

*Improving Wastewater Infrastructure along the Arizona-Mexico Border:  
An Analysis of Trends and Ideas*

Vera S. Kornylak, Esq.

Arizona Center for Law and Public Interest

Presented at the  
North American Symposium on Understanding the Linkages between Trade and Environment  
Washington, DC  
October 11, 2000

## **Improving Wastewater Infrastructure along the Arizona-Mexico Border: An Analysis of Trends and Ideas**

### **Abstract**

This project examined the effect of NAFTA on the number and type of Clean Water Act violations at three wastewater treatment facilities along the Arizona-Mexico border. This study also focused on the relative availability of information regarding environmental compliance in the United States and Mexico. Discharge monitoring reports were collected for up to ten years from three wastewater treatment plants, City of Yuma, Figueroa, the Nogales International Wastewater Treatment Plant, and the Bisbee Mule-Gulch Plant. The number and types of Clean Water Act violations were then tallied from the discharge monitoring reports. The study revealed the importance of open government in monitoring environmental compliance and concluded that both the United States and Mexico could improve public access to government information. Furthermore, the data collected revealed that NAFTA does not appear to have directly impacted the number or type of wastewater treatment plant violations at the three plants. Finally, that both the Nogales and Bisbee Plants are in need of upgrades, although it is unclear when or how such repairs will occur. A further study incorporating more complete data from the United States, and data from Mexico, is necessary to fully evaluate NAFTA's effects on wastewater treatment along the Arizona-Mexico border.

## I. Introduction

Although the Arizona-Mexico border area<sup>1</sup> is only about 350 miles long, its environmental problems are no less severe than those of California or Texas, which often dominate press attention. Since the adoption of the North American Free Trade Agreement ("NAFTA") in 1994, the Arizona-Mexico border has seen an resurgence of industrialization and growth, despite the inadequacy of basic services such as wastewater treatment. At public meetings, many people living on the Mexican side of the border voice concerns regarding the lack of potable water.<sup>2</sup> On the Arizona side of the border, however, one of the worst environmental problems is lack of wastewater treatment.<sup>3</sup> While there are many wastewater treatment facilities along the border area, most are in disrepair or unable to handle the amount of wastewater generated today because the facilities were built before increased industrial development along the border. Some facilities have applied for, or have already received funding from various border agencies to upgrade or rebuild the facility. Others, however, continue to inadequately treat water, pollute the environment, and violate federal law. In some places, such as Naco, Arizona, the lack of any wastewater treatment facility poses potentially serious environmental and health concern.

Despite the ongoing wastewater treatment problem, no treaty or other law specifically addresses how binational wastewater treatment problems should be solved. NAFTA and the North American Agreement on Environmental Cooperation ("NAAEC") discuss the general

---

<sup>1</sup> According to the La Paz Agreement, the "border area" includes the land 100 kilometers north and south of the border itself. 80 Stat. 271, Article 4, August 14, 1983. The La Paz Agreement is a treaty between the United States and Mexico which provides, in part, that the two countries work cooperatively to solve environmental problems along the border.

<sup>2</sup> See Rosario T. Limon, *Drinking Water Source of Death in Mexico*, Reuters, August 12, 2000.

<sup>3</sup> For the purposes of this paper, the term "wastewater" includes water being discharged from households, industrial facilities, and stormwater run-off, which can often contain a combination of natural sediment and other organic substances, industrial, and household wastewater.

prohibition against violating one's own environmental laws,<sup>4</sup> but neither agreement addresses how wastewater treatment problems should be addressed on a binational level.<sup>5</sup> More importantly, no law or treaty clearly assigns enforcement obligations to any specific agency or nation. As a result, many violations of environmental law along the border are ignored and laws remain unenforced.

While the lack of wastewater treatment poses detrimental health and environmental effects, several factors can be identified that may assist in finding solutions to this, and other, environmental problems along the border. At least three primary causes contributing to environmental degradation along the border can be identified: (1) lack of an overall plan to address border environmental needs;<sup>6</sup> (2) lack of enforcement of environmental laws in the border area in particular;<sup>7</sup> and (3) lack of funding to improve and maintain necessary wastewater treatment plants.<sup>8</sup> All three of these deficiencies are evident when analyzing wastewater treatment violations along the Arizona-Mexico border. This paper will review data regarding

---

<sup>4</sup> A citizen submission may be brought pursuant to Articles 14 and 15 of the NAAEC, against another country party to NAFTA, for failure to uphold its own environmental laws.

<sup>5</sup> The International Boundary and Water Commission ("IBWC") is the primary binational (the IBWC's Mexican counterpart is the Comisión Internacional de Límites y Aguas ("CILA")) agency involved in operating wastewater treatment plants that treat water from both the United States and Mexico. IBWC operates at least two plants, one in San Diego, California, and one in Nogales, Arizona. Both are currently being upgraded with funds awarded by U.S. EPA, the IBWC, and the Border Environmental Cooperation Commission ("BECC").

<sup>6</sup> See G.A.O. Report to Congressional Requesters, U.S.-Mexico Border: Despite Some Progress, Environmental Infrastructure Challenges Remain, March 2000 (hereafter "GAO Report 2000").

<sup>7</sup> Despite violations at the Nogales International Wastewater Treatment Plant ("Nogales Plant"), U.S. EPA has taken no enforcement action under the Clean Water Act, 33 U.S.C. § 1319, to remedy the violations. While U.S. EPA is responsible for recent funding to improve the Nogales Plant, EPA maintains that it has complete discretion regarding whether or not to enforce the Clean Water Act. See U.S. EPA's Motion to Dismiss, *Sierra Club et al. v. Browner et al.*, CV-00-184-TUC-RCC (D. Ariz. 2000). In June of 2000, EPA initiated enforcement action against the City of Bisbee Mule Gulch Wastewater Treatment Plant ("Bisbee Plant"), although EPA has not publicly released any information on this enforcement action.

<sup>8</sup> Most of the border towns do not have enough sources of funding within their own communities to pay for necessary wastewater infrastructure. Such cities and towns are forced, instead, to seek funding from agencies such as U.S. EPA, the North American Development Bank ("NADBank"), and other Mexican equivalents.

wastewater treatment violations<sup>9</sup> along the Arizona-Mexico border, and present suggestions for improving wastewater infrastructure. It will also address the importance of open government in the context of environmental regulation.<sup>10</sup> In Arizona, data was collected for three cities: Nogales, Bisbee, and Yuma.<sup>11</sup> In an attempt to collect similar data from Mexico, a survey relating to wastewater treatment was sent to government and other agencies in San Luis de Colorado, Nogales, and Naco, Sonora, the sister cities of the chosen cities in the United States. Unfortunately, no information was received from Mexico. Compliance data, however, was collected from three wastewater treatment plants on the United States side of the border. In the following discussion, I will first briefly discuss the hypothesis and applicable environmental law from the United States and Mexico. Then, I will discuss the methods for data collection, analysis, and conclusions. Finally, I will include ideas on open government and dissemination of information.

