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Bruce Zagaris

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I. Introduction

Trade and economic liberalization and in particular the negotiations of the North American Free Trade Agreement, along with the heightened awareness and sensitivities to the importance of the environment, have catapulted environmental cooperation between Mexico and the United States (U.S.) into the political limelight. From a substantive legal perspective, the areas of international criminal law, environmental law, administrative law, and international relations, especially international regime theory, will increasingly interact.[1] This article discusses competing national criminal and quasi-criminal laws of the U.S. and Mexico with respect to environmental enforcement.

Enforcement of environmental law from an international criminal law perspective requires a consideration of the classification of environmental law between criminal law and administrative law. This article discusses the status of environmental law within international criminal law. In particular, it considers the classification of environmental law as "administrative penal law," which as a system is non-penal in a legal sense, but nevertheless is retributive.

II. Jurisdictional Bases

A. The United States

The U.S. asserts extraterritorial jurisdiction in criminal law on five traditional bases of jurisdiction: territorial, protective, nationality, universal and passive personality.[2] A sixth theory of jurisdiction is sometimes called the floating territorial principle, in which the "flagship" state is recognized as having jurisdiction over any offense committed on one of its craft or vessels.[3]

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† Partner, Cameron & Hornbostel, Washington, D.C. The author is grateful for the assistance of Mary Jane Bingham, a paralegal at Cameron & Hornbostel, in the research and writing of this article.

[1] For a discussion of the application of international regime theory to international criminal cooperation in the context of European integration, see Scott Carlson and Bruce Zagaris, *International Cooperation in Criminal Matters: Western Europe's International Approach to International Crime*, 15 NOVA L. REV. 551-79 (1991).

[2] *Harvard Research in International Law: Jurisdiction with Respect to Crime*, 29 AM. J. INT'L. L. 435 (Supp. 1935)[hereinafter *Harvard Research*].

[3] *See* Lauritzen v. Larsen, 345 U.S. 571 (1953); Bruce Barenblat, Note, *Recent Development: Jurisdiction*, 15 TEX. INT'L L.J. 379, 404, n.3 (1980); Paul D. Empson, *The Application of*

The principal basis of jurisdiction over crime in the U.S. is the territorial principle, which permits a state in control of a territory to prescribe, to adjudicate and to enforce its laws in that territory. A crime is deemed committed wholly within a state's territory when every essential constituent element is consummated within the territory. A crime is committed partly within a state's territory when any essential constituent element is consummated therein.[4] The U.S. also recognizes and utilizes subjective territoriality, when a constituent element of the crime occurs within the United States. Additionally, U.S. jurisprudence sanctions the assertion of jurisdiction over offenses when the conduct giving rise to the offense has occurred extraterritorially, provided that the harmful effects or results have occurred within the U.S. territory.[5] The objective territorial principle has received an expansive interpretation in recent years in the United States. So long as the offense itself, its result or effects, or any of its constituent or material elements actually occur within the sovereign territory of the requesting party, assertion of jurisdiction will be enforced as proper in either state, and extradition will be approved pursuant to either state's theory of jurisdiction. However, difficulties ensue when a claim of jurisdiction is asserted on some theory other than territoriality, or when the claimed "territorial basis" is strained beyond that believed proper by the other state.[6]

The protective theory of jurisdiction provides a basis for jurisdiction over an extraterritorial offense when that offense has, or potentially may have, an adverse effect on or presents a danger to a state's security, integrity, sovereignty or governmental function. The focus of this jurisdictional principle is the nature of the interest that may be injured, rather than the place of the harm or the place of the conduct causing the harm or, for that matter, the nationality of the perpetrator. This conduct has included lying to a consular officer.[7] Even though the conduct happens wholly abroad, it may be considered as constituting a danger to the very sovereignty of the U.S. and as having a deleterious impact on valid governmental interests.

Jurisdiction based on the nationality of the perpetrator is a generally accepted principle of international law.[8] Under international

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Criminal Law to Acts Committed Outside the Jurisdiction, 6 AM. CRIM. L.Q. 32, 32-33 (1967); B. J. George, Jr., *Extraterritorial Application of Penal Legislation*, 64 MICH. L. REV. 609, 613 (1966).

[4] *Harvard Research*, *supra* note 2, at 495.

[5] Strassheim v. Daily, 221 U.S. 280 (1911).

[6] Christopher L. Blakesley, *United States Jurisdiction Over Extraterritorial Crime*, 73 J. CRIM. L. & CRIMINOLOGY 1109 (1982).

[7] *See* United States v. Pizzarusso, 388 F.2d 8 (2d Cir. 1968), in which an alien was convicted of knowingly making false statements under oath in a visa application to a U.S. consular officer in Canada. The court noted that the violation of 18 U.S.C. § 1546 occurred entirely in Canada and that the accused's entry into the U.S. was not an element of the offense.

[8] *Harvard Research*, *supra* note 2, at 1155-57.

law, nationals of a state remain under the state's sovereignty and owe their allegiance to it, even though traveling or residing outside its territory. The state has the right based on its nationals' allegiance, to assert criminal jurisdiction over actions of one of its nationals deemed criminal by that state's laws.[9] The U.S. Congress has never adopted a general rule relating to extraterritorial jurisdiction. Hence, the application of any law to extraterritorial offenses is an exception to the territorial principle and must be done on a case-by-case basis. United States case law has approved jurisdiction over nationals who commit crimes abroad even though the appropriate statute did not expressly provide that it be applied extraterritorially.[10]

The passive personality theory of jurisdiction generally is not favored in U.S. law. The Restatement (Third) of Foreign Relations Law of the U.S. provides that a state does not have jurisdiction to prescribe a rule of law attaching a legal consequence to conduct of an alien outside its territory merely on the basis that the conduct affects one of its nationals. The U.S. has protested the assertion of this jurisdiction by Mexico and other countries and major incidents have occurred as the result of cases in which U.S. nationals have been arrested and prosecuted on the basis of the passive personality theory.[11]

Universal jurisdiction is the principle whereby international law allows for any of the "community" of nationals to prosecute the perpetrator of universally condemned, heinous offenses. Universal jurisdiction has been allowed for piracy, slave trade, war crime, hijacking and sabotage in civil aircraft, and genocide. An emerging trend is to include terrorism and traffic in narcotic drugs.

B. Mexico

In general, the Mexico Criminal Code provides for jurisdiction over international crimes on several bases. Mexico criminal law applies to crimes that are initiated, prepared or committed abroad, when they produce or have effect within Mexico.[12] Jurisdiction is provided for crimes committed in Mexican consulates or against consular officials, when they have not been adjudicated in the country in

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[9] *See* Blackmer v. United States, 284 U.S. 421 (1932).

[10] *See, e.g.*, State v. Maine, 16 Wis. 398, 421 (1963) (extraterritorial violation of a penal clause in an absentee voting statute); United States v. Craig, 28 F. 795, 801 (1886) (American nationals prosecuted for assisting in the illegal immigration of alien contract laborers); Jones v. United States, 137 U.S. 202 (1890)(U.S. national prosecuted for a murder on an uninhabited Guano island). *See also* discussion in Christopher L. Blakesley, *Introduction: Traditional Bases of Jurisdiction over Extraterritorial Crime & A Hybrid Approach*, in M. Cherif Bassiouni (ed.), II INTERNATIONAL CRIMINAL LAW PROCEDURE 3, 26-27 (1986).

[11] *See* Cutting's case, 187 For. Re. 751 (1888), *reprinted in* 2 J.B. Moore, INTERNATIONAL LAW DIGEST 232-40 (1906).

[12] Mexico Federal Penal Code of Jan. 2, 1931, art. 2(I)[hereinafter *Penal Code*].

which they were committed.[13] Continuing crimes committed abroad that have effect in Mexico can be prosecuted in accordance with the laws of Mexico or of the place of the defendant.[14] Crimes committed abroad by a Mexican against Mexicans or against foreigners, or by a foreigner against a Mexican will be punished in Mexico, in accordance with federal laws, if the following requirements exist: the accused is in Mexico; the defendant has not been definitively adjudicated both in the country in which the crime was committed; and the infraction of which one is accused is considered a crime in both the country in which it is committed and in Mexico.[15]

The latter provision, known as the passive nationality principle (the nationality of the victim), caused a problem in the *Cutting* case in 1888. Cutting, a U.S. citizen, was arrested and subsequently jailed in El Paso del Norte, Mexico, for an alleged libel against a Mexican citizen with whom he had been in controversy. The libel was published in a newspaper in El Paso, Texas. Mexico claimed it had a right to punish Cutting, because under its Penal Code, offenses committed by foreigners abroad against Mexican citizens were punishable in Mexico. The U.S. requested Cutting's release and also sought revision of the Mexican Penal Code in this respect in order to avoid similar incidents in the future. The U.S. was not able to persuade Mexico to grant either request. However, Cutting was later released when the plaintiff withdrew his action.[16]

Another case occurred when Mr. Richard Fielder, a U.S. citizen, was detained by Mexico City police officials for a crime alleged to have been committed in New Jersey, but was released before trial and deported from Mexico.[17]

The Mexican Code provides that a crime is considered as committed in the Mexican territory if the crime is committed by Mexicans or by foreigners on the high seas, on board Mexican boats, or the criminal act is committed on board of a Mexican warship in the port or territorial waters of the other country. This extends to the case in which the boat is a merchant, if the delinquent has not been adjudicated in the country to which the port belongs. Mexico also asserts jurisdiction over acts committed on board a foreign boat in a Mexican port or in territorial waters of Mexico, if the acts disturb public tranquility. Mexico asserts jurisdiction over acts committed on board a Mexican or foreign airline which is in Mexican territory or in its atmosphere or waters, in cases analogous to those in which crimes

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[13] *Id.* art. 2(II).

[14] *Id.* art. 3.

[15] *Id.* art. 4.

[16] *Cutting's case, supra* note 11.

[17] Criminal Jurisdiction, 6 WHITEMAN DIGEST 104 (citing the instruction from R. Walton Moore, Counselor of the Department of State, for the Secretary of State, to Stewart, the American Consul General in Mexico (Feb. 9, 1940)).

were committed on boats as mentioned above, and crimes committed in Mexican embassies and legations.[18] If a crime is committed which is not provided for in the Code, but a special law or an international treaty of Mexico obligates it, Mexico will assert jurisdiction.[19]

III. The Status of Environmental Enforcement within International Criminal Law

Within the field of international criminal law, environmental law, in large part, is classified as "administrative penal law," a term that indicates a system is non-penal in the legal sense, but whose philosophical foundation is nonetheless retributive. In order to properly deal with environmental law in the context of international criminal law, its relationship with other systems of sanction must be considered. As a recent Congress of the International Penal Law Association observed, the connections between administrative penal law and international penal law are a source of practical difficulties.[20]

Among the legal problems posed are the risks that penal sanctions will be ineffective and that a plurality of proceedings will be conducted and sanctions imposed for the same act. The movement towards individualization within penal law has resulted in a diversification of sanctions that makes it more difficult to demarcate each of the systems of sanctions, for the penal sanction can no longer be identified with deprivation of liberty. Similarly, the philosophical foundations of the penal sanction vis-à-vis those of the administrative sanction become equally difficult to identify.

As depenalization has resulted in recourse to penal "administrative law" as a possible alternative to penal law, the general principles of penal law and of penal procedure need to be transplanted into the administrative field.[21]

Practical difficulties arise, in part, from the profoundly different traditions and from closed and largely uncoordinated institutional structures. Prosecutors fear that the penal system may be dispossessed of its jurisdiction by the administration. Simultaneously, they may fear an overburdening of the criminal justice system in cases in which the penal infraction is merely non-compliance with a ruling or a sanction imposed by the customs agency. For its part, the environmental agency may fear being dispossessed of the monopoly over regulating the environment, which in some cases may have predated the establishment of the criminal justice system. Environmental

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[18] *Penal Code*, *supra* note 12, at art. 5.

[19] *Id.* art. 6.

[20] For an excellent overview of the novel legal problems and practical difficulties, on which this account relies heavily, see Mireille Delmas-Marty, *The Legal and Practical Problems Posed by the Difference between Criminal Law and Administrative Penal Law*, 59 REV. INT'L DE DROIT PENAL 21 (1989).

[21] *Id.*; *cf.* Oztürk Judgment, 85 Eur. Ct. H.R. (ser. A) (1984).

agencies may well believe that a court exercising criminal jurisdiction is not able to appreciate the appropriateness of an administrative decision. Sometimes the environmental agencies may be criticized for not appreciating the legal subtleties of criminal law and procedure.[22]

IV. Background

A. The History of U.S.-Mexico Bilateral Cooperation in Environmental Affairs

In the 1990s, cooperation between the United States and Mexico on cross-border and other environmental issues has increased and has begun to include criminal law matters.[23] Pollution problems are among the critical border problems with which the United States and Mexico have dealt. At first, the two governments worked together primarily on issues concerning the use and quality of the waters of their shared river basins.[24] Both formal and informal cooperation were spurred by the activity in the border area. Expanded industrial activity, the consequent increases in population, air pollution, hazardous waste generation, and the potential for environmental accidents have resulted in new challenges, especially in the border area.[25]

A cooperative relationship on environmental matters has a long history due to the joint use of shared natural resources by the two countries. State and local authorities of both countries historically cooperated in such related areas as emergency response and municipal services. While cooperation with respect to natural resources started over a century ago with the early agreements regulating the use of the waters of the Rio Grande, the cooperative relations on water usage was expanded in the 1980s to cover a broad range of environmental concerns, such as marine pollution, sanitation, hazardous substances and wastes, and air pollution.[26]

Currently, the two governments are signatories to several bilateral environmental agreements, such as the Treaty on the Utilization of Waters of the Colorado and Tijuana Rivers, and the Rio Grande

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[22] Delmas-Marty, *supra* note 20, at 22.

[23] For additional background, see *Review of U.S.-Mexico Environmental Issues*, 8-16 (Office of U.S. Trade Rep. 1992) [hereinafter *1992 Review*], on which this account relies heavily.

[24] For background on early cooperation in the context of the IBWC, see JERRY E. MUELLER, RESTLESS RIVER: INTERNATIONAL LAW AND THE BEHAVIOR OF THE RIO GRANDE 43-49 (1975); Stephen P. Mumme, *Engineering Diplomacy: The Evolving Role of the International Boundary and Water Commission in U.S.-Mexican Water Management*, 1 J. BORDERLANDS STUD. 73 (1986).

[25] For a useful background report on the border area, see ALAN WEISMAN, LA FRONTERA THE UNITED STATES BORDER WITH MEXICO (1986).

[26] *1992 Review*, *supra* note 23, at 8.

of 1944,[27] the 1989 Agreement related to Mexico City, and the *Integrated Environmental Plan for the Mexican-U.S. Border Area* (the "Border Plan"). The two governments also undertake extensive communications at an informal level. State and local authorities of the two countries share a common mandate, such as emergency response and municipal services, and cooperate both formally and informally and exchange information.

The International Boundary Commission

In 1944, the two governments decided to replace the International Boundary Commission, which was established in 1889 by the two governments to examine and settle boundary demarcation disputes, with the International Boundary and Water Commission (IBWC).[28] The IBWC has the authority to undertake projects dealing with, *inter alia*, the quality, conservation, and utilization of water resources, dam construction and flood control concerning the Tijuana, Rio Grande, New, and Colorado rivers.[29] The two governments agreed "to give preferential attention to the solution of all border sanitation problems." [30]

The IBWC is the architect of six major treaties including the 1989 Boundary Convention[31] and the 1970 Boundary Treaty,[32] which fix and regulate the international boundary between Mexico and the U.S., the 1944 Water Treaty,[33] which apportions the waters of the two major rivers crossing the international line, the Colorado and the Rio Grande Rivers, and the 1963 Chamizal Convention,[34] which settled the controversial territorial dispute between the two governments. The IBWC supervises and operates three major dams, two hydroelectric power facilities, numerous flood control works, and nearly a dozen sanitation facilities along the international boundary. The range and breadth of the Commission's work covers the entire 1952-mile border separating the two countries.[35]

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[27] This Agreement replaced the International Boundary Commission with the International Boundary and Water Commission.

[28] Treaty on the Utilization of Waters of the Colorado and Tijuana Rivers, and the Rio Grande, Feb. 3, 1944, U.S.-Mex., 59 Stat. 1219 [hereinafter Water Treaty of 1944].

[29] For a useful discussion of the organizational politics of the U.S. Section of the International Boundary and Water Commission, see Stephen P. Mumme and Scott T. Moore, *Agency Autonomy in Transboundary Resource Management: The United States Section of the International Boundary and Water Commission, United States and Mexico*, 30 NAT. RESOURCES J. 661 (1990).

[30] *1992 Review*, *supra* note 23, at 9.

[31] Convention on Boundary Waters: Rio Grande and Rio Colorado, Mar. 1, 1889, U.S.-Mex., 26 Stat. 1512.

[32] Treaty to Resolve Pending Boundary Differences and Maintain the Rio Grande and Colorado River as the International Boundary, Nov. 23, 1970, U.S.-Mex., 23 U.S.T. 373.

[33] Water Treaty of 1944, *supra* note 28.

[34] Convention for the Solution of the Problem of the Chamizal, Aug. 29, 1963, U.S.-Mex., 15 U.S.T. 21 [hereinafter Chamizal Treaty].

[35] For additional background on the work of the IBWC, see Mumme and Moore,

B. International Agreements to Which Mexico and the U.S. Are Parties Concerning Environmental Enforcement

There are two types of international agreements to which Mexico and the U.S. are parties concerning environmental enforcement - multilateral and bilateral.

The multilateral agreements that the U.S. and Mexico have signed create obligations relating to international trade, conservation and environmental protection. Among the most important are: the Montreal Protocol on Substances that Deplete the Ozone Layer (1987), the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal (1989),[36] the Convention to Regulate International Trade in Endangered Species of Wild Fauna and Flora (CITES) (1973), and the General Agreement on Tariffs and Trade (GATT).[37]

A multilateral treaty that provides mechanisms for cooperative assistance in evidence-gathering in civil enforcement in transnational civil cases is the Hague Convention on the Taking of Evidence Abroad, to which both the U.S. and Mexico are parties.

In addition to the agreements mentioned above in which IBWC participated, the U.S. and Mexico are parties to several bilateral environmental agreements: the 1983 Border Area Agreement;[38] the 1989 Agreement relating to Mexico City; and the Border Plan.

Additional cooperative agreements associated with protecting natural resources in the border area are: Agreement between the Director General of Natural Resources of the Micico Secretaria de Desarrollo Urbano y Ecologia (SEDUE), now the Social Development Secretariat (SEDESOL)[39] and the U.S. Fish and Wildlife Service for Cooperation in the Conservation of Wildlife (1984); Memorandum of Understanding among the Directorate General of Natural Resources of SEDESOL, and the U.S Fish and Wildlife Service and the Canadian Wildlife Service of the Department of the Environment of Canada to Evaluate the Possibilities of Developing Strategies for Conservation of Migratory Birds and their Habitats (1988); and the Memorandum of Understanding between SEDESOL and the U.S. National Park Service in Cooperation in Management

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supra note 29; for the statutory authority of the IBWC, *see* 22 U.S.C. § 277 - 277g(3) (1988).

[36] *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, U.N. Environment Programme Conference of the Plenipotentiaries, U.N. Doc. IG.80/L.12 (1989)[hereinafter *Basel Convention*].

[37] Mexico has signed and ratified all four of these agreements. The U.S. has signed but not yet ratified the Basel Convention.

[38] Agreement to Cooperate in the Solution of Environmental Problems in the Border Area, Aug. 14, 1983, U.S.-Mex., T.I.A.S. No. 10,827.

[39] Although SEDESOL was not established until May 25, 1992, for consistency, all references to what was previously SEDUE will be called SEDESOL. For a discussion of SEDESOL, see § VII.B below.

and Protection of National Parks and Other Protected Natural and Cultural Heritage Sites (1988).

Although informal cooperation in environmental enforcement has occurred, soft law, though important and continuous, has not taken place pursuant to binding agreements, but rather only out of sincere, but unenforceable good will.[40]

The most significant international agreement for environmental enforcement is the 1983 Agreement between the U.S. and Mexico on Cooperation for the Protection and Improvement of the Environment in the Border Area (the "1983 Border Area Agreement"). It builds on a number of cooperative arrangements started in the 1970s concerning information exchange between EPA and its Mexican counterpart, concerning a Memorandum of Understanding dated June 19, 1978.[41]

Under the Agreement and its several Annexes, a framework for cooperation between the two governments is set forth to control sources of pollution that affect air, land, and water within a 100-kilometer area on each side of the international boundary. Annual meetings are held by EPA and SEDESOL, to review the manner in which the agreement is implemented. Five work groups of technical experts have been established to address issues concerning air pollution, water pollution, hazardous waste, environmental accidents (the Joint Response Team), and enforcement (the Enforcement Working Group was established in June of 1991).

Annex I (1985) provides for cooperation on border sanitation problems at Tijuana/San Diego.[42] The two governments are to ensure that wastewater treatment facilities constructed to address these problems are constructed, operated and maintained properly, and to consult on any problems that arise. The Waste Water Group has coordinated its work with that of the IBWC.

