The crown jewel of Maryland’s natural resource heritage, the Chesapeake Bay, has nearly the entire state within its watershed. It is a rich source of economic and aesthetic wealth for the state, supporting fishing, tourism, recreation, and more than a few restaurants serving crabs on paper tablecloths to mallet-wielding customers.

Unfortunately, because of pollution from industry, urban development, agriculture, and other sources, the health of the Bay is tenuous—albeit improved from its condition in the 1980s, but still far short of healthy.

In many ways, the past quarter-century’s worth of restoration efforts have largely squandered time, energy, and resources on strategies that focused on cooperation but not accountability, and thus ultimately proved ineffective. In Maryland, a particular failing of the approach has been the state’s over-reliance on enforcement mechanisms too weak to deter polluters.

A new report from the Center for Progressive Reform (CPR) finds that as Maryland enforces its water pollution laws, it is relying chiefly on civil or administrative actions, while only occasionally using available criminal statutes. Civil and administrative actions can result in fines against polluting companies or utilities. Criminal laws, on the other hand, can be used to send malefactors to prison, or to impose extensive probationary periods, license suspensions, or debarment—prohibiting companies from pursuing government contracts for some period of time.

For obvious reasons, the prospect of going to jail and gaining a criminal record has a higher deterrence value than the threat of monetary civil penalties, which are often factored into the cost of doing business.

As Maryland and the other Bay states embark on a new initiative to protect the Bay, one put in motion by Obama’s Chesapeake Executive Order, it is important that all enforcement tools be both available and used. To find out if Maryland—the state in the Bay region with the strongest environmental reputation—was doing all it could to enforce existing law, CPR Member Scholar Rena Steinzor and Policy Analyst Aimee Simpson took a close look at its enforcement record to date, focusing in on the frequency of criminal enforcement.

## Background on Criminal Enforcement

Environmental Protection Agency (EPA) efforts under the Obama administration, along with a renewed push for Bay accountability, mark a hopeful turning point. Working with the states, the EPA set pollution limits by way of a Chesapeake Bay Total Maximum Daily Load (TMDL), a sort of “pollution diet” for the Chesapeake Bay. The success of the effort, however, depends entirely on how well Maryland and the other Bay states stick to the diet.

To evaluate the state’s criminal enforcement record to date, the CPR looked at publicly available data from multiple resources—including EPA databases, annual reports from the Environmental Crimes Unit (ECU) of the Maryland’s Office of the Attorney General (OAG), and OAG news releases—to analyze environmental prosecutions resulting in convictions, “focus industry” offenders, and incarceration rates. The research also included stakeholder interviews with those involved in past and present environmental criminal enforcement efforts in Maryland. Drawing from this research, the report recommends several steps to strengthen the deterrence-based enforcement, including greater collaboration between federal and state environmental criminal enforcement authorities, restoring environmental criminal enforcement priorities, and maximizing deterrence value through stronger water pollution penalties and stricter sentences for convicted polluters.

## Sources of Bay Pollution

The primary pollutants threatening the Bay are nitrogen, phosphorus, and sediment. In appropriate quantities, nitrogen and phosphorus are beneficial nutrients. But in the quantities in which they flow into the Bay, they accumulate and contribute to algal blooms and dead zones during the summer months, wreaking havoc on the Bay ecosystems. Although tox-
ic pollutants, heavy metals, pesticides, oil, antibiotics, and pathogens also contribute to the degradation of the Bay, the Bay TMDL focuses primarily on reducing the problem pollutants of nitrogen, phosphorus, and sediment.

Agriculture is the largest source of each pollutant. In Maryland, the agricultural sector contributes 36 percent of the nitrogen, 41 percent of the phosphorus, and 57 percent of the sediment to the Bay. The pollutants in this sector come from a variety of sources, including manure, pesticides, fertilizers, and sediment runoff. Unfortunately, with the exception of the large-scale, industrial animal farms known as Concentrated Animal Feeding Operations (CAFOs), most agricultural operations are considered nonpoint sources—that is, the pollution they emit enters the waters in a diffuse manner and is for the most part unregulated. In contrast, point sources involve discrete, discernable, conveyance points for pollution to enter the waters, like pipes and ditches. Point sources are regulated under the Clean Water Act (CWA) and under the various state water pollution laws; nonpoint sources, for the most part, are not. Therefore, nonpoint sources are beyond the reach of criminal enforcement provisions. Some other nonpoint-source pollution includes certain kinds of urban and industrial runoff, sediment runoff from forests, and atmospheric deposits.