## **Hypothesis**

Prior to receiving and analyzing any data, I hypothesized that the number of wastewater treatment plant violations would increase following the initiation of NAFTA in 1994. I

---

<sup>9</sup> "Wastewater treatment plant violations" refers to any violation of the Clean Water Act which occurred at a wastewater treatment plant. Part II of this paper describes the Clean Water Act, and what constitutes a violation of the Act.

<sup>10</sup> The analysis of violations at the wastewater treatment plants was done using the water indicators listed in the CEC's Final Analytic Framework for Assessing the Environmental Effects of the NAFTA, June 1999 ("Framework"). The Framework describes, in section V,B, water indicators, which are useful when discussing whether or not water quality as increased or decreased since NAFTA. This paper specifically analyzed one main water indicator, surface water pollutants. Because the concentration of pollutants in surface water has direct consequences on drinking water quality, fish and wildlife, and human health concerns, this indicator was considered to be extremely important, and was predominately used for this paper.

<sup>11</sup> Initially, I had hoped to review violations data for six different cities, three in the United States, and three in Mexico. Even if I had received some information from Mexico, it would have been difficult to compare that information to what I received from the United States. Mainly, this is because Mexico uses a different system than the United States for monitoring compliance with environmental laws. Each country, therefore, is better compared against its own laws, and its own theories on environmental preservation.

suspected violations to increase after NAFTA because of the increase in development and industrialization in all three sampled cities after NAFTA became effective. I further expected that the violations would continue to increase until the wastewater treatment plant at issue was upgraded to accommodate the increased wastewater generated by the sudden growth spurred by NAFTA. The data collected indicates that NAFTA has had no direct effect on the number of wastewater treatment plant violations--violations occurred before and after NAFTA at approximately the same rates.<sup>12</sup> Before addressing the specific data, however, it is important to understand a few differences between environmental laws in the United States and in Mexico, and how these differences affected my ability to obtain compliance information.

## **II. Introduction to Applicable Law**

### **1. Applicable U.S. Law**

The U.S. legal system is a common-law system which relies upon the establishment of state and federal laws that are then interpreted by state and federal courts. Comprehensive environmental law has existed in the United States since the early 1970s. Most environmental laws are similarly structured, containing a description of what is required, a delegation of duties to various agencies that will be implementing and enforcing the statute, and an enforcement provision which describes penalties and other remedies which may be sought under the statute. While there are several federal statutes that discuss water, the Clean Water Act ("CWA")<sup>13</sup> is the main federal law dealing with water treatment, and the standards that waters must meet if they will be discharged into a stream. The fundamental goal of the CWA is to "restore and maintain

---

<sup>12</sup> There were two exceptions to this general rule. For the Nogales data, violations were extremely high in both 1994 and 1998. The Bisbee data also showed an extremely large number of violations in 1998.

<sup>13</sup> The Clean Water Act, 33 U.S.C. § 1251 et. seq. For the purposes of this paper, when I discuss wastewater treatment plant violations, I am referring to violations of the Clean Water Act or LGEEPA for discussions on the United States or Mexico, respectively, unless otherwise noted.

the chemical, physical, and biological integrity of the Nation's waters."<sup>14</sup> The CWA further requires that a minimum level of water quality be achieved in all navigable waters in the United States--such water quality must provide for the protection and propagation of fish, shellfish, and wildlife, and allow for recreational uses on the water.<sup>15</sup>

One of the primary means for achieving the objectives of the CWA is through the issuance of permits which govern the discharge of pollutants into rivers, lakes, and other waters.<sup>16</sup> A National Pollution Discharge Elimination System ("NPDES") permit is required for all discharges from point sources into navigable waters.<sup>17</sup> Any wastewater treatment facility that discharges into waters of the United States is required to obtain an NPDES permit.<sup>18</sup> The NPDES permit establishes certain standards and limitations with which the permittee must comply. In addition, the NPDES permit requires that the permittee submit, on a monthly basis, a discharge monitoring report ("DMR") which describes the permittee's compliance with its permit and specifically reports any violations of the permit. DMRs are submitted to the agency that administers the NPDES permit program for the state at issue. The Environmental Protection Agency ("EPA") was delegated responsibility by Congress to enforce and implement the CWA, including the NPDES permit program. EPA may, however, delegate administration of the

---

<sup>14</sup> 33 U.S.C. § 1251 (a). Notably, Congress also announced a national goal that "the discharge of pollutants into the navigable waters be eliminated by 1985," an ideal that will probably never be achieved. Today's version of the goal is pollution control by permitting all discharges from any point source into a navigable water. Point source is specifically defined in the CWA, 33 U.S.C. § 1362 (14).

<sup>15</sup> 33 U.S.C. § 1251 (a)(1).

<sup>16</sup> See *Gwaltney of Smithfield, Ltd. v. Chesapeake Bay Foundation*, 484 U.S. 49, 52-53 (1987).

<sup>17</sup> 33 U.S.C. § 1342.

<sup>18</sup> There is one wastewater treatment plant in the United States that does not have an NPDES permit. That is the Douglas Wastewater Treatment Plant, the outfall of which is across the United States border, in Mexico. Although the CWA does not require that the Douglas Plant have an NPDES permit, there is no prohibition against ensuring that the water discharged from the Douglas Plant is meeting water quality standards set by both the United States and Mexico. Yet there is no evidence indicating that discharges from the Douglas Plant are monitored.

NPDES permit program to a state which meets several criteria.<sup>19</sup> In the State of Arizona, EPA, not the state, is responsible for the NPDES permit program, and DMRs are therefore submitted to EPA Region IX in San Francisco, California. In addition, many wastewater treatment plants in Arizona also submit DMRs to the Arizona Department of Environmental Quality ("ADEQ"), the state environmental protection agency.

All United States environmental laws, including the CWA, have in common one very important provision, the citizen suit provision. A citizen suit is a lawsuit brought by any person who has an interest<sup>20</sup> against either a polluter or the regulator in charge of ensuring the CWA is not violated. A citizen suit against a polluter may seek injunctive relief asking the court to issue an order requiring the polluter to cease the polluting activities. A suit against the regulatory agency (either the federal EPA or a state agency) is brought for failure of that agency to uphold a mandatory duty<sup>21</sup> under the CWA. The main remedy available for this type of citizen suit is an order from the court requiring that the agency uphold its mandatory duties. Any plaintiff that has substantially prevailed through a citizen suit is entitled to attorney's fees and costs, but no other compensatory or punitive damages. While some attorneys argue that citizen suits grant too much power to the people, it is clear that such suits are "useful additional tool[s]" to enforce environmental laws in the United States.<sup>22</sup> Without the ability of individuals to act as an attorney

---

<sup>19</sup> 33 U.S.C. § 1342 (b).

<sup>20</sup> The term "citizen" is defined in the CWA as any person who has "an interest which is or may be adversely affected." 33 U.S.C. § 1365 (g).

