



# Going Too Easy?

## Maryland's Criminal Enforcement of Water Pollution Laws Protecting the Chesapeake Bay

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## Introduction and Executive Summary

The Chesapeake Bay is the crown jewel of Maryland's natural resource heritage, with nearly the entire state within its watershed. The Bay provides a rich source of economic and aesthetic wealth for the state from fishing, tourism, and recreation. Unfortunately, because of pollution from industry, urban development, agriculture, and other sources, the health of the Bay is tenuous—improved from its condition in the 1980s, but still far short of healthy.

The past quarter century of restoration efforts have squandered time, energy, and resources on cooperative strategies that ultimately proved ineffective, in great measure because their lack of deterrence-based enforcement and measureable accountability mechanisms rendered them toothless. The Environmental Protection Agency's (EPA) efforts under the Obama Administration and a renewed call for Bay accountability mark a possible turning point.<sup>1</sup> Working with the states, 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 the pollution limits are enforced.

Typically, environmental enforcement involves civil or administrative actions, which primarily result in monetary fines. Criminal enforcement, on the other hand, can lead to much more serious penalties, like incarceration, extensive probationary periods, license suspensions, and debarment. The prospect of going to jail and acquiring a criminal record has a higher deterrence value than monetary civil penalties, which are often factored into bottom-line business costs. Effective criminal enforcement requires strong political will, increased resources, and comprehensive prosecutions. Such a powerful enforcement tool should be at the forefront of the renewed Bay restoration effort.

The Center for Progressive Reform (CPR) received funding to assess whether federal and state authorities in Maryland have fully utilized water pollution criminal enforcement to maximize its deterrent effects in the Bay restoration framework. Some key questions the report set out to analyze:

- *What have water pollution criminal enforcement efforts in Maryland looked like for the past 10 to 20 years?* The analysis focuses on the annual and overall number of cases prosecuted that resulted in convictions at both the state and federal levels. Also included in the analysis is an evaluation of "focus industry" offenders and incarceration rates.
- *What institutional issues did criminal enforcement of water pollution laws in Maryland face?* Issues such as resources, political influence, and investigative and prosecutorial protocols are researched, questioned, and analyzed.

- ***What improvements could regulators, legislators, and practitioners make to better utilize this critical accountability tool?*** The report offers recommendations for improving the underlying legal frameworks, policies, and implementation of water pollution criminal enforcement in Maryland.

In short, this report provides a review of the environmental criminal enforcement authorities, mechanisms, policies, prosecution trends, penalties, and problems as they pertain to water pollution in the Chesapeake Bay and Maryland.

### ***Summary of Data Findings***

After gathering and analyzing data from a variety of sources, we conclude generally that criminal prosecution of water pollution violations at both the state and federal levels in Maryland is an underutilized enforcement tool. Among our specific findings:

- **During the past decade, EPA data show that the nationwide share of Clean Water Act (CWA) federal criminal concluded cases has gone down as a portion of overall environmental criminal enforcement concluded cases.** See Figure 1, Table 1, Table 2, and accompanying explanatory text.
- **During the past five years, Maryland's federal water pollution concluded cases 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), focusing on a narrow subset of pollution in the Bay.** See Figure 2 and accompanying text.
- **State-level concluded criminal cases involving water-related offenses show a recent increase in 2011, but lack an overall sustained emphasis on water-related criminal enforcement for 1998 through 2011.** See Figure 3 and accompanying text.
- **Significant Bay pollution sources, such as urban regulated runoff, wastewater and sewage treatment plants, and certain kinds of agriculture, have not been a focus of environmental criminal prosecutions.** See Table 3, Table 4, and accompanying text.
- **At the federal and state levels, courts rarely impose incarceration for water pollution-based convictions, thus significantly reducing the deterrence value of criminal enforcement.** See Figure 4, Figure 5 and accompanying text.

### ***Summary of Interview Findings***

To better understand the contours of the data, CPR interviewed a number of stakeholders inside and outside of government, seeking their on-the-ground perspective on water pollution criminal enforcement in Maryland, and more generally within the Chesapeake Bay region. In all, we conducted six stakeholder interviews out of the initial ten requested between January and April of 2012. Interview participants were asked to respond to a series of general questions about criminal enforcement of the water pollution laws in Maryland. To encourage a candid dialogue, participants were informed that their specific statements during the interview would remain confidential but that the list of interviewees and their positions would be made public.

Points and themes emerging from the interviews include:

#### ***The Value of Criminal Enforcement***

- All stakeholders interviewed saw criminal enforcement as a necessary and important component of the overall environmental enforcement framework. Most interviewees believed that environmental criminal enforcement sent a powerful message and was thus an enforcement tool that should be used more to induce change. Others felt its value was limited in the Bay due to the exclusion of major pollution sources, such as agriculture, from criminally enforceable pollution reduction standards.
- All stakeholders interviewed acknowledged the higher deterrence value of environmental criminal enforcement over other forms of enforcement, but some took the view that CWA criminal penalties as currently implemented did not sufficiently deter violators.
- 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 placing more of a priority on water pollution criminal enforcement.

#### ***The Logistics of Water Pollution Criminal Enforcement***

- Most interview participants did not feel that water pollution cases presented any greater logistical or evidentiary challenges than other environmental criminal cases.
- All agreed that external factors, such as political will, economic influences, and public opinion present challenges to utilizing environmental criminal enforcement in certain kinds of cases, such as municipal-owned wastewater and sewage treatment plants.

### ***Changes in Priorities and Resources***

- Interviewees agreed that Maryland's environmental criminal enforcement framework, resources, and priorities had experienced significant changes since the disbanding of the environmental crimes section within the U.S. Attorney's Office in the District of Maryland at the end of 2001 and since the events of September 11, 2001, which caused a nationwide shift toward terrorism and homeland security focused criminal enforcement.
- Most interviewees agreed that one of the greatest hindrances to environmental criminal enforcement was the lack of resources, particularly investigative resources.

### ***A Need for More Collaboration***

- Most stakeholders agreed that a reduction in collaboration with other enforcement authorities and government divisions had affected environmental criminal prosecution. 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.

### ***Summary of Recommendations***

Significant depletion of resources and shifts in administrative priorities have resulted in underutilization of a powerful and important enforcement tool. Drawing from the data findings, interview findings, and CPR scholars' experience and expertise with the Chesapeake Bay, this report offers the following recommendations to improve criminal enforcement efforts for the Bay:

- ***State and federal authorities should use their criminal enforcement power more frequently, in order that its deterrent effect have more reach and power.*** 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 kinds 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, Concentrated Animal Feeding Operations (CAFOs), and some kinds of wastewater treatment plants, giving greater consideration to criminal enforcement against these pollution sources.*** Criminal enforcement of water pollution laws at both the state and federal levels during

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**State and federal authorities need to develop more open lines of communication and collaborate on water pollution criminal enforcement policies and procedures.**

the past 20 years has involved a seemingly random assortment of defendant industries and pollution sources, few of which have been identified as significant problem sources for the Bay. While we understand that criminal enforcement is a powerful tool that should not be abused, problem Bay pollution sources that contribute large amounts of sediment, nitrogen, and phosphorus need more attention 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 need to 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.*** This includes participating in a Chesapeake Bay criminal enforcement task force, increasing inter-agency and cross-jurisdictional referrals, and strengthening internal policies and procedures.
- ***Both federal and state legislators should amend existing statutes to incorporate significant pollution sources within the reach of mandatory and enforceable pollution controls standards and set stricter penalties.*** Inadequate penalties and problematic regulatory loopholes reduce the deterrence 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 the amendment of 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 sentencings. 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 would help guide both prosecutors and the judiciary in restoring more deterrence-based sentences and penalties for water pollution offenses.<sup>2</sup>

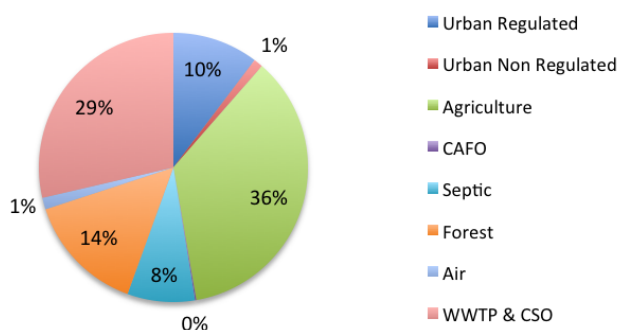
- ***Federal and state authorities should continue efforts to make clearly defined, consistent, and comprehensive criminal enforcement data available to the public through annual reports, databases, and press releases.*** A critical component of ensuring deterrence value is the ability of an enforcement action to deter other potential polluters. All potential polluters must be aware that the enforcement is occurring and that there is the potential for being caught and facing significant penalties. One of the best ways to communicate in a transparent manner and bolster deterrence value is through information dissemination. 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 reliable communication.

## Environmental Criminal Enforcement and Water Pollution: Background

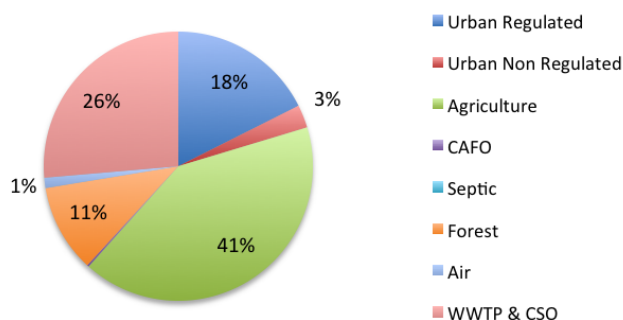
A variety of pollutants flow into the Chesapeake Bay on a daily basis. They come from a range of sources: some are regulated, and some are not. Following is an overview of the sources of Bay pollution and of the criminal enforcement provisions and standards in the federal Clean Water Act (CWA) and in relevant Maryland law.

### *What Pollution is a Problem for the Chesapeake Bay?*

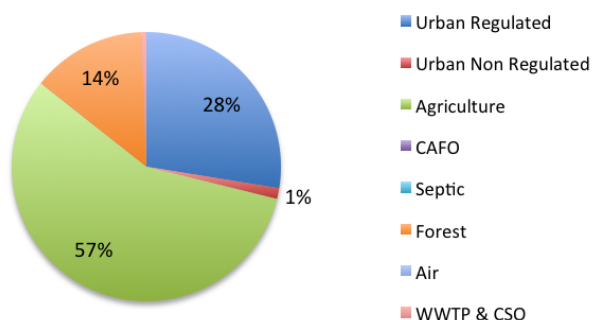
**Maryland's Nitrogen Loading by Sector** <sup>3</sup>



**Maryland's Phosphorus Loading by Sector**



**Maryland's Sediment Loading by Sector**



The primary pollutants that threaten the Bay are nitrogen, phosphorous, and sediment. In appropriate quantities, nitrogen and phosphorous are beneficial nutrients. In excess, however, these nutrients accumulate in the Bay and contribute to algal blooms and dead zones during the summer months and wreak havoc on the Bay ecosystems.

Toxic pollutants, heavy metals, pesticides, oil, antibiotics, and pathogens also contribute to the degradation of the Bay.

### *Who Pollutes the Bay?*

Bay pollution comes from a variety of sources, and while some sources contribute greater amounts of pollution than others, all are a part of the pollution problem in the Bay. Agriculture is the largest source of nitrogen, phosphorus, and sediment pollution. In Maryland, the agricultural sector contributes 36 percent of the nitrogen, 41 percent of the phosphorous, and 57 percent of the sediment to the Bay.<sup>4</sup> Unfortunately, with the exception of Concentrated Animal Feeding Operations (CAFOs), most agricultural pollution is not regulated under the CWA or under the various water pollution laws and is therefore beyond the reach of criminal enforcement provisions.

Another large pollution source is the urban sector which includes not only densely populated cities, but also suburban expansion and development of rural areas. As land is urbanized and converted to asphalt or concrete surfaces, and as construction sites alter the topography, the 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. The urban sector is notable because it is the only sector showing increases in pollution, and not all urban areas are regulated under the CWA.<sup>5</sup>

Other major pollution sources include industrial and municipal wastewater treatment plants (WWTP), sewage treatment plants (including Publicly Owned Treatment Works (POTW)), combined sewer overflow (CSO) systems, septic systems, and atmospheric deposits of nitrogen.

Many of these pollution sources are subject to water pollution controls and regulations under federal and state laws and thus subject to the full realm of enforcement mechanisms, such as criminal prosecution, when warranted. Some sources (like agricultural runoff, some urban runoff, and atmospheric deposits) are not subject to mandatory water pollution controls and regulations, thus presenting challenging accountability and enforcement issues and excluding them from potential criminal enforcement for water pollution violations.

### ***What Can be Done to Control and Prevent Water Pollution in the Bay?***

To ensure compliance with water pollution laws, federal and state environmental authorities rely primarily on administrative and civil enforcement methods and, less frequently, on criminal enforcement. The latter methods may include 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 a tougher approach through criminal enforcement. Ultimately the goal of enforcement is to deter the polluter and other similarly situated polluters from committing future violations. A strategic, prioritized, deterrence-based enforcement program can be a powerful tool to prevent pollution.