Plenty of other pollution sources are, however, subject to potential criminal enforcement, and these sources contribute significant amounts of the Bay’s problem pollutants. The urban sector, which includes not only densely populated cities but also suburban expansion and development of rural areas, is one such source. As land is urbanized and converted to asphalt or concrete surfaces, and as construction sites alter the topography, natural surfaces lose the ability to absorb and retain water. These impervious surfaces channel and concentrate water flow, washing contaminants—including sediment, and oil and gas residue from roads—into local waterways, especially during heavy rains. Many urban sector sources are regulated, including certain construction projects, some stormwater systems, and small industry; however, the specifics of the regulations can make it difficult to prosecute violations under existing criminal statutes for some of these sources. The urban sector is notable because it is the only sector showing increases in pollution. Other major pollution sources include industrial and municipal wastewater treatment plants (WWTP); sewage treatment plants, including Publicly Owned Treatment Works (POTW); and combined sewer overflow (CSO) systems.

Legally speaking, any regulated source that violates a state or federal water pollution law is breaking the law and subject to an enforcement action. In the environmental context, however, not all illegal violations rise to the level of criminal enforcement. Administrative and civil enforcement mechanisms are also an option and are used in the majority of cases. Thus, when a water pollution violation occurs, environmental authorities must determine which enforcement mechanism best suits the particular circumstances of the violation. While a number of factors affect that determination, one of the strongest is whether the selected enforcement mechanism will have a deterrent effect on the polluters’ future behavior, and on the behavior of similarly situated polluters.

How Does Deterrence-Based Enforcement Control and Prevent Pollution?

Federal and state authorities rely primarily on administrative and civil methods to ensure compliance with water pollution laws, including administrative compliance orders, injunctions, monetary penalties, and even more cooperative methods such as compliance assistance programs. Depending on the nature of the violation, however, enforcement can also take the tougher route of criminal enforcement, carrying the possibility of incarceration, criminal fines, mandatory community service, probation, business restrictions, and even mandatory restoration orders.

Why Does Deterrence-Based Enforcement Matter?

Of course, the purpose of anti-pollution laws is to prevent pollution, not to increase the prison population! Indeed, the theory behind deterrence-based enforcement is that would-be violators will weigh the costs and benefits of complying with the law. If the costs of complying with the law are lower than the costs of violating it, a rational regulated entity will have economic incentive to comply with the law. If the size or effects of the penalties for violation make it more cost-effective to violate than to comply, a rational person or business would have economic incentive to choose noncompliance. For a potential violator, this calculation also involves gauging the likelihood that regulators will catch the violation and an assessment of what penalties are...
likely to be imposed. In that sense, it's something of a roll of the dice for the polluter, but all too often, it's one without a lot of money on the line.

But when criminal enforcement is introduced into the equation, what had been a profit-and-loss calculation takes on a personal dimension, as executives are forced to ask themselves, how a decision to violate pollution laws could affect their very freedom. Criminal enforcement may also carry greater monetary consequences for the individual and the company through higher criminal fines, litigation costs, restitution, and loss of business or earning capacity. Because these enforcement “costs” are higher and have a potentially greater impact, criminal enforcement is often viewed as having a higher deterrence value than its administrative and civil enforcement counterparts.

Federal Criminal Violations

The primary federal water pollution statute, the CWA, distinguishes between these potential enforcement options, although its line between civil and administrative sanctions and criminal sanctions is not always clear.

Based strictly on the statute, the mental state of the violator defines whether a water pollution violation is criminal. So, if a polluter knowingly violates any of the requirements of the statute, it is, legally speaking, a felony offense, punishable by up to three years for first offenders and six years for repeat offenders. The statute also includes possible fines up to $100,000 per violation/per day. Moreover, if a violator acts with the additional knowledge that his or her knowing violation also places another person in imminent danger of death or serious bodily injury, then the potential penalties increase significantly—up to $250,000 in fines and up to 15 years incarceration for an individual first-time offender.

Other conduct that could result in criminal charges and felony sanctions involves falsifying any documents submitted to regulators, tampering with mandatory monitoring devices, or lying to regulators. Even if the polluter’s conduct does not meet the standard for a felony offense, the polluter may still commit a negligent violation and be subject to misdemeanor sanctions.