Annex II to the 1983 Agreement (1985) creates the framework for the U.S.-Mexico Joint Contingency Plan regarding polluting accidents along the joint international inland boundary by the discharge of hazardous substances.[43] The Joint Contingency Plan, prepared in January 1988, resulted in the designation of the Joint Response Team (JRT), comprised of U.S. and Mexican members to coordinate international hazardous substance emergency preparedness and re-

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[40] *1992 Review*, *supra* note 23, at 11.

[41] Memorandum of Understanding Between the Subsecretariat for Environmental Improvement of Mexico and the Environmental Protection Agency of the United States, June 6, 1978, U.S.-Mex., 30 U.S.T. 1574.

[42] Annex I to Agreement on Cooperation for the Protection and Improvement of the Environment in the Border Area, July 18, 1985, U.S.-Mex., T.I.A.S. No. 11,269 [hereinafter Annex I].

[43] Annex II to Agreement on Cooperaton for the Protection and Improvement of the Environment in the Border Area, July 18, 1985, U.S.-Mex., T.I.A.S. No. 11,269 [hereinafter Annex II].

sponse activities in the event of an environmental accident such as an oil or hazardous materials spill.[44] The JRT also serves as a conduit for information about each country's hazardous substance emergency preparedness and response activities.

Annex III (1986) provides for handling transboundary shipments of hazardous waste and hazardous substances.[45] The Agreement obligates the two governments to cooperate in enforcing their domestic laws on shipments of hazardous waste, and to notification and consent procedures that must be satisfied before any transboundary shipment of hazardous waste occurs. The two governments agree to readmit any shipment of hazardous waste returned to their borders for any reason by the country of import as well as any hazardous waste generated from raw materials admitted "in-bond" from the other country for purposes of processing. The two governments must inform each other of regulatory actions prohibiting or severely restricting a pesticide or other chemical and notify each other of any ongoing export of such hazardous substances of which they are aware.[46]

Annex IV (1987) concerns the problem of transboundary air pollution from the copper smelters along the border.[47] It established maximum sulfur dioxide emissions limits for both new and existing copper smelting facilities in the border area. Copper smelter owners or operators must monitor emissions and submit reports on emissions that surpass maximum levels. The air pollution working group must meet every six months to review the progress in abating smelter pollution and make recommendations to the national coordinators if necessary.

Annex V (1989) establishes certain "study areas" within which Mexico and the U.S. are collecting data on air pollutant concentrations, air pollutant transport, and the physical mechanisms facilitating this transport.[48] The Annex requires the two governments to agree to identify sources that are not meeting applicable air pollution control standards for selected pollutants as well as the type and extent of pollution control equipment or changes in management

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[44] Provisions for the Joint Contingency Plan and the foundations for the Joint Response Team are provided in appendices I and II of Annex II. *See supra* note 42, at 22 (Joint Contingency Plan); *see supra* note 43, at 23 (Joint Response Team). The establishment of the JRT to respond to environmental accidents such as an oil or hazardous materials spill supplemented a 1980 Marine Oil Spill Agreement which had created a similar response capability with respect to marine spills.

[45] *See* Annex III to Agreement on Cooperation for the Protection and Improvement of the Environment in the Border Area, Nov. 12, 1986, T.I.A.S. No. 11,269 [hereinafter Annex III].

[46] *Id.*

[47] *See* Annex IV to Agreement on Cooperation for the Protection and Improvement of the Environment in the Border Area, Jan. 29, 1987, U.S.-Mex., T.I.A.S. No. 11,269.

[48] *See* Annex V to Agreement on Cooperation for the Protection and Improvement of the Environment in the Border Area, Oct. 3, 1989, U.S.-Mex., T.I.A.S. No. 11,269, at art.1.

practice required to bring such sources into compliance.[49] For instance, the El Paso Ciudad Juarez study area was created for a cooperative EPA/SEDESOL air quality study.[50] Other study areas include the San Diego-Tijuana area and the Mexicali-Imperial Country, California area.

Two other formal international bilateral cooperative arrangements are: (1) the 1989 Agreement on Cooperation for the Protection and Improvement of the Environment in the Metropolitan Area of Mexico City;[51] and (2) the 1990 Memorandum of Understanding (MOU) between the Department of Energy and Mexico Petroleos Mexicanos (PEMEX) to undertake a Mexico City Air Quality Initiative (MARI). These two mechanisms resulted in working groups to implement the agreements through sharing information, providing technical assistance, and assisting in education and training needs.

An important bilateral agreement is the Mutual Legal Assistance in Criminal Matters Treaty (MLAT).[52] The MLAT provides for procedural cooperation in criminal cases, such as: taking testimony;[53] providing documents or records;[54] securing, immobilizing or forfeiting assets;[55] executing searches and seizures;[56] and transferring persons for testimonial or identification purposes.[57] When the testimony of a person is requested, that person can be compelled to appear by subpoena and required to produce documents.[58] Unlike the Canadian-U.S. MLAT, the U.S.-Mexico MLAT does not contain an annex or other provisions that expressly apply the MLAT to environmental crimes. In addition, the MLAT applies only to criminal matters, while most environmental enforcement matters are either administrative or civil and therefore outside the scope of the MLAT.

V. Key Cross-Border Environmental Issues

A consideration of the status and prospects of criminal and quasi-criminal enforcement cooperation between Mexico and the U.S. requires a review of the key cross-border environmental issues.

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[49] *Id.* art II, ¶ 3.

[50] The El Paso-Juarez area is study Area "A". *See supra* note 43, at app.

[51] Agreement on Cooperation for the Protection and Improvement of the Environment in the Metropolitan Area of Mexico City, Oct. 3, 1989, 29 I.L.M. 25.

[52] Mutual Legal Assistance Cooperation Treaty with Mexico, Dec. 9, 1987, U.S.-Mex., 27 I.L.M. 443 (1988)[hereinafter MLAT].

[53] *Id.* art. 1(4)(a).

[54] *Id.* art. 1(4)(b).

[55] *Id.* art. 1(4)(c).

[56] *Id.* art. 1(4)(b).

[57] *Id.* art. 1(4)(e).

[58] *Id.* art. 7(1).

A. The Border Area Environment[59]

The U.S. and Mexico have a political boundary which extends for close to 2,000 miles between the Pacific Ocean and the Gulf of Mexico. The boundary follows the beds of the Colorado and Rio Grande (known in Mexico as the Rio Bravo) Rivers for approximately half of its distance. For the other half, the boundary is not related to any topographical features, and is marked by monuments, markers and by signs at the formal border crossings.

From an ecological and environmental perspective, the border is not divided. Several rivers, including the Santa Cruz, Rio Grande, San Pedro, Colorado, and New Rivers, flow along transboundary paths. Three major desert regions (the Sonora, Mohave, and Chihuahua Deserts), with their unique ecosystems, fall on both sides of the border. Groundwater aquifers straddle the border, providing essential water supply for both individual human uses and commercial activities.

Although most of the 250,000 square mile border area is sparsely populated, almost 5 million people inhabit the area. More than 90% of the total population of the border area lives in the eight sister cities of Tijuana/San Diego, Mexicali/Calexico, Nogales/Nogales, Cuidad Juarez/El Paso, Nuevo Laredo/Laredo, Matamoros/Brownsville, McAllen/Reynosa, Eagle Pass/Piedros Negras, Del Rio/Ciudad Acona and Yuma/San Luis Colorado.

Historically, mining and agriculture were the mainstays of the border economy. The area has copper, gold, silver, lead, manganese and phosphate. Despite the low annual rainfall, the land continues to support cattle and sheep ranches. The farms produce wheat, fodder crops, maize and millet. Where land has access to widespread irrigation, large quantities of fruits and vegetables are produced for both U.S. and Mexican markets.

Since 1965, the Mexican government has had a border industrialization plan to attract labor intensive industries to Mexico with the "maquiladora law".[60] The maquiladoras are U.S. and foreign-based companies that locate factories in Mexican border communities, where they may take advantage of Mexico's foreign investment law. The law permits the creation of Mexican companies that can import

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[59] The term "border area" has the same meaning as that term when used in the "Integrated Environmental Plan for the Mexican-U.S. Border Area" (First Stage, 1992-94) (the "Border Plan"), and generally refers to the area within 100 kilometers on either side of the border.

[60] The word "maquiladora" is derived from the Spanish word "maquila," which refers to the toll of grain or flour paid to the miller or lord of a manor for the grinding of grain. SIMON & SCHUSTER INTERNATIONAL DICTIONARY: ENGLISH/SPANISH 1337 (1973). As it is presently used, "maquila" refers to the labor and services provided, and "maquiladora" refers to the actual production plant. AMERICAN CHAMBER OF COMMERCE, MEXICO'S IN-BOND INDUSTRY HANDBOOK § 2, at 1 (1985).

their components and raw materials into Mexico duty-free, assemble them using cheaper Mexican labor,[61] and export the finished goods to the U.S. and other markets. Between 1965 and 1989, over 1,600 maquiladora plants employing over 400,000 people were established in Mexico. About 80% of the plants are situated in the border area, employing approximately 360,000 people.

On the U.S. side of the border area, in 1989 there were about 145 manufacturing facilities which process toxic chemicals (25,000 pounds or more per year) or use toxic chemicals (10,000 pounds or more per year) and employ ten or more employees.

Most importantly, the overall economy of the border area on either side is intertwined. Thousands of people travel across the border each day between their homes and jobs. In fact, nearly 200 million people cross the border each year, and many of them speak both Spanish and English.[62]

B. Air Quality

As industrialization in the border region continues, additional stress will be placed on the border's air quality.[63] The problems are in the larger border "sister cities" where EPA data shows that National Ambient Air Quality Standard (NAAQS) for the six "criteria pollutants" are not met.[64]

Among the principal sources of pollution are sulfur dioxide (SO2) emissions from copper smelters and utilities on both sides of the border.[65] Currently copper smelters and utilities are not having major effects on ambient SO2 levels due primarily to cooperative efforts between the two governments under Annex IV to the 1983 U.S.-Mexico Border Environmental Agreement. The Integrated Environmental Border Plan was adopted in 1987 and effected a standard emission limitation on American and Mexican border copper smelters.[66]

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[61] General Resolution No. 2 of the National Foreign Investment Commission, DIARIO OFICIAL, Aug. 15, 1983.

[62] *1992 Review*, *supra* note 23, at 75-76.

[63] U.S. E.P.A. and SEDUE, INTEGRATED ENVIRONMENTAL PLAN FOR THE MEXICAN-US BORDER AREA (FIRST STAGE, 1992-94) V-23 - V-29 (1992) [hereinafter INTEGRATED ENVIRONMENTAL BORDER PLAN].

[64] For a discussion of the air pollution problems on the border, see Howard G. Applegate, *Transboundary Air Quality: Problems and Prospects from El Paso to Brownsville*, 22 NAT. RESOURCES J. 1133 (1982).

[65] *See, e.g.*, discussion of a smelter on the El Paso side that has recently sought a permanent variance from complying with air standards and has requested permission to burn coal, instead of natural gas or petroleum products. Howard G. Applegate, *A Discussion of U.S.-Mexico Experience in Managing Transboundary Air Resources: Problems, Prospects, and Recommendations for the Future*, 22 NAT. RESOURCES J. 1169, 1170 (1982); C. Richard Bath, *U.S.-Mexico Experience in Managing Transboundary Air Resources: Problems, Prospects and Recommendations for the Future*, 22 NAT. RESOURCES J. 1147, 1151 (1982).

[66] *1992 Review*, *supra* note 23, at 78.

Maquiladoras are sources of air pollution. Several important indigenous industries on the Mexican border area are responsible for air pollution, including oil and gas, metallurgy, iron and steel, electric power generation, cement manufacturing, mining, and brick manufacturing.[67]

Another major air pollution source is motor vehicle emissions, resulting in high volatile organic compound (VOC) emissions of plants, nitrogen oxides, carbon monoxide, and particulate matter.[68]

Area sources, including residential sources, are responsible for large quantities of particulate matter and carbon monoxide. Many residences in the Mexican border area burn non-traditional fuels, such as wood scraps, cardboard, and tires, to provide heat during the winter. Constricted airflow due to terrain and/or temperature inversions in adjacent U.S. areas in the same airshed exacerbate the effects of these emissions.[69] This causes dangerously high levels of particulate matter and carbon monoxide.[70] In the near future, the number of Mexican pollutant-emitting facilities will increase. In turn, Mexican commercial and residential pollutant increases will occur and affect the U.S. and result in concomitant increases in U.S. sister cities as well.[71]

Annex V to the 1983 Agreement, signed on October 3, 1989, provides for a quantitative appraisal of the causes of, and potential remedies for, urban air pollution problems in Mexico-U.S. border cities identified as "study areas."[72] SEDESOL and EPA will make emissions inventories (including major stationary, mobile, and area sources), estimate requirements needed to attain control levels, conduct ambient air quality monitoring, and perform air modeling analysis to evaluate emissions reductions.[73]

The Border Plan focuses on two distinct types of air problems—the most serious geographically oriented problems (Juarez-El Paso, Mexicali-Imperial County, and Tijuana-San Diego) and an industrial control initiative (to identify the worst-polluting industries and evoke pollution reductions from these individually and quickly).[74]

The Border Plan addresses a second distinct type of air problem — the industrial control initiative. As a multi-media project, it will concentrate EPA-SEDESOL cooperation to identify the most serious

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67 *Id.* at 81.

68 *Id.*

69 For background on sources of air pollution on the border, especially area sources, see Lisa Rivera, *Resolving Air Resource Disputes on a Transfrontier Basis: El Paso and Ciudad Juarez*, 10 HOUSTON J. INT'L L. 133, 134-37 (1987).

70 *Id.*

71 *1992 Review*, *supra* note 23, at 85.

72 Annex V, *supra* note 48.

73 *1992 Review*, *supra* note 23, at 98.

74 *Integrated Environmental Border Plan*, *supra* note 64, at V-23 - V-29; *1992 Review*, *supra* note 23, at 98-101.

industrial polluters along the border with emission inventory checks, compliance investigations, and source-oriented ambient monitoring. Still another activity of the Border Plan is to establish other air emissions research priorities.

In summarizing the transborder air quality issues, increased economic liberalization and NAFTA in particular will result in increased industrialization, along with increased commercial, residential, and vehicular activity. Several mitigation mechanisms are possible to effect significant air emission reductions, including provisions of the 1983 U.S.-Mexico Border Environmental Agreement (Annexes IV and V), the Border Plan, the 1990 Clean Air Act Amendments, and various independent SEDESOL initiatives.[75]

C. Water Quality

Increased activity in the border area and the availability and quality of water are interrelated. In the arid southwest, water limitations already can affect development. Water conservation, improved reuse technologies, and a willingness to adapt to the discomfort or inconvenience of decreased availability can improve the situation.

The availability of drinking water will be primarily an issue of water quantity. As in air quality, the water problems are primarily in the "sister cities."

With respect to surface water and groundwater, most of the larger communities along the U.S.-Mexico border obtain their drinking water from surface supplies, including the Rio Grande and Colorado Rivers. Growth is difficult in communities that are already dependent on limited groundwater supplies, especially since water quality is often poor due to natural minerals and worsens with greater withdrawals.

Pollution of transboundary drinking water supplies in the border areas has caused adverse public health and environmental impacts.[76] The pollution problem of rivers across the border is due in part to raw and inadequately treated sewage, slaughterhouse, dairy, industrial toxic, chemical, and geothermal wastes.[77] The IBWC has the lead role in undertaking water sanitation measures and water related works mutually agreed upon by the U.S. and Mexico, including conducting water quality monitoring.[78]

Rural, unincorporated subdivisions in U.S. border counties, called "colonias", often have substandard or nonexistent water and

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[75] *1992 Review*, *supra* note 23, at 104.

[76] For background on the problems from pollution of transboundary water, *see* Joe Old et al., *How Do You Clean Up a 2,000-Mile Garbage Dump?*, BUS. WK., July 6, 1992, at 31.

[77] For background on causes of water pollution of the New River, see Nancy J. Glover, *The New River: The Possibility of Criminal Liability for Transnational Pollution*, 10 CRIM. JUST. J. 99-102 (1987).

[78] *See* Mumme and Moore, *supra* note 29, at 661.

sewer facilities. It is estimated that in Texas and New Mexico, more than 200,000 residents live in such colonias. About 60% of the Texan colonias and about 8% of the New Mexican colonias have water service. In colonias without public water systems, residents typically use shallow wells that can be contaminated from private septic systems. The residents often obtain water from a yard tap or common tap which serves several residences, and human waste is disposed of in private pits.[79]

The U.S. has two basic approaches to water pollution control: a technology-based approach with discharge limits established by EPA for specific industries nationwide (effluent limits); and water quality standards in which uses and criteria (safe limits for specific pollutants) are established by the states for each surface waterbody.[80]

Water quality in the border area has importance for ecosystems, wildlife habitats and coastal areas. Estuaries and wetlands are a critical natural resource. They provide great economic, public health and ecological benefits. These include fish spawning grounds and nurseries, food chain production essentials, feeding and breeding habitats for wildlife, stormwater storage for flood reduction, stabilizing of shorelines, stemming pollutants, important recreational opportunities and commercial fishing. Ecological degradation either directly or indirectly degrades human health and the economy.

Due to the potential adverse effects on public health and the environment in the border area where transboundary ground waters may be contaminated or are threatened with contamination, the U.S. and Mexican governments are continuing to review data needs and coordination mechanisms necessary to strengthen the contingency planning and emergency response capabilities of the border area. According to the Border Plan, the U.S. and Mexico must develop an inventory of the source, quality, and treatment processes of the existing drinking water facilities of the "sister cities" by 1992. Additionally, each government will determine the priority needs for water supply, treatment and distribution systems for existing and future development in the "sister cities."[81]

The Border Plan provides that the U.S. and Mexico will identify any areas where the drinking water sources common to both countries are contaminated or an identifiable threat of contamination exists. They will develop cooperative programs to solve identified problems under existing U.S.-Mexico agreements.[82]

To protect the ecosystem, wildlife habitat, and coastal area regulation, the two governments will devise and implement a cooperative

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79 *1992 Review*, *supra* note 23, at 108.

80 *Id.*

81 *Id.* at 117.

82 *Id.*; *see* INTEGRATED ENVIRONMENTAL BORDER PLAN, *supra* note 63, at V-13.

enforcement strategy to achieve economies of scale and convey a more effective message of deterrence. In particular, enforcement will benefit from information exchange and publicity, including administrative and civil enforcement actions brought against border area facilities. The U.S. and Mexican governments intend to begin coordinating their activities in the border area with the other major environmental agencies active in the area which have particular expertise and experience in ecosystem, wildlife habitat and coastal area management.

The elements for developing improvements to the water environment along the border as set forth in the Border Plan have four components in the first phase:

(1) Enhancing enforcement of existing environmental protection laws, especially the efforts of the Cooperative Enforcement Strategy Working Group efforts to improve information exchange on technology, compliance, and enforcement;
(2) Reducing pollution through new initiatives, including increased treatment efforts, pretreatment program implementation, drinking water planning, and pollution prevention initiatives;
(3) Increasing cooperative planning, training, and education; and
(4) Improving environmental databases.[83]

D. Control of Toxic Chemicals

Since liberalized trade is increasing commerce between the two countries, one concern with a Free Trade Agreement (FTA) is its effect on the control of chemical substances. Commercial chemicals are regulated within the U.S. under the Toxic Substances Control Act (TSCA), which enables authorities to control the manufacture, processing, distribution in commerce, use and disposal of chemicals.[84] Examples of the kinds of chemicals covered by TSCA include, among many others, adhesives, surfactants, coatings, dyes, polymers, and chemical intermediates. Pesticides and drugs are excluded from TSCA authorities.[85]

TSCA authorities provide that the EPA can require testing of existing substances, review new chemical substances prior to commercial manufacture or import, control substances (alternatives range from limiting manufacture or use to a ban), gather information, and require notification prior to export. Under the TSCA, im-

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[83] *1992 Review*, *supra* note 23, at 119-20.
[84] *See, e.g.*, 15 U.S.C. §§ 2613(d), 2615(b) (1988).
[85] *1992 Review*, *supra* note 23, at 121.

porters of chemicals must certify that the substance(s) fulfill the provisions of the Act.