Deterrence-based enforcement is based on the theory that those subject to legal obligations weigh the costs and benefits of complying with them. If the costs of complying with the law are lower than the costs of violating it, a rational regulated entity will comply with the law. If the size or effects of the penalties for a violation make it more cost-effective to violate than to comply, a rational person or business will choose noncompliance. For a potential violator, this calculation involves the likelihood that regulators will catch the violation and the amount of the penalties that may result from an enforcement action.<sup>6</sup>

In the case of criminal enforcement, another consideration becomes important: “How will this affect my freedom, business, reputation, and life if I go to jail?” Criminal enforcement can assess greater monetary consequences 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 on an individual’s freedom, criminal enforcement is often viewed as having a higher deterrence value than its administrative and civil counterparts.

## ***The Clean Water Act and the Federal Criminal Enforcement Structure***

In 1987, Congress expanded the modern CWA to include felony sanctions for violations, effectively embracing the deterrence effect of criminal enforcement.<sup>7</sup> The following summary of the CWA provides a brief overview of how these provisions and the criminal enforcement program operate.

### ***Permitting and Pollution Sources Under the CWA***

The CWA imposes a broad prohibition on any person discharging pollutants into the waters of the United States, but exempts certain sources based on the nature of their discharge and permits certain quantities and types of pollution to enter the waters through a permitting program.<sup>8</sup>

This permitting program, the heart of the CWA's implementation and enforcement strategy, is known as the National Pollution Discharge Elimination System (NPDES) program. All point sources—specific, identifiable sources of pollution (e.g. industrial wastewater, ship discharges, septic systems, and municipal sewage discharges)—must obtain a NPDES permit and comply with that permit's limits on discharges (called effluent limits). The permittee must meet certain technology-based standards and routinely submit self-monitoring results in the form of Discharge Monitoring Reports (DMRs).<sup>9</sup> If a point source exceeds its effluent limits, fails to compile self-monitoring data or submit its DMRs, or fails to perform any other mandatory requirements under the CWA, then the point source has violated the law and could face an enforcement action, including criminal enforcement.

Certain kinds of industrial pollution sources, known as indirect point sources, discharge pollution into existing sewer or wastewater systems that will eventually be treated by a Publicly Owned Treatment Works (POTWs) plant before being discharged. These indirect point sources must follow certain pretreatment standards, but are not required to obtain a NPDES permit. If an indirect point source fails to follow the designated pretreatment standards, it too may be subject to potential enforcement actions.

Some kinds of pollution sources are deemed nonpoint sources—meaning they do not come from a specific identified point of conveyance—and are not subject to the NPDES program or pretreatment standards. These sources include agricultural runoff, runoff from urbanized and unsewered areas, atmospheric deposition, and certain kinds of construction runoff.

If the technology-based standards are insufficient to clean up the water, a secondary set of standards kicks in: water-quality based standards. These limits look at the holistic health of the water body by accounting for *all* sources of pollution through a Total Maximum Daily Load (TMDL). A TMDL is allocated between both point sources and nonpoint sources. While the point source allocation is enforceable through the NPDES permit, the nonpoint source load is effectively not directly enforceable.

### ***Enforcing and Prosecuting CWA Violations***

In the realm of criminal prosecution, the Environmental Protection Agency (EPA) serves as the primary investigator of environmental criminal cases, through its Office of Criminal Enforcement, Forensics and Training. In some cases, EPA shares this responsibility with other agencies, such as the Army Corps of Engineers.<sup>10</sup> EPA also has the power to delegate its authority to the states and call upon other federal agencies and departments for assistance. In addition, the U.S. Fish and Wildlife Service, the U.S. Coast Guard, the National Oceanic and Atmospheric Administration, the Federal Bureau of Investigation (FBI), Immigration and Customs Enforcement (ICE), and any regulatory personnel of any agency may discover and investigate environmental crimes and refer these cases for potential prosecution.<sup>11</sup>

Prosecutorial responsibilities are carried out by the Environmental Crimes Section within the Environment and Natural Resources Division of the U.S. Department of Justice (DOJ) and U.S. Attorneys' Offices.<sup>12</sup>

### ***Criminal Offenses Under the CWA***

Violations of the CWA can incur administrative, civil, or criminal penalties (in rare cases even all of them combined), and while the statute attempts to distinguish between these potential enforcement options, the line between civil and administrative sanctions and criminal sanctions is not always clear.<sup>13</sup>

The statute draws criminal enforcement lines based on the mental state of the violator and certain kinds of conduct:

- If a polluter “knowingly” violates any of the requirements of the statute, such as meeting NPDES effluent limits, following pretreatment standards, or monitoring and submitting DMRs, then he or she, legally speaking, commits a felony offense. Such “knowing” violations can incur a sentence of up to three years for first time offenders and six years for subsequent offenders. The potential criminal fines fall between \$5,000 and \$50,000 per day of violation and for subsequent offenders the per day/ per violation cap is raised to \$100,000.
- 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 to up to \$250,000 in fines and up to 15 years incarceration for an individual first-time offender.

Other conduct that could potentially face criminal charges and felony sanctions involves falsifying any documents submitted to regulators (such as DMRs), tampering with mandatory monitoring devices, or lying to regulators. Even if the polluter's conduct does not meet the “knowing” standard for a felony offense but instead constitutes negligent violations, he or she may be subject to misdemeanor sanctions. A detailed breakdown of the penalties associated with CWA criminal offenses can be found in Appendix A.

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At the federal level, there has been an effort to fill in the blanks where the statutes and regulations leave a murky zone on the differentiation between civil and criminal violations. Several memoranda and guidance documents outline factors for determining whether to pursue criminal enforcement. The following are some of the most noted:

- ***EPA's Guidance on Choosing Among Clean Water Act Administrative, Civil and Criminal Enforcement Remedies (EPA Guidance).*** This Guidance sets out seven factors to consider when making a determination of what is an “appropriate” criminal circumstance. Factors such as a polluter’s “blatant disregard for commonly known procedures” or causing “foreseeable environmental harm” should factor into the decision. So too should an evaluation of whether the “violator [was from] a category to which it is especially important to convey a deterrent message.”<sup>14</sup>
- ***The U.S. Attorneys' Manual and Other Internal Documents.*** A federal prosecutor has the responsibility to also consider the guidelines for all criminal prosecutions and those specific to environmental crimes set forth in the U.S. Attorneys' Manual<sup>15</sup> and weigh what method is the most effective in addressing the violation, getting the violator into compliance, preventing future accidents or violations, and, if possible, returning the environment and any victims to a healthy state.<sup>16</sup> Federal prosecutors must also consider any voluntary compliance or disclosure efforts by the violator.<sup>17</sup>
- ***EPA's Internal Documents for Investigators.*** EPA's criminal investigators must also consider an extensive list of factors (including significant environmental harm, repetitive violations, deliberate misconduct, and acts of concealment or falsification) before a case is referred to the prosecutor.<sup>18</sup> EPA sets out additional investigative considerations for parallel proceedings.

Together, the rigor of this prosecutorial evaluation process makes clear that the decision to pursue criminal prosecution against an environmental violator is not taken lightly.

### ***Federal Sentencing***

Criminal penalties such as supervised probationary periods, mandatory community service and restoration efforts, the subsequent repercussions of carrying a criminal record, potential contract suspensions, and potential debarment all factor into criminal enforcement's higher deterrence value. The possibility of incarceration, however, is what fundamentally distinguishes environmental criminal enforcement from its civil and administrative enforcement counterparts and adds the most to its deterrence value. Because statutes generally provide minimum and maximum limits on incarceration periods, criminal fines, or other penalties with little guidance on how courts should evaluate the specific circumstances of a particular case, Congress created the U.S. Sentencing Commission to compile a set of guidelines to guide courts and establish more consistent and fair sentencing outcomes. Known as the U.S. Federal Sentencing Guidelines Manual (Federal Sentencing Guidelines), it provides recommended ranges for incarceration and fines based on case-specific circumstances and criteria.<sup>19</sup> Section 2Q of the Federal Sentencing Guidelines lays out the



base offense levels, potential increases and decreases, and possible upward and downward departures available for various environmental crimes.

The Federal Sentencing Guidelines unfortunately contain some weaknesses, both in substance and application, that minimize the deterrent effect of environmental criminal enforcement. First and foremost, in 2005 the Supreme Court declared that the Federal Sentencing Guidelines are discretionary and not binding.<sup>20</sup> A federal judge must consider them, but ultimately can depart from a recommended sentencing range as long as it does not violate statutory penalty limits. Thus, even if government officials reached an agreement with a criminal defendant through a guilty plea, a judge may nevertheless impose his or her own assessment of what constitutes a fair sentence. Judicial discretion is often an asset and necessary to prevent prosecutorial overreach and protect individual rights, but in some contexts misplaced judicial discretion can diminish deterrence value. In the case of environmental crimes, it can be difficult to convey the seriousness of a pollution violation when judges are more familiar with levying sentences for traditional criminal cases. Second, the Federal Sentencing Guidelines' environmental crimes section fails to adequately address many of the offenses prosecuted under the CWA or, for that matter, the harms caused by CWA criminal violations, focusing instead on hazardous waste or toxic pollution violations.

### ***Other Types of Penalties***

While criminal penalties typically take the form of fines and incarceration, a number of other penalties are also available. Nearly all statutes, federal or state, permit courts to order a defendant to pay administrative costs in the form of either special assessments or court costs. These amounts are usually nominal when compared to the criminal fines. In many cases, a defendant will need to perform community service, pay restitution (*i.e.*, paying back the victims or those burdened with fixing the harm caused by violations), and remain on probation, even after paying fines and serving jail time. Probationary periods can range in length from a few months to a few years, and beyond potential supervision requirements, can limit a person or company's contracting opportunities with the government during the probationary period.<sup>21</sup>

The loss of future business prospects can also come from debarment and licensing sanctions. In the case of debarment, the government may elect to institute debarment proceedings against an individual or business, which, if successful, would prohibit the debarred party from doing business with the government for either a specified period of time or permanently. Similarly, if an individual or business must obtain a particular license to operate the business or provide a certain kind of service—marine contractors, for example—then there is the potential that a criminal conviction could lead to administrative proceedings that would result in revocation of that individual's or business's license.<sup>22</sup>

### ***Criminal Enforcement for Water Pollution Under Other Federal Statutes***

Federal water pollution prosecutions often involve charges from or are prosecuted under statutes other than the CWA. Water pollution violations and the surrounding circumstances



**Federal water pollution prosecutions often involve charges from or are prosecuted under statutes other than the CWA.**

might warrant criminal code charges, such as fraud or witness tampering, or if the facts warrant it, be pursued under a completely different environmental statute like the Clean Air Act (CAA) or the Resource Conservation and Recovery Act (RCRA).

One statute that has seen a significant rise in prosecutions during the past decade, both in Maryland and other states, is the Act to Prevent Pollution from Ships (APPS).<sup>23</sup> APPS prohibits certain pollution discharges from ships into the ocean and navigable waters of the United States, including sewage sludge, toxic pollutants, and garbage, and thus overlaps with some of the CWA's jurisdiction. Both EPA and the U.S. Coast Guard share regulatory and enforcement authority under APPS, but the U.S. Coast Guard assumes the majority of the on-the-water enforcement responsibilities.

One unique provision of APPS is its whistleblower provision that provides for a payment of up to half the amount assessed in fines to the person giving information leading to a conviction.<sup>24</sup>

### ***Maryland Water Pollution Laws and Enforcement Structure***

Over the years, Maryland has adopted a number of state laws to protect the Bay and other bodies of water on or within its borders. In addition, Maryland has principal responsibility for day-to-day monitoring and enforcement of the CWA, under a grant of authority from EPA. (As with most environmental laws, EPA has delegated authority for day-to-day monitoring and enforcement of the CWA to Maryland state authorities, while retaining oversight authority.) Overall, Maryland is often considered a model state in terms of its established environmental enforcement framework and enforcement efforts. In the area of environmental *criminal* enforcement, however, Maryland's enforcement structure could be stronger.

### ***Maryland's Water Pollution Criminal Statutes, Penalties, and Polices***

Combined, the Maryland laws regulate and penalize the same conduct as the CWA, sometimes extending greater protection to the state's waters. Overlap in federal and state law occurs for many reasons, but in the CWA context states retain the authority to enact water pollution standards (such as effluent limits) that are more stringent than the federal standards.<sup>25</sup> Enforcement mechanisms and penalties, however, do not need to meet federal standards.

Thus, where Maryland water pollution law differs greatly from federal law is in the severity of the criminal penalties. Of the several criminal penalty provisions related to water pollution offenses (see Appendix B for a breakdown and list of the primary provisions), many are weaker than their federal counterparts and none impose felony charges for violations. Even in the case of repeat offenders—where double penalties are often available—criminal violations remain misdemeanors. 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 up to \$50,000 per day, per violation and up to two years of imprisonment.<sup>26</sup>

### ***Enforcing and Prosecuting State Water Pollution Laws in Maryland***

Nearly all of the water pollution laws in Maryland designate the Maryland Attorney General as the primary prosecutorial authority.<sup>27</sup> 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.<sup>28</sup> Finally, the Maryland Department of the Environment (MDE) has primary responsibility for the actual investigation, monitoring, and implementation of the water pollution programs. Given this division of authority, it is perhaps unsurprising that environmental criminal enforcement at the state level faces similar power-sharing and jurisdictional issues as those faced by federal authorities—issues that are even more acute when those federal authorities are included in the mix.