<sup>21</sup> Exactly what duties are "mandatory" under the CWA is currently an issue of great controversy being litigated in several courts around the country, including the District of Arizona. *See Sierra Club et al. v. Browner et al.*, CIV-00-184-TUC-RCC, EPA's Motion to Dismiss (D. Ariz. 2000). In the next few years, this issue is likely to emerge as one of the most important environmental concerns--how and to what extent will environmental laws be enforced. The issue tackles, from a policy perspective, the problems that result when regulators "choose" not to enforce an environmental law, especially in a sensitive area such as the Arizona-Mexico border region.

<sup>22</sup> *Gwaltney of Smithfield v. Chesapeake Bay Foundation*, 484 U.S. 49, 61 (1987) (quoting Senator Bayh).

general through the citizen suit provision, the quality of the United States environment would be much worse off than it is today.

Although the citizen suit provision is important, its value to the people is directly proportional to the amount of compliance-related information available to those who might be affected and in a position to have standing<sup>23</sup> to bring a citizen suit. The Freedom of Information Act<sup>24</sup> ("FOIA") allows for public access to government information and documents through written requests. Although some exceptions exist,<sup>25</sup> most information must be produced to an inquiring person. FOIA also contains a fee waiver provision so that members of the public who may not be able to afford copying and mailing costs can still have access to the information they desire. The citizen suit provision and FOIA are the two main ways in which United States law explicitly provides for the people to take an active role in protecting the environment and their own health.

With regards to researching CWA violations, DMRs are the simplest and most direct method for a member of the public to learn of violations and proposed remedies to the problem.<sup>26</sup>

DMRs are an important source for information regarding industrial and governmental

---

<sup>23</sup> Standing is a fundamental requirement a plaintiff must satisfy in order to bring a citizen suit. Standing is defined by Article III of the U.S. Constitution which requires there be a case or controversy for the court to hear. The Supreme Court of the United States, in *Lujan v. Defenders of Wildlife*, 504 U.S. 555 (1992), further enumerated a multi-tiered test for determining whether a plaintiff satisfies the standing requirements of Article III. In order for a plaintiff to have standing to bring a citizen suit, the plaintiff must demonstrate (1) injury in fact; (2) that the defendant caused the plaintiff's injury; (3) that the court will be able to grant relief to redress the plaintiff's injury; and (4) that the plaintiff falls within the zone of interests protected by the statute under which the action is being brought. The Supreme Court most recently discussed standing in *Friends of the Earth v. Laidlaw Environmental Services (TOC), Inc.*, 120 S. Ct. 693 (2000).

<sup>24</sup> 5 U.S.C. § 552.

<sup>25</sup> There are nine primary exceptions to FOIA that are listed in section 552(b) of the statute. They include things like privileged information or trade secrets. Most information requested by the public, especially under the CWA, would not fall into a FOIA exception. Even if the government claims a privilege, or another exception, the person requesting the information may challenge the withholding of the information in court.

compliance with NPDES permits. DMRs are made even more important by their availability to the public, as they are probably the most readily available documents describing violations of federal law. In Arizona, the most direct method to obtain DMRs is to go to ADEQ's main office in Phoenix, Arizona, and request to see DMRs from a particular plant. Another method to obtain DMRs is by submitting a FOIA request<sup>27</sup> to EPA or ADEQ. The availability of DMRs, and other information, through FOIA, helps keep the government open and accountable to the people who elected and established that government.

## **2. Applicable Mexican Law**

The roots of Mexican environmental law come from Mexico's Constitution, as opposed to federal law as is the case in the United States. Mexico has a civil code system, as opposed to a common law system, which in essence, means that courts do not play a central role in law reform and interpretation. Mexican environmental law is similar to United States law in both substance and organization. Mexico's Ley General Del Equilibrio Ecologico y la Proteccion al Ambiente<sup>28</sup> ("LGEEPA") describes basic principles of environmental law, and also addresses wastewater treatment. There are several different government agencies that carry out the obligations described in LEEGPA.<sup>29</sup> The Secretary of Social Development ("SEDESOL") is the main agency responsible for implementing and enforcing LGEEPA. SEDESOL also includes two other agencies each with more specific duties under LGEEPA. The National Ecology Institute ("INE") is responsible for general policy and law development, including the establishment of environmental standards and conducting studies to determine the impact of pollution on the

---

<sup>26</sup> DMRs that report violations are often accompanied by a letter from the wastewater treatment plant operator discussing the reason for the violation and sometimes stating that the problem has already been resolved, or will be soon.

<sup>27</sup> The following web site is very helpful in the FOIA submission process: [www.citizen.org/public\\_citizen/litigation/foic/foilguid](http://www.citizen.org/public_citizen/litigation/foic/foilguid). See also, [www.epa.gov/foia](http://www.epa.gov/foia).

<sup>28</sup> Diario Oficial de la Federación, January 28, 1988, at 24-57.

environment. The enforcement powers are placed in an attorney general type office, la Procuraduría Federal para la Protección Ambiental ("PROFEPA").

In Article 117, LGEEPA can be roughly translated to say that urban wastewater should receive treatment prior to being discharged into a receiving water.<sup>30</sup> Although LGEEPA does not impose a permit program like the NPDES permits, regulations and "norms"<sup>31</sup> established by Mexican environmental agencies control water quality standards that wastewater should satisfy.<sup>32</sup> Mexico does have a registration system, which is essentially a less regulated version of a permitting system. The registration is overseen by the National Water Commission ("CAN"). This program requires that all discharges be registered with the CNA, and reminds the entities causing the discharge of the technical standards the discharges must meet.<sup>33</sup> Article 24 further enumerates several water quality standards. The CNA is responsible for enforcing these provisions of LGEEPA. LGEEPA does not appear to provide any mechanism for ensuring all discharges are registered. Furthermore, it is not clear whether the remedy for failure to register is to require registration, or whether there are some potential penalties or fines associated with failure to register. The latter would provide an incentive for dischargers to register and therefore make the process more effective.

While LGEEPA is very similar in substance and procedure to United States environmental laws, LGEEPA does not have any provision authorizing a citizen to bring a legal

---

<sup>29</sup> For more specific information on government agencies in Mexico, as well as Mexican environmental law, see [www.semanarp.gob.mx/gestion/legislacion.htm](http://www.semanarp.gob.mx/gestion/legislacion.htm).

<sup>30</sup> For the Spanish version, see LEEGPA, Chapter III, Article II7, Section IV.

<sup>31</sup> Mexican environmental agencies, like EPA, are authorized to establish technical standards to apply to industrial and other sources of air and water pollution. The technical standards are called norms.

<sup>32</sup> For a brief yet thorough description of Mexican environmental law overall, see Anne Rowley, MEXICO'S LEGAL SYSTEM OF ENVIRONMENTAL PROTECTION, 24 E.L.R. 10431 (1994).

