Environmental Enforcement Across Borders: Is the U.S./Mexico Border an Extreme Case?

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This article is addressed to those engaged in environmental enforcement between the U.S. and Mexico as well as those who will be drawn into the negotiations and environmental policy consequences of the Free Trade Area of Americas (FTAA). The purpose of this article is to introduce some of the particular enforcement problems at the U.S.-Mexico border and to discuss how the agencies on both sides of the border are addressing them. In addition, I want to introduce a recently published report - "Strengthening U.S.-Mexico Transboundary Environmental Enforcement: Legal Strategies for Preventing the Use of the Border as a Shield Against Liability"[2] - that addresses a part of the more general enforcement problems. The report was prepared by the Environmental Law Institute (ELI).[3] The author was a principal contributor to the ELI report.

Unfortunately, borders can be an effective shield against environmental liability. This is certainly the case along the U.S.-Mexico border, a border across which pass enormous amounts of hazardous waste and materials, and within sight of which is located a large and growing Mexican export industry.

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[1] The views expressed in this article do not necessarily represent the views of the U.S. EPA or the United States.

[2] The report is available as a free download at: www.eli.org [ELI Store>Research Reports>International>].

[3] This study is the most recent product of a joint U.S. EPA/PROFEPA project with ELI that has presented biannual workshops to develop environmental enforcement capacity in the border area. The first workshop in 1996 explored how U.S. and Mexican environmental laws apply to common problems in the border area using case studies. The second workshop in 1998 included non-governmental organizations (NGOs) from both sides of the border and focused on the available tools to break down the border as a shield. The third workshop in 2000, again including NGOs, focused on the obstacles and challenges to bringing enforcement actions or law suits across the border. A report of the 2000 workshop can be found at www.eli.org [research>research reports>2000>United States-Mexico Transboundary Environmental Enforcement]. In addition to providing the opportunity to address specific enforcement problems, these workshops provided an important opportunity for NGOs to engage in general discussions of enforcement issues with both U.S. and Mexican law enforcement officials at the federal, state, tribal and local levels.

The U.S.-Mexico border may present some extremes not present on other borders. Specifically, the U.S. -Mexico border divides two countries with: 1) enormous disparities in per capita income; 2) extremely uneven development along the border; 3) huge amounts of cross-border traffic in hazardous waste and materials; 4) chronic disparities in the resources available to government agencies; 5) a history of distrust; 6) a language barrier; 7) very different legal traditions; and 8) the chronic distraction of drug enforcement.

The environmental agencies of the U.S. and Mexico have been trying to overcome this set of obstacles and have had some notable successes. A discussion of the obstacles, some of the methods invented by U.S. and Mexican agencies to overcome the obstacles, and an assessment of the success of the methods follow.

A. A Symptomatic Example:

The yard behind the smelter is piled high with slag. Some of it has already spilled through a fence, down the slope of the mesa, and into the yards of the residents below. In one corner are 60 or so 55-gallon drums. Many of the drums are rusted. Some have evidently leaked, staining the soil a dull yellow. Inspectors from PROFEPA, the Mexican federal agency responsible for environmental regulatory enforcement, sampled the drums and the soil last month. Laboratory analysis shows that the drums are filled with waste solvents and the soil is heavily contaminated with those solvents. The inspectors also sampled the slag which has high levels of lead, cadmium, mercury and an assortment of other heavy metals.

The facility has been stripped of anything valuable that could be carried away. The office, the door of which has been removed, is empty except for the trash on the floor. Two weeks ago, PROFEPA issued an order requiring the maquiladora to cleanup within ten days. On the eve of the order's deadline, the company fled across the border to the United States. The watchman says that the owners filled two trucks with documents and equipment, then left. They did not even close the front gate. When the workers arrived the next morning even the managers did not know what, precisely, had happened. Almost certainly, the owners, their assets, and anything valuable that could be carried away, are now in the United States.

Stories like this play themselves out with regularity along the U.S.-Mexico border. It might be truckloads of dangerous wastes being shipped to Mexico for "recycling" that instead end up abandoned in a desert arroyo in the Sonora Desert. Or it might be a truckload of hazardous waste being shipped to the U.S. for disposal that is abandoned in an urban warehouse. The common thread is the use of the border as a shield to avoid responsibility. The parties responsible for environmental damage and violations of law in one country make sure that they and their assets are across the border in another country, thereby evading liability. How can this be overcome?