Successful prosecution of water pollution offenses at the state level arises from collaborative efforts between MDE, the Environmental Crimes Unit (ECU) of the Maryland Office of the Attorney General (OAG), local law enforcement, and other local authorities.<sup>29</sup> Generally, ECU receives case referrals from sources such as the Maryland State Police, citizen complaints, and the MDE. Once a referral is made, the referral is screened and assigned to an investigator (usually a specially assigned state trooper) for a preliminary inquiry.<sup>30</sup> A prosecutor then evaluates the results of the preliminary inquiry and determines whether to proceed with the case.

### ***State Sentencing Authority in Maryland***

Much as at the federal level, state sentencing authority ultimately rests with the judge. State prosecutors can make recommendations and state sentencing guidelines can further inform these recommendations, but the judge makes the final decision about what sentence is appropriate within the maximum and minimum ranges set by the water pollution statutes. Although Maryland does have its own sentencing guidelines and accompanying manual,<sup>31</sup> they, like the Federal Sentencing Guidelines, do little to convey the seriousness of an environmental offense.

At the state level, a judge's sentencing discretion can often extend beyond just incarceration terms and fines to include whether a criminal defendant will retain a criminal record. Referred to as "probation before judgment" in Maryland, judges can order a hold on any conviction that would be entered on a defendant's criminal record. During the hold or probationary period, a defendant usually must fulfill certain obligations, such as paying fines, completing community service, and abiding by all laws. At the end of the hold period, there is no record of conviction, significantly lessening the deterrent effect of criminal prosecution. With probation granted after judgment, the defendant must perform similar requirements but will still retain a conviction on his or her record.

## Water Pollution Criminal Enforcement: Figures and Data Findings

How a regulatory and enforcement framework is supposed to work can differ greatly from implementation in practice. Beyond looking at the statutes and policies, this report also examined the question of “what has criminal enforcement of water pollution laws in Maryland looked like over the past 10 to 20 years?” More importantly, “has this critical enforcement mechanism been fully utilized, especially with regard to the Bay?” Using publicly available data, all of it accessible through official federal and state websites, searchable online databases, and online annual reports, this report offers findings in response to these questions.

### Data Sources

During the course of research and data analysis, we used a number of publicly available online resources to gather information and data; the following list represents the most relied upon and useful sources:

- ***EPA’s Summary of Criminal Prosecutions Database*** (EPA Criminal Database).<sup>32</sup> Offering a searchable database of environmental criminal cases in which EPA was involved and which reached a conclusion<sup>33</sup> before the court.<sup>34</sup> Search results provide links to case details. Available dataset ranges included the period from 1983 to 2011, but Maryland data were only available from 1988 to 2011.
- ***DOJ’s U.S. Attorneys’ Annual Statistical Reports*** (U.S. Attorney’s Office (USAO)<sup>35</sup> Reports). PDF reports providing annual statistical analysis and charts on all USAO criminal prosecutions and providing statistics for all “Environmental Offenses.” Available as far back as 1955, but comparable statistics for environmental offenses ranged from 1994 to the present.
- ***DOJ and Maryland USAO Press Releases***.<sup>36</sup> Detailed reports for individual environmental criminal cases prosecuted by the Environment and Natural Resources Division of DOJ and various districts of the USAO.
- ***Maryland OAG’s Environmental Crimes Unit (ECU) Section of the MDE Annual Enforcement and Compliance Reports*** (ECU Reports).<sup>37</sup> Legally mandated since 1997, each annual report contains a separate ECU section that provides various breakdowns of annual environmental criminal enforcement data.
- ***Maryland OAG News Releases***.<sup>38</sup> Press releases for a selection of environmental prosecutions, convictions, and sentencing outcomes between 1999 and 2012.

### ***Establishing Data Standards and Definitions***

Our research focused on water pollution criminal enforcement cases at both the federal and state levels in Maryland during the past 10 to 25 years, depending on the available data ranges. Wanting to capture the relationship between pollution sources and criminal convictions, we focused on the number of cases, as opposed to the number of defendants or charges. For example, if a company illegally discharged a pollutant into the Bay over a period of time, prosecutors would most likely bring only one case against that company and the individual or individuals responsible for the illegal discharges. The case might involve multiple charges of the same type of violation and even charges of different kinds of violations, such as criminal code-based charges, and could also involve multiple defendants, but the case as a whole would most likely be prosecuted as one case.

We refer you to Appendix C for a glossary of terms and data definitions used through the next section.

### ***Federal and State Environmental Prosecution Findings***

*During the past decade, EPA data show the nationwide share of CWA federal criminal concluded cases has gone down as a portion of overall environmental criminal enforcement efforts.<sup>39</sup>*

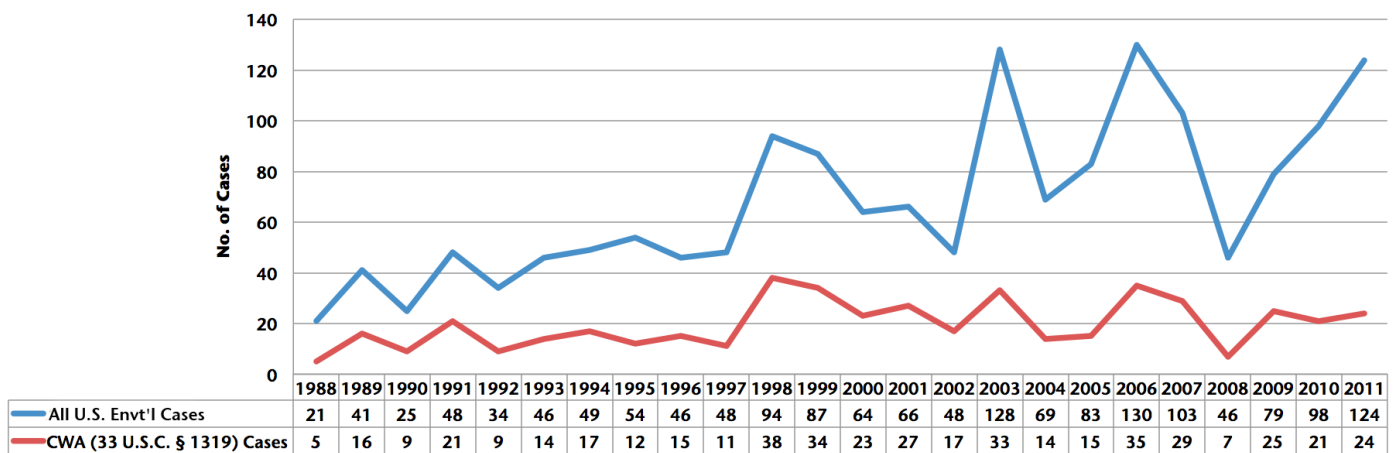
EPA environmental concluded case rates showed expected ups and downs over the past 20-plus years. Political shifts, human-caused catastrophes, natural disasters, and economic conditions all affect environmental criminal prosecution and conviction rates. Given that the CWA is only one of a few major environmental statutes under which criminal charges are often filed (others include the CAA and the RCRA statutes) and were most likely included in EPA's data set, it makes sense that CWA concluded cases should only account for a certain percentage of overall environmental concluded cases. It also makes sense that that percentage would see slight shifts, depending on changes in the already-mentioned external factors.

#### **EPA Data for Maryland**

Breaking out Maryland's portion of the national numbers shown in Figure 1, EPA data indicated that during the period between 1988 and 2011, Maryland had a total of 32 environmental criminal concluded cases. Of the 32, 11 of these involved one or more violations of the CWA (33 U.S.C. § 1319).

Figure 1 presents two data sets drawn from the EPA Criminal Database. The first set (the blue line), shows federal environmental concluded cases for all environmental statutes across the entire United States for the period of 1988 through 2011. The second set (the red line) separates out the portion of these concluded cases that involved CWA charges under 33 U.S.C. § 1319.

**Figure 1: EPA Concluded Criminal Cases 1988-2011**



As Figure 1 demonstrates, CWA-based concluded cases generally tracked the pattern for all environmental criminal concluded cases. In other words, CWA-based case rates went up and down in a similar manner to the overall environmental criminal case rates with only slight variations. What appeared to change during this period, however, was the gap between the two lines or the percentage of CWA-based concluded cases in comparison to the overall environmental criminal enforcement efforts, suggesting that CWA criminal enforcement was less of a priority.

Breaking the data in Figure 1 into the past two decades highlighted this change in percentage. For the period of 1991 to 2000, we see that CWA (33 U.S.C. § 1319) concluded cases averaged **33 percent** of the total environmental concluded cases.

For the period of 2001 to 2010, that average dropped to **26 percent**, with the lowest percentage of CWA cases in the entire span of 24-year period coming in at only 15 percent in 2008. Tables 1 and 2 present the breakdown of these percentages by year:

Table 1: Percentage of Concluded Environmental Criminal Cases Prosecuted Under the CWA (33 U.S.C. § 1319) 1991 - 2000

Year	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	Average
Percentage of CWA (33 U.S.C. § 1319) Concluded Cases	44%	26%	30%	35%	22%	33%	23%	40%	39%	36%	33%

Table 2: Percentage of Concluded Environmental Criminal Cases Prosecuted Under the CWA (33 U.S.C. § 1319) 2001 - 2010

Year	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	Average
Percentage of CWA (33 U.S.C. § 1319) Concluded Cases	41%	35%	26%	20%	18%	27%	28%	15%	32%	21%	26%

*During the past five years, Maryland's federal water pollution cases ending in convictions shifted away from CWA-based charges to those involving APPS and MARPOL, focusing on a narrow subset of pollution in the Bay.*

Recognizing that all criminal prosecutions involving water pollution offenses may not have led to a charge of violating § 1319 of the CWA, we expanded the scope of our research and analysis to include any water-related cases ending in conviction. The term “water-related” as used in Figure 2, included any cases involved in an illegal discharge of pollution into waters of the United States.

Figure 2: EPA Environmental and Water-Related Concluded Criminal Cases in Maryland 1988-2011

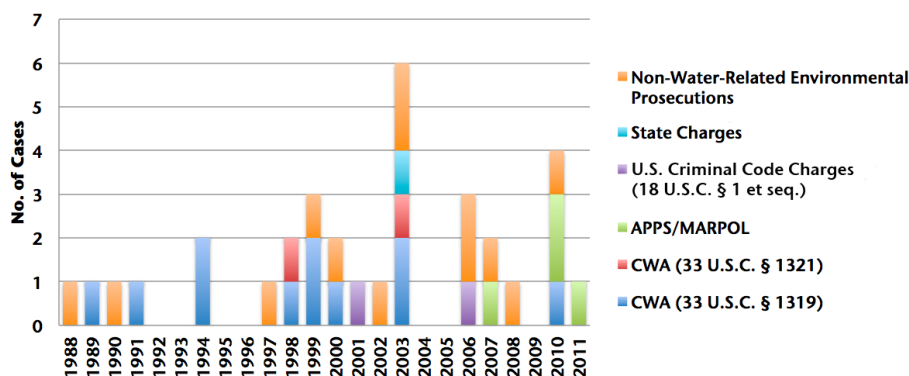
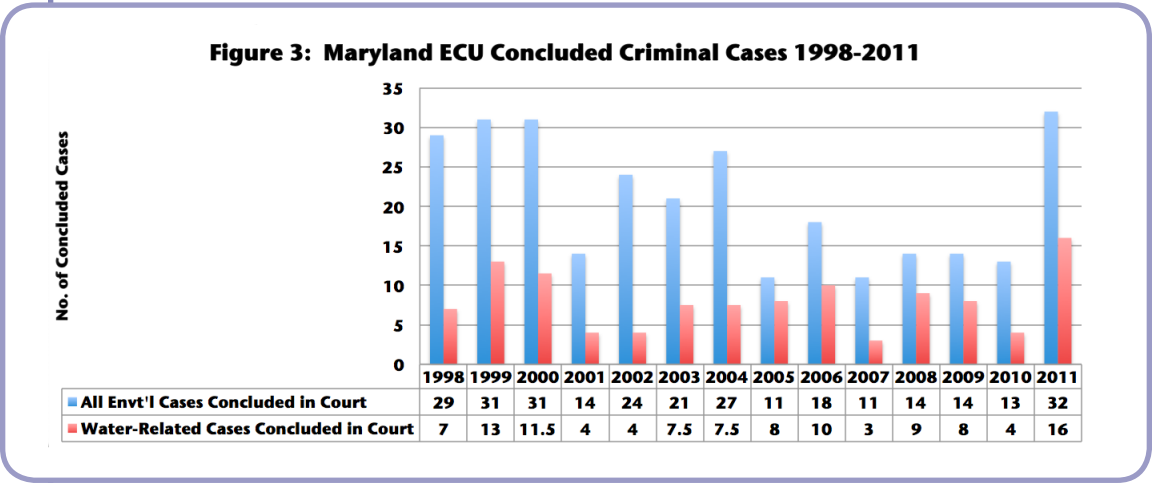


Figure 2 shows that expanding the scope to include other water-related cases raised Maryland’s total prosecutions from the **11 CWA-based (using 33 U.S.C. § 1319 as the lead charge) cases to 20 cases** involving water pollution offenses for the period of 1988 through 2011.

Breaking down the water-related case data revealed that one of the water-related cases counted in the federal database resulted in only state law convictions. Information as to which state charges were involved was not included in the OAG’s news release concerning this case, but the violations involved illegal discharges of pollutants (alkaline concrete slurry) from a concrete manufacturing facility and operating the facility without required discharge permits.