<sup>33</sup> LGEEPA, Chapter II, Article 7-10 (discussing the registration of discharges). Household, domestic wastewater appears to be excluded from this otherwise mandatory registration. This is interesting because improper treatment of household waste (i.e. sewage) is a major cause of environmental and health concerns along the border.

action against a regulator or violator of LGEEPA.<sup>34</sup> LGEEPA describes the idea of "popular action," which is a method for citizen participation, but without any direct delegation of authority to that citizen. Article 66 of LGEEPA states that any person may denounce, through a popular action, the existence of any source of pollution, particularly those pollutants regulated by LGEEPA. The popular action is not a legal complaint, however. Rather, it is a method of raising environmental concerns with CNA. Once a popular action is brought with CNA, that agency has the responsibility of investigating the matter and making a finding regarding whether or not to pursue the problem as a government agency.<sup>35</sup> While this process includes the public in enforcement decisions, it does not allow a citizen to actually step into the shoes of regulators and sue a violator of LGEEPA. In addition, Mexico's lack of a FOIA type regulation may make it more difficult for interested persons to obtain compliance related information, which in the United States, often forms a basis for a citizen suit. However, an injured person would probably have at least enough information to initiate a popular action, although that person's power is limited. Public access to government information may also deter citizen suits because people will be able to understand that the government is developing and implementing solutions to problems. It is likely that when the public is unaware of either compliance or solution information, the public is more prone to criticize the government for inaction. Despite popular sentiment, there are many similarities between Mexican and United States environmental law. The main differences are that Mexico's legal system provides fewer avenues for the public to participate in government action.

---

<sup>34</sup> There is an idea in Mexican law referred to as Amparo, or "shelter" which allows a citizen to ask the government to uphold Constitutional authority. These suits are limited, and have not been readily used for environmental problems. For more information, see Greg M. Block, ONE STEP AWAY FROM ENVIRONMENTAL CITIZEN SUITS IN MEXICO, 23 E.L.R. 10347 (1993).

### 3. Applicable Provisions From NAFTA and the NAAEC

Both NAFTA and the NAAEC contain sections that discuss the environment, but only in general terms. NAFTA itself briefly mentions environmental objectives. NAFTA's preamble states that NAFTA should be undertaken "in a manner consistent with environmental protection and conservation."<sup>36</sup> The Preamble further states that the development and enforcement of environmental laws should be strengthened.<sup>37</sup> The failure of NAFTA to establish specific environmental standards was one of the reasons for the creation of the NAAEC.<sup>38</sup> The NAAEC contains some provisions specifically designed to protect the environment along the border. For example, the NAAEC created the CEC, a multi-national agency that, among other duties, is charged with reviewing citizen submissions. Part Two of the NAAEC requires that all countries that are party to NAFTA "periodically prepare and make publicly available reports on the state of the environment."<sup>39</sup> Despite this requirement, no procedures are described that would allow for widespread dissemination of the report.<sup>40</sup> Article 5, Section 1 of the NAAEC requires that each party to NAFTA, "shall effectively enforce its environmental laws and regulations through appropriate governmental action;"<sup>41</sup> failure to do so may form a basis for a citizen submission.

---

<sup>35</sup> See LGEEPA, Chapter VIII, Articles 66-69.

<sup>36</sup> NAFTA, Preamble.

<sup>37</sup> *Id.* The CEC has published, as part of its duties under the NAAEC, many documents to assist countries in establishing procedures to ensure compliance with environmental laws. See [www.cec.org/publications](http://www.cec.org/publications) for more information. Furthermore, the CEC created, within itself, the Enforcement Cooperation Program to assist parties in preparing national reports, and improving enforcement and compliance with environmental laws.

<sup>38</sup> The North American Free Trade Agreement Between the Government of the United States of America, the Government of Canada, and the Government of the United Mexican States, signed Dec. 17, 1992; Effective Date Jan. 01, 1994 (hereafter "NAFTA"). For the full text of NAFTA, see [www.nafta-sec-alena.org/english.index](http://www.nafta-sec-alena.org/english.index).

<sup>39</sup> NAAEC, Part Two, Article 2, Section 1 (a). See also, Four Year Review of NAAEC: Report of Independent Review Committee, June 1998, available at [www.cec.org](http://www.cec.org).

<sup>40</sup> Some government web sites do contain information and reports on the border environment. See e.g., [www.epa.gov](http://www.epa.gov) and [www.cec.org](http://www.cec.org).

<sup>41</sup> *Id.* at Article 5 Section 1.

The NAAEC also establishes procedures for reviewing and settling inter-party disputes regarding patterns of noncompliance with environmental laws.

The critical section of the NAAEC is the requirement that all parties to the NAAEC effectively enforce their environmental laws. According to the NAAEC, effective enforcement includes publicly releasing non-compliance information and establishing a record keeping and reporting system.<sup>42</sup> In other words, the NAAEC recognizes that effective enforcement includes promotion of open government and public participation in government decisions. It seems clear that publicly available compliance information contributes to a person's ability to be involved in government decisions regarding the environment.

The citizen submission procedure established by the NAAEC is one of the strongest provisions for the environment in the NAAEC. Articles 14 and 15 of the NAAEC discuss the requirements for a citizen submission, that is made to the Commission for Environmental Cooperation ("CEC"). The CEC has also published several guides for citizens to use in preparing a submission for the CEC. In addition, many prior submissions are available on the internet at the CEC homepage.<sup>43</sup> According to the CEC's web site, there have been a total of 28 citizen submissions since 1995.<sup>44</sup> Of these 28 submissions, the CEC has investigated and required factual records on only 4 of the submissions; 9 are still ongoing and 15 were terminated without the creation of a factual record.<sup>45</sup> The existence of the citizen submission is a move forward, but environmental improvement is more likely to occur through more investigations into citizen complaints. Because each country that is party to NAFTA has different standards of public participation, it is important for the CEC to take into account that not every citizen

---

<sup>42</sup> *Id.*

<sup>43</sup> See [www.cec.org](http://www.cec.org) for information on the CEC, its programs, and publications, specifically, those dealing with citizen submissions.

<sup>44</sup> See [www.cec.org/citizen/index.cfm?varlan=english](http://www.cec.org/citizen/index.cfm?varlan=english).

submission will contain all the available information on the particular topic of the submission. A better citizen submission process would allow the CEC to assist citizens in collecting compliance related information from their governments; or, the CEC could advise the governments on how they might make environmental information more accessible to the public.

### **III. Methodology**

#### **1. United States**

In order to obtain compliance information from the selected wastewater treatment plants in the U.S., I wrote a letter to the Arizona Department of Environmental Quality ("ADEQ") requesting DMRs.<sup>46</sup> Upon receiving the data, I documented each violation on a spreadsheet. After the initial analysis, I requested further information from ADEQ, which I reviewed at the offices of ADEQ. For the Nogales and Bisbee Plants, DMR data was collected for nine years.<sup>47</sup> For the City of Yuma, only five years worth of data was received, 1994, 1995, 1997-1999.<sup>48</sup>

##### ***(a) General Discussion of United States Data***

Generally, the United States data revealed that there were repeated violations at the Nogales and Bisbee Plants, but only three violations total at the Yuma Plant.<sup>49</sup> Thus, the Yuma Plant's data demonstrates a critical possibility: compliance with federal law is achievable. Conceivably, both the Nogales and Bisbee Plants could also come into compliance. Graphs

---

<sup>45</sup> *Id.*

<sup>46</sup> Although EPA is officially responsible for receiving DMRs from wastewater treatment plants in Arizona, ADEQ maintains a complete file and is often able to send out documents much more efficiently than EPA.