Compliance with the TSCA is the responsibility of the Office of Compliance Monitoring under EPA's Office of Pesticides and Toxic Substance. Efforts include, but are not limited to, inspection of manufacturing, processing, use and disposal facilities to determine compliance with orders, rules and regulations, inspection of laboratory facilities that conduct testing required under the Act, and auditing of study results. Both civil and criminal penalties can be assessed. Fines range up to $25,000 per day of violation, and the law provides for imprisonment for up to one year in the case of criminal violations.[86]

E. Hazardous Wastes

With increased crossborder economic activity, increased demand for solid and hazardous waste management capacity is expected. An issue for hazardous management on the U.S. side of the border is whether, given the increase in hazardous wastes generated in the U.S. and the potential for an increase in hazardous wastes generated in Mexico to be exported to the U.S., the existing level of effort and capacity will be sufficient to provide environmental protection during the transport and subsequent management of such wastes.[87]

1. Maquiladora Program

Under Mexican law, hazardous wastes generated in the maquiladoras from U.S. raw materials must be exported to the U.S. management or be "nationalized."[88] "Nationalization" is a process through which SEDESOL, SECOFI (the Mexican Commerce Department), and Aduanas (Mexican Customs) decide that hazardous wastes can remain within the country for recycling purposes and through which import duties are paid. As of 1990, seven hazardous waste recycling facilities were authorized.[89]

Maquiladoras must obtain authorization from SEDESOL for waste exports, through a "guia ecologica." This "guia" is valid for 90 days and one shipment. In addition, a tracking form, similar to a manifest, is required. When the waste shipment crosses the border, the maquiladora must notify SEDESOL in writing to terminate the

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86 *Id.*

87 *Id.*

88 *1992 Review*, *supra* note 23, at 122.

89 For background on the Mexican hazardous waste law, *see* Malissa Hathaway McKeith, *The Environment and Free Trade: Meeting Halfway at the Mexican Border*, 10 UCLA PAC. BASIN L.J. 183, 189-92 (1991).

"guia."[90]

The types of hazardous waste types produced in maquiladora settings include acids, bases, liquids containing heavy metals, metal-placating wastes, organic solvents, and cyanide wastes. They can pose significant risks to workers, the populace, and the environment if not managed properly. Hence, these wastes must be handled using special procedures and usually technically sophisticated treatment (that may include recycling) prior to disposal.[91]

2. *Hazardous Waste Management Capacity in Border States*

The 1986 Superfund Amendments and Reauthorization Act[92] requires U.S. states to forecast internal hazardous waste generation and supply of hazardous waste management capacity. States must provide periodic updates of these forecasts. According to the Capacity Assurance Plans (CAPs), border states anticipate having sufficient capacity to handle the wastes they generate. However, none of these plans consider the potential for increased demand for a capacity which could result from increased industrial growth in the border area.[93]

3. *Joint Efforts of the U.S. and Mexican Governments to Improve Hazardous Waste Controls in the Border Area*

EPA's Regions VI and IX have worked extensively in the last few years with SEDESOL to improve implementation of existing control mechanisms. The efforts have included joint training courses on inspecting specific types of waste management facilities, and conducting joint visits to several industrial settings in Mexico and the United States. EPA and SEDESOL have organized and sponsored annual conferences since 1988 for maquiladora industries to help educate affected parties about existing and evolving environmental policies and regulations on both sides of the border.

Region VI and SEDESOL have been developing a pilot computerized tracking system that would track hazardous waste movements between Mexico and Region VI. SEDESOL has re-licensed all maquiladoras located in the border area to ensure that they comply with Mexican laws and regulations, including the requirement that hazardous wastes generated from U.S. raw materials be exported to the United States. Region VI has encouraged U.S. firms with plants in

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[90] U.S. E.P.A. AND SEDUE, THE MAQUILADORA INDUSTRIES HAZARDOUS WASTE MANAGEMENT MANUAL 13-22 (1989).

[91] *1992 Review*, *supra* note 23, at 123; *see also* Old et al., *supra* note 76.

[92] The Superfund Amendments and Reauthorization Act of 1986, Pub. L. No. 99-499, 100 Stat. 1613 (1986)(codified as amended in scattered sections of 10 U.S.C.).

[93] *1992 Review*, *supra* note 23, at 123.

Mexico to abide by Mexican environmental laws and regulations, including management of hazardous wastes.

The U.S. and Mexico are jointly working to strengthen enforcement of the hazardous waste regulations within both countries, especially within the maquiladora system. The EPA has developed hazardous waste generator and waste management guidance manuals for use in training Mexican inspectors. Joint annual EPA/SEDESOL conferences on the maquiladora plants and U.S. border facilities have helped. In 1992, Mexico hired one hundred additional environmental enforcement officials, half of whom are assigned to police environmental violations in the border area. The Integrated Border Environmental Plan outlines the roles and commitments of both the U.S. and Mexico for continued cooperation in enforcement of their respective hazardous waste programs.[94]

4. Basel Convention

The Basel Convention on the Transboundary Movement of Hazardous Wastes and Their Disposal, completed in March 1989 and signed by over fifty countries including the U.S., Mexico, and Canada, should have significance for the enforcement of the transport of hazardous wastes.[95] Ratification signals a country's readiness to fully implement the Convention, including having the necessary authorities to enforce its terms. Mexico is the only NAFTA party that has ratified the Convention. The U.S. and Canada are moving toward ratification and are developing authorities necessary to implement the Convention, which entered into force May 5, 1992.[96]

The Convention concerns transboundary movements of hazardous wastes, municipal wastes, and municipal incinerator ash.[97] The Basel Convention forbids Parties from importing or exporting covered wastes with non-Parties, unless these countries have a separate agreement that ensures environmentally sound waste management.[98] It provides that government-to-government notice be given and consent obtained before waste exports may proceed. An "environmentally sound management" is set as the basis for all movements. If the exporting government has reason to believe the waste will not be managed in the importing country in an environmentally sound manner, then the exporting country must not permit the shipment to proceed, even if the importing country has agreed to accept it.[99]

Many of the provisions of the Basel Convention follow the pro-

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94 *Id.* at 123-26.
95 *Basel Convention, supra* note 33.
96 *1992 Review, supra* note 23, at 126-27.
97 *Basel Convention, supra* note 33, arts. 2-3.
98 *Id.* arts. 4-6.
99 *Id.* art. 4.

visions in Annex II of the U.S.-Mexico Bilateral Agreement. Under Annex III, conditions are specified for movements of hazardous wastes between the countries. Hazardous waste exports from the U.S. to Mexico are limited by Mexican Presidential Decree to those wastes that are recycled. When the U.S. ratifies the Convention, its implementing legislation will provide important new enforcement authorities to act in cases in which environmental damages occur due to transboundary movements. It will give the U.S. authority to control transboundary movements of municipal wastes and municipal incinerator ash; authorities it does not now possess.[100]

F. Municipal Solid Waste

The rapid population growth in the border area has created severe pressures on available infrastructure, including municipal solid waste (MSW) services. In addition, significant growth has occurred in industrial activity in the border area and has generated increasing amounts of non-hazardous industrial wastes. Improper disposal or burning of non-hazardous wastes on both the U.S. and Mexican sides has created potential environmental risks in the border area. Continued expected population growth could further exacerbate the air and water pollution problems associated with improper MSW disposal or burning.[101]

In particular, the open air dumps have caused problems of noxious odors and air pollution due to intentional and unintentional burning. In Nogales, Mexico, for example, open dumps may burn for days at a time and the smoke travels across the border. Improper disposal of wastes and open dumps in Mexico have the potential to contaminate groundwater or surface water.

The population growth on both sides of the border has resulted in the problem of colonias and the concomitant problems previously discussed. Without adequate landfills, many communities are not able to dispose of wastes properly. They often dump wastes illegally.[102]

Rapid industrialization in the border also means increased generation of non-hazardous industrial wastes that currently are not adequately tracked. Much of the waste is not properly disposed of either due to illegal dumping, inadequate waste disposal practices, or insufficient waste disposal capacity.[103] SEDESOL has contracted with private firms to design properly constructed landfills for municipal waste disposal in the sister city area. On the U.S. side, communi-

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[100] *Id.*

[101] *1992 Review*, *supra* note 23, at 131.

[102] *Id.*

[103] *Id.* at 132.

ties are identifying sites for new landfills and proper planning.[104]

The Border Plan focuses on four areas to address MSW concerns: assessment, public outreach, waste collection improvements, and development of additional sanitary landfills.[105]

G. Chemical Emergencies

Increased trade between the U.S. and Mexico is likely to result in an increase in industrial growth along the U.S.-Mexico border, thereby raising the possibility of a chemical emergency.[106] The U.S.-Mexico Inland Joint Response Team (Inland JRT) was created to coordinate international hazardous substance emergency preparedness and response activities related to chemical emergencies along the U.S.-Mexico border. The Inland JRT is activated in the event of a significant chemical emergency in the border area. It also serves as a conduit for coordination of chemical emergency preparedness, prevention, and response activities. The Team meets regularly to address standing functions.

One of its functions is to clarify legal authorities of both countries and promote understanding of and compliance with the laws and regulations,[107] including reviewing laws and regulations and, where necessary, developing new statutes or revising current laws and policies focusing on issues such as who will pay for the incident response expenses, and the limits of liability of personnel and equipment cross-border.[108]

H. Wildlife and Endangered Species

Approximately fifty threatened and endangered species and over one hundred Endangered Species Act candidate species are found within the U.S.-Mexico border area. Listed and candidate species' habitats range from wetlands and streams, to grasslands and desert scrub, to oak woodlands and coniferous forests. Some of these habitats (particularly wetlands and streams) are rare, fragile, and quite vulnerable to human impacts.[109]

The increasing population on both sides of the international border has resulted in pushing natural resources to their maximum productivity, and in many cases, perhaps beyond the resource's ability to produce a sustainable yield.[110]

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104 *Id.* at 133.

105 *Id.*

106 *Id.* at 133-34.

107 For a discussion of one of the applicable U.S. laws, see Robert Scott, Note, *The Toxic Time Bomb in the Borderland: Can the "Emergency Planning and Community Right to Know Act" Help?*, 30 NAT. RESOURCES J. 969, 971-79 (1990).

108 *1992 Review*, *supra* note 23, at 134-35.

109 *Id.* at 137.

110 *Id.*

The coastal wetlands and estuaries of Baja California, are unique and irreplaceable, providing habitat for five endangered species. This area is vulnerable to resort/condominium projects and industrial development. The ocelot and jagarundi illustrate endangered species with populations occupying parts of both the U.S. and Mexico. On the U.S. side of the border, recovery plans require the preservation of all the remaining dense brush habitat essential to the continued existence of these animals, as well as the establishment of travel corridors for the dispersal and intermixing of individuals.[111]

There were recently twenty pending bridge projects proposed between the Gulf of Mexico and Del Rio, Texas. Each bridge and its approaches destroy burch and riparian habitats along the Rio Grande. They also multiply human presence, lighting, noise, and air pollution; aggravate flooding; and affect the acquisition and operation of state and federal refuges, especially in the wildlife corridor.[112]

Mexico has exported wildlife for a long time, including many species of marine and freshwater tropical fish. Some of the trade is illegal, including numbers of birds, reptiles, mammals, plants, fish, and invertebrates (dead and alive), that are illegal under the wildlife protective laws of both countries and international law (CITES).[113] These wildlife products include threatened and endangered species of both countries, as well as non-endangered specimens, parts, and products.[114]

The international demand for rare and unique wildlife and plants continues to increase the commercial value for these products. Coupled with the increasingly more stringent national laws that regulate and control these products, the potential economic gain for illegal trade is increased. The U.S. and Mexico are cooperating in efforts to monitor the traffic in wildlife between the two countries.

The *Review of U.S.-Mexico Environmental Issues of 1992*[115] recommended that the U.S. address the bridge problem comprehensively, by conducting a careful environmental analysis to develop a uniform, coordinated approach to identify general design features for the bridges and their ancillary facilities that can coexist with refuges and endangered species along the Rio Grande.[116]

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[111] *Id.*

[112] *Id.* at 138.

[113] CITES is Convention on International Trade in Endangered Species of Wild Fauna and Flora, March 3, 1973, 27 U.S.T. 1087, 993 U.N.T.S. 243 [hereinafter CITES]. It is also known as the Washington Convention. For background, see David S. Favre, INTERNATIONAL TRADE IN ENDANGERED SPECIES (1989).

[114] *Id.*

[115] *See supra* note 23 and accompanying text.

[116] *1992 Review, supra* note 23, at 139.

I. Health Considerations

Increasing movement of persons, goods, and capital is likely to exacerbate existing cross-border health considerations. The importation of products regulated in the U.S. by the Food and Drug Administration (FDA), particularly fruits, vegetables and seafood will continue to pose an important area of public health concern.[117]

The large scale movement of individuals across the border, particularly undocumented migrants, introduces and exacerbates disease problems and avoids normal prevention and control programs. The open border policy makes it difficult to restrict health services to citizens. Migrant and seasonal farm workers and the overall mobility of the population exacerbates the difficulty of obtaining accurate data, developing adequate planning and budgetary approaches, and implementing appropriate disease prevention and control services.[118]

Public health threats result from increased migration to the border in the form of the spread of infectious disease. Maquiladoras have attracted a lot of migration to the U.S.-Mexico border. The growth has outstripped capacity to provide roads, sanitation and housing for the flux of people, resulting in the development of colonias. The high-population industrialized areas are characterized by severe poverty, poor housing, crowded living conditions, environmental contamination and an absence of clean water and sanitation systems. The conditions are fertile ground for a high incidence of infectious diseases, especially hepatitis, tuberculosis, measles and diarrheal diseases.[119]

The official bilateral relationships on health cooperation are limited. The Department of Health and Human Services (HHS) has no bilateral agreements with the Secretariat of Health (SSA) of Mexico regarding the border area. The HHS, through the Public Health Service (PHS) and SSA have cooperated informally on border issues regularly since 1942.

The FDA of the PHS has long cooperated with its counterpart regulatory authorities in Mexico. Three Memoranda of Understanding set forth the contents of some of the cooperation: one on general cooperation on scientific and regulatory issues; one on the export of shellfish with Mexico's Secretariat of Health; and one on products in international trade with the Secretariat of Agriculture. The cooperation provides, for example, for the exchange of information on regulatory requirements, working to solve regulatory problems, and providing training to Mexican staff on inspection and

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[117] *Id.* at 140.
[118] *Id.* at 141.
[119] *Id.*

analytical techniques.[120]

The FDA has trained Mexican inspectors on good manufacturing practices for pharmaceuticals and analysis of products for cholera. However, regulatory problems continue with products imported from Mexico, particularly illegal pesticide residues on fresh produce.

Currently the PHS and SSA are cooperating in a new strategy focused on the U.S.-Mexico border. Six border-wide priority areas have been agreed on for binational cooperation. These are: primary care; disease prevention/health promotion; substance abuse; maternal and child health; occupational health, and environmental health.[121]

Cooperation between EPA and SEDESOL also affects cross-border health. Improved monitoring and enforcement of regulations regarding water and air pollution, sewage disposal, and hazardous waste management are key factors in the health of several communities.

Future plans call for the two governments to focus on major border health and environmental issues through a coordinated binational surveillance, planning and implementation system. They will initiate a process to unify occupational safety and health regulation and environmental enforcement issues. They have acknowledged the international nature of border communities and development of appropriate mechanisms by which program funding can support binational, cross border planning and implementation of disease prevention and control activities.[122]

To safeguard health concerns, environmental officials have recommended to NAFTA negotiators that the governments maintain the right to monitor products, and set standards and regulations, including the right to prohibit market access for products without appropriate national approval.

J. Environmental Transport Issues

Increased flows of goods, people and capital are causing significant increases in transborder trucking, rail and maritime traffic. One of the serious problems presented is that foreign-owned or operated motor carriers cannot transport cargo across one another's borders, thereby requiring trucks to stop at the border and transfer cargo to carriers from the other country for the remainder of the trip. These restrictions on the transportation industry pose a serious safety risk due to the extra handling requirements of hazardous materials.

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120 *Id.* at 151-54.

121 *Id.* at 159-61; INTEGRATED ENVIRONMENTAL BORDER PLAN, *supra* note 63, at III-30.

122 INTEGRATED ENVIRONMENTAL BORDER PLAN, *supra* note 63, at III-29 -III-33.

The Hazardous Materials Transportation Act,[123] as amended, governs transportation of materials that the Secretary of Transportation has found may pose an unreasonable risk to health and safety or to property when transported in commerce. Hazardous materials include explosives, flammables, corrosives, poisons, and other materials that have serious potential for human injury, radioactive, and disease-causing (etiologic) agents. The regulations of the Department of Transportation on hazardous materials cover proper packaging, marking, labelling, and classification of hazardous materials and substances.[124]

The EPA controls legislation concerning hazardous substances and wastes while DOT regulates the transportation of hazardous materials. Environmental statutes on hazardous substances include the Comprehensive Environmental Response Compensation and Liability Act, as amended;[125] the Clean Water Act;[126] and the Resource Conservation and Recovery Act (RCRA).[127] Under RCRA, the EPA is authorized to regulate hazardous wastes and develop hazardous waste management practices. Through reporting and manifesting requirements, EPA tracks hazardous wastes, including imports and exports from their place of generation to final disposal. Shipments of hazardous wastes are required to comply with the regulations applicable to hazardous materials having similar hazardous properties. Mexico also regulates shipments of hazardous wastes originating in Mexico.[128]

International standards also govern hazardous goods carried in international commerce to assure common classification, identification of hazards, and packaging standards. The United Nations Committee of Experts on the Transport of Dangerous Goods has adopted recommendations that are observed in international commerce. Recently DOT revised packaging standards to make the U.S. hazardous materials regulations consistent with international standards and to replace the earlier specification packaging system with a performance-oriented packaging system.

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123 Pub. L. No. 94-474, 90 Stat. 2068 (1976)(codified as amended in various sections of 49 U.S.C.)

124 *See, e.g.*, 49 C.F.R. §§ 174-177 (1991)(relating specifically to carriage of hazardous materials by air, rail, water, and highway).

125 Comprehensive Response, Compensation & Liability Act, 42 U.S.C. §§ 9601-9675 (1988).

126 *See e.g.*, Clean Air Amendments of 1990, Pub. L. No. 101-548, 104 Stat. 2694-95 (1990)(allocating resources and expressly recognizing the need for air monitoring and remediation along the border).

127 *See e.g.*, Resource Conservation & Recovery Act of 1976 (RCRA) § 3017, 42 U.S.C. § 6938(a) (1988)(requiring a U.S. exporter of hazardous waste to follow a series of steps including notification of the EPA, consent by the government of the receiving country, and shipment in conformance with any terms of consent set forth by the receiving government).

128 *1992 Review*, *supra* note 23.

A principal requirement to improve transboundary enforcement of the movement of hazardous materials between the U.S. and Mexico is to eliminate the practice of transferring hazardous materials shipments must be transferred to another vehicle at the border to comply with U.S. and Mexican restrictions on access by another's vehicles.

A problem in regulating transboundary movement of hazardous waste between the U.S. and Mexico has been the difficulty in tracking shipments. For instance, neither the U.S. nor Mexico has information on the number of authorized hazardous waste transporters or the amounts and types of hazardous wastes transported. The problem is exacerbated by the complexities of crossborder truck transportation and the difficulties involved in coordinating the activities of the many U.S. and Mexican agencies responsible for hazardous waste regulation.[129]

Mexico utilizes the Guia Ecologica (Ecological Guides) to track wastes.[130] This includes a manifest and transport and acceptance of hazardous residues forms, which must be forwarded to the General Department of Prevention and Control of Environmental Pollution within SEDESOL. Because this reporting mechanism is still relatively new, the amount of waste produced, stored, or shipped offsite in Mexico is not known.

The EPA monitors hazardous waste legally exported to Mexico. United States waste exporters are required to file an annual notice of the projected amount of waste that they will ship. This information is used by the EPA to obtain consent from SEDESOL for the shipment that occurs.[131] SEDESOL and EPA are developing a mechanism for assuring the return of illegally exported wastes to the country of origin.

The state manifest and reporting systems track waste in the United States. Current U.S. tracking of waste received from a foreign source consists of manifests and data from other reports.[132] This information is often incomplete. However U.S. treatment, storage, and disposal facilities must notify the EPA of their first receipt of a shipment of each waste stream from a foreign source. This provides the EPA and U.S. Customs advance notice of the Mexican facility shipping the waste and the U.S. parties involved.

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129 *Id.* at 176.

130 Regulamento de la Ley General del Equilbrio Ecologico y la Proteccion al Ambiente en Materia de Residuos Peligrosos (EEPA Regulation on Hazardous Materials), 1 GAZETA ECOLOGICA 56, ch. 4, art. 43 (June 1989).

131 40 C.F.R. § 262.56 (1991).

132 *See* 40 C.F.R. § 264.12, § 265.12 (1991).

K. Trade in Agricultural Products

1. U.S. Laws

A key problem in the trade of food products is the potential for increased imports of pesticide products that do not fulfill EPA requirements and/or agricultural imports that contain pesticide residues not in compliance with U.S. tolerance regulations, or the potential for the agreement to result in relaxation of U.S. standards for pesticide residues and pesticide products.