*State-level concluded criminal cases involving water-related offenses show a recent increase in 2011, but lack an overall sustained emphasis on water-related criminal enforcement for 1998 through 2011.*

This finding is based on data available from the ECU Reports and is shown in Figure 3 for the 1998 to 2011 period.<sup>40</sup> “Concluded Case” as used in the ECU Reports and Figure 3 refers to a criminal prosecution that has reached a resolution before the court through a finding of guilt, dismissal, acquittal or *nolle prosequi*. “Water-related” refers to cases concluded under the Maryland environmental statutes that most closely mirror CWA jurisdictions.<sup>41</sup>



Data show varying periods of water-related concluded case activity. While the most recent data from 2011 demonstrates an upsurge in water-related concluded cases, the data demonstrate a need for a sustained emphasis on water-related criminal enforcement.



### ***Industries Responsible for Water Pollution Findings***

Our research also sorted the data in terms of the particular industries or professional services from which cases arose, focusing on those industries that are responsible for an overwhelming share of water pollution convictions in Maryland at either the federal or state levels. Related to that, we identified whether any significant pollution sources had not been subject to potential criminal sanctions. To conduct this analysis, we used the broadest base of cases at the federal level drawn from the EPA's Criminal Database and included all water-pollution convictions. For state-level data, the authors obtained information from available OAG press releases for water-related cases.

***Significant Chesapeake Bay pollution sources, such as urban regulated runoff, wastewater and sewage treatment plants, and certain kinds of agriculture, have not been the focus of environmental criminal prosecution.***

Although prosecutions should not be dictated by problem areas, specific attention to recurring or particularly egregious problems is often warranted. In the case of the Bay, however, history has shown that major pollution source (even those within the reach of criminal prosecution) have largely escaped the microscope of a focused criminal enforcement effort.

**Table 3: Top Five Repeat Focus Industries of Federal Water Pollution Prosecutions in Maryland 1988-2011**

<b>Industry or Professional Service</b>	<b>Total Cases Ending in Convictions</b>
<b>Shipping Operations and Marine Vessel Services</b>	<b>5 *</b>
<b>Property Development (primarily wetlands)</b>	<b>3</b>
<b>Industrial Manufacturing (concrete and chemical production)</b>	<b>2</b>
<b>Waste Disposal and Dumping (including oil waste and solid waste)</b>	<b>2</b>
<b>Commercial services (heating oil delivery, insect control)</b>	<b>2</b>

**\* This number reflects two separate prosecutions against the same defendant. The second prosecution involved a violation of probation terms established for the first offense.**

As would be expected when dealing with a small sample size (20 total water-related cases over 24 years), the total cases collected by repeat industry offenders was small and the difference between the lead industry and others was slight. As shown in Table 3, one industry leader, (shipping), however, did rise to the top of the list with five cases ending in convictions from 1988 through 2011. Four of the five shipping-focused cases involved violations of APPS and MARPOL. The remaining case involved an oil spill from a tug boat that was prosecuted

under the oil-spill provisions of the CWA. While no other broad categories of professional services or industry rose to the same level as the shipping industry, it was telling that across all industries and services, violations involving oil waste or spills amounted to about 50 percent of the cases.

**Table 4: Top Five Focus Industries of Water Pollution Convictions at the State Level in Maryland 1999 – 2011**

Industry or Professional Service	Total Cases Ending in Convictions
<b>Residential Improvement Contractor</b>	<b>10</b>
<b>Property Development/Construction (Commercial and Residential)</b>	<b>6</b>
<b>Industrial Manufacturing/Services</b>	<b>6</b>
<b>Septic Services</b>	<b>4</b>
<b>Cleaning Services</b>	<b>3</b>

**Note:** As discussed in more detail in Appendix D, OAG's news releases concerning environmental convictions did not reflect the entirety of annually reported numbers.

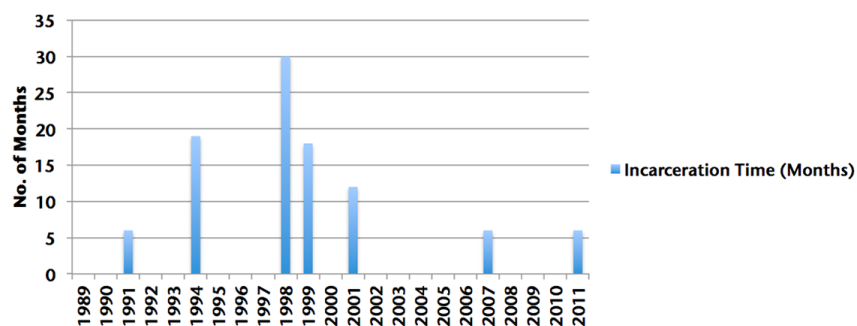
Table 4 demonstrates that at the state level, residential contractors (specifically contractors who power-wash brick facades to remove old paint and improperly allow the lead-laden wastewater to go down the storm drain) are the primary industry responsible for water pollution convicted offenses, reported in OAG news releases, from 1999 through 2011. Development or construction in wetlands and industrial manufacturing or services tied for the next most frequently reported offenses. Concerning the septic services, these cases involved the smaller servicers of home septic systems and not POTWs. Twelve years of news release data revealed that only one wastewater treatment facility was convicted of criminal violations at the state level as reported by OAG news releases.

### ***Federal and State Water Pollution Sentencing Findings***

*At the federal and state levels, courts rarely impose incarceration for water pollution-based convictions, reducing the deterrence value of criminal enforcement for these kinds of offenses.*

Even when prosecutors decide to pursue criminal charges, federal sentences rarely include incarceration terms for violation of water pollution laws in Maryland. As Figure 4 demonstrates, since 2002 only two sentences including prison terms have been imposed, and neither of those two sentences amounted to more than six months. Data in Figure 4 is drawn from the EPA Criminal Database. The figure reflects the total number (in months) of incarceration imposed on convicted defendants in federal water-related cases.

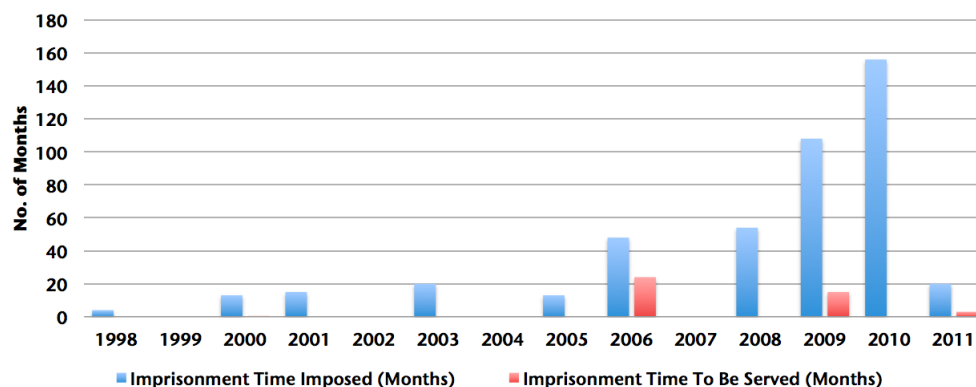
**Figure 4: Federal Incarceration Terms for Water-Based Concluded Cases in Maryland 1988-2011**



Incarceration terms are shown in the aggregate for each year and may involve multiple incarceration terms for multiple defendants.

The state level imprisonment terms demonstrate a more interesting trend, but a disappointing one nonetheless. Using the ECU reported data from the MDE Annual Enforcement Reports, Figure 11 shows that while imposition of imprisonment terms saw an increase over the course of the decade, the trend did not continue into 2011. Importantly, despite some significant sentences imposed, defendants seldom served any actual imprisonment time, because of grants of “probation before judgment” or suspended

**Figure 5: ECU Reported Imprisonment Sentences for Water-Based Convictions 1998 - 2011**



imprisonment terms during probation. Both federal and state courts favored probationary terms and fines for environmental criminal penalties. At the state level, even criminal fines were reduced through court-directed sentencing suspensions. In other words, when a judge levies a sentence, he or she may suspend all or a portion of the sentence (fines and jail terms) for a probationary period. If the defendant violates its probation, then the suspended portion of the sentence is, in theory, reinstated. This occurs at the state level, and in the case of Maryland, was a frequent occurrence in the reported environmental criminal sentences. State-court judges also granted 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, but also imposed at the judge’s discretion, both these kinds of sentencing reduction methods reduce the deterrence value of criminal enforcement.

## Water Pollution Criminal Enforcement: Interview Findings and Discussion

In order to broaden our understanding of the data, we sought the input and observations of those in field, focusing particularly on how to better utilize criminal enforcement in the context of the Bay. CPR interviewed a select group of individuals who could offer balanced and experienced insight to the practice of environmental criminal enforcement. In order to encourage candor, we assured the interviewees that all views and statements would remain anonymous, but that a list of interviewees would be disclosed. The interview participants included:

**Jane F. Barrett**, Professor of Law and Director of Environmental Law Clinic, University of Maryland Francis King Carey School of Law; former Partner, Blank Rome LLP; former Chief, Environmental Litigation, and Assistant U.S. Attorney, U.S. Attorney's Office, District of Maryland; former Assistant Attorney General, Environmental Crimes Unit, OAG; former Attorney-Advisor, EPA.

**P. Michael Cunningham**, Assistant U.S. Attorney, District of Maryland; former Judge Advocate for the U.S. Air Force.

**Kevin A. Gaynor**, Partner, Vinson & Elkins LLP; former Assistant Section Chief, Environmental and National Resources Division, U.S. Department of Justice; former Trial Attorney, Environmental Enforcement Section of the Lands Division, U.S. Department of Justice; former Assistant U.S. Attorney, U.S. Attorneys' Office, District of Maine.

**W. Warren Hamel**, Partner, Venable LLP; former Chief, Environmental Crimes and Enforcement Unit, U.S. Attorney's Office, District of Maryland; former Assistant U.S. Attorney, U.S. Attorney's Office, District of Maryland.

**Rod J. Rosenstein**, U.S. Attorney, U.S. Attorney's Office, District of Maryland; former Principal Deputy Assistant Attorney General, Tax Division, U.S. Department of Justice; former Assistant U.S. Attorney, U.S. Attorney's Office, District of Maryland; former Associate Independent Counsel, Office of the Independent Counsel; former Special Assistant to Criminal Division Assistant Attorney General; former Counsel to Deputy Attorney General; former Trial Attorney, Public Integrity Section of the Criminal Division, U.S. Department of Justice.

**David M. Uhlmann**, Jeffrey F. Liss Professor from Practice and Director, Environmental Law and Policy Program, University of Michigan Law School; former Chief, Environmental Crimes Section, U.S. Department of Justice.

**The majority of interviewees noted that criminal enforcement offered a powerful deterrent force that was often lacking in civil and administrative enforcement.**

Interview requests were sent to individuals within the Environmental Crimes Unit of Maryland's OAG and MDE. These requests were either declined or went unanswered. Thus the observations and opinions concerning state environmental criminal enforcement included in the following section are based on external perspectives and opinions.

The opinion and discussion points offered below reflect the individual opinions or statements of the interview participants. The interviewees did not speak on behalf of the agency or organization for which they work, but did draw upon their personal experiences to inform the discussion.

We asked interviewees a series of questions about environmental criminal enforcement in Maryland, specifically any unique challenges and issues involved in water pollution prosecutions, how the relationships between environmental criminal enforcement authorities functioned, and what improvements could be made to current environmental criminal policies and practices to better utilize this critical enforcement mechanism.

### ***The Value of Criminal Enforcement***

*All stakeholders interviewed saw criminal enforcement as a necessary and important component of the overall environmental enforcement framework. Most interviewees believed that environmental criminal enforcement sent a powerful message and was thus an enforcement tool that should be used more to induce change. Others felt its value was limited in the Bay due to the exclusion of major pollution sources, such as agriculture, from criminally enforceable pollution reduction standards.*

The majority of interviewees noted that criminal enforcement offered a powerful deterrent force that was often lacking in civil and administrative avenues. One stakeholder noted that it can be particularly effective at persuading particular industries to change deep set notions of how they confront water quality issues. As the interviewee explained, even when those in charge of companies would like to implement new environmental standards (or need to because they are facing civil sanctions), there is often an issue at the ground level with workers who do not want high-level officials telling them how to do their jobs—jobs they have been doing for decades. This “cowboy culture” can stand in the way of much needed change, but as one practitioner noted, criminal charges can get even the cowboy culture to listen where civil sanctions cannot.

Others did not feel that criminal enforcement should be singled out as an enforcement mechanism. Criminal enforcement was merely one of the important environmental enforcement pressure points, including civil and administrative remedies, citizen suits, and state enforcement mechanisms. Yet another interviewee reiterated that while environmental criminal enforcement was important, it was not necessarily the best tool to induce change in the Bay because it could not reach a large portion of the pollution sources, such as agriculture.

The majority of interviewees believed that environmental criminal enforcement was underutilized, but opinions on how strong a role criminal enforcement should play in resource-limited times, whether it provided a more valuable enforcement impact than other enforcement mechanisms, and what ends or penalties determined its ultimate deterrence value differed greatly.