<sup>47</sup> Some of the DMRs from the Bisbee Plant were not clearly legible. As a result, any violations listed on those DMRs were not recorded. In all cases, violations information was conservatively recorded, if there was any indication that a violation may not have occurred, that information was not included in the data set.

<sup>48</sup> The data was collected from the primary wastewater treatment plant in Yuma, referred to as Figueroa, which apparently only began operation in 1994. No DMRs were available from ADEQ for the years preceding 1994.

<sup>49</sup> Because the Yuma Plant had only three violations over the sampled five-year period, no graph was made for Yuma.

representing the data from the Nogales Plant and the Bisbee Plant is presented in Attachments 1-10; Attachments 1-5 reflect the Nogales data and Attachments 6-10 reflect the Bisbee Data. Attachment 11 is a graph of rainfall for the Tucson area for the same years as the data was collected.<sup>50</sup> The data from the Nogales and Bisbee Plants suggests several preliminary conclusions. First, it seems that the beginning of NAFTA itself has had little effect on eliminating, reducing, or increasing the number of wastewater treatment violations at the Nogales and Bisbee Plant. Second, rainfall would appear to play a role in wastewater treatment violations at the Bisbee Plant in particular, and possibly at the Nogales Plant. If so, it is likely that the failure to control stormwater run-off is affecting these wastewater treatment plants. It is possible that implementation of better stormwater run-off controls therefore could significantly reduce violations at the plants. Third, a further, expanded, study which includes data from more wastewater treatment plants in the United States, as well as reliable data from Mexico, is clearly warranted and would be likely to yield more definitive conclusions.

***(b) Nogales Data***

The Nogales data<sup>51</sup> is set forth in Attachments 2-5. The graph in Attachment 2 is a graph of the total number of violations per year at the Nogales plant. Notably, 1994 and 1998 were both years of increased violations. The number of violations in 1998 was more than double the average number of violations over the entire nine year period. After the 1998 peak, violations decreased substantially in 1999, and the year 2000 appears as though it will also have a relatively low number of violations. Although the number of violations has fluctuated from year to year,

---

<sup>50</sup> I was only able to find Tucson rainfall data. It is possible that more rainfall may occur directly along the border because the border area is generally at a higher elevation than Tucson.

<sup>51</sup> Notably, while the DMR provides a lot of useful and interesting compliance information, DMRs do not report every single violation that occurred at the plant that month. For reasons still unclear to me, some violations need not be reported on DMRs. Therefore, the violations data presented in this paper is a "minimum" number, and it is likely that more violations have occurred. See Attachment 1 for the entire Nogales data set, in spreadsheet form.

over the entire nine year period, the plant always violated the CWA at least several times per year. While the chart of overall violations indicates a decrease in the number of violations since 1998, it is likely that the Plant will continue to violate the CWA until it undergoes substantial upgrading.<sup>52</sup> The remaining three Nogales graphs, Attachments 3-5, break down the data by type of violation, and the numbers of each type of violation for the years before, and after, NAFTA became effective.

Attachments 3-5 summarize the data per type of violation. Attachment 3 is the data for all nine years, 1991-2000. This graph demonstrates that the top three most violated standards were biochemical oxygen demand ("BOD") removal, total residual chlorine ("chlorine"), and fecal coliform. It is likely that these are the substances that tend to be most violated at wastewater treatment plants around the nation, due to the fact that they are organic and naturally occur in almost every environment where wastewater is being processed.<sup>53</sup> Furthermore, because chlorine is often used to combat high fecal coliform counts in wastewater, it is not unlikely that the number of fecal coliform and chlorine violations are directly related. Biochemical oxygen demand is the dissolved oxygen required by organisms for the aerobic decomposition of organic matter present in water. BOD is often used as a measure in determining the efficiency of a sewage treatment plant, or to determine the potential of an effluent to degrade a stream. In order to maintain the proper ecological balance in the receiving water, natural decay of organic matter must continue at the natural rate for that particular water. A wastewater treatment plant discharging effluent must therefore ensure that its effluent will not

---

<sup>52</sup> The Nogales Plant was recently approved by the Border Environmental Cooperation Commission to receive funds to upgrade and repair the plant. The repairs are expected to be completed by 2003. Ideally, at the time the repairs are completed, the plant will be in full compliance with all applicable laws. See also, *Water, Sewer Rates to Rise*, Nogales International, April 20,2000 (this article briefly summarizes the proposed upgrades for the Nogales Plant). More information on the upgrades planned at the Nogales Plant are available from the City of Nogales, 777 N. Grand Ave., Nogales, AZ 85621.

accelerate or decelerate the rate of decay in a receiving water.<sup>54</sup> Although BOD is naturally occurring, it is regulated in an NPDES permit to ensure that the biological integrity of the receiving waters remains the same despite the effluent discharged.<sup>55</sup>

Attachments 4 and 5 break down the data shown in Attachment 3 into two different year spans; 1991-1994 and 1995-2000 respectively. For the years 1991-1994, the three most violated parameters were BOD removal, mercury, and fecal coliform. For the years 1995-2000, the three most violated parameters were BOD removal, BOD, and fecal coliform. Notably, over the entire nine year period, there were many violations of inorganic materials such as chromium, lead, copper, cyanide, mercury, all substances know to be harmful to human health at certain levels.<sup>56</sup> The graphs for the Nogales plant do not indicate that NAFTA has had a direct effect on the number or type of violations at the Plant. Thus, the questions that arise are (1) why are the violations are occurring; and (2) what is the cause of the violations.

i. NAFTA's Effect on the Nogales Plant

Although, as noted above, except for 1998, violations at the Nogales Plant occurred at approximately the same rate before and after NAFTA came into effect, this does not necessarily suggest that NAFTA had no effect on the Plant at all. Rather, the data indicates that several factors affect the number of violations at a plant; it is likely that NAFTA is among the factors. Clearly, as a result of NAFTA, the Nogales area has seen an increase in industry. This increase may account for the inorganic substance violations, especially the heavy metals such as lead,

---

<sup>53</sup> Because a large portion of "wastewater" flowing into wastewater treatment plants is sewage water, it is not unreasonable to suspect that fecal coliform will be one of the more often violated parameters.

<sup>54</sup> For more information on BOD, see Nigel J. Bunce, Introduction to Environmental Chemistry, at 340-341, Wuerz Publishing, 1993.

<sup>55</sup> One reason for the regulation of BOD is that one goal of the CWA is to "maintain the chemical, physical, and biological integrity of our nation's waters." 33 U.S.C. § 1251. Regulation of BOD promotes this goal.