B. Some of the Characteristics and Obstacles to Enforcement On the U.S.-Mexico Border

A look at the characteristics and obstacles to enforcement presented by the U.S.-Mexico border suggests that this border may well present an extreme example. Although each border will present unique problems, the U.S.-Mexico border presents a formidable collection of obstacles over a broad range. Therefore, any successes realized by U.S. and Mexican environmental agencies should encourage others. As negotiations to create a free trade agreement among all of the national economies in the Western Hemisphere proceed, and trade increases among all of these countries, some of the lessons learned on the U.S.-Mexico border might be relevant to other borders and other international enforcement relationships as well.

1. No border in the world divides two countries with a greater disparity in per capita income[4]

The U.S. border divides a country with a per capita gross national income of $34,870 from a country with a per capita gross national income of $5,540.[5] The disparities between Mexico and its neighbors to the North are greater than any comparable differences in the European Union or virtually anywhere else in the world. Yet the U.S. and Mexico, along with Canada, are betting that market forces virtually alone will provide the resources necessary to harmonize the very different economies and legal systems. To that end, they have entered into the North American Free Trade Agreement (NAFTA).

NAFTA, which first went into effect on January 1, 1994, establishes a single trade zone comprising nearly 375 million people in Canada, the United States and Mexico. Its provisions take effect gradually over more than ten years and intend to create a free trade zone for goods and to significantly liberalize the treatment of investment, intellectual property and services.[6] The economic, social, cultural and political effects of NAFTA will be debated for years. However, it is certain that trade across the U.S.-Mexico border has increased and is expected to continue to increase and that

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[4] At least no commercially significant border. World Bank statistics show greater disparities between some oil producers and their neighbors: Brunei/Malaysia; Saudi Arabia/Yemen; and possibly Kuwait/Iraq and North Korea/South Korea.

[5] "United States at a glance" and "Mexico at a glance" (2001 preliminary estimates using Atlas method) www.worldbank.org/data/countrydata/countrydata.html.

[6] NAFTA does not create a free market for services, capital or, especially, labor. In fact, labor markets remain as separated as before NAFTA creating acute pressure to move labor from Mexico, where wages are relatively low and unemployment is relatively high, to the United States and Canada, where wages are high and there is work.

pressure on the environmental infrastructure - e.g., potable water, sewage treatment, domestic and hazardous waste disposal - continues to increase. The disparities in income and the effects of increasing trade help create some of the symptoms discussed below.

2. Uneven development along the border

Until the 1970's there was little industry in the border area, which, following the definition of the La Paz Agreement of 1983,[7] is considered to include 100 kilometers (62.5 miles) on either side of the 3,100 kilometer (almost 2,000 mile) border that runs from the Pacific Ocean to the Gulf of Mexico. Much of the border, particularly the Western part, runs through mountains and deserts, has never been suitable for agriculture and has had low population densities. With the creation in 1965 of Mexico's maquiladora program, which provides tax advantages for foreign business to set up assembly plants, or maquiladoras, in Mexico, the border began to change rapidly. The degree and rate of change is demonstrated by a graph that shows the number of maquiladoras in the six Mexican border states from January 1980 until just a few months ago (Table 1). From only about 500 maquiladoras in 1989, the number soared to well over 2,500 by 2001.

Meanwhile in the United States, business growth along the border has been limited mainly to warehousing and service industry for the maquiladoras. Although population has grown, and with it pollution sources such as mobile source air pollution and dust, most of the acute pollution problems on the U.S. side of the border are the result of agricultural production in those areas suitable for agriculture, such as the Imperial Valley in California and the Rio Grande Valley in Texas. Smoke from agricultural burning, pesticide spraying and agricultural return flows from irrigated fields are the kinds of pollution problems that attract the attention of the pollution control agencies.