***All stakeholders interviewed acknowledged the higher deterrence value of environmental criminal enforcement over other forms of enforcement, but some took the view that CWA criminal penalties as currently implemented did not sufficiently deter violators.***

Some interviewees believed the shorter incarceration terms for CWA and state water pollution offenses had just as much deterrent effect as higher sentences and penalties because of the type of defendants facing the penalties. In other words, because a typical environmental criminal defendant was more of a “white collar” criminal and not surrounded by a culture in which prison sentences were more common, it had a huge deterrent effect to face even small amounts of incarceration time. Another interview participant said that this kind of defendant-based sentencing was uncomfortable and walked a dangerous line. “If a prosecutor is exercising proper discretion, then these considerations should not matter. If a crime rises to a level that requires a more stringent sentence because there is more culpability or harm, then that is what matters.” In general, the interviewees agreed that the potential for imprisonment is what set criminal enforcement apart from its administrative and civil enforcement counterparts.

***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 placing more of a priority on water pollution criminal enforcement.***

Many interviewees pointed out that the lack of felony provisions was common in other states, but that it could not hurt state deterrence value to include felony provisions. Another interviewee noted that the issue was less about needing felony provisions and more about educating the judiciary to impose more stringent penalties available to them under the existing statutes.



### ***The Logistics of Water Pollution Criminal Enforcement***

***Most of the interview participants did not feel that water pollution cases presented any greater logistical or evidentiary challenges compared to other environmental criminal cases.***

One possible explanation for the paucity of CWA criminal enforcement cases is that they are simply harder to prosecute successfully. Our interviewees disagreed. Quite to the contrary, the interviewees felt that the CWA was an attractive statute for criminal enforcement, because it was comprehensive and provided built-in evidentiary sources like the discharge monitoring reports. Environmental criminal prosecutions on the whole were always more challenging because of the higher standard of proof and criminal law doctrines, such as the rule of lenity, but this was not unique to CWA cases. Several interviewees commented that while the numbers may reflect lower than expected CWA criminal prosecution rates, this did not mean that increased efforts had not been made under other water pollution statutes. A primary example offered was the multiple prosecutions in the last decade under the APPS statute, aimed at curbing marine vessel pollution.

***All agreed that external factors, such as political will, economic influences, and public opinion present challenges to utilizing environmental criminal enforcement in certain kinds of cases, like municipal owned wastewater and sewage treatment plants.***

While agencies and prosecutors could focus criminal enforcement against certain “low hanging-fruit” pollution sources, particularly municipalities and the antiquated wastewater and sewer treatment systems, there was a general consensus that going after municipal-owned and run sources that just didn’t have the money to make upgrades was a difficult decision influenced by political and economic factors. As one interviewee put it, “When it’s money for sewers or schools, it is hard to see criminal enforcement as the appropriate compliance incentive when the municipalities chose the latter.” Some interviewees, however, noted that did not give these problem pollution sources all free passes. One individual explained that in the case of Publicly Owned Treatment Works (POTWs), many were run by local operators that can often contribute to the problem by trying to protect their personal interests by misrepresenting monitoring numbers or trying to make the problem seem less serious than it really is. Sometimes this might lead to falsification of reporting records, tampering with monitoring devices, or even attempting to avoid detection of discharges. Uncovering these criminal acts, however, is challenging, because it is difficult to detect through general inspections. Having a whistleblower incentive to report such criminal acts, like the one in APPS, could potentially provide investigators and prosecutors with the necessary evidence to move forward with these kinds of cases.

### ***Changes in Priorities and Resources***

*Interviewees agreed that Maryland's environmental criminal enforcement framework, resources, and priorities had experienced significant changes since the disbanding of the environmental crimes section within the USAO in the District of Maryland at the end of 2001 and since the events of September 11, 2001, which caused a nationwide shift toward terrorism and homeland security focused criminal enforcement.*

One point that was reiterated by most of the individuals interviewed was that Maryland's environmental criminal enforcement program experienced significant changes at the start of the millennium, particularly with the dismantling of the Environmental Crimes and Enforcement Unit within the U.S. Attorney's Office for the District of Maryland. As one interviewee put it, "Maryland ceded its role as a once leading environmental enforcement office" when these changes were implemented. Of course, compounding these Maryland-specific changes were across-the-board cuts in funding and resources to environmental programs, the result of a combination of factors, including the political administration ideologies, fallout from the September 11<sup>th</sup> attacks, and eventually fiscal constraints brought into sharp relief by the nation's economic slowdown.

Another interview participant noted that the problems went beyond reorganization and funding cuts, but also felt that federal prosecutors lost their autonomy in being able to decide whether to pursue a case without input from DOJ. Investigative and attorney staff numbers went down, task forces were dismantled, and educational efforts disappeared. Many interviewees felt the shift was understandable in the wake of the "seismic event that deeply altered our nation," but it had lasting effects on environmental criminal enforcement programs, especially in Maryland. As one interviewee put it, "Environmental criminal prosecution stopped being sexy." This change in attitude affected priorities and educational efforts. Another interviewee felt that these changes eventually led to the current issue of prosecutors not being sufficiently trained to fully understand the complex environmental statutes and cases.

*Most interviewees agreed that one of the greatest hindrances to environmental criminal enforcement was lack of resources, particularly investigative resources.*

The majority of the interviewees viewed the environmental criminal enforcement program as still struggling, although noting it had experienced some improvement in the past few years. Most interviewed felt that one of the hardest hit areas was in the investigative priorities and staffing, and that this extended to the state level as well. One interviewee pointed out that prosecutors can only pursue a case that has been investigated and referred

**Maryland's environmental criminal enforcement program experienced significant changes at the start of the millennium, particularly with the dismantling of the Environmental Crimes and Enforcement Unit within the U.S. Attorney's Office for the District of Maryland.**

**All agreed that the shift in priorities and funding post-September 11<sup>th</sup> had affected investigative priorities and contributions from other divisions, such as the FBI, Army Corps of Engineers, and U.S. Fish and Wildlife Service.**

for potential prosecution. With only two EPA criminal investigators for the Baltimore Office serving Maryland, this limited the number of cases that landed on the desks of prosecutors, at least at the federal level. Another interviewee countered this point by noting that the number of EPA criminal investigators had always been low and that Maryland fared pretty well when compared to other states and regions. The issue was more global. “On the whole, environmental investigators totaled about 200 for the entire nation. Compare that to the approximately 10,000 in the FBI and you can see why there has always been a problem.”

### ***A Need for More Collaboration***

***Most stakeholders agreed that a reduction in collaboration with other enforcement authorities and government divisions had affected environmental criminal enforcement opportunities.***

All agreed that the shift in priorities and funding post-September 11<sup>th</sup> had affected investigative priorities and contributions from other divisions, such as the FBI, Army Corps of Engineers, and U.S. Fish and Wildlife Service. One interviewee commented that this was an interesting issue, both from a numbers perspective and access perspective. “FBI enforcement is inherently more tapped into the local scene and far more effective, albeit antagonizing. You just don’t get that with EPA and part of this is because EPA just doesn’t get the resources it should. Even U.S. Fish and Wildlife gets more resources and has a stronger investigative force.” Other interviewees pointed out that even recent efforts to reach out to formerly active divisions had not seen any increased participation or referrals. One division that had made a number of case referrals, however, was the U.S. Coast Guard, focusing on vessel pollution.

***On the whole stakeholders observed that little collaboration occurred between state and federal environmental criminal authorities and that the divide between these authorities should be lessened to better utilize the criminal enforcement mechanism.***

Some interviewees felt that this was a cause and effect argument. If state authorities ramped up their criminal prosecution efforts, then there would naturally be a decline in federal involvement because the conduct would only be prosecuted once. Also, in the case of Maryland, where only misdemeanor charges and penalties were available and resources were tight on all levels, it was more efficient to prosecute cases at the state level. One interviewee believed that OAG had made solid efforts recently to increase environmental criminal prosecutions in the past few years as compared with previous state administrations. These increased efforts, however, had not seen greater referral rates from the state level to the federal level.

## Recommendations

Significant depletion of resources and shifts in administrative priorities have resulted in the underutilization of criminal enforcement of water pollution laws—a powerful and important enforcement tool for restoring the Bay. This section pulls together the concepts, discussions, and findings raised and reviewed in this report and presents some recommended solutions to better utilize this important enforcement and deterrence tool:

***State and federal authorities should use their criminal enforcement power more frequently, in order for its deterrent effect to have more reach and power.***

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 problem pollution sources for the Bay.

***In particular, federal and state authorities should increase their focus on problem pollution sources for the Bay, giving greater consideration to criminal enforcement against these pollution sources.***

As noted in the findings, the focus industries that have seen the most criminal attention at both the state and federal level have not included some of the most significant pollution sources for the Bay. Part of the problem, as many interviewees pointed out, is that a large contributor of pollution to the Bay is not within the criminal or even civil enforcement realm—namely nonpoint source agriculture. While it is true that much of this pollution source cannot be controlled through environmental enforcement, there are still portions of this industry, such as CAFOs, and other problem pollution sources that could—and should—receive more attention.

Prosecutors need to exercise greater creativity and start expanding the traditional notion of the criminal enforcement realm as it applies to the Chesapeake Bay. An example of this was recently seen in South Carolina, when EPA and the South Carolina USAO achieved a significant criminal fine and sentence against a CAFO that was a persistent violator of the CWA. Providing the resources and implementing a Bay-focused criminal enforcement program at both the state and federal levels, would be a significant step toward meaningful enforcement action for the Bay. 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 legislatures need to increase funding and resources for environmental enforcement.***

We recognize the political difficulty involved in raising federal and state appropriations for enforcement; nevertheless, environmental enforcement on the whole needs more resources and greater enforcement efforts. From investigators to scientists to prosecutors, enforcement cannot occur without a balanced, strong, and supported enforcement framework. This is especially true for criminal enforcement, because without dedicated criminal investigators, trained and educated in both environmental regulations but also criminal rights and evidentiary standards, environmental criminal enforcement faces significant hurdles. Funding environmental criminal investigative and prosecutorial divisions is a must.

***State and federal authorities need to 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.***

This includes participating in a criminal enforcement task force, focused on the Chesapeake Bay, increasing inter-agency and cross-jurisdictional referrals, and strengthening internal policies and procedures. One interviewee recommended that a way to jump-start this would be to have the President appoint his own U.S. Attorney to tackle Chesapeake Bay issues. Such a move would be a significant step toward enforcement action versus ineffective discussion and planning.

Without felony provisions and penalties available through state laws, more serious deterrence messages can be sent by referring cases to the federal authorities. Even if the federal authorities decline to prosecute, increased discussion and sharing of information may help to identify problem areas of which either side was not aware. Knowing that there is a fluid relationship between state and federal authorities can also increase the deterrence value of state-level prosecutions. DOJ should draft guidelines for joint state and federal criminal enforcement litigation, much like they have done in the civil context.<sup>42</sup>

Much of this could be achieved through a strong and Bay-focused task force. Some initial efforts at establishing cross-jurisdictional environmental task forces have been made at the federal level, but there has been mediocre involvement. Of particular importance is the return involvement of non-environmental agencies, and specifically the investigative divisions like the FBI and Army Corps of Engineers. State authorities need to get involved as well. It was telling that the most water-related convictions from the past decade involved residential construction and lead-contaminated discharges. According to the OAG news releases, nearly all of these convictions arose from joint efforts of the Baltimore Police Department, ECU, and the Baltimore City Department of Public Works' Pollution Control Section. Coming together and identifying a problem area, coming up with common indicators or things to look out for, and establishing a regular communication schedule all help to raise awareness and pool resources.

***Both federal and state legislators should amend existing statutes to incorporate significant pollution sources within the reach of mandatory and enforceable pollution control standards, offer stronger incentives to report criminal conduct, and set stricter penalties.***

Inadequate penalties and regulatory loopholes reduce the deterrence value of environmental criminal enforcement. We recognize that any legislative action in today's political climate is difficult, but state and federal legislatures are the only ones with the ability to bring about these important changes.

Congress should consider legislative amendments that add a whistleblower provision to the CWA (like the one offered in APPS) and bring nonpoint source agriculture within the NPDES permitting program.

As challenging as they may be to regulate, nonpoint sources need mandatory pollution limits and best management practices. Bay restoration efforts will face significant hurdles without some way to hold nonpoint sources accountable and deter violations through civil and criminal enforcement.

Concerning the whistleblower provisions, much of the challenge in determining whether to bring criminal charges or continue with civil enforcement mechanisms lies in knowing whether there is intentional conduct on the part of the violator, but discovering the presence of intentional conduct can be challenging without inside information. Offering an incentive to an inside source is a means to encourage disclosure regarding criminal conduct, if it exists, and to strengthen deterrence value.

Strengthening statutory authorities, however, should not stop at the federal level. Maryland needs felony provisions in its water pollution statutes. Adding these provisions would allow for greater deterrence values at the state level and also mandate stricter sentences from state judges for egregious offenses.

***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 the amendment of sentencing guidelines pertaining to water pollution offenses so that they recommend deterrence-based sentences and penalties.***

As the findings section discussed, low incarceration rates at both the federal and state level weaken the deterrence value of environmental criminal enforcement. When the only difference between criminal penalties and civil penalties rests with the potential for incarceration and a criminal record, it makes no sense to not impose incarceration periods and jail times at more consistent levels and follow through on establishing a criminal record. Discretion and fairness should always be a consideration in any sentencing, but water pollution criminal convictions are few and far between, so those that do result in a finding of guilt should not be treated lightly.



**No amount of enforcement actions, however, will deter other potential polluters if they do not know that the enforcement is occurring and that there is the potential of being caught.**

Both prosecutors and environmental regulators may influence a sentence through plea agreements and sentencing recommendations, but the ultimate sentencing authority rests with the judges. Several steps could be taken to offer better guidance and education on environmental criminal sentencing. First, improvements to U.S. Sentencing Guidelines would set more consistent recommendations for federal judges. Similarly, establishing more stringent environmental sentencing guidelines for state court judges would ensure that a consistent set of standards informed state sentencing decisions.