<sup>56</sup> Agency for Toxic Substances and Disease Registry, HazDat Database, available at [www.astdr.cdc.gov/hazdat.html](http://www.astdr.cdc.gov/hazdat.html).

chromium, and mercury. Yet in spite of this increase in development, there does seem to be a recent decline in the number of violations. This apparent decline of violations at the Nogales Plant may suggest that NAFTA related funding to improve wastewater infrastructure has had some positive effects. Moreover, the influence of NAFTA's funding may be more evident in future years. The Nogales Plant was recently approved for a major grant to completely upgrade and repair the facility, a project which should take approximately three years according to the IBWC, EPA, and the City of Nogales.<sup>57</sup> Presumably, the planned upgrades will eliminate violations altogether.

#### ii. Failure to Control Stormwater at the Nogales Plant

The control of non-point source water pollution is one of the most challenging environmental problems of this century. "Non-point source pollution" is pollution that comes from many different sources; the pollutants themselves are carried in stormwater run-off from rainfall or snow melt.<sup>58</sup> Non-point source pollution is often regulated at a local level through city ordinances that require businesses, homes, and industries to comply with stormwater drainage and other rules to control run-off and erosion from a particular site or area. According to the United States Section of the International Boundary and Water Commission ("US IBWC") the run-off of metals and other pollutants into the Nogales Plant is a principal source of violations at the Plant.<sup>59</sup> According to EPA, the Plant's failure to adequately treat the run-off water containing pollutants such as mercury, copper, lead, and cadmium, among others, is a source of pollution in the Santa Cruz River.<sup>60</sup> According to the June 12 Letter, from US IBWC to EPA, US IBWC

---

<sup>57</sup> See Water, Sewer Rates to Rise, Nogales International, April 20, 2000.

<sup>58</sup> For more information on EPA's non-point source pollution program, see [www.epa.gov/owow/nps](http://www.epa.gov/owow/nps).

<sup>59</sup> Letter to Carol Browner, EPA Administrator from John Bernal, Commissioner of US IBWC, dated June 12, 1998 (hereinafter "June 12 Letter").

<sup>60</sup> Letter to John Bernal from Felicia Marcus, Regional Administrator, dated August 13, 1998 (hereafter "August 13 Letter").

expressed concern over the proposed "influent limitations and requirements on the USIBWC over which the USIBWC, acting on behalf of the United States Government under the international agreements with Mexico governing the international plant [Nogales Plant], does not have the legal authority to ensure enforceable control mechanisms in Mexico."<sup>61</sup> EPA's response to this argument was two-fold. First, EPA stated that "the presence of the internal limitations in the permit would motivate the USIBWC to engage diplomatic processes early and often to prevent effluent violations, rather than defer action until after--as a reaction to--an end-of-pipe violation."<sup>62</sup> Second, EPA responded that,

While EPA recognizes that the United States lacks authority to impose requirements on the Mexican industrial dischargers, we [EPA] do not agree that USIBWC cannot leverage its diplomatic resources in order to improve the quality of the transboundary flows. The Nogales treatment plant is not designed to provide full treatment of industrial wastewater. The only practical means of complying with the effluent limits for many toxic pollutants is to control them at their source, i.e., to limit their entry into the treatment plant...The internal limitations in the proposed permit are intended to prevent the entry of deleterious industrial wastewater into the Nogales plant in order to promote efficient and effective domestic wastewater treatment and compliance with effluent limits.<sup>63</sup>

The above passage demonstrates some of the problems associated with the control of stormwater run-off, particularly when it comes from another country. The EPA's position, however, is commendable, because it focuses on solutions. Through its letter, the EPA appears to be insisting that the US IBWC treat pollutants coming into its plant, regardless of their source, to ensure the protection of the environment in the United States. While EPA seems to both support and promote US IBWC's efforts to negotiate with Mexico on this matter, EPA appears to recognize that such negotiations cannot take precedence over water quality in the United States.

---

<sup>61</sup> June 12 Letter at 1.

<sup>62</sup> August 13 Letter at 1-2.

<sup>63</sup> August 14 Letter at 1-2.

Notably, since 1996, the Nogales Plant has been operating under an expired permit. Although in 1998 EPA attempted to issue a new permit, the US IBWC protested the provisions regarding treatment of certain pollutants (as is indicated in the June 12 Letter) and EPA has not yet issued a new permit.<sup>64</sup> Although EPA asserted in its August 13 Letter that "The USIBWC accepts the wastewater for treatment, and thus, it must also accept responsibility for the discharge of that treated wastewater (or lack of treatment thereof). The influent limitations in the proposed permit provide the USIBWC with an objective, results-oriented measure to prevent effluent violations....,"<sup>65</sup> it has never fully acted on this position. As of the date of this paper, EPA has not required that USIBWC comply with higher, safer, and healthier effluent limitations for many toxic substances that continue to be discharged into the Santa Cruz River.

*(c) Bisbee Mule Gulch Data*

The data from the City of Bisbee Mule Gulch Wastewater Treatment Plant ("Bisbee Plant") is presented in Attachments 6-10.<sup>66</sup> Attachment 7 is a graph of the total number of violations per year at the Bisbee Plant. Like the Nogales Plant, the Bisbee Plant had the highest number of CWA violations in 1998. Unlike the Nogales Plant which is a sanitary sewer, the Bisbee Plant acts like a combined sewer which, during rain events, will discharge untreated wastewater.<sup>67</sup> A combined sewer is one in which a single collection pipe is used to convey both stormwater run-off and sanitary wastes. During heavy rains, the overflow is usually discharged,

---

<sup>64</sup> I was advised on September 7, 2000 that EPA had a new permit drafted, and ready for public comment. However, not even the permittees have yet received a copy of the permit yet, and as of September 11, 2000, there is no public access to the draft permit.

<sup>65</sup> August 13 Letter at 2.

<sup>66</sup> Attachment 6 is the entire data set for the Bisbee Plant, in spreadsheet format.

<sup>67</sup> A notation on the February 1993 DMR, by Mark Mansfield, Wastewater Supt., states, "Heavy rain and infiltration, as this is a combined sewer not a inclosed sanitary as is believed by EPA and ADEQ." This notation indicates that neither ADEQ nor EPA are aware that the Bisbee Plant is a CSO. On September 8, 2000, I spoke with ADEQ employees, who informed me that when the Bisbee Plant was originally constructed, it was intended to be a sanitary sewer. Severe deterioration over many years, however, has

untreated, into the receiving waters for that plant. Such an event is referred to as a combined sewer overflow ("CSO").<sup>68</sup> According to EPA, wet weather discharges, one of which is a CSO, have been cited by the states as a leading cause of water quality impairment in the United States.<sup>69</sup> EPA's policy is that all operators of combined sewer systems must take the necessary steps to prevent overflows, and upgrade their systems.<sup>70</sup> According to a file maintained by ADEQ, the Plant intends on upgrading some parts, although there was no indication that the combined sewer effect would be eliminated in the near future.<sup>71</sup> Because the Bisbee Plant continues to operate as a combined sewer, whenever it rains, the capacity of the Plant to treat wastewater is substantially decreased, and violations are more likely to result. In addition, the influx of stormwater run-off into the Plant brings with it many deleterious substances such as chromium hexavalent, selenium, cyanide, and phenolics, all of which are hazardous substances.<sup>72</sup>

Attachments 8-10 demonstrate the types of violations that have and continue to occur at the Bisbee Plant. In the years immediately following the passage of NAFTA, the Bisbee Plant had violations that it never had in the years before NAFTA. For example, violations of silver, copper, thallium, selenium, and chromium hexavalent occurred in the years of 1995-2000, but not in the years of 1992-1994. The Bisbee Plant also had an increase in reporting violations in the years following NAFTA. Reporting violations can take many forms, but the most common

---

caused the Plant to act like a combined sewer. As a result, the plant's ability to treat wastewater is significantly impaired.