Table 1 shows not only the rapid growth of the maquiladora sector but the sensitivity of the sector to business conditions in the Region. The U.S. recession of 1990-91 is reflected in the sharp but short-term drop in maquiladora numbers for that period. The peso devaluation of December 1994, and the subsequent turmoil in the Mexican economy is reflected in a more gradual decay in maquiladora numbers during 1994 and 1995. However, in spite of the short term effects of business conditions, the number of maquiladoras have continued to grow rapidly until the most recent recession in the U.S. and Mexico.

Although maquiladoras are the motor for development in the border region, their direct contribution to the pollution load appears to be relatively small. The growth of the maquiladoras has engendered a population boom and the attendant growth in service industries. Domestic sewage flows

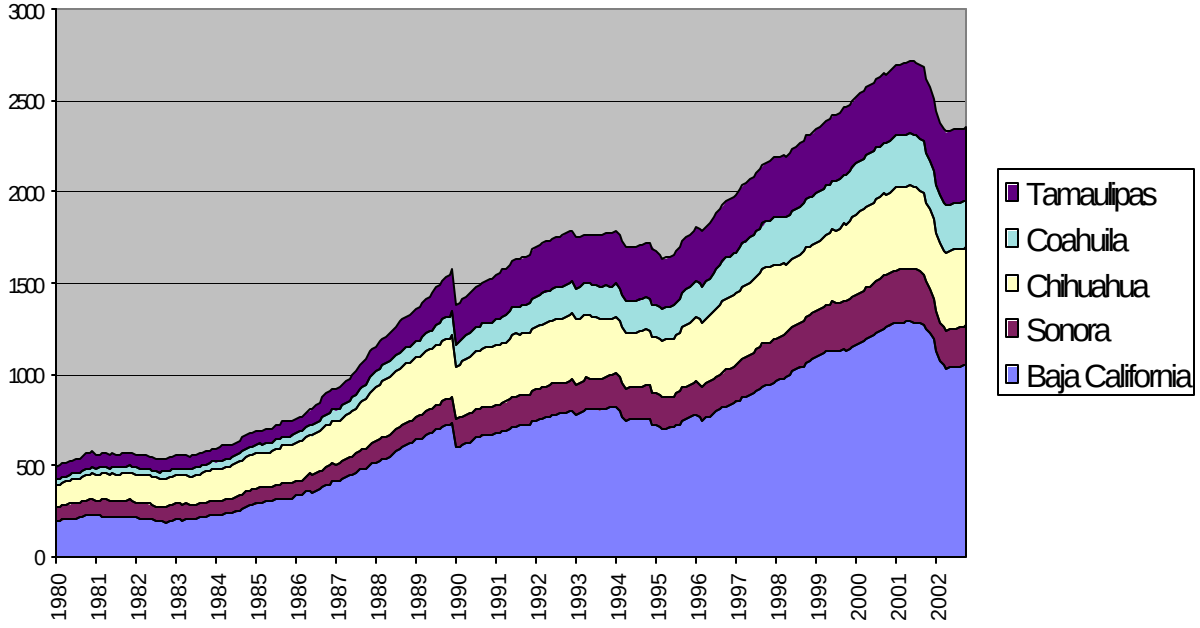
[7] The Agreement between the United States of America and the United Mexican States on Cooperation for the Protection and Improvement of the Environment in the Border Area, signed in La Paz, Baja California Sur, Mexico, on August 14, 1983 (the La Paz Agreement).

overwhelm the sewage collection and treatment systems in every border urban center. Domestic (non-maquiladora) industry pumps inadequately treated waste onto the land and into the waterways. Municipal landfills overflow and often burn. A look at the monitoring data from the New River, which flows from Mexicali into Imperial County and the Salton Sea, and the Tijuana River, which flows from Tijuana into San Diego County and the Pacific Ocean, suggests that if every maquiladora in either watershed were to go to zero discharge, there would still be no measurable difference in water quality at the international border.

The effect of NAFTA on the maquiladoras is still unknown. One prediction is that the lowering of tariffs will slowly undermine the reason for maquiladoras to exist. However, even if that proves to be the case and the incentive for a category of business built on tax advantages disappears, the wage differentials between the United States and Mexico will continue to encourage the growth of businesses like the maquiladoras that exploit the relatively cheap labor available in Mexico. The advantages of being close to markets in the U.S. will continue to keep much of that business in the border area.