The EPA implements laws on the registration or licensing of all pesticides used in the U.S. under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA).[133] The licensing process provides very specific terms and conditions under which a pesticide can be used. A pesticide cannot be imported into the U.S. for use in the U.S. unless it is registered under FIFRA. To register a pesticide, the EPA requires the manufacturer to provide health and environmental effects data, product labeling information, a confidential statement of the chemical formula of the pesticide, and child-resistant packaging (if applicable) to EPA's Office of Pesticide Programs, Registration Division. It may take the applicant a few months to several years to obtain the necessary data because of the time involved in finishing the research required to obtain a registration. The Registration Division decides to approve or deny the registration after reviewing an application. The process can take an average of two years if all the necessary data has been provided, but much longer if the data are incomplete and additional data are required.[134]

Setting a common standard for the definition of "safe" food and ensuring that the total U.S. food supply is safe is principally the responsibility of Federal and State Governments acting on behalf of consumers. The Federal Government has broadly defined food safety to include the assurance that food products will not adversely affect human health because of unsanitary production conditions and practices, harmful residues or ingredients, or improper handling or packaging.[135] Under the Federal Food, Drug, and Cosmetic Act (FFDCA), Congress authorized the Food & Drug Administration to regulate most foods (except meat, poultry and eggs, which are regulated by the U.S. Department of Agriculture) to assure U.S. consumers that foods are safe to eat and are produced under sanitary conditions.[136] The Act prohibits products that are adulterated, misbranded, or that are defective, unsafe, filthy, or produced under un-

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[133] 7 U.S.C. § 136 (1988).

[134] U.S. G.A.O., PESTICIDES COMPARISON OF U.S. AND MEXICAN PESTICIDE STANDARDS AND ENFORCEMENT 20-21 (June 1992).

[135] *See* 21 C.F.R. §§ 1-1316 (1992).

[136] For additional background, see Donna U. Vogt, *The Safety of Imported Foods* 2, Congressional Research Service No. 91-644 SPR (Sept. 16, 1991).

sanitary conditions.[137] The EPA also sets tolerances or acceptable residue levels for all pesticides used on food or food crops under the FFDCA.[138]

Food crops may have a tolerance without a corresponding registration when they are "import only" tolerances. In the event that a U.S. tolerance, but no U.S. registration exists, food containing residues within the tolerance limitation may be exported to the United States. However, a tolerance or registration in the country where the food is produced does not permit export to the U.S. unless there is a U.S. tolerance.[139]

The EPA registers pesticides and establishes tolerances according to data provided in support of registration applications and tolerance petitions. The agency has detailed regulations concerning the types of studies required, and has implemented policies to assure data quality, through Good Laboratory Practices (GLP) regulations. The data must show that there exists a reasonable assurance that the pesticide will not pose a risk of unreasonable adverse effects on health and the environment.[140]

2. *Trade Between the U.S. and Mexico*

Mexico is one of the leading exporters of fruit and vegetables to the U.S., accounting for approximately one-third of its total imports. The FDA expends a substantial portion of its monitoring efforts on Mexican products.[141] More than a quarter of the imported food samples collected annually by FDA for pesticide residue surveillance are from Mexico. FDA reports that the most common pesticide residue violation in Mexican products exported to the U.S. is the presence of a residue of a U.S. registered pesticide that lacks a tolerance on that specific crop, although the same pesticide is approved for other uses in the United States.[142]

Most pesticides used in Mexican agriculture are imported from the U.S. and other industrialized countries. FIFRA requires U.S. exporters of unregistered pesticides to obtain foreign purchaser acknowledgement statements (FPAS), indicating that the foreign purchaser is aware of the pesticide's regulatory status in the United States. A copy of the FPAS must be submitted to the EPA and is

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137 21 U.S.C. §§ 402, 403(1988).

138 Vogt, *supra* note 136, at 12.

139 For additional background, see U.S. E.P.A., GENERAL INFORMATION ON APPLYING FOR REGISTRATION OF PESTICIDES IN THE UNITED STATES (Office of Pesicide Programs, Registration Divison); U.S.G.A.O., PESTICIDES COMPARISON OF U.S. AND MEXICAN PESTICIDE STANDARDS AND ENFORCEMENT 17 (June 1992).

140 *1992 Review*, *supra* note 23, at 212.

141 For additional background, see FDA, PESTICIDES ON MEXICAN PRODUCE AND PESTICIDES AND INDUSTRIAL CHEMICALS IN IMPORTED FOODS; U.S.G.A.O., PESTICIDES BETTER SAMPLING AND ENFORCEMENT NEEDED ON IMPORTED FOOD (Sept. 1986).

142 *1992 Review*, *supra* note 23, at 213.

transmitted to the importing country. FPAS data for 1990 indicate that unregistered pesticides are exported to Mexico.

Pesticides produced in Mexico which are registered in the U.S. may be imported into the U.S., provided they meet U.S.-approved specifications and have U.S.-approved labeling.

As trade in food commodities between the U.S. and Mexico multiplies, the FDA will increase its surveillance of commodities. The key to enforcement and mitigation strategies on trade in food commodities with Mexico will require increased monitoring and compliance: maintaining appropriate inspection, sampling and enforcement capabilities; and, in the longer term, helping to strengthen regulatory institutions and programs to increase compliance. Sharing information on environmental effects of pesticides is also important to the mitigation of potential adverse effects on wildlife and non-target species.[143]

Cooperation in the monitoring and enforcement of environmental, health and safety regulatory standards of food products will include the following:

—sharing scientific and technical information to develop an improved common basis for health, safety and environmental standards;

—assuring public participation in the regulatory process and promoting improved enforcement of standards;

—holding joint meetings to discuss improvement of enforcement capability, quality assurance programs, inspection training and monitoring and verification;

—exchanging information in areas including analytical methodologies and the interpretation of laboratory results;

—assisting in training programs to assure Good Laboratory Practices, and to help assure sound inspection and compliance programs.[144]

Already the FDA has established a Memorandum of Understanding with Mexico directed at reducing the frequency of illegal residues on food commodities and improving analytical laboratory capability in Mexico. RPA and FDA meet periodically with senior Mexican officials to discuss implications of U.S. programs, such as pesticide reregistration, or of the possible cancellation of a given pesticide.[145]

It seems desirable for the EPA to conclude a Memorandum of Understanding with Mexico on Good Laboratory Practices. If Mexico wants to conduct testing and seeks the establishment of U.S. tol-

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[143] *Id.* at 214.
[144] *Id.* at 215.
[145] *Id.*

erances, efforts in this area will help assure acceptable data quality for the registration of pesticides or the setting of tolerances.[146] There seems to be agreement among regulatory officials on the need to strengthen pesticide regulation, including enforcement and to improve laboratory capabilities. Monitoring activities will focus on products designated for export from Mexico.[147]

Despite the new areas of cooperation, longstanding problems exist over restrictions on the import of avocados from Mexico because of a phytosanitary quarantine since 1914 based on documentation of USDA's Animal and Plant Health Inspection Service (APHIS) that Mexican-produced avocados are infested with the seedweevil and other destructive pests.[148] Similarly, within the past year Mexico has halted the importation of U.S. and Canadian live hogs due to animal health concerns.[149] In addition, the State of Nuevo Leon during the last year announced an end to all imports of U.S.-boxed beef in order to force U.S. recognition of Nuevo Leon grading procedures.[150]

L. Other Areas with Potential Environmental Enforcement Issues

Trade in energy products, border inspection areas, and population issues all involve potential environmental enforcement issues.

VI. Proposals for Strengthening Compliance: the Integrated Border Plan

Despite demands from environmental groups and legislators for measures to strengthen crossborder environmental enforcement in the context of NAFTA, most of the plans for strengthened enforcement have emanated from the integrated border plan and the annual review of bilateral environmental issues.

On February 25, 1992, the United States and Mexican Governments released a review of U.S.-Mexico environmental issues which contains discussions on developments in environmental enforcement cooperation.[151] Simultaneously, the two governments released an integrated environmental plan for the Mexican-U.S. border area that contains plans for strengthening enforcement in the border area.[152] This section discusses the prospects for enhanced environmental co-

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146 *Id.*

147 *Id.* at 215-17.

148 *NAFTA Environmental Policy Hearings Regarding the Environmental Impacts of the Mexican/U.S. Free Trade Agreement before the House Agriculture Committee*, 102d Cong., 2d Sess. (July 9, 1992)(statement of Alfonso A. Guilin, California Avocado Commission).

149 *NAFTA Environmental Policy Hearings Regarding the Environmental Impacts of the Mexican/U.S. Free Trade Agreement before the House Agriculture Committee*, 102d Cong., 2d Sess. 3 (July 9, 1992)(statement of J. Patrick Boyle, American Meat Institute).

150 *Id.*

151 *1992 Review*, *supra* note 23.

152 INTEGRATED ENVIRONMENTAL BORDER PLAN, *supra* note 63.

operation between the two countries, particularly in the context of the integrated border plan and the annual environmental review.

A. Review of U.S.-Mexico Environmental Issues

The report reviews recent cooperative enforcement efforts undertaken by Mexico and the United States. Cooperative enforcement efforts pursuant to the 1983 Border Area Agreement have focused especially on hazardous waste enforcement issues for which a joint Work Group was established.[153] For instance, EPA Region VI and IX officials have taken part in several cooperative efforts with SEDESOL concerning hazardous waste enforcement, including inspector training activities, visits to Mexican and U.S. facilities and participation in border stops to check for illegal hazardous waste shipments.[154]

The report discusses emerging bilateral cooperation in particular cases. For instance, after the U.S., California and local investigators told SEDESOL that they believed they discovered an illegal hazardous waste export operation, SEDESOL discovered several drums of waste solvents at a pottery kiln in Tijuana. EPA assisted SEDUE in removing the drums and returning them to the United States. Thereafter, the U.S. prosecuted the primary exporter, who was convicted of illegally exporting the substances.[155] Another incident concerned notification by SEDESOL of EPA that a U.S. owned facility burned to the ground with numerous hazardous waste drums left on-site. EPA investigators worked with SEDESOL and the U.S. parent corporation to ensure that the drums were disposed properly.[156]

At the time of the report, the EPA had filed seven administrative enforcement actions against U.S. steel producers exporting electric furnace dust waste to Mexico in violation of U.S. hazardous waste export laws. The Mexican government helped develop the cases which were also part of an EPA effort to demonstrate the increasing priority it places on transboundary environmental problems.[157]

In September 1991, the EPA filed more than twenty enforcement actions for compliance with four environmental statutes governing the import and export of hazardous waste and chemicals. Eight of these cases involved exports to Mexico. EPA's Region VI office in Dallas is also working on four other cases enforcing regulations involving waste imports from maquiladora facilities in

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153 *See* ANNEX III, *supra* note 45, at 21.

154 For a discussion of some of the enforcement cooperation efforts, see *Mexican Environmental Rules 'Confusing,' Industry Representatives Claim at Seminar*, 12 INT'L ENVTL. REP. (BNA) 549 (Nov. 8, 1989).

155 *1992 Review*, *supra* note 23, at 43.

156 *Id.*

157 *Id.*

Mexico.[158]

One of the limitations on environmental cooperation is the absence of strong and binding international enforcement cooperation agreements. Two agreements apply. The Hague Convention on the Taking of Evidence Abroad,[159] to which both the U.S. and Mexico are parties, provides mechanisms for cooperative assistance in evidence-gathering in civil enforcement cases. The U.S.-Mexico Mutual Legal Assistance Treaty[160] also provides for judicial assistance, such as taking testimony, obtaining documents, search and seizure, in the investigative and prosecution of criminal cases. Currently, the Cooperative Enforcement Working Group will be evaluating means to strengthen the concepts presented in the agreements to ensure the efficient and effective exchange of enforcement-related information.[161] Since the bulk of the enforcement in both countries is administrative and since transboundary environmental issues are significant in both number and magnitude, there will need to be an environmental enforcement cooperation agreement whereby the environmental enforcement officials can directly and efficiently provide assistance in the investigation and prosecution of environmental enforcement actions.

There is a new Cooperative Enforcement Strategy Working Group whose task will be to strengthen enforcement capabilities in the border area environmental problems. Its specific foci will include: exchanging information relevant to transboundary pollution and related enforcement efforts; exploring the development of compatible computer software to facilitate such exchange of information; improving through bilateral cooperation enforcement capabilities at key border crossings to discover illegal shipments of hazardous wastes and other regulated materials; enhancing training efforts for inspectors and other enforcement personnel; facilitating personnel exchanges to share enforcement experiences and techniques; sharing laboratory and other technical enforcement support services; and expanding cooperative interaction through joint observer visits to facilities in each country's border area.[162]

An important enforcement cooperation mechanism is in the area of training and education for government officials, the regulated

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158 *Id.*

159 Convention on the Taking of Evidence Abroad in Civil or Commercial Matters, Mar. 18, 1970, 23 U.S.T. 2555 (entered into force Oct. 7, 1942); for a discussion of the Convention see Michael Abbell and Bruno A. Ristau, 1 INTERNATIONAL JUDICIAL ASSISTANCE 159-241 (1990).

160 The Treaty on Cooperation Betweeen the United States of America and the United Mexican States for Muutal Legal Assistance, Dec. 9, 1987, U.S.-Mex., S. TREATY DOC. No. 100-13, 100th Cong., 2d Sess. (1988).

161 *1992 Review, supra* note 23, at 43-44.

162 *Id.* at 31-35.

community, and the public.[163] Increased training and education are among the primary objectives of the U.S.-Mexico Border Plan.[164] Cooperative efforts are expected to be substantially improved and expanded in the coming years. Cooperation in enforcement training will expand with additional joint training visits on both sides of the border, the holding of workshops, seminars, and field exercises, the organization of personnel exchanges, and the establishment of regularized training programs for customs officials in the recognition and safe handling of hazardous waste shipments.

B. Enforcement Cooperation of Integrated Environmental Border Plan

The integrated environmental plan for the Mexico-U.S. border area (first stage, 1992-1994) sets forth specific actions that SEDESOL and the EPA intend to take over the next three years (1992-1994) to address environmental problems already apparent in the border area.[165] The background to the report is that on November 27, 1990, the Presidents of Mexico and the U.S. met in Monterrey, Nuevo Leon, Mexico, to discuss a range of issues affecting the two countries, including the free trade agreement and the environmental protection program of the two countries.[166]

The two agencies attempted to design the plan to take advantage of the environmental cooperation that has existed between the two countries, especially since 1983, when the U.S. and Mexico signed a Border Environmental Agreement expanding their cooperative efforts. The plan is designed to build on the history of Mexican-U.S. cooperation through the Binational International Boundary and Water Commission (IBWC), which for almost fifty years, has been responsible for bilateral water sanitation projects along the border.[167]

Because the current understanding of environmental conditions along the border is believed to be incomplete and dynamic, especially in the context of the ratification of a North America Free Trade Agreement (NAFTA), the plan should not be considered as final or complete, but rather as a work in progress. It will be reexamined by the end of 1994. In the second stage of the plan (1995-2000), binational environmental protection efforts will be refined and redirected in light of improved understanding of the border environment and the possible environmental effects of a free trade agreement.

The participants in the SEDESOL/EPA Cooperative Enforcement Strategy Work Group will be representatives from the Depart-

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163 *Id.* at 33-34.
164 *See supra* note 90.
165 INTEGRATED ENVIRONMENTAL BORDER PLAN, *supra* note 63.
166 *Id.* at I-1.
167 *Id.* at I-2.

ments of State and Justice. The Mexican participants, in addition to SEDESOL, will be the Secretariat for External Relations (SRE) and other Mexican Government agencies.[168]

The strategy will include actions by each government to require compliance with environmental laws and regulations within its respective jurisdiction. A cooperative enforcement strategy between the two governments to promote compliance with their respective environmental laws will also be implemented. Compliance will also be improved by addressing infrastructural needs and public attitudes to ensure that technological development and human and financial resources facilitate compliance by the regulated community.[169]

In 1992, SEDESOL will spend $6.33 million on environmental enforcement, monitoring and associated control activities in the Border Area. The two governments will place stricter controls on border crossings of raw materials and hazardous waste. Environmental inspections will be increased through more regulation of the maquiladoras.[170]

The Cooperative Enforcement Strategy Work Group will coordinate and report on the various media-specific, multimedia, programmatic, and geographic enforcement initiatives and focus on particularly high priority enforcement areas, such as hazardous waste.[171] Among the cooperative enforcement strategies will be targeting enforcement, so that initiatives focus enforcement action by each government against priority targets, such as industries with poor compliance histories, specific pollutants, and sensitive geographic areas of mutual interest and concern. The cooperative enforcement strategy will also include preventive solutions and communications.[172]

The plan provides for programmatic initiatives to strengthen cross-border enforcement cooperation. The Cooperative Enforcement Strategy Work Group will meet regularly and no less than annually. It will:

1. Exchange information on the priorities for the respective enforcement actions of both countries.
2. Create subgroups comprised of appropriate representatives of both countries to cooperate on enforcement actions in priority areas. Representatives of each government will exchange relevant information on enforcement priorities, develop plans for targeted enforcement and, if possible,

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168 *Id.* at V-3.
169 *Id.* at V-4.
170 *Id.*
171 *Id.*
172 *Id.* at V-4 - V-5.

identify opportunities for cooperative enforcement activities.

3. Cooperate with the Hazardous Waste Work Group to strengthen the effectiveness of border surveillance of hazardous waste shipments, including border checks and improved targeting, through training of border officials and increased presence of environmental specialists at critical crossings consistent with available resources.
4. Develop compatible hazardous waste tracking systems to facilitate the exchange of data on the movement of hazardous waste within the Border Area and across the border, including compatible computer software.
5. Develop Spanish-language multimedia inspector training courses to be given at a border location in 1992, and conduct periodic bilingual hazardous waste inspector training courses in Region VI for inspectors from both countries. Inspectors from both governments will be trained in the identification and compliance monitoring of hazardous waste shipments.
6. Exchange personnel from each country in order to share experiences and develop technical skills to support enforcement.
7. Exchange information on laboratory facilities and analytical techniques; provide sample analysis in targeted situations to support enforcement.
8. Exchange information on methodologies to support strong enforcement such as protocols for self-auditing and compliance certification.
9. Submit to National Coordinators a Report on the Activities and Discussions of the World Group.[173]

C. *Environmental/Health Standards and/or Enforcement Cooperation Arising out of NAFTA Negotiations*

Several environmental and health standards that will directly or indirectly bear on transborder environmental enforcement emanate from the NAFTA negotiations. On May 1, 1991, President Bush made several commitments during Congressional consideration of fast-track authority for NAFTA negotiations, stating:

In our negotiations on the FTA with Mexico, we will be guided by the following principles:

—The U.S. will not agree to weaken U.S. environmental and health laws or regulations as part of the FTA, and we will

[173] *Id.* at V-5 - V-6.

maintain enforcement of them.[174]

—The U.S. will not agree to weaken existing U.S. pesticide, energy conservation, toxic waste or health and safety standards in the FTA and we will maintain enforcement of them.

—The U.S. will maintain the right of each party to undertake any verifying measures within its own territory that are necessary for the enforcement of technical regulations and standards to protect human health and the environment, consistent with principles of non-discrimination.

—The U.S. will maintain the integrity of the U.S. regulatory process, which is based on available scientific evidence, provides for public participation, and is consistent with the principle of non-discrimination.

In addition, President Bush pledged that the U.S. would:

—Maintain our rights to prohibit the entry of goods that do not meet our health, safety, pesticide, food and drug, and environmental regulations, so long as such regulations are based on sound science, do not arbitrarily discriminate against imports or constitute a "disguised" trade barrier.[175]

The Review of U.S.-Mexico Environmental Issues also provide parameters for actions and recommends to the NAFTA negotiators on agriculture and pesticides that they should work toward an agreement that would:

—Ensure the rights of countries to set standards to achieve environmental, public health and conservation objectives, including standards that are more stringent than those set by international bodies, on the basis of a scientific justification and reflecting the level of risk a party judges as appropriate.

—Provide adequate protection provisions in the NAFTA against importation of goods which do not meet U.S. standards or for which relevant U.S. standards have not been set.

—Use the NAFTA to achieve improved cooperation among U.S., Canadian, and Mexican regulatory agencies in setting health and environmental standards, and undertake technical cooperation to improve and enhance pesticide regulation and

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[174] The Canadian provincial and federal governments have also conditioned the signing by the Canadian government of NAFTA on non-deterioration of Canadian environmental standards. *See, e.g., Canadian Provinces Not Involved Enough in NAFTA Talks, Manitoba Official Says*, 9 INT'L TRADE REP. (BNA) 1096(June 24, 1992).

[175] *NAFTA Environmental Policy Hearings Regarding the Environmental Impacts of the Mexican/U.S. Free Trade Agreement Before the House Agriculture Committee*, 102d Cong., 2d Sess. (July 9, 1992)(statement of Linda J. Fisher, Assistant Administrator for Prevention, Pesticides and Toxic Substances, U.S. Environmental Protection Agency). In a June 12, 1992 letter from U.S. Trade Representative Carla Hills to Sen. Max Baucus, the commitment of the U.S. Government that there will be no "downward harmonization" of environmental laws and regulations under NAFTA is also made. *See USTR Hills Says There Will Be No "Downward Harmonization" Under NAFTA*, 9 INT'L TRADE REP. (BNA) 1096 (June 24, 1992).

management.[176]

Further, the Environmental Review notes that:

—Any agreement toward harmonization or working toward equivalence in various food safety and environmental procedures, standards and regulations should include the presumption that there will be no diminution in protection of public health and the environment.