<sup>68</sup> For further information on CSOs, see [www.epa.gov/OWM/cso](http://www.epa.gov/OWM/cso).

<sup>69</sup> EPA's National Water Quality Inventory, Report to Congress, 1996; available at [www.epa.gov/OWM/wet](http://www.epa.gov/OWM/wet).

<sup>70</sup> See 40 C.F.R. Part 122, Combined Sewer Overflow Control Policy.

<sup>71</sup> A 1996 Consent Decree involving the Plant and EPA required upgrades to the Bisbee Plant within five years, including repairs that would reduce the combined sewer effect, according to ADEQ employees. But, ADEQ employees informed me that due to the cost of all the necessary upgrades and repairs, the Plant is not likely to be completed for another twenty years, at least. Clearly, this is not acceptable. ADEQ was unaware if the Plant had applied for border infrastructure funds available through EPA, the BECC or the NADBank.

<sup>72</sup> See [www.astdr.cdc.gov/hazdat.html](http://www.astdr.cdc.gov/hazdat.html).

form in the Bisbee DMRs seemed to be that the DMR was not correctly filled out. In such a case, a person reviewing the DMR has no way of knowing whether the plant in question failed to conduct certain tests, failed to document the test results, or whether some other reason exists for the reporting failure. One example of a reporting failure documented in the Bisbee DMRs occurred when the DMR did not report anything in the column entitled "No. Ex." which denotes the "Number of Exceedances." Despite numerous other violations at the Plant, very few violations were actually noted in the "No. Ex." column. Given the high number of violations, and the Plant's status as a combined sewer, the Bisbee Plant cries out for attention from regulators.

The Bisbee Plant is an important wastewater treatment plant for the eastern half of the Arizona-Mexico border area for two main reasons. First, it is the main wastewater treatment plant for that area located very close to the border, east of the Nogales Plant. Second, the Bisbee Plant is located just a few miles away from an area directly along the border, in Naco, where untreated wastewater passes from Mexico, into the United States.<sup>73</sup> Local residents are concerned that the wastewater from Naco, Sonora, Mexico, could contaminate Bisbee's drinking water supply, which is located near Bisbee Junction, fairly close to the Naco flow. Furthermore, there has been some discussion about bringing the untreated wastewater to the Bisbee Plant, via an underground pipeline where it would be treated. At this point, there is little information directly available to the public regarding the violations at the Bisbee Plant, plans to upgrade it from its deteriorated state, or the Naco sewage flow. As recently as June of 2000, however, EPA did issue the Bisbee Plant a notice of violation and a compliance schedule, which indicates that, at the very least, EPA is aware of the violations and is prepared to take some action.

*(d) City of Yuma Data*

Five years worth of DMRs for the City of Yuma, Figueroa Street Wastewater Treatment Plant ("Yuma Plant") reveal that during that time frame, the Yuma Plant recorded only three violations. This is an unusually low number of violations, compared with other plants along the Arizona-Mexico border, and it is a strong indication that the methods of operation at the Yuma Plant may serve as an example for the other wastewater treatment plants along the Arizona-Mexico border. The three violations noted in the DMRs were one settleable solids violation in August of 1999 and two fecal coliform violations in July of 1999.

There is one possible explanation for why the Yuma Plant is, essentially, in complete compliance with its NPDES permit. The Yuma Plant is located on the Colorado River, one of the most controversial rivers in the Western United States.<sup>74</sup> Because this waterway is a very high profile water source within both the United States and Mexico, it is likely that the Yuma Plant was built in a manner to ensure that it would not further contribute pollutants to an already overburdened river. Thus, the success of the Yuma Plant in complying with the CWA corroborates the theory that the problems experienced by the lower profile border areas are as much a result of politics, as any other factor.

**2. Mexican Methods**

In addition to data collection from the United States, attempts were made to collect compliance information from Mexico. A review of Mexican law, however, revealed that Mexico contained no FOIA-type statute granting any person access to government documents and information. Furthermore, none of the Mexican environmental laws require the submission of a discharge monitoring report, or something similar, which cataloges compliance with permits and

---

<sup>73</sup> See [www.epa.gov/region09/water/becc/nacoea.html](http://www.epa.gov/region09/water/becc/nacoea.html).

other laws. Consequently, the only way to obtain compliance information was voluntarily. A survey consisting of 10-13 questions<sup>75</sup> was prepared and sent, along with a cover letter, to fifteen different agencies in Mexico.<sup>76</sup> Using the Internet, and other available directories of border agencies, addresses were obtained for a cross-section of the Mexican environmental community, including government agencies and non-profit groups in all three cities. Approximately one month was given for responding to the survey, and the survey was sent with a coupon for return postage. Despite this, only one response to the survey was received, from Procuraduria Federal de Proteccion al Ambiente ("PROFEPA"), which is the agency in Mexico responsible for prosecuting violations of environmental law.<sup>77</sup> In its response, PROFEPA did not answer any of the questions on the survey, but rather, wrote a short letter. PROFEPA's letter cited a recent public notice regarding wastewater treatment, and stated that it lacked authority in the matters discussed in the survey.<sup>78</sup> No other responses of any type (e.g. phone or electronic mail) were received. As a result, no compliance information was obtained from Mexico.

The paucity information received from Mexico demonstrates the weaknesses of NAFTA and the NAAEC with regards to public participation. Although the NAAEC addresses public participation in government rulemaking and other decisions, the practical reality is that obtaining environmental compliance information is very difficult. Publicly available information has many components. First, it must be accessible through means available to the average citizen (i.e., on the internet or by writing a letter to a clearinghouse or the agency itself). Second, information must be available despite language barriers. Third, there must be a clear procedure for obtaining

---

<sup>74</sup> For a detailed history of the Colorado River, see Marc Reisner, *THE CADILLAC DESERT*, Penguin, 1993. This is also a multi-volume PBS documentary available at many public libraries in the United States.

<sup>75</sup> See Attachment 12.

<sup>76</sup> See Attachment 13.

<sup>77</sup> See Attachment 14.