Because sentencing guidelines are not mandatory, however, judges need additional education on the seriousness of committing environmental offenses, even those that do not pose immediate public health and safety threats.

***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.***

No amount of enforcement action will deter other potential polluters if they don't know that the enforcement is occurring and that there is the potential of being caught. One of the best ways to spread the word and bolster deterrence value is to spread the word about prosecutions.

There is no question that both the federal authorities and MDE have made significant strides in making environmental enforcement data and information available to the public in increasingly more user-friendly and publicly accessible formats, but more work needs to be done. MDE's Annual Enforcement Reports represent a solid effort on the part of MDE to present its enforcement data in a well-organized and thorough manner. The ECU section of the report needs more consistent presentation methods and explanation. While a searchable database with links to individual case details like EPA's may not be an option for state level authorities due to funding and time constraints, ECU should consider producing an appendix to the ECU section of the MDE Annual Enforcement report that summarizes each case included in its annual results. Alternatively, ECU could simply publish its own annual report providing case details, including statutory convictions, for all environmental criminal cases that resulted in convictions for the year.

At the federal level, EPA's Criminal Prosecutions database offers a useful tool that should be expanded to include all environmental criminal enforcement data. This would require collaboration with DOJ and USAO, but the results would provide the public with an invaluable resource regarding efforts to curb water pollution in the Chesapeake Bay.



## Conclusion

Criminal enforcement of federal and state water pollution laws is an underutilized tool in achieving Chesapeake Bay restoration. While it may not solve all of the problems in the Bay, without the added deterrence value of criminal enforcement, certain pollution sources will continue to pollute. Even more, when environmental criminal enforcement is warranted, it must send the strong deterrent message it is meant to send. 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.

## Appendix A: Federal Water Pollution Criminal Provisions

Statute	What actions are deemed criminal?	Criminal Category	Potential Incarceration Period	Potential Criminal Fines
<b>Clean Water Act</b> <b>33 U.S.C. § 1319(c)</b>	<b>(1) Negligent Violations</b> Any person's negligent discharge of a pollutant into the navigable waters of the United States that violates CWA permitting and pollution control provisions, including NPDES permitting and reporting requirements, pretreatment requirements, and wetlands permitting requirements. Additionally, a person cannot negligently introduce a pollutant or hazardous substance into a sewer system or POTW when the person knew or reasonably should have known that the pollutant or hazardous substances could cause personal injury or property damage or cause the treatment works to violate its permit limits and conditions.	Misdemeanor	Up to 1 year for a first violation and up to 2 years for a second violation.	Between \$2,500 and \$25,000 per day of violation. Second violations raise the limit to \$50,000 per day of violation.
	<b>(2) Knowing Violations</b> Any person's knowing discharge of a pollutant into the navigable waters of the United States that violates CWA permitting and pollution control provisions, including NPDES permitting and reporting requirements, pretreatment requirements, and wetlands permitting requirements. Additionally, a person cannot knowingly introduce a pollutant or hazardous substance into a sewer system or POTW when the person knew or reasonably should have known that the pollutant or hazardous substances could cause personal injury or property damage or cause the treatment works to violate its permits.	Felony	Not more than 3 years for a first violation. Not more than 6 years for a second felony violation.	Between \$5,000 and \$50,000 per day of violation. Second felony violations raise the maximum to \$100,000 per day of violation.
	<b>(3) Knowing Endangerment Violations</b> Any person's knowing discharge of a pollutant into the navigable waters of the United States that violates CWA permitting and pollution control provisions, including NPDES permitting and reporting requirements, pretreatment requirements, and wetlands permitting who also knows at that time of committing the violation that he thereby places another person in imminent danger of death or serious bodily injury.	Felony	Not more than 15 years for a first conviction. Imprisonment doubles for a second conviction.	Not more than \$250,000 for individual violators and not more than \$1,000,000 for organizations. All fines are doubled for a second conviction.

Statute	What actions are deemed criminal?	Criminal Category	Potential Incarceration Period	Potential Criminal Fines
<b>Clean Water Act</b> <b>33 U.S.C. § 1319(c)</b>	(4) Knowing False Statements and Tampering Knowingly making false material statements, including written certifications of reports and documents, and/or tampering with required monitoring devices or methods constitutes a felony.	Felony	Not more than 2 years for a first conviction. Not more than 4 years for a second conviction.	Not more than \$10,000 per day of violation and not more than \$20,000 per day of violation for a second conviction.
<b>Clean Water Act</b> <b>33 U.S.C. § 1321(b)(5)</b>	Prohibits certain discharges of oil or hazardous substances in connection with oil drilling and oil transport activities and places an affirmative responsibility for “any person in charge” to report any known prohibited discharges or face potential criminal sanctions.	Not specified, but incarceration limit suggests felony	Fined in accordance with the U.S. Criminal Code (title 18).	Not more than 5 years.
<b>Act to Prevent Pollution from Ships (APPS)</b> <sup>42</sup> <b>33 U.S.C. § 1908</b>	A person’s knowing violation of the MARPOL Protocol, Annex IV to the Antarctic Protocol, APPS, or the regulations issued thereunder. These authorities place prohibitions and restrictions on marine disposal of wastewater, hazardous substances, and certain types of garbage from ships.	Felony	A knowing violation of APPS incurs Class D Felony penalties, which include imprisonment of no less than five years but not exceeding ten years or a probationary term of one to five years. <sup>43</sup>	A fine of up to \$250,000.

## Appendix B: Maryland's State Water Pollution Criminal Provisions

MARYLAND'S ENVIRONMENTAL CODE	
<b>DEFINITIONS; GENERAL PROVISIONS; ENFORCEMENT (TITLE 1)</b>	<p><b><i>Enforcement (Subtitle 3)</i></b>  <i>§ 1-302 Falsifying and altering permits, licenses, and certificates; criminal penalties</i></p> <p>Knowing falsification or alteration (or causing of another to falsify or alter) any permit, license, or certificate issued or required under the environmental article, constitutes a misdemeanor offense and is subject to a fine of up to \$50,000 for each violation and/or up to 2 years of imprisonment. Knowing possession, display, or submission of such documents is also subject to the same criminal penalties.</p> <p><b><i>§1-303 Limitations of Actions</i></b></p> <p>A criminal prosecution or suit for a civil penalty by the Department for violation of any provision of this article or any rule, regulation, order, or permit adopted or issued under this article, shall be instituted within 3 years after the date the Department knew or reasonably should have known of the violation.</p>
<b>WATER MANAGEMENT (TITLE 4)</b>	<p><b><i>Sediment Control (Subtitle 1)</i></b>  <i>§ 4-116 Violations and penalties; injunctive relief; civil liability; enforcement</i></p> <p>A violator of this subtitle commits a misdemeanor offense and is subject to a fine not exceeding \$10,000 and/or imprisonment not exceeding on year for each violation. Each day of violation equals a separate offense.</p> <p><b><i>Stormwater Management (Subtitle 2)</i></b>  <i>§4-215 Penalties; failure of county or municipality to enforce subtitle</i></p> <p>Violations of this subtitle or any regulation or stormwater management plan adopted or approved under this subtitle constitute a misdemeanor offense subject to up to \$10,000 fine and/or up to one year in jail. Each day of violation equals a separate offense.</p> <p><b><i>Watershed Sediment and Waste Control (Subtitle 3)</i></b>  <i>§4-314 Violations and Penalties</i></p> <p>Violations of this subtitle amount to a misdemeanor offense and a potential fine of up to \$5,000 and/or up to one year of jail for each violation.</p> <p><b><i>Water Pollution and Control and Abatement (Subtitle 4)</i></b>  <i>§4-417 Penalties</i></p> <p>Violators of subtitle or those who fail to perform duties, follow regulations or orders imposed by subtitle, and/or abide by permit provisions are guilty of a misdemeanor offense and can incur a fine of up to \$50,000 and/or jail time up to one year and additionally may be enjoined from committing further violation(s). Second-time offenders of this subsection must be fined up to \$50,000 per day of violation and/or up to two years of imprisonment. Each day of violation constitutes a separate offense.</p> <p>Knowingly making false statements in required documents or knowingly tampering with monitoring devices is subject to a fine of up to \$10,000 and/or up to six months imprisonment.</p> <p><b><i>§4-418 Violations of §4-410 (Discharges of Oil); enforcement and disposition of penalties and compensatory fees</i></b></p> <p>Violators are guilty of a misdemeanor offense and subject to the same criminal penalties (see above).</p> <p><b><i>Penalty and Fines; Prosecution (Subtitle 5)</i></b>  <i>§ 4-501 Penalties and fines</i></p> <p>Violations of any provision of the entire Water Management title, including rules, regulations, or restrictions, are guilty of a misdemeanor offense and if no other penalty is specified, subject to a fine of up to \$500 and/or up to three months imprisonment. Second-time offenders (within 2 years of the first offense) of the title are subject to up to \$1,000 fine and one year of imprisonment.</p>

<b>WATER RESOURCES (TITLE 5)</b>	<p><b><i>Nontidal Wetlands (Subtitle 9)</i></b>  <b><i>§ 5-911 Enforcement</i></b></p> <p>Violations of this subtitle or failure to perform duties assigned by subtitle, regulation, order, or permit, constitute misdemeanor offenses and are subject to up to a \$10,000 fine for first-time offenders and up to a \$25,000 fine for subsequent offenders. Offenders may also be ordered to restore affected area.</p> <p><b><i>Chesapeake Bay and Tributaries (Subtitle 11)</i></b> <i>(Prohibits redistribution of dredged materials into the Bay.)</i>  <b><i>§ 5-1106 Enforcement</i></b></p> <p>Maryland OAG or State's Attorney that borders on portion of the Chesapeake Bay or a tidewater portion of the Bay's tributaries may enforce this subtitle and seek criminal penalties.</p> <p><b><i>§ 5-1107 Penalties</i></b></p> <p>A violation of the subtitle constitutes a misdemeanor offense subject to a fine of up to \$5,000 and/or up to one year of imprisonment for each violation.</p> <p><b><i>Penalty and Fines; Prosecution (Subtitle 13)</i></b>  <b><i>§ 5-1301 Penalty and fines</i></b></p> <p>Violators of any provision of the title, including any regulations adopted under it, are guilty of a misdemeanor offense and if no other penalty is specified, subject to a fine of up to \$500. For subsequent offenses (within two years of the first offense), a fine of up to \$1,000 and/or up to one year in jail.</p>
<b>WATER, ICE, AND SANITARY FACILITIES (TITLE 9)</b>	<p><b><i>Water Pollution Control (Subtitle 3)</i></b>  <b><i>§ 9-343. Criminal penalties</i></b></p> <p>A person who violates any provision of or fails to perform any duty imposed by this subtitle, or who violates any provision of or fails to perform any duty imposed by a rule, regulation, order, or permit adopted or issued under this subtitle, is guilty of a misdemeanor and subject to a fine of up to \$25,000 and/or up to one year imprisonment. For subsequent offenders, a fine of up to \$50,000 for each day of violation and/or up to two years imprisonment. Each day on which a violation occurs is a separate violation under this subsection.</p> <p>Violators who make knowingly false statements in required documents or tamper with required monitoring devices are guilty of a misdemeanor and subject to a fine not exceeding \$ 50,000 and/or or imprisonment not exceeding 2 years.</p>
<b>WETLANDS (TIDAL) AND RIPARIAN RIGHTS (TITLE 16)</b>	<p><b><i>General Provisions Concerning Marine Contractor Use (Subtitle 1)</i></b>  <b><i>§ 16-106 (b) Penalties; separate offense</i></b></p> <p>Violations of subsection (a) of this section or any regulation adopted under this section constitute a misdemeanor offense and on conviction violators will be subject to a fine not exceeding \$ 10,000 and/or imprisonment not exceeding. Each day that a person conducts marine contractor services without a license constitutes a separate offense.</p> <p><b><i>Penalties and Fines (Subtitle 5)</i></b>  <b><i>§ 16-501 Enumeration</i></b></p> <p>First-time violators of any provision of this title, including permits, licenses, or regulations issued under the title, are guilty of a misdemeanor offense and subject to up to a \$10,000 fine. Subsequent offenders (within two years of first offense) face up to a \$25,000 fine and/or one year in jail. Knowing violators may also be liable to the State for restoration costs.</p>

<b>MARINE CONTRACTORS (TITLE 17)</b>	<b><i>Prohibited Acts; Penalties (Subtitle 4)</i></b> <b><i>§ 17-403. Penalties</i></b>  A person who violates any provision of this title or any regulation adopted under this title is guilty of a misdemeanor and on conviction is subject to a fine not exceeding \$10,000 and/or imprisonment not exceeding 1 year. Each day that a person conducts marine contractor services without a license constitutes a separate offense.
<b>MARYLAND'S NATURAL RESOURCES CODE</b>	
<b>WATERS (TITLE 8)</b>	<b><i>Penalties and Fines; Prosecution</i></b> <b><i>§ 8-2001. Penalties and fines</i></b>  Violators of the any provision of this title, including regulations or restrictions, are guilty of a misdemeanor and subject to a fine of up to \$500. Subsequent offenders (within two years of previous offense) face a fine of up to \$1,000 and/or up to one year of imprisonment.