—The agreement should respect existing environmental and public health legislation and international agreements to which the U.S. is a party.

—The agreement should support the principle that risk assessment and risk management decisions and standards would be based on sound science.

—Dispute settlement procedures should be open and involve appropriate participation by scientific experts.[177]

NAFTA negotiations on pesticide matters fall into two major areas. The first, Sanitary and Phytosanitary (S&P) issues, cover pesticide tolerances, and the second, Standards, covers pesticide registrations. Great progress has been made on both fronts, emulating largely the GATT Uruguay Round draft text on S&P matters, and the GATT Uruguay Round text on Technical barriers to trade on standards.

Key elements of an agreement relating to standards governing pesticide tolerances and registrations within NAFTA include:

—Countries will retain a clear right to make their own standards.

—Countries have incentives to use international standards, but their use is not required. Hence, while the U.S. participates in international standards-setting activities, no provision will be set forth in NAFTA that would lead the U.S. to "harmonize down" to an international standard or a less stringent standard maintained by another country.

—Standards must be non-discriminatory, applied fairly to both domestically-produced and imported products, and the process for establishing standards must be open, or "transparent."

—Standards that are more stringent than international standards are acceptable if they have a scientific basis or are a consequence of the level of protection chosen by the country maintaining the standard.[178]

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176 *1992 Review, supra* note 23, at 217.

177 *Id.* at 6.

178 *Id.* at 8.

D. Analysis

Clearly, both governments are taking major steps to accelerate the strengthening of cross-border enforcement in the border area. The strengthened enforcement will result in additional investigations and prosecutions of persons charged with cross-border environmental violations. As enforcement officials become acquainted with each other's laws, regulations, and culture, they will become accustomed to seeking assistance on cases and targeting geographic areas and plants.

VII. Criminal and Quasi-Criminal Enforcement of Environmental Laws and Regulations

A. U.S. Enforcement Polices and Practices

The U.S. environmental laws date from the early 1970s.[179] In 1980, The Department of Justice under the direction of then-U.S. Attorney General Ben Civiletti began to emphasize increased enforcement of existing laws.[180] Initially, problems in cooperation between the Environmental Protection Agency and the Department of Justice (DOJ) presented obstacles to prosecuting environmental criminal cases. At this time, responsibility for prosecuting EPA-referred cases was allocated among different groups: the Criminal Division took responsibility for criminal cases involving Title 18 offenses, such as false statements,[181] conspiracy,[182] and mail and wire fraud,[183] while the DOJ Lands Division had responsibility for violations of environmental regulations. Bureaucratic problems resulted in local, sporadic prosecution, chiefly in response to disastrous events rather than a particular enforcement policy.[184] In 1988, after several years of opposition from DOJ, Congress granted EPA criminal investigators full police powers. [185] Gradually, however, the EPA and DOJ developed an impressive record of criminal enforcement.[186]

Even in the last two years, significant reorganization within the

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[179] For a historical review of the evolution of U.S. environmental criminal enforcement, see F. Henry Habricht II, *The Federal Perspective on Environmental Criminal Enforcement: How to Remain on the Civil Side*, 17 ENVTL. L. REP. (Envtl. L. Inst.) 10,478(Dec. 1987).

[180] For additional background of the switch to enforcement in 1980, see Judson W. Starr, *Turbulent Times at Justice and EPA: The Origins of Environmental Criminal Prosecutions and the Work that Remains*, 59 GEO. WASH. L. REV. 900, 904 (1991).

[181] 18 U.S.C. § 1001 (1988).

[182] *Id.* § 371.

[183] *Id.* § 1341 (Supp. 1990).

[184] Starr, *supra* note 180, at 905.

[185] *See* Medical Waste Tracking Act of 1988, Pub. L. No. 100-582, § 4, 102 Stat. 2950, 2958-59 (codified at 18 U.S.C. § 3063 (1988)).

[186] Starr, *supra* note 180, at 913.

EPA for criminal enforcement has continued.[187] As of 1990, the EPA's criminal enforcement human resources had reached over 110 persons whereas the special agents in DOJ responsible for criminal environmental investigations had grown to 47 persons. In addition, steady growth had occurred in the number of DOJ attorneys prosecuting environmental crimes. There was heightened interest among U.S. attorneys and state law enforcement authorities in environmental enforcement, and greater investigative resources came from the Federal Bureau of Investigation.[188] Success of the environmental enforcement program is demonstrated by a ninety-percent likelihood that once environmental criminal charges are filed, at least one defendant in a particular case will be convicted.[189] Over the years, the amount of fines and the length of imprisonments have increased steadily.[190]

The success of environmental enforcement in the U.S. is attributed to the maturation of training programs for environmental investigators, which has resulted in steady growth in criminal enforcement capability at the federal, state, local, and tribal levels.

Widespread public support for environmental criminal enforcement has lead to a growing number of calls and letters from citizens eager to provide tips and leads concerning environmental crimes.[191] Congress has also contributed by continuing to enact stronger laws, creating environmental crimes, increasing the level of punishment for environmental crimes, and substantially expanding criminal enforcement resources of EPA and DOJ.[192]

An important component of the success of EPA's criminal enforcement program is the recently enacted Federal Sentencing Guidelines ("Guidelines") for individuals and organizations.[193] The Guidelines, which are used for all crimes committed after November 1, 1987, institutionalize the EPA's long-standing policy that an organization's management, as well as its employees, should be held personally culpable for criminal misconduct. By limiting judicial discretion in the imposition of sentences and closing the gap between the more stringent prison terms given to perpetrators of traditional crimes, and the more lenient sentences that, until recently, were

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187 James M. Strock, *Environmental Criminal Enforcement Priorities for the 1990s*, 59 GEO. WASH. L. REV. 916, 918 (1991).

188 *Id.*

189 For additional background on the purposes and results of criminal enforcement, see *Criminal Enforcement of Environmental Law Seeks Deterrence Amid Need for Increased Coordination, Training, and Public Awareness*, 17 ENV'T REP. (BNA) 800, 801-02 (Sept. 26, 1986).

190 1989 E.P.A. ENFORCEMENT ACCOMPLISHMENTS REPORT 16 app. (1990).

191 Strock, *supra* note 187, at 919.

192 *Id.*

193 U.S. SENTENCING COMM'N, FED. SENTENCING GUIDELINES MANUAL (1992). The U.S. Sentencing Commission, whose authority is derived from the Sentencing Reform Act of 1984, Pub. L. No. 98-473, 98 Stat. 2017 (codified at 28 U.S.C. §§ 991-98 (1988)), promulgated the Sentencing Guidelines.

given for white-collar offenses, the Guidelines have raised the level and likelihood of retribution for environmental criminals.[194]

Criminal enforcement trends in the 1990s signal the priorities not only in the U.S., but also presage many of the enforcement cross-border trends. Environmental enforcement in the international arena, and especially on the Mexican border, will be a high priority. This trend was occurring already at the end of the 1980s due to the dynamic growth of the "*maquiladora* industries" and the concomitant environmental problems.[195] In addition to authorizing multimedia investigations in cooperation with SEDESOL, the EPA will seek additional statutory authority to enforce federal environmental laws against international violators. Actions already taken include the appointment of its first environmental attaché. Anne L. Alonzo, the new attaché, was an attorney in the EPA Regional Branch for five years and had an undergraduate degree in criminal justice. The EPA has hired bilingual inspectors to perform hazardous waste inspections along the U.S.-Mexico border and has utilized binational teams to inspect maquiladora facilities.[196]

Another international enforcement initiative is the negotiation by the EPA of international agreements to provide for the exchange of intelligence on major violators and to encourage quick coordination between EPA and its counterparts in other countries. For instance, the U.S. already has concluded such an agreement with Canada.[197]

The EPA has continued to support the strengthening of criminal penalties in all federal environmental statutes. Adding citizen-award provisions in federal environmental statutes provides an incentive for individuals to provide information on violations of environmental statutes as well.[198]

Another trend has been the inclusion of the standard of "knowing endangerment" provisions that provide for penalties of up to fifteen years imprisonment for reckless disregard for human health or safety. It is being added to all federal environmental statutes.[199]

In addition, the EPA will ask Congress to authorize it to require

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194 *See e.g., id.* §§ 4A1.1-4B1.3; §§ 2Q1.1-2Q2.1.

195 For a discussion of some of the problems, see *Joint U.S., Mexican Manufacturing Program May Be Causing Pollution in Texas, Arizona*, 12 INT'L ENVTL. REP. (BNA) 306(June 1989).

196 Strock, *supra* note 187, at 930-31.

197 *See, e.g.*, E.P.A., 4 OFFICE OF CRIM. ENFORCEMENT BULL. 33 (1990). The agreement is informal and is derived from a long-term, cooperative relationship between EPA and Environment Canada.

198 *See, e.g.*, 33 U.S.C. §§ 2609(d) (1988); 42 U.S.C. § 7413(f) (Supp. II 1990); 42 U.S.C. § 9609(d) (1988).

199 *See, e.g.*, Solid Waste Disposal Act Amendments of 1980, Pub. L. No. 96-482, § 13(e), 94 Stat. 2334, 2340-41 (codified at 42 U.S.C. § 6928(e) (1988); Water Quality Act of 1987, Pub. L. No. 100-4, § 312, § 309(c), 101 Stat. 7, 43-44 (codified at 33 U.S.C. § 1319(c)(3) (1988)); Clean Air Act of Nov. 15, 1990, Pub. L. No. 101-549, § 701, § 113(c)(5), 104 Stat. 2399, 2676-77 (codified at 42 U.S.C. § 7413(c)(5) (Supp. II 1990)).

vetting of all individuals and businesses that apply for certain EPA permits in order to enable EPA to identify and refuse to permit environmental violators.[200] A trend in the U.S. and throughout the world is the expansion of human and other enforcement resources. In addition to quadrupling the number of special agents during 1991 to 1995 under the Pollution Prosecution Act of 1990, an EPA priority in the 1990s is to build and bolster the infrastructure required to support a vigorous criminal enforcement program. Emphasis will be placed on training through the establishment of the National Enforcement Training Institute and the expansion of "on-the-job" training in the various regions.[201]

The EPA's support of state criminal enforcement efforts will be enhanced, partly by continuing to provide training opportunities at the Federal Law Enforcement Training Center (FLETC),[202] training at the National Enforcement Training Institute, and specialized courses, such as the EPA-sponsored Hazardous Waste Training Investigations Program.[203]

Although the constitutional doctrine of the "unitary executive" precludes DOJ from indicting federal agencies operating federal facilities,[204] individual federal employees and government contractors can be and have been investigated and prosecuted for criminal violations of federal environmental laws. The EPA has increased its efforts to criminally prosecute the violation of environmental laws at federal facilities.[205]

As mentioned above, a problem in environmental enforcement in the U.S. has been interagency rivalries and conflicts. The EPA has concluded various arrangements with law enforcement agencies, such as the Federal Bureau of Investigation (on case coordination),[206] the U.S. Customs Services (on policing imports and exports

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[200] As a precedent, see the 1984 New Jersey law, the A-901 Law, which provides a framework of strict background screening of persons who would handle municipal hazardous waste. N.J. STAT. ANN. § 13:1E-126 (West Supp. 1991). The reason was to combat a concern that in some components of the hazardous waste industry efforts to stifle competition existed through organized intimidation and violence, price fixing, and the illegal assignment of territorial rights.

[201] Strock, *supra* note 187, at 926-27.

[202] *See, e.g., Criminal Enforcement of Environmental Law Seeks Deterrence Amid Need for Increased Coordination, Training, and Public Awareness*, *supra* note 189, at 806.

[203] Strock, *supra* note 187, at 928-29.

[204] DOJ's "unitary executive" theory provides that disputes between federal agencies must be resolved internally, pursuant to the constitutional duty to "take care that the laws be faithfully executed." U.S. CONST. art. II, § 3. *See* Letter from Robert A. McConnell, Assistant Attorney General, Office of Legislative Affairs, *Department of Justice*, to Rep. John D. Dingell, Chairman, Subcomm. on Oversight and Investigations, *U.S. House of Representatives* (Oct. 11, 1983), *printed in* E.P.A., EPA FEDERAL FACILITY COMPLIANCE STRATEGY app. H (1988).

[205] For a discussion of the developments and considerations of enforcement of environmental laws on federal facilities, see Stephen Herm, Note, *Criminal Enforcement of Environmental Laws on Federal Facilities*, 59 GEO. WASH. L. REV. 938 (1991).

[206] *See, e.g.*, Memorandum of Understanding between the Office of Enforcement

of toxic and hazardous substances), the Army Corps of Engineers (on the protection of wetlands),[207] and the Occupational Safety and Health Administration of the Department of Labor (on the protection of the health and safety of cleanup workers at hazardous waste disposal sites).[208] The EPA will aggressively use federal suspension, debarment, and listing authorities to ensure that business entities and individuals under investigation for, or convicted of, environmental crimes are denied the benefit of government contracts and access to federal assistance programs.[209]

The Department of Justice has issued prosecutorial guidelines in environmental cases that enable the Department to exercise discretion in dealing with violators who have engaged in self-suditing, self-policing and voluntary disclosure of environmental violations.[210] However, some environmental investigations and audits may reveal legal liability created by the corporation's operation and may uncover seriously incriminating information, giving rise to both criminal and ethical problems.[211]

Environmental enforcement has been aided by the judicial findings that the government must prove only general, and not specific intent to violate environmental laws to convict violators.[212] Courts have interpreted the knowing requirement very strictly against defendants[213] and have permitted inferences of a culpable state of mind on the basis of very little direct evidence in an effort to strengthen the deterrent effect of the environmental criminal statutes.[214]

Prosecutors are targeting corporate officers and employees re-

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Council (OEC), Environmental Protection Agency (EPA), and the Federal Bureau of Investigation (FBI) (1982).

[207] *See Memorandum of Agreement between the Department of the Army and EPA Concerning Federal Enforcement for the § 404 of the Clean Water Act*, 19 ENVTL. L. REP. (Envtl. L. Inst.) 35,183 (Jan. 19, 1989).

[208] *See OSHA, EPA Say Cooperative Agreement Will Increase Worker, Environment Protections*, 20 O.S.H. REP. (BNA) 1115.

[209] *See, e.g.*, 40 C.F.R. §§ 32.100-32.635 (1990); Federal Acquisition Regulations, 48 C.F.R. §§ 9.400-9.409 (1990).

[210] *See* Vincent J. Marella, *The Department of Justice Prosecutive Guidelines in Environmental Cases Involving Voluntary Disclosure—A Leap Forward or a Leap of Faith?*, A.B.A. WHITE COLLAR CRIME 1992 97 (discussing the July 1, 1991 DOJ guidelines entitled *Factors in Decisions on Criminal Prosecutions for Environmental Violations in the Context of Significant Voluntary Compliance or Disclosure Efforts by the Violator); DOJ Environmental Enforcement Section "Cost-Efficient Entity," Chief Says*, DAILY REPORT FOR EXECUTIVES A-25, A-26 (July 9, 1992).

[211] Michael J. Hershman, *Effective Use of Investigators in Environmental Matters (And Protection against Ethical and Other Problems*, A.B.A. WHITE COLLAR CRIME 1992 199.

[212] *See, e.g.*, Habricht II, *supra* note 179, at 10,484, *citing* United States v. Ouelette, 15 ENVTL. L. REP. (Envtl.L. Inst.) 20899 (1977); United States v. Corbin Farm Service, 444 F.Supp. 510, 524-25 (E.D.Cal.), *aff'd*, 578 F.2d 259 (9th Cir. 1978).

[213] Gary S. Lincenberg, *Lowered Intent Requirements in Environmental Crimes Cases*, 7 A.B.A. CRIM. JUST. SEC. 28 (June 1992).

[214] Michael L. Bender and Kevin Michael Shea, *The Knowledge Requirement for Individual Environmental Criminal Liability*, A.B.A. WHITE COLLAR CRIME 1992 141.

sponsible for the violations as well as the business entity itself. The Department of Justice has decided that the prosecution of corporate officers and employees better serves its goal of deterrence than merely prosecuting the corporate employer which can better absorb the costs of a criminal fine by passing it on to consumers.[215] The Supreme Court has held that, where a public welfare statute is violated, the responsible corporate officers and employees can be held criminally liable based on the same standards as used for the business entity.[216]

Clearly, although the U.S. environmental enforcement policy, and especially the criminal aspects, are still in a fluid stage, they are gathering a lot of momentum and consensus politically. In particular, the international components can be expected to experience a rapid maturation.

B. Mexico Enforcement Policies and Practices

A historical difference in environmental regulation between Mexico and the U.S. is that Mexico mostly takes the attitude that as a developing country, environmental protection must give way to national economic development.[217] Historically, writers have attributed low enforcement of environmental laws to inefficiency and corruption in the bureaucratic highly centralized Mexican government.[218] However, Mexico has, in place, a comprehensive legal framework for environmental protection and activist citizen groups are vigorously pressing the government for more effective enforcement.[219]

Unlike the U.S., which relies on a common law tradition, Mexico has a civil law tradition which relies largely on administrative mechanisms and negotiation between parties to both settle disputes and enforce the law. As a result, the Executive agencies have greater power and can take unilateral actions and make more use of adminis-

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215 Raymond Banoun and Harold Damelin, *Criminal Liability of Corporate Officers and Employees for Environmental Offenses*, A.B.A. WHITE COLLAR CRIME 1992 117, 119.

216 *See, e.g.*, United States v. Dotterweich, 320 U.S. 277 (1943).

217 *See* Bath, *US-Mexico Experience in Managing Transboundary Air Resources: Problems, Prospects and Recommendations for the Future*, 22 NAT. RESOURCES J. 1147, 1157 (1982); Comment, *Transboundary Pollution from Mexico: Is Judicial Relief Provided by International Principles of Tort Law?*, 10 HOUS. J. INT'L LAW 105, 110 (1987).

218 For a discussion of Mexican environmental law, see Acevedo, *Legal Protection of the Environment in Mexico*, 8 CAL. W. INT'L L.J. 22, 22-40 (1978); Comment, *The Environmental Cooperation Agreement Between Mexico and the United States: A Response to the Pollution Problems of the Borderlands*, 19 CORNELL INT'L L.J. 87, 102-08 (Winter 1986); Comment, *Transboundary Pollution From Mexico: Is Judicial Relief Provided by International Principles of Law?*, 10 HOUS. J. INT'L LAW 105, 108-10 (1987); Comment, *Resolving Air Resource Disputes On a Transfrontier Basis: El Paso and Cuidad Juarez*, 10 HOUS. J. INT'L L. 133, 137-49 (1987).

219 For background on the Mexican environmental law in the context of Latin American environmental law, see Paul C. Nightingale and Gregory A. Bibler, *Environmental Law in Latin America*, 12 INT'L ENVTL. REP. (BNA) 507 (Oct. 1989).

trative, rather than judicial authority, to achieve enforcement.[220]

As in the U.S., environmental law in Mexico originated in 1971 when the Mexican government amended its federal Constitution, conferring on the General Health Council (Consejo de Salubridad General) authority and total discretion to require "measures . . . to prevent and combat environmental pollution."[221] In 1971, Mexico also enacted a comprehensive Federal law for the Prevention and Control of Environmental Contamination,[222] which regulated all types of pollution (including air, water, soil, noise, and pesticides) and activities that could alter the natural environment. Among the criticisms of it are that it defined "pollutant" too broadly, did not provide state and local governments any authority or responsibility for environmental protection, and did not authorize citizen suits or judicial review of administrative actions.[223]

In 1981, a new Federal Law for Protection of the Environment was passed. Although it was vague and therefore difficult to enforce, it did confer on local and state governments a role in implementing environmental law.[224] To strengthen environmental protection, Mexico established the Secretariat of Urban Development and Ecology (SEDUE) and enacted The General Law of Ecological Equilibrium and Environmental Protection, which was published on January 28, 1988 and took effect on March 1, 1988. It centralizes authority within the SEDUE (now SEDESOL) while giving state and local governments authority to formulate state and local environmental policy and criteria, to prevent and control pollution (except that hazardous wastes and substances are under federal jurisdiction), to preserve and restore the environment within their jurisdictions, and to regulate activities that are not high risk. This law sets forth the hierarchies and jurisdictions of the governmental entities.[225]

Under the General Ecology Law, primary authority to enforce environmental laws, regulations and standards is vested in SEDESOL, the successor to SEDUE. The law delegates ample authority to the states of Mexico to adopt legislation and provide for processes to implement the objectives of the General Ecology

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220 *1992 Review*, *supra* note 23, at 39.

221 Acevedo, *supra* note 218, at 23, *quoting* MEX. CONST. art. 73 (as amended in the Official Daily of Mexico (Diario Oficial), July 6, 1971). One difference in environmental law protection between the U.S. and Latin American countries is that the latter elevate environmental protection to the constitutional level. *See* Nightingale and Bibler, *supra* note 219, at 508.