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State Criminal Violations

For its part, Maryland has adopted a number of state laws to protect the Bay and other bodies of water on or within its borders. The Maryland Department of the Environment (MDE) is responsible for implementing these state laws. In addition, the EPA has delegated authority for day-to-day monitoring and enforcement of the CWA to the MDE, while retaining oversight authority. Thus, the MDE has the principal responsibility for day-to-day monitoring and enforcement of the federal CWA.

Under the CWA, the states have authority to adopt more stringent standards than those in the CWA, and in some areas, Maryland has done so. But the sanctions imposed on violators are sometimes weaker under Maryland law. So, for example, under one of Maryland’s primary water pollution control laws, criminal violations only incur misdemeanor sanctions, amounting to up to a $25,000 criminal fine and up to one year in jail. Second-time offenders could face fines up to $50,000 per day per violation, and up to two years of imprisonment.

In practical terms, that is where Maryland law differs most significantly from federal law—in the severity of its criminal penalties. Of the several criminal penalty provisions related to water pollution offenses, many are weaker than their federal counterparts, and none imposes felony charges for violations. Even in the case of repeat offenders, criminal violations remain misdemeanors.

Enforcement and Prosecution

When it comes to criminal prosecution at the federal level, the EPA serves as the primary investigator of environmental cases, through its Office of Criminal Enforcement, Forensics, and Training. In some cases, the EPA shares this responsibility with other federal agencies, such as the Army Corps of Engineers, and can also call upon the Corps for assistance. Indeed, any regulatory personnel of any agency may discover and investigate environmental crimes and refer these cases for potential prosecution. Prosecutorial responsibilities at the federal level are carried out by the Environmental Crimes Section within the Environmental and Natural Resources Division of the U.S. Department of Justice (DOJ) and the U.S. Attorneys’ Offices.

At the state level, nearly all of Maryland’s water pollution laws designate the Maryland Attorney General as the primary prosecutorial authority.
The laws also provide, however, that this authority does not limit or affect the authority of the State’s Attorney under the Criminal Procedure Article. The MDE has the primary responsibility for the actual investigation, monitoring, and implementation of the water pollution programs.

Findings

It’s common for a regulatory and enforcement framework to look very different on paper than in practice. Regulations sometimes go unenforced for political reasons—because an administration is generally hostile to regulation, or because that administration does not want to anger a key constituency or industry. In other instances, laws and regulations go unenforced because the enforcement agency simply lacks the resources to crack down on violators, a circumstance that is not unrelated to politics either, of course. To find out how aggressive Maryland has been in enforcing state and federal clean water laws protecting the Chesapeake Bay, CPR researchers gathered data to construct a picture of what criminal enforcement of water pollution laws has looked like over the past 10 to 20 years, with particular focus on whether criminal enforcement has been fully utilized, with regard to the Bay.

Using publicly available data—almost all of it accessible through official federal and state websites, searchable online databases, and online annual reports—the CPR concluded that, in general, criminal prosecution of water pollution violations at both the state and federal levels in Maryland is an underused enforcement tool.

Following is a summary of the CPR’s specific findings; readers are encouraged to read the full CPR report on the CPR’s website, www.progressivereform.org.

An Examination of the Data

During the past decade, EPA data (see Figure 1) show that, nationwide, the share of federal concluded criminal cases that relied on CWA’s primary enforcement provision (33 U.S.C. §1319) as the lead charge has gone down as a portion of overall environmental criminal enforcement cases brought to conclusion.

Looking specifically at federal cases in Maryland, EPA data (see Figure 2) show that the state had a total of 32 environmental criminal cases that were concluded between 1988 and 2011. Of these, 11 involved one or more violations of the principal enforcement provision of the Clean Water Act (§1319). (Two other prosecutions during the period involved a separate provision of the CWA, §1321, one that deals chiefly with pollution of a different sort: oil spills and similar hazardous discharges. Though a serious problem when they occur, such pollution was not the focus of the CPR’s analysis.) Taken as a whole, the data from the past five years indicate that Maryland’s federal water pollution concluded caseload has shifted away from CWA-based charges to those involving violations of maritime laws (Act to Prevent Pollution from Ships (APPS) and the Marine Pollution (MARPOL) Protocols), cases that focus on a narrow subset of pollution in the Bay.

Turning from prosecution under federal law to prosecution under state law, the record of concluded criminal
cases involving water-related offenses shows a recent increase in 2011 (see Figure 3), but overall, there is no sustained emphasis on water-related criminal enforcement during the period from 1998 to 2011.