## Appendix C: Figures and Data Glossary

Because not all data sources use the same terminology to describe criminal data and even assign different meanings to similar terms, the following list of terms and definitions is provided as a useful guide to navigate the figures and data findings discussion:

- A **case** refers to the cause of action brought by a prosecuting authority against a polluter. A case may involve multiple defendants, counts, and charges, but generally stems from a particular pollution violation or series of related pollution violations and is brought before the court as one matter.
- A **concluded** or **terminated case** involves the cause of action that has reached a resolution before the court. This resolution may include a finding of guilt (conviction), guilty plea, acquittal, dismissal by the court, or a decision to dismiss the case on the part of the prosecutor.
- A **charge** or **count** involves the alleged violation of a statute. There can be multiple charges or counts levied against an individual defendant and even multiple defendants in the same case facing different charges or numbers of counts.
- A **conviction** generally refers to a defendant who either pleads guilty to the charge(s) against him or receives a guilty verdict from the bench or jury. This term can also be used to refer to a case that reached a resolution involving a guilty verdict or guilty plea.
- A **defendant** refers to the person or organization accused or convicted of a criminal violation.
- A **prosecution** generally refers to the act of a government attorney charging a defendant or defendants with criminal violations of the law. This term is often interchanged with the term “case” in the data sources.

When necessary for better understanding of a particular dataset or figure, we clarify any changes in these definitions or how the terms are used by the reporting source.



## Appendix D: Notes on the Data

In preparing this report, CPR relied on a number of publicly available sources of state and federal data. For a variety of reasons described below, those sources sometimes left significant gaps, making it difficult for the public to develop a complete picture of state and federal authorities' use of criminal enforcement of the Clean Water Act (CWA) and other water pollution laws.

### ***Federal Data Sources***

For criminal data, those interested can look to a few different resources on the EPA's website. First, annual enforcement data since 2009 is available on the Annual Results page of the site, in the form of an interactive mapping that includes criminal cases "prosecuted by EPA under federal statutes and the U.S. Criminal Code, and cases in which EPA provided significant support to cases prosecuted under state criminal laws."<sup>45</sup> For pre-2009 data, the Annual Results pages still provides general information on criminal enforcement statistics, but without the mapping tool and without links to detailed case information.<sup>46</sup> For specific charges, such as CWA and water pollution offenses, and as used for the majority of federal data and figures presented in the body of the report, the EPA offers a searchable criminal enforcement database, called *Summary of Criminal Prosecutions* (EPA Criminal Database).<sup>47</sup> Finally, EPA also provides a separate webpage containing criminal enforcement press releases dating back to 2006.<sup>48</sup>

In researching this report, CPR also consulted DOJ enforcement websites, reports, and any other publicly available information. Many of these additional resources, however, are not offered in a searchable database formats. Similarly, the *United States Attorneys' Annual Statistical Reports* (USAO Reports) offer very good national environmental prosecution data, but do not break down environmental prosecutions by statute and jurisdiction.

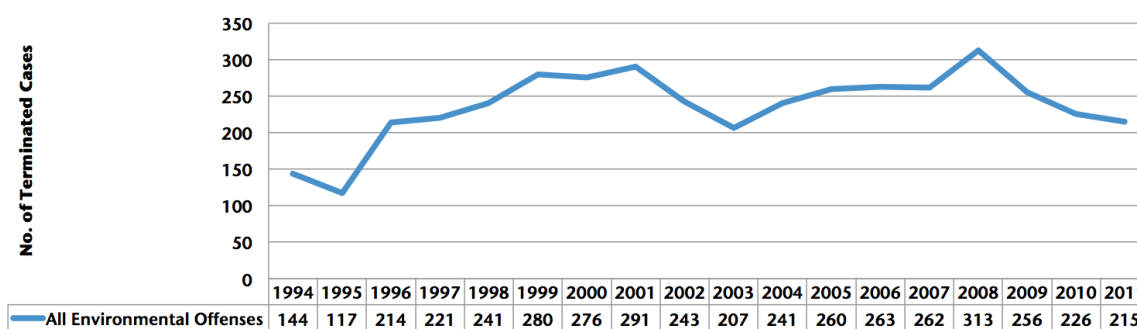
## Federal Data Gaps

*The EPA Criminal Prosecutions database did not include all federal environmental cases reported by the USAO and DOJ.*

In a few instances, CPR identified cases that had not been included in the database for one reason or another. For most of these cases, the lack of involvement of EPA investigative or enforcement staff appeared to be the likely reason for their exclusion from the database. Maryland data outputs from the EPA Criminal Database did not appear to be affected by this gap. For this report, CPR individually cross-checked criminal prosecutions against both DOJ and USAO press releases.

During the course of research and data analysis for this report, questions arose as to whether the EPA Criminal Prosecutions database included the full spectrum of environmental criminal cases prosecuted by all federal authorities on an annual basis. To offer some comparison, CPR also compiled USAO annual statistics concerning total “terminated cases” nationwide that involved all environmental offenses (blue line in Figure A). “Terminated cases” as used in Figure A and by the USAO Reports encompasses a broader range of data, including cases that have reached a resolution in U.S. District Court through conviction, guilty plea, dismissal, acquittal and Rule 20 transfers.

**Figure A: USAO Annual Statistics 1994-2011**  
**All Terminated Environmental Criminal Cases in U.S. District Court**



In comparing USAO data with the EPA's Criminal Database, some notable differences emerged with respect to the data comprising Figure 1 in the body of this report. First, the USAO annual terminated case rates are much higher than those presented in the EPA Criminal Database. One possible explanation for the variance could be the use of different units of measurement. EPA's database seems to include only those "concluded cases" resolved by at least one convicted defendant. As noted earlier, the unit of measurement used by the USAO, "terminated cases," included a broader range of case resolutions and thus produced a broader data set and larger number. Another possible reason for the variance could be EPA's lack of involvement in a given USAO-reported case, prompting EPA to omit the case from its data. Finally, it is possible that USAO defines an "environmental offense" more broadly than EPA's database.

The second notable difference is in the overall patterns. Nationwide environmental criminal prosecution patterns provided by USAO Reports differed from those provided by EPA's Criminal Prosecutions database, showing an overall decline in terminated environmental cases for the last five years. EPA's data showed a decrease from 2006 until 2008 in overall environmental criminal cases, but then showed an increase from 2008 to the present. Here again, units of measurement and EPA's narrower definitions and standards could explain these differences.

### ***State Data Sources***

State criminal enforcement data collection and analysis presented more challenges than the federal data. The primary source for Maryland state data used in this report is the MDE Annual Enforcement Reports, released in each of the past 15 years.

Because the ECU section of the MDE Annual Enforcement Reports offer no case-specific details or references to links for case details, CPR sought more in-depth information, such as what types of industries were the subject of the offenses, from the Maryland Office of Attorney General's (OAG) news releases, when applicable. The news releases did not appear to represent the entirety of environmental concluded cases as reported by the MDE Reports.

### ***State Data Gaps***

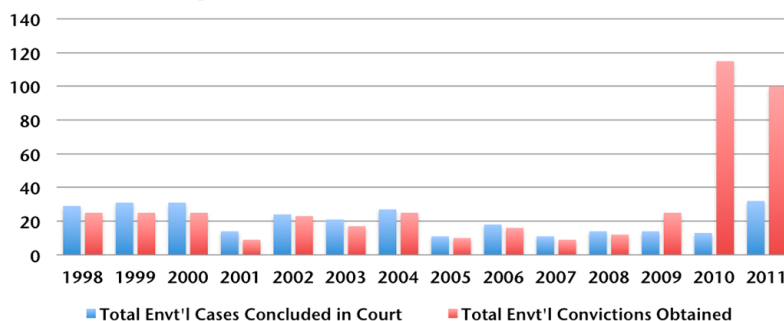
#### ***ECU Reports data consistency and presentation issues.***

In general, ECU's section of the MDE Annual Enforcement Reports could use clearer and more organized definitions and explanations for the charts and data presented. For example, ECU's section of the MDE Annual Enforcement Report included a statistic each year, found in *Chart 2*, that reported the total number of "concluded" cases for that

year. ECU does not indicate for this chart (or in a general definitions section) whether a “concluded” case includes only those cases resulting in a finding or acceptance of guilt or cases that concluded through acquittal or dismissal. Only by reviewing multiple versions of this report and separate charts and tables in which explanations were provided concerning data presented, could a reader deduce that a “concluded” case as used in *Chart 2* most likely included all forms of case resolutions, such as convictions, *nolle prosequis*, acquittals, stets, and dismissals. Using the MDE Annual Enforcement Reports’ model of providing a general explanation of terms and data sets presented in the report would be a simple way of overcoming this problem.

CPR also encountered some difficulty in comparing ECU’s data from 2009, 2010, and 2011 with data from the previous ten years, because of varying methods of presentation and removal of certain comparative data break downs. The particular problem involved the removal of the “Cases Concluded” from the ECU *Chart 3* which provides the annual breakdown of prosecution statistics by statute and an apparent spike in the number of total environmental convictions obtained, as demonstrated in Figure B below.

**Figure B: ECU Annually Reported Concluded Cases as Compared to Convictions Obtained 1998-2011**



The chart suggests the possibility of a change in metric definitions. For example, ECU might have changed its definition of “Convictions Obtained,” so that it presents total criminal counts or charges or even defendants. Here again, the unexplained change in methodology makes it difficult for the public to track the progress of prosecutors.

Again, better data definitions and providing explanations for sudden spikes or shifts in data would remedy many of these issues.

## Endnotes

- <sup>1</sup> Executive Order 13508, Sept. 9, 2009, <http://executiveorder.chesapeakebay.net/EO/file.axd?file=2009%2f8%2fChesapeake+Executive+Order.pdf>; see also Charles Duhigg, *E.P.A. Vows Better Effort on Water*, N.Y. TIMES, Oct. 16, 2009, at B1.
- <sup>2</sup> Proposed federal legislation that requires the the U.S. Sentencing Commission to amend the Federal Sentencing Guidelines for CWA offenses has been reported out of committee and awaits a Senate vote. See <http://www.gpo.gov/fdsys/pkg/BILLS-112s350rs/pdf/BILLS-112s350rs.pdf>.
- <sup>3</sup> Data used to compile pollution source charts was obtained from *Maryland's Phase I Watershed Implementation Plan for the Chesapeake Bay TMDL*, Dec. 3, 2010, at ES-6 [hereinafter MD Phase I WIP], [http://www.mde.state.md.us/programs/Water/TMDL/Documents/www.mde.state.md.us/assets/document/MD\\_Phase\\_I\\_Plan\\_12\\_03\\_2010\\_Submitted\\_Final.pdf](http://www.mde.state.md.us/programs/Water/TMDL/Documents/www.mde.state.md.us/assets/document/MD_Phase_I_Plan_12_03_2010_Submitted_Final.pdf). The CAFO sector contributes 80,000 pounds of nitrogen and 7,000 pounds of phosphorus.
- <sup>4</sup> *Id.*
- <sup>5</sup> See Chesapeake Bay Program, *Stormwater Runoff: How has impervious cover increased in recent years?*, [http://www.chesapeakebay.net/issues/issue/stormwater\\_runoff#inline](http://www.chesapeakebay.net/issues/issue/stormwater_runoff#inline).
- <sup>6</sup> For further discussion on deterrence-based enforcement in the civil enforcement context, please see CPR's previous Abell Foundation-sponsored report, *Failing the Bay: Clean Water Act Enforcement in the Bay Falling Short*, written by CPR Member Scholar Robert Glicksman and CPR Policy Analyst Yee Huang, April 2010, [http://progressivereform.org/articles/mde-report\\_1004FINALApril.pdf](http://progressivereform.org/articles/mde-report_1004FINALApril.pdf).
- <sup>7</sup> Water Quality Act of 1987, Pub. L. 100-4, 101 Stat. 42 (1987) (amending section 1319 of the Clean Water Act (CWA)).
- <sup>8</sup> CWA, 33 U.S.C. § 1311.
- <sup>9</sup> Depending on the pollution source and the type of permit each pollution source operates under, DMRs may not be required. Instead, certain pollution sources may be required to submit other kinds of monitoring reports and compliance information. For example, CAFOs must submit annual reports to the state or permit administrator. See 40 CFR § 122.42(e). For a more detailed discussion and breakdown of CAFO operating requirements and issues, see *Manure in the Bay: A Report on Industrial Animal Agriculture in Maryland and Pennsylvania*, written by CPR Member Scholar Rena Steinzor and CPR Policy Analyst Yee Huang, June 2012, [http://www.progressivereform.org/articles/CAFOs\\_1206.pdf](http://www.progressivereform.org/articles/CAFOs_1206.pdf).
- <sup>10</sup> CWA, U.S.C. § 1361. § 1361. When dealing with enforcement of the wetlands provisions of the CWA, primary enforcement authority is shared with the Army Corps of Engineers.
- <sup>11</sup> Kris Dighe and Lana Pettus, *Environmental Justice in the Context of Environmental Crimes*, *Environmental Crimes Issue*, United States Attorneys' Bulletin, July 2011, at 7 [http://www.justice.gov/usao/eousa/foia\\_reading\\_room/usab5904.pdf](http://www.justice.gov/usao/eousa/foia_reading_room/usab5904.pdf).
- <sup>12</sup> U.S. DEPT. OF JUSTICE, ENV'T'L & NATURAL RESOURCES DIVISION, [http://www.justice.gov/enrd/About\\_ENRD.html](http://www.justice.gov/enrd/About_ENRD.html).
- <sup>13</sup> David M. Uhlmann, *Environmental Crime Comes of Age: The Evolution of Criminal Enforcement in the Environmental Regulatory Scheme*, 4 UTAH L. REV. 1223, 1225 (2009).
- <sup>14</sup> U.S. ENV'T'L PROT. AGENCY, Guidance on Choosing Among Clean Water Act Administrative, Civil and Criminal Enforcement Remedies, Aug. 28, 1987, <http://www.epa.gov/compliance/resources/policies/civil/cwa/cwacivcriminenfremed-mem.pdf>.
- <sup>15</sup> U.S. ATTORNEYS' MANUAL, Titles 5 (ENRD) and 9 (Criminal), [http://www.justice.gov/usao/eousa/foia\\_reading\\_room/usam/](http://www.justice.gov/usao/eousa/foia_reading_room/usam/). See also U.S. DEPT. OF JUSTICE, *Factors in Decision on Criminal Prosecutions for Environmental Violations in the Context of Significant Voluntary Compliance or Disclosure Efforts by the Violator*, [hereinafter Significant Compliance Factors], July 1, 1991, <http://www.justice.gov/enrd/3058.htm>.
- <sup>16</sup> Stacey P. Geis, *An Accident Waiting to Happen? Prosecuting Negligence-Based Environmental Crimes*, ENVIRONMENTAL CRIMES ISSUE, U.S. ATTORNEYS' BULLETIN, July 2011, at 38-9 (citing U.S. ATTORNEYS' MANUAL §§ 9-27.000, 9-28.1100), [http://www.justice.gov/usao/eousa/foia\\_reading\\_room/usab5904.pdf](http://www.justice.gov/usao/eousa/foia_reading_room/usab5904.pdf).
- <sup>17</sup> Significant Compliance factors *supra* note 15.
- <sup>18</sup> See MEMORANDUM, U.S. ENV'T'L PROT. AGENCY, Earl E. Devaney, Director of the Office of Criminal Enforcement, *The Exercise of Investigative Discretion*, Jan. 12, 1994 [hereinafter "Devaney Memo"] and *Guidelines on Investigative Procedures for Parallel Proceedings*, June 21, 1989, <http://www.epa.gov/Compliance/resources/policies/cleanup/superfund/para-proceed-rpt.pdf>.
- <sup>19</sup> U.S. FEDERAL SENTENCING GUIDELINES MANUAL, [http://www.ussc.gov/Guidelines/2011\\_Guidelines/Manual\\_PDF/index.cfm](http://www.ussc.gov/Guidelines/2011_Guidelines/Manual_PDF/index.cfm).
- <sup>20</sup> See *United States v. Booker*, 543 U.S. 220 (2005).
- <sup>21</sup> See 33 U.S.C. § 1368.
- <sup>22</sup> See Rena Steinzor & Anne Havemann, *Too Big to Obey: Why BP Should be Disbarred*, 36 WM. & MARY ENVTL. L. & POL'Y REV. 81 (2011), <http://scholarship.law.wm.edu/cgi/viewcontent.cgi?article=1532&context=wmelpr>.
- <sup>23</sup> APPS, 33 U.S.C. §§1905-1915. APPS integrates the international treaties and annexes known as the MARPOL Protocol (or the International Convention for the Prevention of Pollution from Ships) into U.S. law.
- <sup>24</sup> 33 U.S.C. § 1908(a).
- <sup>25</sup> 33 U.S.C. § 1370.
- <sup>26</sup> Md. Code Ann., Envir., 9-343.
- <sup>27</sup> See, e.g., Md. Env't'l Code § 9-344 ("The Attorney General shall take charge of, prosecute, and defend on behalf of this State every case arising under the provisions of this subtitle, including the recovery of penalties.")

