, its findings would aid in negotiations and pressure the countries towards an agreement.

The problems associated with diplomacy and legislative action are the very reasons why the third-party option would be beneficial. Some bilateral issues may be too political for the parties to resolve effectively. Different national interests between the parties may prevent successful negotiations; while different interests within one country may prevent any successful legislative solution. Both parties can use these weaknesses to delay any substantial abatement action, and if one party is unwilling to cooperate, progress may be halted. An established settlement procedure could effectively circumvent these problems.

Private judicial action may not currently be available to resolve bilateral disputes, but even if it were, such an approach is too limited to deal with broad problems. Private action would allow compensation to injured individuals, but it would not provide the best abatement solution. Courts are not in the position to order bilateral directives, nor are they willing to assume such responsibility. However, the third-party dispute settlement proposal encompasses the benefits of adjudication in a forum equipped to deal with transboundary problems.

Acid deposition is ideally situated for third-party settlement. The boundary-less nature of air and water combined with the understanding of resource limitations requires cooperation in managing this problem. Discovering an adequate solution as quickly as possible is important to preventing more harm; yet differing interests between and within both countries have impeded progress. For five years Canada and the United States cooperated in researching acid rain. Subsequently, they entered into negotiations over the problem for five more years. The economic considerations continue to offset the adverse effects of acid rain, and no solution has been reached. There may not be a "good" solution, but there is a "best" solution, and an independent third-party is more likely to come up with that "best" solution then either of the effected parties.

CONCLUSION

Nations have a responsibility to preserve the environment and to properly regulate their pollution sources. There is a finite amount of natural resources on planet Earth. It is important to conserve these resources and to refrain from recklessly depleting them. As a world leader, the United States should not only accept this responsibility but should advocate the acceptance of responsible environmental awareness worldwide.

Nations also have a duty to prevent activities carried on within their boarders from causing damage in other nations. The U.S. and Canada should take the initiative in this area and establish a third-party tribunal procedure to resolve the acid rain problem and other future transboundary disputes. This type of agreement would serve as a model to the rest of the world for a fair and civilized approach to resolving disputes.