222 Mexican Anti-Contamination Law, Diario Oficial, Mar. 23, 1971. For background, *see generally* Juergensmeyer & Blizzard, *Legal Aspects of Environmental Control in Mexico: An Analysis of Mexico's New Environmental Law*, 12 NAT. RESOURCES J. 580-95 (1972).

223 Turner T. Smith, Jr. and Renee R. Falzone, *Foreign Environmental Legal Systems—A Brief Review*, 11 INT'L ENVTL. REP. (BNA) 621, 632-33 (Nov. 1988).

224 *Id.*

225 *Id.*

Law.[226] Since the enactment of the General Law, four Regulations have been issued in the following areas: Environmental Impact Assessment, Air Pollution, Mexico City Air Pollution, and Hazardous Waste. A new Regulation on Water Pollution is in preparation and is expected to be released shortly.

The Regulations depend on quantitative ecological technical standards or parameters ("NTE") and ecological criteria to determine compliance. Until now, sixty-nine NTE's and ecological criteria have been issued under the General Law and its regulations.[227] Similar to the U.S. law, state environmental laws cannot require any lower standards than the federal law and in some cases are stricter. By mid-1991, eighteen of the thirty-one Mexican states had enacted legislation comparable to the General Ecology Law, including four of the states along the U.S.-Mexico border: Sonora, Nuevo Leon, Coahuila, and Tamaulipas.[228]

SEDESOL has broad power to set environmental policy, regulate agriculture and industry concerning the environment, establish technical specifications and quantitative standards for air, water, soil, and noise pollution, and establish a national monitoring system. Standards concerning hazardous activity and wastes, and nuclear energy, thermal energy, lighting, odors and visual pollution have been established. The law requires that all operations that cause ecological imbalance or exceed technical standards or regulations must obtain prior authorization from SEDESOL or its representative entity. An environmental impact statement that complies with established procedural requisites must accompany authorization.[229]

Under the new law, SEDESOL, with the assistance of other agencies, has compiled a list of dangerous materials and residues. The law prohibits the import of hazardous materials or residues into Mexico solely for "deposit, storage, or containment"; prohibits its transit through Mexico if the hazardous materials do not fulfill the specifications for use and consumption with which they were manufactured, or whose manufacture, use or consumption is forbidden or restricted in the country to which they were intended; and prohibits authorization for the import of pesticides, fertilizers, or toxic substances if their use is not permitted in the manufacturing country.[230]

Enforcement in Mexico has utilized one of four techniques: plant closings (temporary, permanent, partial, or a combination

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226 *1992 Review*, *supra* note 23, at 39.

227 For additional background on the issuance of Regulations and a useful overview of the Mexican environmental law, *see* Anne L. Alonzo, Mexico 3 (Feb. 1992)(unpublished manuscript on file with author).

228 *1992 Review*, *supra* note 23, at 39.

229 *Id.*

230 *Id.*; *see The Maquiladora Industries Hazardous Waste Management Manual*, *supra* note 90, at 18-22.

thereof) designed to result in the negotiation of settlement agreements; the imposition of fines; administrative detention; and voluntary compliance agreements. Mexico accords a preference to these civil administrative enforcement mechanisms over criminal prosecutions, which involve turning the matter over to the Attorney General's office. So far, criminal prosecutions on environmental matters have been the exception.

Affidavits are widely used in administrative proceedings in Mexico. SEDESOL can decide to close, or partially close a facility. If a company disagrees with the enforcement action and the SEDESOL orders for an acceptable remedial plan, it can invoke an *"amparo"* proceeding and bring the case to the Ministry of Justice. This procedure has not been invoked often in environmental cases.

Plant closings in Mexico are used to lead to consultations between SEDESOL and companies, which are formally charged with violating environmental law. SEDESOL orders plant closings before negotiations, and the plant may reopen generally only after reaching an agreement with SEDESOL, which has a compliance schedule. The schedule may be designed to account for specific conditions and circumstances (e.g., size, capital availability, etc.). SEDESOL monitors these legally enforceable agreements to the extent its resources permit.[231] A concern is that the Mexican government does not publicly report regulatory compliance to the 1988 Act, such as the steps taken by industry to meet the bond requirements for the opening of plants closed for environmental violations.[232]

The imposition of fines, indexed to the minimum daily wage and up to the equivalent of $80,000, has been used, especially in the early 1980s as the principal enforcement tool. However, in the mid-1980s, SEDESOL became reluctant to use fines, believing that available capital should be directed instead toward investment in pollution control equipment. SEDESOL has indicated that it is reconsidering this strategy in view of its possible deterrent effect. SEDESOL could well use charges to finance inspection costs to the regulated community.

Administrative detention is another enforcement tool of SEDESOL. It is a mechanism by which SEDESOL deprives a corporate officer of his or her freedom for up to thirty-six hours. Normally, it is used for several hours on a daily basis until agreement is achieved on a compliance plan and schedule. Administrative detention has been a useful enforcement tool in the border area for seizures of hazardous waste or cross border transportation of endan-

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231 *The Maquiladora Industries Hazardous Waste Management Manual, supra* note 90, at 17.

232 *NAFTA Environmental Policy Hearings Regarding the Environmental Impacts of the Mexican/U.S. Free Trade Agreement Before the House Agriculture Committee*, 102d Cong., 2d Sess. 6 (July 9, 1992)(statement of John Audley, Sierra Club).

gered species.[233] Criminal penalties, depending on the type of the violation, can vary from three months to six years in prison. Fines can be imposed from one hundred to ten thousand times the minimum daily wage.[234]

Mexican enforcement is implemented on a multi-media (e.g., air, water, etc.) basis. For instance, inspections normally involve a review of impacts on various media simultaneously. The multimedia approach to inspections and enforcement actions, combined with its basic environmental statute makes the Mexican environmental system particularly amenable to accomplishing objectives of pollution prevention and waste minimization as enforceable requirements. The EPA and state agencies are now moving toward such a multimedia approach to inspections.

One area of recent attention has been the collection of information from the regulated community in order to identify regulated facilities and to assess the nature and quantity of pollutants being generated and the management/pollution control practices of each facility. SEDESOL has started a program to collect such information and is directed particularly on information concerning industries in the border area whose operations may have transboundary impacts.

A continuing and serious difficulty of SEDESOL has been inadequate resources to effectively enforce environmental laws. However, recently, SEDESOL staff and management have redoubled their efforts to undertake enforcement authority and develop an effective enforcement program, despite funding problems. Enforcement efforts in the last year have included the permanent closure on March 18 of the government's own (PEMEX) giant Azcapotzalco oil refinery in the industrialized northern sector near Mexico City, for failure to comply with environmental regulations and standards.[235] As a result of this and other closings, many companies have contacted SEDESOL to negotiate voluntary compliance agreements which are subsequently monitored.

To improve the problem of inadequate enforcement resources, SEDESOL has received an increase in the 1991 budget to $4 million on inspection, monitoring and enforcement activities.[236] In addition, the Mexican Government has applied for $4 million from the World Bank. Some of the funds are designated for improved compliance monitoring and enforcement and for implementing in-

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[233] *See The Maquiladora Industries Hazardous Waste Management Manal, supra* note 90, at 17.

[234] Alonzo, *supra* note 227, at 5.

[235] *See, e.g., Pressure on NAFTA to Include Enforcement on Transborder Environmental Matters Increases*, 7 INT'L ENFORCEMENT L. REP. 134, 138 (April 1992).

[236] For additional background on the efforts to buttress funding for environmental enforcement, see *Mexican Government Will Buttress Environmental Enforcement*, 7 INT'L ENFORCEMENT L. REP. 444 (Nov. 1991).

creased numbers of industrial inspections.[237]

Since 1982, the number of inspections conducted in Mexico has risen. During 1982-84, there were 1,209 inspections; during 1988, 3,525 inspections, with fines imposed on 179 plants; and during 1988-90, 5,405 inspections occurred under the new law, with 3 permanent closings, 980 partial or temporary closings, 29 relocations, 1032 agreements negotiated for compliance, scheduling and 679 voluntary compliance agreements.[238]

	1982-84	1985-86	1988-90
Inspections	1,209	3,525	5,405
Enforcement Actions	not avail.	179 fines	3 permanent closings 980 part/temp. closings 29 relocations 1032 negotiated agrmts for compliance schedulings 679 voluntary compliance agreements

The Mexican government, in the first part of 1991, temporarily closed dozens of factories that operated without pollution control equipment.[239] The closings hit not only small domestic firms, but also major multinational corporations, such as the BASF, a well known German-owned chemical firm, and the U.S.-based Dow Chemical Co. In addition, SEDESOL departed from its normal policy of not naming potential polluters. Another action taken in early 1991 by the Mexican Government to illustrate its new commitment to environmental protection was the enactment of a new Constitutional Law for the Ecological Equilibrium and Protection of the Environment, the introduction of unleaded gasoline nationwide, and the planting of 1.8 million trees in Mexico City.[240]

In the next few years, even months, the number of enforcement actions will be rising due to the significant increase in inspectors. In 1991, one hundred additional inspectors were hired, fifty for Mexico City and fifty for the border area. At the time of the increase, Mexico had only one hundred nine inspectors, nine for Mexico City and one hundred for the rest of the country.

On May 25, 1992, a decree was issued by President Salinas providing for the Secretary of Social Development to assume the responsibilities of environmental protection,[241] including those that

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237 *1992 Review*, *supra* note 23, at 41.

238 *Id.*

239 For additional background on the factory closings, see *Mexico Temporarily Closes Factories Operating Without Pollution Controls*, DAILY EXECUTIVE REPORTER A-8 (April 11, 1991).

240 For background, see *Pressure on NAFTA to Include Enforcement on Transborder Environmental Matters Increases*, 7 INT'L ENFORCEMENT L. REP. 134, 138 (April 1991).

241 Poder Ejecutivo (Executive Power), Secretaria de Gobernaciòn (Secretary of Management), Decreto por el que se reforma, adiciona, y deroga diversas disposiciones de la

were specifically within the responsibility of SEDUE.[242] In addition, a regulation consolidates many environmental protection responsibilities from various organizations into SEDESOL. An agreement unifies the administrative functions under the SEDESOL.

Two new high-level offices with significant budget allocations were created for the implementation and enforcement of environmental regulations and standards. The National Institute of Ecology, is responsible for the design, implementation and assessment of the regulatory framework for both environmental policies and programs. The Institute also has the responsibility for establishing an integrated network, assisted by scientific and academic organizations, to better formulate and implement new standards.

Within SEDESOL is a new office responsible for the enforcement of environmental laws, the Attorney General's Office for the Protection of the Environment. The Office is headed by former Mexican Ambassador to the Organization of American States Santiago Ornate.[243] In addition to being responsible for ensuring strict observance of standards and regulations set by the Institute, as well as the applicable laws, SEDESOL will hear public complaints and demands related to insufficient compliance.[244] SEDESOL can be expected to use increasingly the shut-down order as an enforcement tool to bring the violator to the negotiating table to develop a compliance plan.

Another mechanism that SEDESOL will increasingly use is a creative communications policy, whereby it strategically publicizes its enforcement activities in hopes of encouraging wider voluntary compliance and increasing the deterrent effect of its actions. In addition, an effective communications policy will help SEDESOL address specifically the various interested constituencies.[245]

Mexico's comparatively rudimentary environmental infrastructure is in a growth mode. It will require laboratories, engineering firms, legal counsel, environmental facilities for treatment, storage and disposal and will depend partly on the import of foreign equipment, capital and expertise to accelerate in its development. The growth of environmental protection in Mexico has provided opportunities for U.S. firms to cooperate with Mexico in furnishing envi-

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Lay Organica de la Administraciòn Publica Federal (Decree for the reform, revision, and various dispositions of the Organic Law of the Federal Public Administration).

242 *Id.* at Transitorios, Octavo (p.8).

243 *NAFTA Environmental Hearings Regarding the Environmental Impacts of the Mexican/U.S. Free Trade Agreement Before the House Agriculture Committee*, 102d Cong., 2d Sess. 6 (July 9, 1992)(statement of Timothy B. Atkeson, Assistant Administrator for International Activities, U.S. Environmental Protection Agency).

244 For additional background on the new roles of SEDESOL, see *Environment and Development in Mexico*, 1 MEXICO ON THE RECORD 4 (Press Office of the President of Mexico July, 1992).

245 *1992 Review, supra* note 23, at 39-42.

ronmental services and technology.[246] Regardless of the outcome of NAFTA, the trend in the world is towards enhanced trade in environmental services.[247] This industry is complementary between the U.S. and Mexico.

Another area of bilateral cooperation, and indeed a world trend,[248] is in the academic sector. Mexico is increasingly developing environmental courses in environmental protection and sciences into its curricula. In addition, there has been an increase in the offering of environmental and environmental-science degrees and educational exchanges between countries sharing their experience and expertise with Mexican universities.[249] A third area of bilateral cooperation relative to environmental enforcement is the increasing cooperation among non-governmental organizations.[250]

C. Cooperative Enforcement Efforts

An important element of strengthening compliance has been the development of cooperative enforcement. Cooperative enforcement efforts pursuant to the 1983 Border Area Agreement have concentrated on hazardous waste enforcement issues. EPA officials from Region VI and IX have participated in cooperative efforts with SEDESOL concerning hazardous waste enforcement, including inspector training activities, visits to Mexican and U.S. facilities, and participation in border stops to ascertain whether there are illegal hazardous waste shipments.

The EPA and SEDESOL have established a Cooperative Enforcement Working Group that will cooperate in case development, training, border checks, facilities visits, personnel exchanges, information exchange and development of data systems.

EPA and SEDESOL have developed a cooperative working relationship in providing enforcement responses to specific incidents. Two specific incidents illustrate the cooperative relationship. In one incident, SEDESOL notified the EPA that a U.S. owned facility had burned to the ground, with numerous hazardous waste drums left onsite. EPA investigators worked with SEDESOL and the U.S. parent so that the drums were disposed of properly. In a second incident, Californian and local investigators informed SEDESOL that

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246 Alonzo, *supra* note 227, at 12. For instance, the U.S. Embassy Trade Center sponsored an Environmental Trade Show and Conference "Ecologia 1991" and attracted over 2,900 visitors and projected sales for the show were the third largest in the Trade Center's 19-year history.

247 *See, e.g.*, AL GORE, EARTH IN THE BALANCE: ECOLOGY AND THE HUMAN SPIRIT 317-37 (1992) (proposing as a second strategic goal of a Global Marshall Plan a highly focused and well-financed program to accelerate the development of environmentally appropriate technologies that will assist sustainable economic progress).

248 *Id.* at 354-60.

249 Alonzo, *supra* note 227, at 12.

250 *Id.*

they believed they had discovered an illegal hazardous waste export operation. SEDESOL found several drums of waste solvents at a pottery kiln in Tijuana. SEDESOL and the EPA cooperated in removing the drums to the United States.

During the last couple of years the EPA and SEDUE have cooperated in investigating several administrative enforcement actions filed by EPA against U.S. steel producers exporting electric furnace dust waste to Mexico in violation of U.S. hazardous waste export laws. In September 1991, EPA brought more than twenty enforcement actions for compliance with four environmental statutes governing the import and export of hazardous waste and chemicals. Eight of these cases involved exports to Mexico. The EPA's Region VI office in Dallas has brought four cases enforcing regulations involving waste imports from maquiladora facilities in Mexico.

Despite these achievements, the cooperative enforcement does not have adequate mechanisms.[251] The Group is reviewing the two enforcement cooperative mechanisms, such as the Hague Convention on the Taking of Evidence Abroad and the Mutual Legal Assistance in Criminal Matters Treaty, to determine ways to build on the concepts presented in these agreements to ensure the efficient and effective exchange of enforcement-related information.[252] The greatest limitation on the strengthening of bilateral enforcement cooperation is the constraint on resources.[253]

D. Enforcement Training

A major bilateral cooperative effort is improving training and education for government officials, the regulated community and the public at large. The 1983 Border Agreement contains a significant commitment to cooperate on a variety of issues, including a range of joint training initiatives. To assist in the education of the public at large, the Border Plan provides for working projects with the public schools, civic groups, and the media; organizing recycling workshops to help reduce the generation of solid waste; and the preparation of information documents that can be widely distributed.[254]

1. Enforcement Training

A priority element of enforcement education and training programs is to improve enforcement of the environmental laws of both countries. EPA officials from Region VI and IX have sponsored

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[251] For a discussion of examples of how the lack of enforcement mechanisms has hampered enforcement in particular cases, see Malissa Hathaway McKeith, *The Environment and Free Trade: Meeting Halfway at the Mexican Border*, 10 UCLA PAC. BASIN L.J. 183, 194 (1991).

[252] *1992 Review*, *supra* note 23, at 44.

[253] *Id.*

[254] *Id.*

training in RCRA Inspector Training and courses on inspecting the maquiladoras. EPA — Region VI and SEDESOL also conduct regular joint "inspection/training" visits at border locations involving Mexican and U.S. facilities, on a monthly or bimonthly basis. State and academic institutions in the U.S. have also contributed to the enforcement training of Mexican personnel.

In the next few years, cooperation to improve enforcement training will increase and include expanding joint training visits on both sides of border; holding workshops, seminars, and field exercises; conducting personnel exchanges; and creating regularized training programs for customs officials in the recognition and safe handling of hazardous waste shipments.

2. Joint Response Training

The Joint Response Team (JRT), established in 1988 pursuant to the 1983 Border Agreement to coordinate binational preparation and training for accidental releases or spills involving hazardous substances in the border area, sponsors training that includes simulation and field exercises that are open to federal, state and local officials from both sides of the border. The training and written materials are provided in both Spanish and English. The JRT also has organized large annual conferences in 1989 and 1990 to improve planning and understanding of emergency response issues. Additional workshops are planned for 1992.[255]

3. Technical Program Training on Hazardous Wastes, Air Pollution, and Pollution Prevention

During 1987-1992, much effort has been allocated to help educate officials and the regulated community about proper management for hazardous wastes. The education efforts have include joint site visits and conferences with significant participation by regulated industries. The EPA and SEDESOL produced a manual for the maquiladoras on the regulatory and technical requirements for managing hazardous wastes.[256] The bilingual manual discusses environmentally-protective waste management practices, the legal responsibilities of the facilities, and the import and export requirements for hazardous waste shipments for both countries.

A public education program is primarily directed at maquiladora (in-bond) plants, to publicize U.S. and Mexican hazardous waste requirements. The program has particularly emphasized the regulation of transboundary shipments of hazardous wastes and the management of hazardous wastes generated in Mexico by the maqui-

255 *Id.* at 46.

256 *The Maquiladora Industries Hazardous Waste Management Manual, supra* note 90.

ladora industry. EPA has provided SEDESOL officials with training and technical assistance on hazardous waste incineration and other waste treatment techniques since 1987.[257]

VIII. The North America Free Trade Agreement (NAFTA)

On August 12, 1992, the United States, Canada and Mexico concluded a free-trade agreement that would establish the world's largest trade block. Under NAFTA, tariffs and other barriers to the movement of goods, services and money between the U.S. and its two neighbors will be eliminated over the next fifteen years. The agreement is to take effect on January 1, 1994. The agreement also embraces investment and provides for national treatment in investment opportunities.

The signatory countries are obligated to implement the Agreement consistently with environmental protection and to promote sustainable development. Among the provisions in the Agreement that provide for environmentally sound and sustainable development goals are the following:

—The environmentally specific obligations of the signatory countries under other environmental agreements, such as endangered species, ozone-depleting substances and hazardous wastes, will have precedence over NAFTA provisions, subject to a requirement to minimize inconsistency with the NAFTA.

—Each signatory country has the right under NAFTA to select the level of protection of human, animal or plant life or health or of environmental protection that it considers appropriate.

—The NAFTA signatories will work jointly to enhance the protection of human, animal and plant life and health and the environment.

—NAFTA clarifies that each country (and state and localities) may maintain and adopt standards and sanitary and phytosanitary measures based on sound science, including ones more stringent than international standards, to secure its chosen level of protection.[258]

—When a dispute concerning a signatory's standards concerns factual issues on the environment, that country may choose to have the dispute submitted to NAFTA dispute settlement procedures rather than under the procedures of other trade agreements. The same option is available for disputes regarding trade measures taken under specified international environmental agreements.

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257 *Id.* at 47.

258 For a discussion of this provision, see Office of the Press Secretary, The White House, *The North American Free Trade Agreement Fact Sheet* 5 (August 12, 1992)[hereinafter *NAFTA Fact Sheet*].

—NAFTA dispute settlement panels may ask scientific experts, including environmental experts, to provide advice on factual questions related to the environment and other scientific matters.