With the slowdown in the U.S. and Mexican economies over the last two years, the growth in the maquiladora industry suddenly became negative. As Table 1 illustrates, during 2001 the number of

Table 1: Maquiladoras in Border States, January 1980-October 2002



maquiladoras declined precipitously. For maquiladoras in financial trouble - and particularly those that

have amassed mountains of hazardous wastes that are expensive to dispose of[8] - this may mean grabbing assets and leaving wastes behind. Baja California has led the border in abandoned maquiladoras and has the two most notorious problems: Metales y Derivados and Alco Pacifico de Mexico, both abandoned metals smelters that closed down while trade was growing.[9] We anticipate the list of abandoned facilities to continue to grow as long as the economies of Mexico and the U.S. remain weak.

3. Huge amounts of materials, including hazardous materials headed south and hazardous waste headed north, cross the border

A key characteristic of the maquiladora program is the requirement that maquiladora products and the wastes created in their production be sent back to the country from which the raw materials came. In order to get the benefit of the tax concession, which is taxation only on value added to the materials, the materials must come from abroad. For border area maquiladoras, this means that the raw materials come from the United States and the products and waste are supposed to be sent back to the United States, whether the maquiladora is producing auto parts for General Motors or televisions for Sony USA. Although these requirements have been relaxed somewhat over the years, and although we have to assume that not all of the waste that is supposed to be sent to the U.S. actually does get sent, the movement of materials and waste across the U.S. -Mexico border is enormous. In 1999, for instance, the U.S.EPA data base registered 12,245 tons of hazardous waste imported from Mexico. Table 2 summarizes some data regarding hazardous wastes that were shipped from Mexico to the United States from 1994-1999.

[8] Maquiladora wastes are expensive to dispose of because under Mexican law the maquiladora has to export its hazardous waste, usually to an expensive treatment, storage or disposal (TSD) facility in the United States.

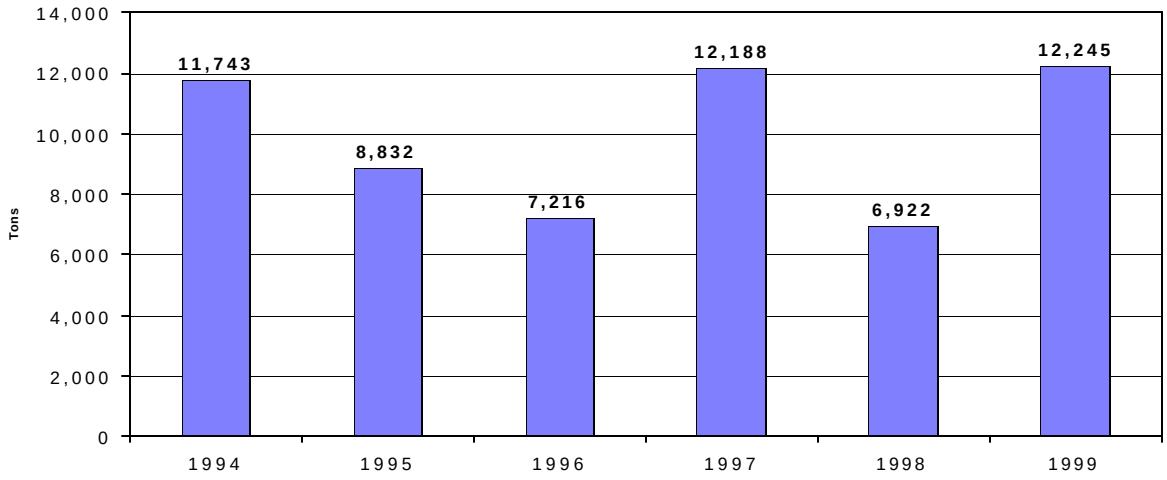
[9] See, Metales y Derivados Final Factual Record (North American Environmental Law and Policy Series, Vol. 8), Commission for Environmental Cooperation (CEC) of North America, Montreal, 2002. Available in English, Spanish and French, in hard copy from the CEC or from their web site at: www.cec.org [publications and informationa resources>citizen submissions on enforcement matters>]

Even if NAFTA does reduce the incentive to organize manufacturing under the maquiladora program, there is no reason to believe that the amount of manufacturing in the border area will drop. As discussed above, NAFTA has increased trade dramatically among the three countries and the border area will remain an attractive area for manufacturing because it is the closest location to markets in the U.S. Therefore, the movement of hazardous materials between the countries is expected to increase. There is only one licensed hazardous waste disposal facility in all of Mexico. Therefore, until disposal capacity in Mexico increases, most of the waste produced in the border area will still need to be disposed of in the United States, if it is to be disposed of legally.