<sup>78</sup> This is a rough translation from, "Procuraduria carece de atribuciones en la materia objeto de la investigación." See Attachment 14.

and requesting information. The most obvious solution to the apparent difficulty in obtaining information on wastewater treatment, particularly in Mexico, is to establish an "ambassador" to assist the public in requesting and obtaining such information. There could be an office, or an individual, within the CEC, for example, whose job it would be to field letters, calls, or electronic mail from citizens of Mexico, Canada, and the U.S. who are all seeking information of various types. This ambassador could then forward letters or requests to the appropriate government agency or other person within each country, who maintains information to be publicly available.

Alternatively, each country could have its own FOIA type officer. However open government and public access to information is achieved, such access is necessary for adequate and effective environmental compliance. Unless the public has the opportunity to review government activity in the area of environmental compliance, it is often the case that violations go both unnoticed and unprosecuted. This is not necessarily because government agencies are intentionally failing to uphold the law, but rather, due to the fact that there are so many violations. Many times government agencies do not have the resources to address even severe problems, or, for various reasons, choose to focus their resources elsewhere. Public access to information allows citizens to monitor both the polluter and the government, and where the government fails to act, the citizen can often step taken necessary action.<sup>79</sup> This type of checks and balances system ensures environmental protection, and promotes cooperation between citizens, the government, and the countries party to NAFTA.

The most direct and effective method of ensuring that all citizens in Mexico, the United States, and Canada have access to government documents, is by an additional treaty requiring

open government. Due to the differences in the legal regimes of the three parties under NAFTA, the open government treaty need not dictate what every country should do to provide public access to government information. Rather, each government should, on its own, establish and implement open records laws. Once such laws are implemented, citizen submissions should be accepted for any failure of a country to abide by its applicable open records law. In sum, without the availability of compliance information, enforcement and public participation cannot be effective.

#### **IV. Strategies to Solve Border Wastewater Treatment Problems**

There are no easy solutions to the problems created by ongoing violations of federal law at both the Nogales and Bisbee Plants. Furthermore, it is likely that were this study expanded to include more wastewater treatment plants, even more violations would be found. Certainly, it would be convenient to blame NAFTA for the violations, but the data does not, at this point, suggest that violations have increased following NAFTA. Rather, the data from the Nogales, Bisbee, and Yuma Plants indicate that many different factors contribute to a plant's level of compliance. Even so, there are various strategies that could lead to increase compliance all along the border. One strategy would be the consistent, timely, and appropriate initiation of enforcement actions against violators. EPA maintains the position, contrary to the plain text of the CWA, that it has complete discretion in deciding whether or not to bring an enforcement action.<sup>80</sup> The result of this position is that EPA has focused its attention on other state and other problems, instead of on the Arizona-Mexico border, where violations have been ongoing for years.

---

<sup>79</sup> Of course, a citizen is generally poorly equipped, in comparison with a government agency, to stop a violator. In the U.S., EPA, for example, has the power to issue an abatement order to the violator, and to pursue criminal penalties. A citizen can do neither.

<sup>80</sup> See *Sierra Club et al. v. Browner et al.*, CIV-00-184-TUC-RCC, all pleadings.

## **1. Location of Enforcement Personnel**

In addition to enforcement, and in fact a key component to the success of an enforcement plan for the Arizona-Mexico border area, would be the establishment of an EPA office in Arizona. Even though EPA administers the NPDES program under the CWA in Arizona, EPA maintains no offices or even one employee focused on water issues who is permanently stationed in Arizona. Currently, all of the oversight along the Arizona border comes from the Region IX office in San Francisco, California. While that is a large office staffed with many attorneys, the fact remains that when no one is present to enforce the law, the law is more likely to be violated. Strong enforcement is the backbone of all law and this is no less true in the environmental arena. A cleaner border can be achieved through strong enforcement and planning. Upgrading and repairing facilities, coupled with ongoing enforcement and public participation, would ensure that the Arizona-Mexico border's fragile Sonoran desert environment will be sustained for centuries to come.

## **2. Create a Plan-of-Attack**

Another potential strategy, which could be implemented in conjunction with the two already proposed above, would be the creation of a step-by-step plan of action to stop pollution along the Arizona-Mexico border.<sup>81</sup> The United States General Accounting Office presented a report in March of 2000 which concluded that "binational efforts to address communities' needs are hampered by a lack of a strategic plan that addresses impediments to environmental infrastructure improvements."<sup>82</sup> Furthermore, the GAO noted that government agencies have not "identified environmental infrastructure needs on the border or prioritized those needs."<sup>83</sup> Prioritization will ensure that localities with the greatest need, such as Bisbee and Nogales, will

---

<sup>81</sup> GAO Study 2000 at 5.

<sup>82</sup> *Id.*

be able to make the necessary changes to protect human health and the environment through better wastewater treatment processes. Without prioritization, government assistance is more likely to succumb to special interests or the cities that are the most politically connected, rather than those locations that desperately require basic services such as potable water and wastewater treatment, to survive. It may be that the development of a strategic plan cannot be accomplished on a binational level. Rather, each nation must to decide, for itself, what its priorities will be. If each nation works independently on a strategic plan, it is more likely that such a plan will exist sooner, rather than later. Once the plans are created, binational efforts to make the plans cooperative is likely to ensure the success of both nations' plans. At this point, Mexico and the United States should make an inventory of the problems that need to be resolved, prioritize the problems, and establish meaningful strategies for achieving solutions.

## **V. Conclusion**

The results of this study strongly suggest that further research and data collection on wastewater treatment plant violations are likely to reveal the problems, and solutions, that will improve wastewater treatment in the Arizona-Mexico border area. A longer term and more inclusive study may provide more information on the causes of pollution in the Arizona border area. Furthermore, additional data could lead to an agreement between the United States and Mexico to improve wastewater treatment infrastructure and control stormwater run-off, which is a substantial problem in the border area. A long-term study could also include a site visit and construction update elements. The information could be posted on the internet, and people living in the border area would be able to access this information anytime. The information would provide up-to-date descriptions of repairs at the plant, and compliance with applicable law.

---

<sup>83</sup> *Id.* at 17.

Another area ripe for inquiry is the amount of money that has been allocated to border communities in the years since NAFTA. While there are several sources of this data on the internet, none appear to be complete. The North American Development Bank ("NADBank") and the Border Environmental Cooperation Commission ("BECC") both have web sites that summarize some statistics,<sup>84</sup> although the information is not up-to-date and complete. The GAO Study 2000 also summarizes various funding information. The resources, therefore, exist for such a study, and the results of such a study would be very informative as a gauge of NAFTA's true impact on environmental infrastructure in the border area.

The exercise of studying the effects of pollution on the environment is often an essential first step towards developing and implementing solutions. There is, however, ample evidence that pollution along the Arizona-Mexico border is a serious problem. Thus, while we may continue to gather data, it should not delay action. Attention should be turned to developing and implementing solutions. Such actions should be specifically focused to remedy particular problems. Only through this type of systematic application of solutions will the border environment be truly sustained.

---

<sup>84</sup> The BECC web site is, [www.cocef.org](http://www.cocef.org). The NADBank web site is, [www.nadbank.org](http://www.nadbank.org).