- <sup>28</sup> See, e.g., Md. Env'tl Code Ann. § 9-344(b). State's attorneys, prosecutors at the Baltimore City and counties levels, focus on the investigation and prosecution of all criminal defendants, but these areas generally include more traditional non-regulatory crimes, such as theft and assault.
- <sup>29</sup> See, e.g., MARYLAND ATTORNEY GENERAL, *Baltimore City Brick Washer Convicted of Water Pollution*, 2006 News Releases, <http://www.oag.state.md.us/Press/2006/020606c.htm>.
- <sup>30</sup> MARYLAND DEPARTMENT OF THE ENVIRONMENT ANNUAL ENFORCEMENT AND COMPLIANCE REPORT [hereinafter "MDE Annual Enforcement Report"], 2010, at 159, [http://www.mde.state.md.us/aboutmde/DepartmentalReports/Documents/www.mde.state.md.us/assets/document/aboutMDE/MDE\\_FY10\\_Enforcementreport.pdf](http://www.mde.state.md.us/aboutmde/DepartmentalReports/Documents/www.mde.state.md.us/assets/document/aboutMDE/MDE_FY10_Enforcementreport.pdf).
- <sup>31</sup> MARYLAND SENTENCING GUIDELINES MANUAL, [http://www.msccsp.org/Files/Guidelines/manual\\_05.pdf](http://www.msccsp.org/Files/Guidelines/manual_05.pdf).
- <sup>32</sup> U.S. ENV'TL PROT. AGENCY, *Summary of Criminal Prosecutions* [hereinafter "EPA Criminal Database"], [cfpub.epa.gov/compliance/criminal\\_prosecution](http://cfpub.epa.gov/compliance/criminal_prosecution). Data last retrieved June 2012.
- <sup>33</sup> EPA does not specify what a "concluded case" means for its database, however, in looking at the case details for each case reviewed in Maryland and spot checks of other jurisdictions, CPR noted that all of the cases reviewed involved one or more convictions resulting in a sentencing. As compared to other uses of "concluded cases," EPA's definition appears to be narrower.
- <sup>34</sup> EPA provides a disclaimer that there is potential for additional updates and corrections to the data and that the database "is not guaranteed to contain all cases investigated/prosecuted by EPA's Criminal Program." See <http://www.epa.gov/compliance/resources/cases/criminal/summary.html>.
- <sup>35</sup> See U.S. DEPT. OF JUSTICE, U.S. Attorneys' Office, Electronic Reading Room, *United States Attorneys' Annual Statistical Reports*, [http://www.justice.gov/usao/reading\\_room/foiamanuals.html](http://www.justice.gov/usao/reading_room/foiamanuals.html).
- <sup>36</sup> See, e.g., U.S. DEPT. OF JUSTICE, Justice News, November 2010, <http://www.justice.gov/opa/pr/2010/November/> and U.S. DEPT. OF JUSTICE, U.S. Attorneys' Office, District of Maryland, News, <http://www.justice.gov/usao/md/Public-Affairs/index.html>.
- <sup>37</sup> MDE Annual Enforcement Reports *supra* note 29.
- <sup>38</sup> See MD. OFFICE OF THE ATTORNEY GENERAL, For the Media, Archived Releases, <http://www.oag.state.md.us/Press/index.htm>.
- <sup>39</sup> For purposes of these findings, CWA refers to cases involving the lead charge of 33 U.S.C. § 1319 unless otherwise noted.
- <sup>40</sup> Data for years 2009, 2010, and 2011 were not available in the publicly available versions of ECU Reports. Data for these years was obtained by calling the MDE Office of Communication.
- <sup>41</sup> Based on available data and for the purposes of our analysis, we identified "water-related" concluded cases as those falling under Maryland Environmental Code's following titles and subtitles: Water Management/Waste Management, Title 4 (Subtitles 1 and 4); Water Resources, Title 5 (Subtitle 9); Water, Ice, and Sanitary Facilities, Title 9 (Subtitle 3); and Tidal Wetlands, Title 16 (Subtitles 2, 3 and 5).
- <sup>42</sup> See *Guidelines for Joint State/Federal Civil Environmental Enforcement Litigation*, U.S. DEPT. OF JUSTICE, March 2003, [http://www.justice.gov/enrd/ENRD\\_Assets/Guidelines-for-joint-state-federal-civil-environmental-enforcement-litigation.pdf](http://www.justice.gov/enrd/ENRD_Assets/Guidelines-for-joint-state-federal-civil-environmental-enforcement-litigation.pdf).
- <sup>43</sup> *International Convention for the Prevention of Pollution from Ships (MARPOL)*, INTERNATIONAL MARITIME ORGANIZATION, [http://www.imo.org/about/conventions/listofconventions/pages/international-convention-for-the-prevention-of-pollution-from-ships-\(marpol\).aspx](http://www.imo.org/about/conventions/listofconventions/pages/international-convention-for-the-prevention-of-pollution-from-ships-(marpol).aspx).
- <sup>44</sup> See 18 U.S.C. §§ 3559, 3561(c), 3571.
- <sup>45</sup> *Concluded EPA Enforcement Cases Map for 2011 Fiscal Year*, <http://www.epa.gov/compliance/resources/reports/endofyear/eoy2011/nationalmap.html>.
- <sup>46</sup> U.S. ENV'TL PROT. AGENCY, *Compliance and Enforcement Annual Results*, <http://www.epa.gov/compliance/data/results/annual/index.html>.
- <sup>47</sup> EPA Criminal Database *supra* note 31.
- <sup>48</sup> U.S. ENV'TL PROT. AGENCY, CRIMINAL ENFORCEMENT, *Case Activities*, <http://www.epa.gov/compliance/resources/cases/criminal/index.html>.

## About the Authors



**Rena Steinzor** is the President of the Center for Progressive Reform and a Professor of Law at the University of Maryland School of Law. Professor Steinzor has written extensively on efforts to reinvent environmental regulation in the United States and the use and misuse of science in environmental policy making. Among her publications include a book titled *Mother Earth and Uncle Sam: How Pollution and Hollow Government Hurt Our Kids* and a wide range of articles on administrative, constitutional, and environmental law. Professor Steinzor was staff counsel to the U.S. House of Representatives' Energy and Commerce Committee with primary jurisdictions over federal laws regulating hazardous substances and was the partner in charge of the environmental law practice at Spiegel and McDiarmid.



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## Other Chesapeake Bay White Papers and Briefing Papers by CPR

*Fairness in the Bay: Environmental Justice and Nutrient Trading*, CPR Briefing Paper No. 1208 (August 2012). This paper examines nutrient trading through the lens of environmental justice. It assesses the potential impacts of trading on low-income and minority communities and recommends ways to integrate environmental justice into trading programs in the Bay region.

*Manure in the Bay: A Report on Industrial Animal Agriculture in Maryland and Pennsylvania*, CPR Briefing Paper No. 1206 (June 2012). This report provides a substantive and detailed look at the CAFO and other AFO programs in Maryland and Pennsylvania, as well as a general overview of the federal CAFO program. The paper also identifies concrete and practical recommendations for improving how the waste generated by animal industrial agriculture is managed and controlled by EPA, the Maryland Department of Environment (MDE), and the Pennsylvania Department of Environmental Protection (DEP).

*Accountability: Water Quality Trading in the Chesapeake Bay*, CPR Briefing Paper No. 1205 (May 2012). To ensure accountability in water quality trading, this paper makes specific recommendations for designing the program, avoiding environmental inequities, and ensuring strong enforcement.

*Back to Basics: An Agenda for the Maryland General Assembly to Protect the Environment*, CPR Briefing Paper No. 1110 (October 2011). This paper recommends that MDE should increase permit fees to accurately reflect the cost of administering permits; increase the state penalty maximum to match the federal penalty maximum; explicitly recover the economic benefit of non-compliance in penalty calculations; and establish a mandatory minimum penalty for certain violations.

*Ensuring Accountability in Chesapeake Bay Restoration: Metrics for the Phase I Watershed Implementation Plans* (August 2010). CPR developed a set of metrics to grade the Bay jurisdictions' Phase I Watershed Implementation Plans. The metrics address (1) the transparency of information in the WIPs in providing key information about their pollution control programs and (2) the strength of the programs in making actual pollution reductions. Using these metrics to grade the WIPs provides a clear and understandable tool for monitoring each state's commitment to restoration.

*Missing the Mark in the Chesapeake Bay: A Report Card for the Phase I Watershed Implementation Plans*, CPR White Paper No. 1102 (January 2011). This report card applied the metrics from *Ensuring Accountability* to the Chesapeake Bay states' and the District of Columbia's final Phase I Watershed Implementation Plans. The final grades reflected mediocre commitments and performance because the final plans were light on providing specific commitments for actions needed to achieve the required pollution reductions, and generally did not pledge dedicated funding for the proposed programs.

*Failing the Bay: Clean Water Act Enforcement in Maryland Falling Short*, CPR White Paper No. 1004 (April 2010). This paper examines trends in CWA enforcement and MDE's enforcement budget and workforce for the period between 2000 and 2009. The report recommends that the Maryland General Assembly provide additional funding to account for the dramatic increase in MDE's workload; that MDE recover any economic benefit achieved by noncompliance from violators and increase on-site monitoring and inspection activities; and that MDE embrace citizen suits as a tool to supplement its own enforcement program.

*The Clean Water Act: A Blueprint for Reform*, CPR White Paper No. 802 (May 2008). The CWA has accomplished much since its passage in 1972, but much more remains to be done. This Blueprint presents a number of specific and meaningful reforms for the CWA that address existing problems and prepare for the new problems climate change will create.

To see more of CPR's work or to contribute,  
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