4. Chronic disparity in resources of government agencies

The personnel and budget resources of U.S. agencies in the border states - federal, state, tribal and local - are magnitudes larger than their Mexican counterparts. U.S. personnel are paid at levels many times higher than their Mexican counterparts. Mexican environmental personnel are routinely lured away by industry. Over the ten years that U.S. and Mexican agencies have been working together on the border there has been no net increase in the number of Mexican inspectors in the border area, yet there are thousands more regulated entities and the amount of pollution they produce

Table 2: Hazardous Waste from Mexico to the US, 1994-1999
(per RCRA definition of hazardous waste)



continues to increase.

Aggravating the disparity in resources is the inconvenient fact that a risk ranking of Mexico's pollution problems would find U.S.-Mexico border problems way down the list. For instance, no matter how many times investigative reports describe the New River, which flows north from the Mexicali Valley, Baja California, into Imperial County, California, and then into the Salton Sea, as "the

dirtiest river in the world," it is really no worse than a long list of Mexican rivers that receive untreated sewage from urban areas. If Mexico is going to spend its scarce resources to address the New River, it will be for political rather than health risk reasons.

5. A history of distrust

"Are you with the Arizona Rangers?" was my first greeting, delivered with a wry smile, by my hosts at the Cananea copper smelter in Sonora. I was on my first official visit to Mexico, in 1986, as part of an enforcement initiative to clean up or shut down the copper smelters that lacked pollution controls in the "smelter triangle" of southern Arizona and northern Sonora. I heard several more similar references the following day. The event on the minds of my hosts occurred in 1906. U.S. volunteers, recruited in Arizona in response to a strike by miners at the Cananea smelter over pay, working conditions, and unequal treatment between U.S. and Mexican workers, crossed the border to help Mexican officials crush the strike. Official school history books in Mexico describe the strike at Cananea, and the resistance to both U.S. intervention and the government, as the first battle in the Mexican Revolution that toppled the dictatorship of Porfirio Diaz in 1910.

My hosts and everyone I met were extremely cordial. I do not believe that they meant to offend me by their references to the events of 1906. Yet I was struck by how the memory of events that occurred eighty years before, events that are treated as obscure bits of history with little meaning north of the border, surfaced so quickly and easily from collective memory in Sonora.

The relationship between the United States and Mexico has never been one of equality in either economic or political power. The unfortunate history of annexations and interventions, as well as political meddling and economic bullying, has been well reported elsewhere. It is enough to note that our current work on the border is undertaken against the backdrop of a long history of misunderstandings, resentments, allegations of bad faith and ineffective communications.

6. Language barriers

The most obvious challenge in coordinating and cooperating across the U.S.-Mexico border is the difference in languages. The official language of the U.S. is English; the official language of Mexico is Spanish. While true that in the border area a large and growing number of residents are bilingual or have the ability to communicate with facility in both languages, meetings among officials or interested communities, except for those at the most local level, require simultaneous interpretation. Simultaneous interpretation even at its best - and the best is very expensive - cannot overcome all confusions and ambiguities. Simultaneous interpretation at less than the highest levels of skill and concentration produce many misunderstandings. The translation of written documents is also difficult and expensive, much harder to accomplish in a satisfactory manner than we had ever imagined.

7. Conflicting legal traditions

The United States follows the common law tradition; Mexico follows the civil law tradition. Problems of translation between the two traditions transcend problems of translation between languages. For instance, in the common law tradition, the accepted major classifications of law are civil and criminal. Administrative law is a subcategory of civil law.
In the civil law tradition the accepted major classifications are public law and private law. Administrative law falls within public law. Private law includes two subcategories: civil law and commercial law. When U.S. lawyers speak of using "civil law" to address an enforcement problem, they mean the entire body of law, including administrative authorities, that is not part of criminal law. When Mexican lawyers speak of using "civil law" to address an enforcement problem, they mean using a body of law that is limited to the law of persons (natural and legal), the family, inheritance, property, and obligations. When U.S. and Mexican lawyers discuss their various tactics and strategies regarding civil law remedies and come away confused, it may have little to do with the quality of the interpretation or translation and almost everything to do with the difference in legal traditions.