—In dispute settlement, the complaining country has the burden of proving that another NAFTA's signatory's environmental or health measure is not consistent with the NAFTA.[259]

Indeed, the last three provisions that provide for priority of NAFTA dispute panels, permit the use of environmental and scientific experts, and impose the burden of proof on the complaining country, were reached at the last minute. With the three signatory countries under pressure from wide sectors of their private and even governmental communities, they reached agreement on provisions to satisfy one of the main areas of concern.[260] At the time of the deadline for publishing this article, the signatory countries released only a summary of the Agreement and not a full and complete text. The failure to release the text of the Agreement at the time of the announcement of the Agreement itself was criticized.[261]

As part of the NAFTA environmental provisions, the U.S. Government also hailed the integrated border plan of February 1992, the proposal for a 70% increase in the budget for border environmental projects to $241 million for FY 1993, including $75 million for the "colonias," and the hosting of a September 17, 1992 trilateral meeting on the environment hosted by U.S. EPA Administrator William Reilly.[262]

NAFTA discourages any country from using its environmental laws or relaxing its laws, standards and procedures to try to encourage investors to locate there. If a signatory does not comply with this provision, another signatory country can call for immediate consultation of the environment ministers. Apparently, as part of the implementation of NAFTA, a Commission of Ministers responsible for the Environment will be established.[263]

NAFTA will establish two committees to deal with technical standards: one on standards related to measures to facilitate cooperation on developing, applying and enforcing standards; the other on

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259 *U.S., Mexico, Canada Conclude Agreement on North American Free Trade*, INSIDE U.S. TRADE S-22 (August 12, 1992)(summary of NAFTA Agreement).

260 For background on the agreement for the environmental dispute-resolving procedures, see Keith Bradsher, *Talks Focus on Environment in Push for Free Trade Pact*, N.Y. TIMES, August 7, 1992, at D1; Keith Bradsher, *Bargaining on Trade Is Snagged*, N.Y. TIMES, August 9, 1992, at D17.

261 *See, e.g.*, Stuart Auerbach, *Secrecy Is Challenged On Trade Agreement*, THE WASH. POST, August 15, 1992, at D1.

262 *NAFTA Fact Sheet*, *supra* note 258, at 5-6.

263 Transcript of News Conference, William Reilly, Administrator, Environmental Protection Agency, North American Free Trade Agreement 4-5 (Aug. 13, 1992).

sanitary and phytosanitary measures to enhance food safety and sanitary conditions and to promote harmonization.[264] The preamble of NAFTA also specifically states that an objective of the Agreement is "sustainable development."[265]

IX. Analysis

The following analysis of the major environmental enforcement issues that have arisen during the NAFTA negotiations is based on the summary of the NAFTA released by the three signatories, the U.S. Government's August 12 announcement, as well as the available record established on environmental issues since the negotations started.

A. Increasing Resources

A major environmental enforcement issue is how much money for additional environmental protection the governments will appropriate.[266] Many members of Congress have endorsed the general principle that the North America Free Trade Agreement (NAFTA) environmental protection efforts should be properly funded.[267]

An integrated environmental border plan and a cooperative environmental enforcement regime will need backing with a sufficient amount of resources if it is to be effective. For instance, in its fiscal year 1993 budget the Bush Administration proposed $201 million in expenditures for environmental projects along the Mexican border,[268] almost double the amount budgeted for 1992. However, many experts believe the proposed amount is well short of requirements. Even free-trade supporters admit that the cross-border cleanup is long on press releases and short on money. The Border Trade Alliance, a business group that supports NAFTA, estimates that some $5.5 billion is required to prepare the border's environment for free trade. However, the EPA has asked Congress for only $240 million in 1993 funding for the program. Mexico says it can spend just $460 million on the effort during the next three years.[269]

According to some commentators, environmental cleanup funds should be financed by the benefits expected to flow from a NAFTA.

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264 *Id.* at 7-8.

265 *Id.* at 9.

266 The U.S. Congress has raised the issue of Mexican funding for environmental efforts. *See, e.g.*, Letter of July 29, 1991 to U.S. Trade Representative Carla Hills, INSIDE U.S. TRADE 5-6 (Aug. 2, 1991) (Legislators contended that the increased prosperity afforded by a NAFTA would provide Mexico with the resources to strengthen its environmental programs).

267 *See, e.g., USTR Hills Says There Will Be No "Downward Harmonization" Under NAFTA*, 9 INT'L TRADE REP. 1096 (June 24, 1992)(comments by Sen. Max Baucus, Chairman of the Senate Finance Subcommittee on International Trade).

268 U.S. GOVERNMENT, 1993 FISCAL YEAR BUDGET, Part One, 216(1992).

269 Joe Old et al., *supra* note 76.

For instance, foreign investors could be assessed a surcharge on their Mexican corporate tax. The Environmental Protection Fund recommended a "green tax" for goods manufactured in Mexico by U.S. companies and exported to the United States. Still another suggestion is to establish a temporary environmental fund with a percentage of tariff revenue from North American trade.[270] The provision of a green tax or other market or economic mechanisms to finance environmental protection problems is part of a general principle of international environmental protection.[271] A proposal to fund environmental enforcement cooperation relating to liberalized trade and NAFTA is to create a bilateral or even trilateral commission on the environment that would be authorized to sell bonds to pay for enforcement and other environmental cooperation measures, especially on a long-term basis.[272]

The preferred means to finance environmental enforcement and cleanup is to set minimum physical targets for pollution abatement and environmental enforcement, backed both by budget commitments from the respective federal governments,[273] and by specific user fees assessed for hazardous waste, air emissions, sewage, and other sources of environmental pollution.[274]

Present plans for funding environmental enforcement cooperation on NAFTA are limited to either immediate or short-term funding. None of the discussions by any of the NAFTA signatories addressed medium-term or permanent funding of environmental cooperation.[275] Unless the two governments can commit sufficient resources and show concrete sources of payment to meet

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[270] GARY CLYDE HUFFBAUER AND JEFFREY J. SCHOTT, NORTH AMERICA FREE TRADE ISSUES AND RECOMMENDATIONS 145 (1992).

[271] For additional background of such proposals as the creation of an Environmental Security Trust Fund with payments into the Fund based on the amount of carbon dioxide put into the atmosphere or a Virgin Materials Fee imposed on products at the point of manufacture or importation based on the quantity of nonrenewable, virgin materials built into the product, see GORE, *supra* note 247, at 349-52.

[272] Rep. Ron Wyden and Rep. Bill Richardson, News Conference, NORTH AMERICAN FREE TRADE AGREEMENT, 1-2 (House Radio and Television Gallery, Capitol Hill, Washington, D.C., Aug. 12, 1992).

[273] Among the means proposed for financing environmental enforcement and cooperation have been forgiving part of Mexico's external debt in exchange for Mexican expenditure on environmental undertakings (*See* Proposals by William K. Reilly, EPA Administrator, and Congressman E. "Kika" de la Garza (D-Tx.), EL NACIONAL 23 (Oct. 21, 1991); Proposals of Timothy Atkeson, EPA Assistant Administrator for International Affairs, INSIDE U.S. TRADE 2 (Oct. 18, 1991) (suggesting the establishment of an environmental infrastructure financing facility in Mexico through U.S. governmental funds, Mexican appropriations for SEDESOL, and funds from multilateral banks such as the World Bank and the Inter-American Development Bank).

[274] Another suggestion to finance environmental enforcement is the proposal of House Majority Leader Richard A. Gephardt (D-Mo), who proposed that stockholders be permitted to bring derivative suits against U.S. companies if their foreign subsidiaries fail to meet Mexican, Canadian, or other host-country environmental and labor standards.

[275] *See, e.g.*, discussion by William Reilly, EPA Administrator, of the proposed FY '93 budget. Reilly, *supra* note 273, at 5.

transboundary environmental requirements, they should abandon the plans to increase trade and investment, especially if the plans are accompanied only by assurances that the creation of more wealth will, *ipso facto*, result in more funding for environmental programs. New, targeted revenues should be specifically dedicated to strengthen the regulatory and enforcement capacity of local, state and federal government agencies. Such revenues could also be used to construct the required environmental infrastructure and encourage greater participation by citizens and non-governmental organizations in environmental policy and programs.[276]

A new, creative means to increase resources for funding environmental protection and enforcement is to increase the level of corporate philanthropy among companies operating maquiladoras in the border area. A newly established private sector charitable organization established under section 501(c)(3) of the Internal Revenue Code was formed. In Mexico, a companion foundation, Progreso Fronterizo, was formed. The foundations are expected to serve as catalysts to promote increased volunteerism, self help, and support for community improvement programs throughout the U.S.-Mexico border region.[277] However, U.S. law and recent proposed regulations by the Internal Revenue Service make contributions by U.S. persons to foreign non-profit organizations difficult to deduct from U.S. taxes.[278] A provision in the U.S.-German Income Tax Treaty under negotiation could and should provide for deductibility when a person from one country (*e.g.*, the U.S.) contributes to a non-profit organization in the other country (*e.g.*, an environmental NGO in Mexico).[279]

B. Environmental Standards

An issue that Mexico and the U.S., and in the context of NAFTA, Canada, must and apparently have resolved is the application of environmental standards to activities conducted by the pri-

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[276] *NAFTA Environmental Policy Hearings Regarding the Environmental Impacts of the Mexican/U.S. Free Trade Agreement Before the House Agriculture Committee*, 102d Cong., 2d Sess. 10 (July 9, 1992)(statement of Arizona Toxics Information, et al. (Environmental Coalition)).

[277] Statement of Timothy Atkeson, *supra* note 273, at 5-6.

[278] A U.S. donor is prohibited from receiving a charitable deduction if the donor makes a donation directly to a foreign nonprofit organization, even if the foreign organization has a § 501(c)(3) status. I.R.C. § 170(c)(2)(A) (West 1992). *But see* 56 Fed. Reg. 10,395 (1991)(to be codified at 26 C.F.R. pt.1) (proposed regulation which would amend existing regulation § 1.86108(e) to permit taxpayers to allocate a deduction for a charitable contribution to U.S. source gross income if the taxpayer satisfies certain conditions).

[279] *See, e.g.*, J. Eugene Gibson & William J. Schrenk, *The Enterprise for the Americas Initiative: A Second Generation of Debt-for-Nature Exchanges—With an Overview of Other Recent Exchange Initiatives*, 25 GEO. WASH. J. INT'L L. AND ECON. 1, 60-65 (1991); Bruce Zagaris, *Charitable Contributions to NGOs*, DEBT-FOR-NATURE SWAPS PROGRESS AND PROSPECTS 22-23 (Conference Report, Conference Sponsored by the Smithsonian Institute and the Natural Resources Defense Council, April 17, 1991).

vate sector. Can national and state health and safety laws preempt lesser standards of the other country or NAFTA? Should NAFTA try to harmonize health, safety, and environmental standards?

NAFTA provisions could, but do not, preempt inconsistent environmental and public health and safety standards of national and local governments. Although environmentalists do not want to lower their environmental and public health standards and want their state and local governments to retain freedom to set standards, such standards can be purposely designed or can inadvertently serve as nontariff barriers (NTBs).[280]

Examples of the use of allegedly overly rigid standards as protectionist mechanisms are the U.S. and Canadian ban or strict limitation on the use of certain pesticides, such as DDT and heptachlor, and the testing of Mexican vegetables for minute traces of these chemicals. Mexican producers could argue that, since some scientists condone the use of these pesticides, the DDT and heptachlor restrictions serve as NTBs.[281]

GATT Article XX permits governments to establish any measures deemed necessary to protect human, animal, and plant life as long as they do not constitute a "disguised restriction" on international trade.[282] In the agricultural sector, the U.S. and Mexico have already accused each other of improperly imposing pesticide, safety, and sanitation regulations as GATT-inconsistent barriers to agricultural trade. The U.S. requires that Persian limes grown in Mexico undergo a chlorine-based treatment before export because of citrus caner, which Mexican growers contend has been eradicated. Similarly, the U.S. bans all Mexican avocados because of the danger that some might carry seed weevil. Similarly, Mexico has imposed safety and health standards against U.S. products. In 1989, Mexico required that U.S. swine be vaccinated for hog cholera thirty days before export, even though the U.S. has not had hog cholera since 1978.[283]

The U.S., Mexico, and Canada have agreed that established tolerance levels and enforcement functions will not change under a NAFTA, but only on the basis of scientific review.[284]

A problem is that in the U.S., individual states and even locali-

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280 For an overview generally of the interaction between trade and environmental policy, see *Trade and Environment Conflicts and Opportunities* (Office of Technology Assessment, OTA-BP-ITE-94, May 1992, GPO).

281 *Id.* at 31-32.

282 For additional background on the interaction between trade law and environmental law, see Steve Charnovitz, *Exploring the Environmental Exceptions in GATT Article XX*, 25 J. WORLD TRADE 37-55 (Oct. 1991).

283 U.S. G.A.O., U.S.-MEXICO TRADE: TRENDS AND IMPEDIMENTS IN AGRICULTURAL TRADE 14-15 (Jan. 1990).

284 U.S. Trade Representative, *Review of U.S.-Mexico Environmental Issues: Prepared by an Interagency Task Force Coordinated by the U.S. Trade Representative* (USTR Oct. 1991).

ties set environmental standards that are stricter than federal standards.[285] Similarly, Mexico's 1988 General Law permits states and local governments to devise their own standards in some areas. Canadian provinces also have similar powers. The pre-emption issue was not addressed in the Canada-U.S. Free Trade Agreement.[286] Indeed, the last-minute agreement and particularly the three provisions that: (1) provide for priority of NAFTA dispute panels, (2) permit the use of environmental and scientific experts, and (3) impose the burden of proof on the country complaining of the inconsistency of environmental standards with the NAFTA trade provisions, are contained in the agreement to give priority to existing stronger environmental standards on national and local levels.

C. *General Exceptions for Health, Natural Resource and Environmental Measures*

Some environmentalists advocate provisions within NAFTA to ensure that national measures can be taken to ensure health, natural resource and environmental goals. The NAFTA has an exemption for natural resource protection, analogous to Article XX of GATT. This Article does not explicitly extend to measures for protection of "the environment." The dispute panel ruling in the "dolphin/tuna" case held that the exemptions did not extend to resources outside the jurisdiction of countries imposing trade restrictions.

Environmentalists have advocated successfully that NAFTA provide that, subject to the requirement of not applying such measures in such ways as to constitute a means of arbitrary discrimination between like products or production practices, any signatory or local government will not be prevented from the adoption or enforcement of measures to protect human, animal or plant life or health, natural resources or the environment within or outside its jurisdiction. Such measures will not be determined to nullify or impair the agreement notwithstanding that the existence of alternative measures less bur-

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285 An example is that California has stricter air emissions and toxic waste standards than apply either at the federal level or within most other states. In *Wisconsin Public Intervenor v. Mortier*, 111 S. Ct. 2476 (1991), the U.S. Supreme Court upheld the power of localities to impose pesticide regulations more stringent than federal standards. The decision allows for continued litigation between states and localities as to proper pesticide use. The State of California has been in conflict with towns in the Los Angeles metropolitan area that have tried to block state-mandated spraying against the Mediterranean fruit fly. Huffbauer & Schott, *supra* note 270, at 147.

286 In the Canada-U.S. FTA, rather than harmonizing technical standards, both countries reaffirmed their obligations under the GATT Agreement on Technical Barriers to Trade and promised "to make their respective standards-related measures and procedures more compatible and hence diminish the obstacles to trade and the costs of exporting which arise from having to meet different standards." Mexico acceded to the GATT Standards Code in 1988. MICHAEL HART, A NORTH AMERICAN FREE TRADE AGREEMENT: THE STRATEGIC IMPLICATIONS FOR CANADA 112 (Ottawa: Centre for Trade Policy and Law; Halifax: Instit. for Research on Public Policy 1990).

densome to international trade may be available.[287]

1. Food Safety Standards

One issue is whether the U.S. can apply food safety standards higher than those set forth by the internationally accepted Codex Alimentarius Commission.[288] The European Community has set a precedent for extending the U.S. position to the NAFTA. It permits member states to impose standards tougher than the Codex if the European Commission determines that they are not NTBs.

A sensible approach has been recommended that accords maximum deference to subfederal rules:

1. Health, safety, and environmental standards that are set forth by the Codex Alementarious Commission and by other recognized international bodies may be enforced by each of the NAFTA countries on a fair basis that does not serve as a "disguised restriction" on NAFTA commerce. Hence, internationally recognized standards can be employed to bar imports, or to require special sanitation measures, provided that goods produced locally are treated in a similar way. The NAFTA dispute settlement procedures could also be used to resolve complaints that internationally recognized standards are being applied in a discriminatory manner. The dispute-resolution provisions will also include participation by scientific and environmental experts.
2. The existing standards of each NAFTA member under national law and international treaty obligations should be accepted and applied in their current form. Fortunately, NAFTA has taken this approach. The adoption of new national standards should give the other members the right of consultation. If the other member can show that the proposed standard is designed or in facts acts as a barrier to NAFTA commerce, then it becomes law, provided that the complaining trade partner(s) receive trade "compensation" in the GATT sense of permission to withdraw an equivalent trade concession. However, the standard itself would still have the full force and effect unless withdrawn or modified. A proponent of a new standard could show that the standard is neither designed nor applied in a discriminatory

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287 Statement of Arizona Toxic Information et al. (Environmental Coalition), *supra* note 276, at 5.

288 The Codex Alimentarious Commission is jointly administered by the U.N. Food and Agriculture Organization (FAO) and the World Health Organization. It is a scientific body that establishes regional and worldwide advisory pesticide regulations and gives technical assistance among other activities related to food safety. For additional background, see OVERSEAS DEVELOPMENT COUNCIL AND WORLD WILDLIFE FUND, ENVIRONMENTAL CHALLENGES TO INTERNATIONAL TRADE POLICY 14 (1991).

manner. If the standard cannot be defended, the other trade partner(s) would be entitled to trade "compensation."

3. Although existing subfederal standards of each party should be accepted, *new* state, provincial, and local standards that are promulgated after the NAFTA is approved and that are stricter than both the appropriate international standards and the federal standard, could also be challenged as to their discriminatory design or application. The dispute procedure and remedies would be the same as for new federal standards that may be challenged and here the signatories would have the right of recourse to scientific and environmental experts.
4. The NAFTA members have agreed to use the NAFTA dispute settlement mechanisms solely to resolve disputes over new, post-NAFTA standards.[289]

2. Sanitary and Phytosanitary Measures

NAFTA provides for the harmonization of "sanitary and phytosanitary" measures. The provisions would permit contracting parties to surpass international standards only when they can affirmatively show that there exists scientific justification for the stricter measures. NAFTA contains provisions advocated by environmentalists which would make existing and future S & P measures immune from challenge, so long as they do not discriminate arbitrarily against imports. The safeguard would cover S & P measures taken at the national, regional, state, provincial and local levels. In disputes, the burden of proof would be with the challenging party conclusively to demonstrate injury and protectionist intent.[290]

D. The Need for Strengthened Enforcement Mechanisms

Environmentalists urge both governments to strengthen enforcement cooperation beyond the increased enforcement cooperation proposed in the integrated environmental border plan.[291]

1. Need for an Enforcement Cooperation Agreement

In particular, this author and others have called for "an international enforcement treaty for the environment, perhaps modeled on

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289 On July 7, 1992, the media reported an agreement among NAFTA members similar to the proposal in this paper. *See* Bob Davis and Rose Gutfeld, *U.S., Canada, Mexico Agree on Terms of Trade Pact to Block Certain Imports*, WALL ST. J., July 7, 1992, at A16. Apparently the parties maintain their right to take disputes over pre-NAFTA standards to the GATT.

290 Statement of Arizona Toxic et al. (Environmental Coalition), *supra* note 276, at 5.

291 For additional background, see Justin R. Ward, Natural Resources Defense Council, *Comments of the Natural Resources Defense Council on the Integrated Environmental Plan for the Mexico-U.S. Border Area (First Stage, 1992-1994)* (September 30, 1991).

comparable experience in the areas of international securities and commodities futures trading, and with ample provisions for participation by non-governmental organizations."[292] Although the draft border plan and other cooperative arrangements provide for a cooperative enforcement arrangement between SEDUE and the EPA, including the establishment of a new enforcement working group, the plan will not be effective without a formal treaty that is binding on current and future Administrations.[293] The agreement would require the EPA and SEDESOL to provide mutual assistance in civil and administrative enforcement actions, including taking depositions, conducting searches and seizures, issuing administrative summons and subpoenas, and other evidence gathering mechanisms. Without such an agreement, mutual assistance in operational environmental enforcement cases is not required. Such administrative enforcement cooperation mechanisms are required in many other areas, including securities and commodities futures trading.

2. *International Environmental Agreements*

One element that warrants clarification is the relationship between NAFTA and international environmental agreements. Some persons have sought to require that all parties to NAFTA be signatories to an international environmental agreement for such an agreement to prevail in areas of inconsistency with NAFTA provisions. Environmentalists want to guarantee that right of each party with respect to measures under existing and future bilateral or multilateral environmental and conservation agreements to which they are or may become a party and to specifically provide that, in the case of any inconsistency between the NAFTA and international environmental agreements, the provisions of the measures most protective of health, natural resources and the environment will prevail.[294]

To provide guarantees for existing international environmental conventions seems appropriate. However, to specifically provide for preeminence of environmental over all other provisions may be excessive. Certainly, some mechanism within or parallel to NAFTA to account for the interaction with international environmental agreements, resolve any conflicts between compliance with environmental and non-environmental obligations of NAFTA would be useful.