The CPR also examined the data on the comparatively small group of defendants prosecuted for violating water pollution laws to see what industries they represented. As Table 1 indicates, the industries most likely to face prosecution for water pollution violations at the federal level were shipping operations and marine vessel services, property development (primarily wetlands), industrial manufacturing (mostly concrete and chemical production), waste disposal and dumping (including oil waste and solid waste), and commercial services (including heating oil delivery and insect control).

What’s missing from the list is as significant as what is on it. Significant Bay pollution sources, such as urban runoff, wastewater and sewage treatment plants, and CAFOs, have not been a focus of environmental criminal prosecutions.

At the state level, according to the CPR’s examination of OAG news releases, residential improvement contractors, specifically those who restored facades and allowed toxic lead paint to illegally wash into sewer and storm drains, accounted for the most reported convictions (see Table 2). Other industries showing convictions included property development and construction, industrial manufacturing and services, septic removal and transportation services, and cleaning services.

Maryland’s reluctant and sporadic criminal prosecution of water pollution offenders weakens the deterrence value of the state’s enforcement efforts, but federal and state judges’ reluctance to impose stiff sentences for violations of water pollution laws...
weakens deterrence efforts even further. At the federal and state levels, courts rarely impose incarceration for water pollution-based convictions. Since 2002, only two sentences have included prison terms, and neither of those two sentences amounted to more than six months (see Figure 4).

The data on sentencing for prosecution under state laws reveal a more interesting—yet ultimately disappointing—trend. While imposition of prison terms saw an increase over the course of the last decade, the trend did not continue into 2011 (see Figure 5). But state sentencings also demonstrate another noteworthy issue.

Even when judges were willing to levy a sentence, the actual time served rarely corresponded. This is because at the state level, judges may suspend all or a portion of the sentence (fines and jail terms) for a probationary period. If the defendant violates probation, then the suspended portion of the sentence is, in theory, reinstated. State court judges may also grant probation before judgment, meaning that if the defendant completed a probationary term, paid all fines, and fulfilled any other requirements (e.g., community service), the defendant would not sustain a conviction on his or her record. Sometimes a result of a plea agreement—or imposed at the judge’s discretion—these kinds of sentence-reduction methods reduce the deterrence value of criminal enforcement.

Such suspensions of sentences are common practice in the case of water pollution violations in Maryland. Despite the imposition of some significant sentences, defendants seldom served any actual imprisonment time at all because of grants of probation before judgment or suspended imprisonment terms during probation. At the state level, even criminal fines were reduced through court-directed sentencing suspensions.

**Interview Results**

As noted, the CPR conducted a series of stakeholder interviews as part of its research. These discussions surfaced a number of important ideas.

- **Criminal enforcement a key.**
  All interviewees agreed that criminal enforcement is a necessary and important component of the overall environmental enforcement framework because it has a higher deterrence value than other forms of enforcement. Most believe that environmental criminal enforcement sends a powerful message and is an enforcement tool that should be used more to induce compliance with water pollution regulations and water quality goals.

- **Adding felony provisions to state laws.**
  Most interviewees agreed that adding felony provisions to state water pollution laws would increase deterrence value at the state level. Some took the view that the same deterrent effect could be achieved through other means, such as imposing higher sentences under existing laws or prioritizing water pollution criminal enforcement.

- **Barriers to prosecution.**
  Interviewees all agreed that external factors—political will, economic influences, and lack of public support—present challenges to utilizing environmental criminal
enforcement in certain kinds of cases, such as those involving municipal-owned wastewater and sewage treatment plants. Most interviewees agreed that one of the greatest hindrances to environmental criminal enforcement was the lack of resources, particularly investigative resources.

- **Changing priorities.** Interviewees agreed that two events significantly changed Maryland’s environmental criminal enforcement framework, resources, and priorities. The first was the disbanding of the environmental crimes section within the U.S. Attorney’s Office in the District of Maryland at the end of 2001. The second was the nationwide shift toward terrorism and homeland security-focused criminal enforcement since September 11, 2001.

- **The need for collaboration.** On the whole, stakeholders observed that state and federal environmental criminal authorities collaborated too infrequently, and that such collaboration would make for a more effective criminal enforcement mechanism.