8. The drug enforcement focus of our border enforcement officials (particularly Customs and criminal prosecutors) distracts from environmental enforcement.

It is no mystery that the principal focus of U.S. Customs and Mexican Aduana has been illegal drugs and now, more than ever, weapons. With NAFTA and the rapid increase in licit trade and vehicle traffic, the opportunities for illicit trade and the burden on inspectors to stop it increases as well. Not surprisingly, U.S. Customs became more interested in hazardous waste imports when it was noted that hazardous waste loads could be used to hide contraband.

There is no reason to believe that the extreme focus on drugs and weapons will change any time soon. However, in spite of this, both U.S. Customs and Mexican Aduana do discover, from time to time, illegal shipments of hazardous waste and hazardous materials. We expect that if they were able to pay even a little bit closer attention to environmental contraband crossing the border we would quickly find, for example, more illegal flora and fauna moving north and hazardous wastes being sent south for sham recycling.

C. What Can Be Done to Meet the Border Challenges?

1. Communication among enforcement authorities

To date, the greatest successes in reducing the confounding effects of the border on environmental enforcement have been face-to-face meetings among representatives of environmental enforcement agencies on both sides of the border. The broad framework for this coordination was set by the La Paz Agreement of 1983, which set forth the desire by the executive branches of both governments to work together to improve the border environment. In November of 1986, the

governments added an annex[10] that set forth guidelines for handling the already enormous and growing movement of hazardous wastes and hazardous substances across the border.

Mishandling and abandonment of hazardous wastes and substances, and, sometimes, criminal conspiracies to avoid regulation, persuaded environmental agencies on both sides of the border to organize themselves geographically to address these issues. The first of these workgroups formed itself between Chihuahua and Texas in 1992. Shortly thereafter, regional workgroups formed between California and Baja California, Arizona and Sonora, and in the Rio Grande Valley. The need for these workgroups was so evident to government officials in the border states and their related federal offices, that several of these workgroups formed themselves unofficially, months and years before the national governments sanctioned their existence.

The subgroups for California/Baja California and for Arizona/Sonora have been meeting quarterly since 1994, alternating meeting locations between Mexico and the U.S. The meetings receive simultaneous interpretation in English and Spanish. Agendas are negotiated among the participants, which include representatives of all environmental agencies at the federal, state, tribal and local levels that have a role in enforcement in the border area.[11] The meetings are co-chaired by representatives from PROFEPA (for Mexico); and representatives from the U.S. EPA regional office and the U.S. state environmental agency (for the U.S.).

The subgroups have been as important for developing contacts and for developing a habit of communication as for the transmission of information and the resolution of problems. The contacts that are made and developed at subgroup meetings engender successful coordination between meetings. Concretely, the trust engendered by work in the subgroups has made possible the solution of a series of problems that without the workgroups would have remained unsolved or awkwardly addressed. For example, the subgroup for Arizona/Sonora made possible the first binational and transborder

[10] Annex III, Agreement of Cooperation Between the United States of American and the United Mexican States Regarding the Transboundary Shipments of Hazardous Wastes and Hazardous Substances, November 12, 1986, see note 5.