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292 For additional background, see *Environmental Enforcement: Mexico-U.S. Integrated Environmental Plan for Mexico-U.S. Border Area*, 7 INT'L ENFORCEMENT L. REP. 321 (Aug. 1991).

293 For additional background, see Bruce Zagaris, *Natural Resources Defense Counsel Calls for International Environmental Enforcement Cooperation to Enforce the NAFTA*, 7 INT'L ENFORCEMENT L. REP. 414 (Oct. 1991).

294 Statement of Arizona Toxics Information et al.(Environmental Coalition), *supra* note 276, at 7.

3. Inclusion of Environmental Enforcement in any Accession Clause

Since it is quite possible that eventually other governments may accede to NAFTA, it becomes important to require that any environmental safeguards within NAFTA will apply to other countries that may accede to NAFTA.[295] Similarly, the promises made by the parties to protect the environment outside of NAFTA should also extend such promises to any accessions.

E. Creation of a Commission on Trade and the Environment

Another recommendation of environmental groups is the creation of a new North American Commission on Trade and the Environment with a comprehensive mandate to address NAFTA-related problems throughout the U.S., Mexico and Canada.[296] The Commission would be composed of governmental and non-governmental experts from all NAFTA member countries. The Commission would be authorized to hear complaints from governments, non-governmental organizations, and citizens concerning the failure of any member country to enforce its own environmental standards or applicable international norms on trade-related activities.

The Natural Resources Defense Council (NRDC) comments suggest that the Commission should investigate allegations of inadequate enforcement, and make findings and recommendations to the NAFTA parties. The Commission would also call attention to problem areas. It would have limited authority to enjoin polluting activities that violate applicable standards. The NRDC recommends that the Commission make recommendations on required improvements in national policies to prevent any country from gaining competitive trade advantages through comparatively weak standards of enforcement.

According to the NRDC comments, the Commission should have a positive role for non-governmental organizations, provisions for extensive monitoring and for penalizing compliance violations, participation of impartial experts within compliance review and enforcement, and full disclosure of documents and proceedings.

The calls by the NRDC for an environmental enforcement cooperation agreement indicate, on a regional level, the same trend as the calls for an international environmental watchdog in the report of the U.N. Environment Programme — the establishment of an executive agency to enforce international environmental standards.

A similar proposal is to provide expanded transboundary legal

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295 *See id.* at ii.

296 For a discussion of the call for a Commission in its early stage, *see* Zagaris, *supra* note 293, at 414.

access for remedying transboundary environmental harms through the conclusion and ratification of the proposed Draft Treaty on a Regime of Equal Access and Remedy in Cases of Transfrontier Pollution,[297] which was prepared by a joint working group of the American Bar Association and the Canadian Bar Association and recommended to the respective national governments by vote of the two organizations in 1979.[298]

Various other versions of this idea are now receiving attention. For instance, HR 4059, would allow Mexico to repurchase some of its outstanding and rescheduled debt owed to the Department of Agriculture's Commodity Credit Corporation, in exchange for Mexico's commitment to spend money on environmental projects. It would also direct the President to establish a U.S.-Mexico Environmental Board to advise the governments of both countries on environmental projects needed along the border.[299]

In connection with the implementation of environmental enforcement cooperation measures, the signatory countries are considering the establishment of a commission along some of the lines proposed by environmental groups as discussed above.[300]

F. Improved Cooperation on Trade in and Protection of Endangered Species

An area that requires immediate improvement between customs authorities among the two governments (or even the three NAFTA governments) is the enforcement of the Convention on the International Trade in Endangered Species.[301] CITES operates by a system of permits, and proper enforcement requires that permits be examined and collected at designated border points by qualified personnel.[302] Permits are examined by customs officers. Experts have criticized Canadian monitoring as woefully inadequate and as not correlated with the identical reports given by U.S. customs authori-

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297 *See* Joint Working Group on the Settlement of International Disputes, Draft Treaty in a Regime of Equal Access and Remedy in Cases of Transfrontier Pollution Between Canada and the United States, SETTLEMENT OF INTERNATIONAL DISPUTES BETWEEN CANADA AND THE USA: RESOLUTIONS ADOPTED BY THE AMERICAN BAR ASSOCIATION ON AUGUST 15, 1979 AND BY THE CANADIAN BAR ASSOCIATION ON AUGUST 30, 1979 WITH ACCOMPANYING REPORTS AND RECOMMENDATIONS 91-93 (1979) (prepared by the American and Canadian Bar Associations).

298 For a discussion of the draft Treaty, see Joel A. Gallob, *Birth of the North American Transboundary Environmental Plaintiff: Transboundary Pollution and the 1979 Draft Treaty for Equal Access and Remedy*, 15 HARVARD ENVTL. L. REV. 85, 92-96 (1991).

299 *House Panel Reports Debt-Nature Bill for Latin America, Caribbean Nations*, DAILY EXECUTIVE REPORT, July 20, 1992, at A-18.

300 *See, e.g.*, Reilly, *supra* note 263, at 5.

301 *See supra* note 113.

302 For a more comprehensive consideration of criminal and quasi-criminal customs enforcement among the three NAFTA governments, see Bruce Zagaris and David R. Stepp, *Criminal and Quasi-Criminal Customs Enforcement Among the U.S., Canada and Mexico*, 2 IND. INT'L & COMP. L. REV. 337, 376-77 (1992).

ties.[303] In the enforcement of CITES and in the enforcement of other wildlife trade issues, experts advocate that Canada strengthen its implementation of treaties, by providing proper enforcement powers, coordination and support.[304]

The same considerations apply to enforcement of endangered species trade between Mexico and the U.S. since even less enforcement resources and cooperation occur between Mexico and the U.S. than between the U.S. and Canada. In addition to CITES, the governments should consider their adherence to and enforcement of other conventions providing for environmental enforcement involving customs officials.[305] Enforcement of environmental and wildlife laws is also a matter of increased enforcement activity by the Mexican government[306] and of cooperation between the U.S. and Mexico.[307] Mexico and the U.S. (and all three NAFTA governments) should examine and try to harmonize legal sanctions against violators of international treaties relating to wildlife. The lack of harmonization and unequal standards has led to disputes and cases in national and international fora concerning the catching and trade of shrimp and yellow fin tuna.[308] The formation of working groups within customs on environmental and wildlife issues would also meet the legitimate concerns of environmentalists, who are demanding that environmental protection not be diminished for the sake of enhanced trade and who call for establishing working groups on the environment in the context of the FTA.[309] These working groups should be, in part, open for participation by citizens and nongovernmental organizations.

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303 Ronald I. Orenstein, *The Federal Government's Role in the Protection of Endangered Species*, Sustainable Development in Canada, OPTIONS FOR LAW REFORM 231, 237 (1990).

304 *Id.*

305 The Conventions may include the World Heritage Convention, 11 I.L.M. 1358, T.I.A.S. No. 8226 (1972), and the Convention on the Conservation of Migratory Species of Wild Animals (The "Bonn Convention"), 11 I.L.M. 963 (1971).

306 *See* Remarks by Mr. Sergio Reyes-Lujan, Undersecretary for Ecology Secretariat of Urban Development and Ecology (SEDUE), Government of Mexico, to a Congressional briefing on the North America Free Trade Agreement, March 21, at 6. He testified that Mexico has intensified its program of inspection and vigilance to control illegal traffic of all species. In 1990, it confiscated 700,000 specimens of wild flora and fauna.

307 For a discussion of the integrated environmental enforcement program, *see id.* and Bruce Zagaris, *Mexico-U.S. Initiate Border Environmental Cooperation*, 7 INT'L ENFORCEMENT L. REP. 55 (1991).

308 For a discussion of the tuna controversy, see Sarah Barber, *U.S.-Mexico Tuna Fight Moves to GATT While U.S. Appellate Court Gives U.S. Environmentalists a Victory*, 7 INT'L ENFORCEMENT L. REP. 58 (1991); and for the controversy on shrimp, see Lea F. Santamaria, *Shrimp Fishermen Fined in First Enforcement Proceeding While Turtles Complain About the Narrow Territorial Scope of the Endangered Species Act*, 7 INT'L ENFORCEMENT L. REP. 26 (1990).

309 *See, e.g., Hearings Before the Subcommittee on International Economic Policy and Trade and the Subcommittee on Western Hemisphere Affairs of the House Committee on Foreign Affairs*, 102d Cong., 2d Sess. (1991) (testimony of Stewart J. Hudson, National Wildlife Federation).

G. *Strengthening Enforcement and Protection of Maritime Border with Mexico*

The Gulf of Mexico is in jeopardy due to the rapid growth of people living and working on the border and in coastal communities and the consequent need for more sewage, water treatment and waste disposal. The short-term and long-term prospects are for more industry, more agriculture, and more port trade with more agricultural runoff, more industrial and marine discharge and more pollution in rivers, bays, estuaries and the Gulf itself.[310]

At present there exists a Coastal Zone Management Agency with statutory authority by the Texas Tax Land Commissioner's Office over Texas' new oil spill prevention and response program. The same agency is responsible for the oversight of some four million acres of coastal and submerged land, 18,000 producing oil and gas wells, and 1.2 million acres along the state's land border with Mexico.[311]

There is a need to extend and strengthen the enforcement of environmental protection to the maritime border with Mexico. Presently, a proposal exists to introduce legislation to provide for state, federal and private sector cooperation through a Gulf of Mexico Commission.[312] In addition, more resources are required to permit enforcement of environmental controls in the Gulf. The EPA has added $475,000 to permit monitoring of the impact on the Gulf of the Rio Grande river flow, a project that originated in the Texas General Land Office.[313]

H. *The Creation of a Regional Environmental Enforcement Regime*

Clearly, environmental problems are becoming increasingly transnational. In the short-term, some of the problems can be addressed through developing means to enhance bilateral cooperation, especially mutual assistance and dispute-resolution mechanisms as discussed above.[314] In both the short-term and long-term, NAFTA and liberalized trade on a bilateral, trilateral, and multilateral regional basis must integrate environmental protection and enforcement[315] and provide sufficiently for a proper legal and institutional

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310 *NAFTA Environmental Policy Hearings Regarding the Environmental Impacts of the Mexican/U.S. Free Trade Agreement Before the House Agriculture Committee*, 102d Cong., 2d Sess. 1 (July 9, 1992)(statement of Gary Mauro, Tax Land Commissioner for the State of Texas).

311 *Id.*

312 *Id.* at 3.

313 *Id.*

314 For background generally on the institutional players on trade and the environment, including the context of NAFTA, *see Trade and Environment Conflicts and Opportunities*, *supra* note 280, at 15-31.

315 For a discussion of the need for a new regime of global economics that will properly integrate environmental standards and protection, see GORE, *supra* note 247, at 337-52.

framework, among which treaties and agreements must be a part.[316]

To close gaps in the operation of international legal assistance, some countries have moved to the third level where it is no longer a question of agreements between states, but of a shift in criminal law jurisdiction to institutions superior to individual states, so that rather than speaking of *international*, experts refer to *supranational* law and institutions. In the universal context, the international criminal law field has discussed the creation of an international criminal code and the establishment of an international criminal court. The parameters of cooperation in a supranational context, especially of the U.S. and Mexico, is limitless because of the magnitude and intensity of the issues that provide the need for cooperation. In the context of supranational criminal justice, environmental law and enforcement can be part of the overall umbrella and/or it can be somewhat autonomous in terms of its own mechanisms and structures.[317]

Regionally, in the context of integration, supranational institutions include the Council of Europe and the institutions of the European Community, which adopt directives and other instruments concerning matters such as criminalizing money laundering, customs, and immigration violations, and enforcement of environmental matters.[318]

In the medium and long-term, supranational criminal justice mechanisms must be devised in order to develop an international environmental enforcement regime. Until now, one of the regional organizations in the Western Hemisphere that has dealt with the environment is the Organization of American States (OAS). Its role has been to provide technical assistance to member states on conservation. However, budgetary problems have limited greatly its abilities to assist on environmental issues.[319]

An important challenge to NAFTA and the Enterprise for Americas Initiative is to integrate into the mechanisms to enhance trade and investment, means to integrate environmental protection and to enforce such measures taken to safeguard environmental protection. Some of the measures will be means to enhance comparative environmental protection, that is, to assist each country within NAFTA or comparable trade/investment agreements to understand and help

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316 For a discussion of the need for a new generation of treaties and agreements generally for international environmental protection, *see* GORE, *supra* note 247, at 352-60.

317 For a discussion of the use of supranational criminal justice for bilateral customs enforcement problems, see Bruce Zagaris and David R. Stepp, *supra* note 300, at 380-84 (1992).

318 For a discussion of international criminal cooperation in Western Europe, see Scott Carlson and Bruce Zagaris, *supra* note 1, at 1-79.

319 For a discussion of the need to build an international environmental regime and also regional initiatives, see Richard L. Williamson, Jr., *Building the International Environmental Regime: A Status Report*, 21 INTER-AMERICAN L.R. 679, 730-32 (1990).

integrate environmental law systems.[320] Other measures will be to identify and mobilize expertise and financing to facilitate the proper design and implementation of environmental protection.[321]

In addition, Mexico and the U.S. would do best to construct a framework in which to deal comprehensively with a wide range of criminal matters. The most efficient structure would probably be a regional organization, such as an Americas Committee on Crime Problems of Ministers of Justice, with their assistants meeting on a regular basis to discuss and take action and cooperate against drugs, money laundering, customs, and a panoply of criminal justice problems.[322] Such an organization would be best established within an existing organization such as the OAS or perhaps the U.N. Committee for the Prevention of Crime and Treatment of Offenders in Latin America. The OAS is the organization that appears, for political, historical and infrastructure reasons, best suited for this task.[323]

Another interim measure whereby the two governments can stimulate environmental protection is to assist universities with Mexican-U.S. studies, U.S.-Canadian studies, and Mexican-Canadian studies, and with international criminal law programs, to undertake research and discussion on the issues of environmental enforcement, especially in the context of increased economic integration. The governments should also continue to work with professional, academic, environmental, business and other interested organizations in organizing and hosting seminars and conducting long-term studies on these issues.

One mechanism to provide or at least consider the potential desirability of a bridge between international and supranational approaches to bilateral environmental cooperation and enforcement is the Mexico-U.S. Interparliamentary Group.[324] The Group is composed of not more than twenty-four members of Congress. It meets at least annually.[325] Already, in the spring of 1990 the holding in Washington of the first Interparliamentary Conference on the Global Environment is attributed as having strongly influenced key members of the U.S. Congress on its own international environmental policy.[326] Perhaps, the Mexico-U.S. Interparliamentary Group should establish a working group to monitor and, where appropriate, propose, legislative or other action to transboundary environmental problems affecting the two countries.

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320 *Id.* at 748-49.

321 *Id.*

322 *See* Bruce Zagaris and Constantine Papavizas, *Using the Organization of American States to Control International Narcotics Trafficking and Money Laundering*, 57 REV. INT'L DE DROIT PENAL 118 (1986).

323 *Id.*

324 22 U.S.C. § 276(h) (1988).

325 22 U.S.C. § 276(i) (1988).

326 *See* GORE, *supra* note 247, at 10-11.

Generally NAFTA does not meaningfully or comprehensively address environmental issues. The U.S. Government's statement blithely states that increased trade and development will *ipso facto* increase trilateral environmental protection and enforcement. NAFTA does not sufficiently address alternative actions or mitigation measures to minimize environmental damage and to strengthen mechanisms to enforce the national mechanisms of signatories or establish NAFTA-wide mechanisms and institutions. To the extent it specifically addresses environmental issues, it limits its scope primarily to the border region and largely ignores potential environmental impacts throughout the Hemisphere. Even the documents that review environmental bilateral issues provide superficial treatment to potential impacts on forests and biodiversity and do not examine and provide for incorporating energy efficiency.[327]

I. Public Participation in Bilateral Environmental Enforcement

A key element of NAFTA enforcement is public participation in the formation and implementation of policy and dispute settlement. Without combining transparency and adequate participation by non-governmental organizations and other interested members of the public, compliance regimes in international environmental enforcement are likely to lack effectiveness.[328]

1. Dispute Settlement

Dispute settlement procedures under existing trade agreements preclude formal public involvement. Hence, institutions that resolve trade disputes relating to the environment under the GATT (*e.g.*, the tuna/dolphin case) and the U.S.-Canada FTA (*i.e.*, the lobster and salmon cases) do not provide an opportunity for participation by affected citizens, non-governmental organizations and members of the legislatures.

To ensure adequate consideration of environmental aspects, some environmentalists have proposed that NAFTA require the chal-

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[327] A related criticism is that NAFTA does not provide for environmental "externalities" of power generation, give incentivees for energy efficient products and renewable energy resources, or institute "demand side management" strategies for energy conservation. Environmentalists state that NAFTA should remove harmful subsidies to the fossil fuel, nuclear and hydropower industries rather than explicitly affirming existing and future incentives for non-renewable and inefficient energy resources, such as oil and gas exploration, development and related activities. For additional background on shortcomings for environmental analysis, see Natural Resources Defense Council, STATEMENT OF NRDC ON ADMINISTRATION ANNOUNCEMENT OF THE NORTH AMERICAN FREE TRADE AGREEMENT (News Release)(August 12, 1992).

[328] For a useful discussion of the need for public participation and a model for the same, see Elizabeth P. Barratt-Brown, *Building and Monitoring and Compliance Regime Under the Montreal Protocol*, INT'L ENVTL. LAW; RECENT DEVELOPMENTS AND IMPLICATIONS (ABA Nat'l Institute 1991), and 16 YALE J. OF INT'L L. 519-70 (1991).

lenging party of measures designed to protect human, animal, or plant life or health, natural resources or the environment bear the burden of demonstrating conclusively that the challenged measure discriminates between like products or production processes and results in a significant adverse effect on trade. In addition, written and oral submissions to the panel should be publicly available when they are submitted. Proceedings and hearings before the panel should be open to the pubic. Final panel rulings should be made publicly available at the time such rulings are issued to the parties. The Rules of Procedure should specify that citizens and non-governmental organizations whose perspectives are not represented in the proceedings should be allowed to intervene as of right, in which case such private parties would have rights identical to the disputing parties, including the right to make oral and written submissions to the panel.[329]

2. *Participation in Trade Agreement Negotiations and Implementation*

The role of non-governmental observers in the future direction of the NAFTA agreement should be institutionalized. In particular, provisions would ensure public participation in the activities of standards "harmonization" working groups that may be convened under the auspices of NAFTA.[330] One means whereby public participation has been incorporated in the negotiations process is that on May 20, 1992, the EPA Administrator William K. Reilly announced the creation of the EPA Border Environmental Plan Public Advisory Committee, which has the purpose of assuring citizen involvement in the implementation of the Environmental Plan for the Mexican-U.S. Border Area.[331] The Committee includes members with professional and personal qualifications and experience drawn from industry and business, community and non-governmental organizations, and academia. A similar group exists in Mexico to advise SEDESOL.[332] Indeed, partly as a result of the NAFTA negotiations, a favorable outcome is that SEDESOL already has substantially revised its own internal process to provide for public participation in the review and approval of environmental reports.[333]

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329 Statement of Arizona Toxics Information et al. (Environmental Coalition), *supra* note 276, at 8 (the right of environmental NGOs to comment on dispute settlement panels is supported by some members of Congress). *See USTR Hills Says There Will Be No "Downward Harmonization under NAFTA*, 9 INT'L TRADE REP. 1096 (June 24, 1992) (discussing Sen. Baucus' support).

330 *Id.* at 9.

331 E.P.A., *Creation of EPA Border Environmental Plan Public Advisory Committee*(Press Release)(May 20, 1992).

332 *Id.*

333 Current Mexican law and regulations permit public review of EIAs only after they have been approved and do not provide for public review of operating permits. SEDESOL is developing a new system, with the assistance of World Bank funding, to ensure earlier and improved public access and to respond to comments or complaints regarding EIAs.

X. Summary and Conclusion

Clearly the liberalization of trade, investment, and the movement of people and goods between the U.S. and Mexico and the already dire status of the cross-border environment makes proper stewardship over the environment an essential element of U.S.-Mexican relations. In this context, the rapidly changing status of international criminal law, international environmental law, international law in the context of economic integration, and the interplay of the two legal systems and culture provides an enormous challenge to maintaining and enhancing the status of environmental enforcement cooperation, and in particular, criminal and quasi-criminal enforcement cooperation. The proper design and implementation of institutions and mechanisms for bilateral environmental enforcement may also be the key for determining the ability of the Western Hemisphere to provide for proper environmental enforcement cooperation in the context of economic integration and the Enterprise for Americas Initiative.

In fact, since January 1991, SEDESOL has been making EIAs available for public review once they are deemed complete and before they have received SEDUE approval. However, this process needs formalization with sufficient time and mechanisms to make the EIAs and operating permit applications accessible to interested persons. For additional discussion, see U.S. G.A.O., U.S. MEXICO TRADE, ASSESSMENT OF MEXICO'S ENVIRONMENTAL CONTROLS FOR NEW COMPANIES 17 (GAO/GGD-92-113 August 1992).