### Recommendations

For a variety of reasons, Maryland underutilizes the potentially powerful deterrent of criminal enforcement of water pollution laws. The authors of the CPR report offer the following recommendations:

- **State and federal authorities should use their criminal enforcement power more frequently to maximize the deterrent effect.**

  Criminal prosecutions have been rare in the context of the Chesapeake Bay, allowing major polluters to disregard the threat of prison time when making the “business” decision of whether and how much to pollute. For criminal laws to have their intended deterrent effect, federal and state authorities must be more willing to prosecute all types of water pollution offenses.

- **In particular, federal and state authorities should increase their focus on problem pollution sources for the Bay, such as regulated construction, CAFOs, and some wastewater treatment plants, and give greater consideration to criminal enforcement against these pollution sources.**

  Criminal enforcement is a powerful tool that should be used judiciously and only when appropriate. Sources of pollution that contribute large amounts of sediment, nitrogen, and phosphorus warrant greater scrutiny from prosecutors. Toward that end, federal and state authorities should draft prosecutorial and investigative guidance that clarifies criminal water pollution offenses in the Bay.

- **Federal and state legislators should increase funding and resources for environmental enforcement.**

  Criminal enforcement staffs require dedicated investigators and attorneys, trained and educated not just in environmental laws and regulations, but also in criminal procedure and evidentiary standards. This kind of staffing and training requires funding. More funding comes from making Bay-oriented environmental enforcement a priority at both the legislative and agency levels.

- **State and federal enforcement authorities need to fully restore environmental prosecution priorities, develop more open lines of communication, and collaborate on water pollution criminal enforcement policies and procedures with an emphasis on Bay-oriented enforcement.**

  Clearly defined priorities, communication, and cross-jurisdictional collaboration streamline efforts and resources. The EPA and Bay states should participate in a Chesapeake Bay criminal enforcement task force, increase interagency and cross-jurisdictional referrals, and strengthen internal policies and procedures.

- **Federal and state legislators should amend existing statutes to incorporate significant pollution sources within the reach of mandatory and enforceable pollution-control standards, and set stricter penalties.**

  Inadequate penalties and regulatory loopholes reduce the deterrent value of environmental criminal enforcement. Inadequate penalties at the state level make prosecution a less meaningful deterrent. Difficult as it may be in the current political climate, the state legislature should amend water pollution laws to include felony offense provisions. In addition, federal and state legislators should implement mandatory standards for nonpoint sources of pollution. Bay restoration simply cannot be achieved without an accountability and enforcement framework for the Bay’s largest pollution source.

- **Government authorities, professional organizations, and public interest groups should increase efforts to educate prosecutors and judges at both the state and federal levels on the necessity of imposing deterrence-based criminal penalties.**

  Also, state and federal legislators should require state and federal sentencing commissions to amend sentencing guidelines.
pertaining to water pollution offenses so that they recommend deterrence-based sentences and penalties.

Judicial education programs—briefings and white papers on the substance and policy objectives of the relevant laws—would carry strong messages to both state and federal judiciaries concerning the important deterrence value of water pollution convictions and sentences. Legislators can go one step further and seek amendments to both state and federal sentencing guidelines. These amendments should convey the serious nature of water pollution offenses through tougher recommended sentences, and such amendments would help guide both prosecutors and the judiciary in restoring more deterrence-based sentences and penalties for water pollution offenses.

• Federal and state authorities should continue efforts to make clearly defined, consistent, and comprehensive criminal enforcement data available to the public through annual reports, databases, and press releases.

A critical component of ensuring deterrence value is the ability of an enforcement action to deter other potential polluters. All potential polluters must be aware that enforcement is occurring, and that violators will likely be caught and face significant penalties. One of the best ways to communicate in a transparent manner and bolster deterrence value is by publicizing successful prosecutions. Both the state and federal authorities have made significant strides in information sharing and enforcement transparency, but more can be done to ensure clear and consistent communication. Of course, such communication will only enhance the goal of deterrence if violators are in fact being prosecuted.

Conclusion

Criminal enforcement of federal and state water pollution laws is an underutilized tool in achieving Chesapeake Bay restoration. It should be used fairly, strategically, and with maximum deterrence in mind. In the absence of the credible worry of criminal enforcement, some polluters will reduce their decision-making to a question of dollars and cents, and continue to pollute the state's precious water resources.

When environmental criminal enforcement is warranted, it must send a strong deterrent message: Water pollution violations are unacceptable and violators will be caught and prosecuted. In times of limited resources, no enforcement effort should be left unused, and criminal enforcement actions offering the strongest deterrent effect should be used to the fullest extent. The health and future of the Chesapeake Bay may depend on it.

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