[11] Representative agencies from the U.S. typically include: U.S. EPA, U.S. Customs, U.S. Attorney Offices, Border Patrol, State Attorneys General Offices, State environmental agencies, Tribal environmental agencies, emergency response agencies, and County and City agencies, including prosecutor's offices, fire departments, and health departments. Representative agencies from Mexico typically include the Procuraduria Federal de Proteccion al Ambiente (PROFEPA), Procuraduria General de la Republic (PGR), Aduana, Comision Nacional de Agua (CNA), Instituto Nacional de Ecologia (INE), emergency response agencies, as well as state and local environmental agencies.

investigation of the sources of a polluted aquifer using Superfund[12] and the first successful enforcement case that U.S. EPA has ever taken directly against a foreign entity for regulatory violations.[13]

The first binational and transborder investigation was at Nogales Wash. Nogales Wash flows north from Nogales, Sonora, into Arizona. The river flows underground and is contaminated with organic solvents. Through the subgroup, U.S. and Mexican agencies developed a binational plan to determine the sources of the organic solvents. After many conversations with headquarters offices in Washington and Mexico City about the risks of using Superfund, which has a powerful joint and several liability cost recovery scheme, a binational team sampled a combination of soils and water on both sides of border. We now know a lot more about the probable sources of contamination and the level of threat. We will be able to monitor the contamination more effectively and be better able to address any risks that arise. Moreover, there have been no unintended consequences from the use of Superfund. Without the binational coordination, the U.S. agencies would have studied the problem only in Arizona and would have had little ability to predict whether the pollution would be short-lived or long-term. Therefore, any response actions would have been compromised.

2. Creative use of domestic environmental law

Enforcement of environmental requirements takes place using domestic laws. As important as international environmental agreements may be in creating incentives among nations to protect the world's environment, compliance and enforcement take place principally in the context of domestic laws and policies that regulate conduct within a nation's borders.[14] Only in domestic law reside the

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[12] Superfund is a trust fund administered by U.S.EPA under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 U.S.C.A., § 9601 et seq. The Superfund can respond to releases of certain "...contaminant[s] which may present an imminent or substantial danger to human health or the environment [of the United States]." 42 U.S.C.A. § 9604(a)(1).

[13] In the Matter of Maquiladora Chambers de Mexico, S.A. de C.V., RCRA 09-99-0003, settled July 17, 2000 (unreported).

[14] While not discounting completely the extraterritorial use of domestic law, I am confident that unilateral use of domestic law in a foreign jurisdiction: 1) will never address the fundamental regulatory and enforcement problems that can only be solved by the jurisdiction in which the environmental violations and damages are occurring; and 2) will tend to irritate the sensitivities of the foreign jurisdiction, endangering the ability of the jurisdictions to work cooperatively. The unilateral use of domestic law in foreign jurisdictions has been criticized in international declarations: "...Unilateral actions to deal with environmental challenges outside the jurisdiction of the importing country should be avoided. Environmental measures addressing transboundary or global environmental problems should, as far as possible, be based on international consensus." Principle 12 of the Rio Declaration on Environment and Development (1992).

authorities that can compel compliance, levy effective fines and penalties, and procure restitution.[15] Therefore, unless a sovereign state has the domestic legal tools and knowledge to apply them effectively, the promises made by international agreement or treaty cannot be kept.

At international borders, the imperative to apply domestic laws requires particular creativity because, as has been discussed above, the environmental damage and those responsible are often separated by a border. To be fully effective, the border governments must be able, somehow, to enforce within their own jurisdiction and then get judgments recognized in the country in which the defendants and their assets are hiding.

Recognition of judgments across a border is never automatic and rarely easy. Criminal judgments virtually never receive comity.[16] However, judgments regarding commercial disputes may well receive comity if the plaintiffs have scrupulously met the requirements of both jurisdictions. As a result, the jurisprudence regarding comity and the compatibility between and among domestic environmental legal systems with common environmental problems needs to be developed. ELI's publication of Strengthening U.S.-Mexico Transboundary Environmental Enforcement, and the work that it has done with enforcement agencies in the border area, is a good example of the progress made in developing this jurisprudence.

3. Cross-training/capacity building

Cross-training and capacity building across a border is as much a process of encouraging professional relationships and building trust as it is a process for developing competencies. This is certainly evident from work between U.S. and Mexican environmental agencies. Our training experiences have ranged from highly technical training in sampling, laboratory analysis and evidence gathering to workshops on the development of enforcement policies and programs. The audiences have varied from field inspectors at environmental and customs agencies to policy makers responsible for setting up enforcement programs.

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[15] I do not mean to suggest that legal actions under domestic laws in any way exhaust the universe of effective enforcement tools. These tools, which include various forms of compliance promotion such as education and technical assistance, building public support, publicizing success stories, creating financial incentives, and building environmental management capabilities at facilities, are essential to any enforcement regime. See "Principles of Environmental Enforcement," U.S. Environmental Protection Agency, July 15, 1992. We only mean that many important compliance problems absolutely require the use of formal actions resulting in concrete and enforceable legal results.

[16] "Comity" is the principal under which the courts of one jurisdiction recognize or give effect to the laws and judicial decisions of another jurisdiction, not as an obligation, but out of deference and respect.

At first blush it would appear that cross-border training would be principally "experts" from the U.S. training Mexicans. This turns out not be the case. Certainly, the technical expertise available in the U.S. is formidable. Agencies in the U.S. have had more than forty years of (relatively) aggressive environmental regulations, enormous budgets (by world standards) and ready access to advanced technology. Yet transfer of technical knowledge is only one of the kinds of knowledge that needs to be addressed. More difficult is how to solve the particular problems that effect the border. For example, how do we ensure that our customs inspectors know enough about the problems of hazardous wastes and materials to be able to address them while under pressure to pass through the border enormous amounts of material at some of the busiest border crossings in the world? What kinds of information must be shared between the agencies on both sides of the border, and how quickly, to overcome the use of the border as a shield against environmental liability? These problems will not be solved by either country assuming that it has an answer that simply needs to be "transfered."

The most apparent obstacle to our cross-border training has been the high turnover of personnel, particularly at the Mexican environmental agencies and at both countries' customs agencies. This means that a year after providing training in evidence gathering or sampling techniques, for instance, a high percentage of those trained have moved to other jobs - in Mexico often to the regulated community - or been replaced. This means, of course, that we have to continually repeat successful training classes. However, it also means that the cadre of trained environmental personnel in the border region continues to grow. This is a good thing. From an enforcement perspective, it is essential that the regulated community know how to comply. If someone that we have trained goes to work for a regulated company and that company complies with environmental law either because it wanted to comply and the new employee helped it do so or because the new employee helped persuade it to comply, we should consider the training a success.

4. Working with customs agencies

Customs agencies are the only omnipresent eyes and ears at borders. They are, therefore, essential partners to any environmental program intent on addressing movements of hazardous materials, wastes, pesticides, or any other substances of concern. Unfortunately, customs agents are distracted by a myriad of other concerns with higher priorities than ours, notably drugs, weapons and tariffs.[17]

Our experience on the U.S.-Mexico border suggests that the only way for an environmental agency to work successfully with a customs agency is to make environmental inspectors present and available at the border crossings to collaborate with the customs agents. This collaboration runs from suiting up in protective gear to enter trucks that Customs agents have identified as suspicious but too

[17] On the U.S.-Mexico border, post-NAFTA, the distraction of tariffs, at least, ought to diminish.

dangerous to inspect to taking samples and making determinations whether loads of chemicals that are being imported should be allowed in or sent back. Wherever we have succeeded in making environmental inspectors present or regularly available on short notice - whether they be federal, state or local inspectors is unimportant - our communication and working relationships have improved dramatically. Wherever inspectors are not present or available our working relations are difficult to develop and communication fades. No "memoranda of understanding (MOU)" between our headquarters offices - as helpful as these MOUs may be to allow us to work together locally - can substitute for regular and helpful collaboration among environmental inspectors and customs agents.

D. Conclusion

Borders have been an effective shield against environmental liability. This is certainly the case along the U.S.-Mexican border, a border across which pass enormous amounts of hazardous waste and materials, and within sight of which is located a large and growing Mexican export industry. U.S and Mexican pollution control agencies are inventing and experimenting with new ways to make their domestic environmental laws meet the challenges presented by the border. These include: 1) better habits of communication; 2) creative use of domestic environmental law; 3) cross-training and capacity building; 4) better ways of working with customs agencies.

The U.S.-Mexico border presents some extremes that make attempts to meet these enforcement challenges of interest to others who confront borders with environmental problems. If these problems can be overcome across the U.S.-Mexico border, they ought to be solvable across borders with fewer obstacles. As negotiations to create a free trade agreement among all of the national economies in the Western Hemisphere proceeds, and trade increases among all of these countries, then some of the lessons learned on the U.S.-Mexico border might even have direct application.