

Missing the Mark  
in the Chesapeake Bay:

# A Report Card for the Phase I Watershed Implementation Plans

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Founded in 2002, the Center for Progressive Reform (CPR) is a 501(c)(3) nonprofit research and educational organization comprising a network of scholars across the nation dedicated to protecting health, safety, and the environment through analysis and commentary. CPR believes that sensible safeguards in these areas serve important shared values, including doing the best we can to prevent harm to people and the environment, distributing environmental harms and benefits fairly, and protecting the earth for future generations. CPR rejects the view that the economic efficiency of private markets should be the only value used to guide government action. Rather, CPR supports thoughtful government action and reform to advance the well-being of human life and the environment. Additionally, CPR believes that people play a crucial role in ensuring both private and public sector decisions that result in improved protection of consumers, public health and safety, and the environment. Accordingly, CPR supports ready public access to the courts, enhanced public participation, and improved public access to information.

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## Executive Summary

For years, the effort to clean up the Chesapeake Bay, the largest estuary in North America and a critical but badly polluted natural resource, has been the focus of hundreds of interstate summits, news conferences, press statements, meetings, conference calls, interim, draft and final reports, and more. State leaders have repeatedly expressed their good intentions, and while some progress has been made in the past few decades, the hard reality is that the Bay is nowhere near as clean as all that political and media relations energy might suggest. States have simply failed to follow through, and the Environmental Protection Agency has been reluctant to hold states accountable.

That dynamic at last appears to be changing. Responding to lawsuits and an executive order from President Obama, EPA has begun to press the states to clean up the Bay. In September 2010, EPA issued a draft Total Maximum Daily Load (TMDL) for the entire Bay, which is comprised of 92 individual tributary segment TMDLs for the main pollutants: nitrogen, phosphorus, and sediment. The TMDL, in turn, led to each of the six affected states (Delaware, Maryland, New York, Pennsylvania, Virginia, and West Virginia) and the District of Columbia submitting Watershed Implementation Plans (WIPs) describing how they would live up to the new limits on pollution.

Final Grades		
	Transparency of Information	Strength of Program Design
Delaware	<b>D</b>	<b>D</b>
District of Columbia	<b>C</b>	<b>D</b>
Maryland	<b>C</b>	<b>D</b>
New York	<b>C</b>	<b>D</b>
Pennsylvania	<b>D</b>	<b>F</b>
Virginia	<b>F</b>	<b>F</b>
West Virginia	<b>F</b>	<b>F</b>

This report is a report card for the first phase of each of the states' plans—an opportunity for Bay jurisdictions to compile and assess baseline information that will be useful in monitoring progress toward achieving the Bay TMDL. The report is based on a careful evaluation of each plan by Center for Progressive Reform Member Scholars and law professors William L. Andreen, University of Alabama; Robert L. Glicksman, George Washington University; and Rena Steinzor, University of Maryland; and two CPR staff members, Shana Jones, executive director, and Yee Huang, policy analyst. In evaluating the plans, these water quality experts applied criteria they had published this summer in *Ensuring Accountability in Chesapeake Bay Restoration: Metrics for the Phase I Watershed Implementation Plans* and made available to the states and EPA.

At this point, we emphasize that these findings and our grades are based only of a review of the quality of the plans themselves: put simply, we took the WIPs at face value, assuming the information provided within them is accurate. And while Bay jurisdictions provided some solid baseline information, much information critical to understanding state clean-up progress remains

## The Key Findings

**Final plans are a significant improvement from drafts but still fall short of restoring the Bay.** The jurisdictions' plans are an improvement over the draft plans that were made public earlier this fall, but nevertheless a disappointment. Most of the states' plans fall well short of the mark in terms of the strength of their described program for achieving the standards established in the TMDL, and several are insufficiently transparent to allow stakeholders and the public to monitor the states' performance. Maryland submitted the strongest WIP of all the jurisdictions. But it nonetheless received a C for transparency and a D for strength of program design.

**Final WIPs generally did not provide specific commitments for actions and dedicated funding for the listed programs.** Instead of concrete roadmaps that clearly describe how a Bay jurisdiction will achieve its allocations under the Bay TMDL, the Phase I WIPs are more appropriately described as tailored inventories of existing state pollutant management programs.

**Taken together, the states' WIPs provide little confidence that the Bay's health will improve over the long-term because Virginia and Pennsylvania -- two of the three states that contribute most of the pollution burdening the Bay -- submitted the weakest plans.** Pennsylvania and Virginia together contribute 67 percent of the nitrogen pollution and 69 percent of phosphorous pollution to the Bay. The deficiencies of the WIPs from the states that contribute the lion's share of the pollution guarantee a poor grade for the package of WIPs as a whole.

**Bay jurisdictions generally failed to provide information to evaluate strength of program design.** All Bay jurisdictions received low grades for strength of program design, either because the programs as described were unconvincing or because jurisdictions simply failed to provide sufficient information.

contested and opaque. Skepticism about the information provided within the WIPs is therefore understandable as long as the public must fight to get basic information about pollution management in the Bay. As the WIP process proceeds, states could improve the public's trust in their efforts by making every effort to disclose useful, timely, and accurate information in the second and third phases of their WIPs. Meanwhile, a crucial role EPA must play throughout the WIP process is to ensure that description reflects reality. Likewise, the National Academies of Science Independent Evaluation to be released in April 2011 must also inform and relate to the overall WIP effort, as part of NAS' charge is to evaluate what tracking and accountability systems are working within each state and the level and success of state efforts to implement pollution reduction programs.

The book is not yet shut on the jurisdictions' WIPs, fortunately. Two more phases of WIPs remain, and in the meantime EPA still has legal tools under the Clean Water Act to ensure that the Bay TMDL is met. While jurisdictions should be given the opportunity to demonstrate their commitment to achieving the Bay TMDL, EPA should also remain vigilant with the necessary backstops if jurisdictions fail to follow through with their commitments. The Clean Water Act gives EPA the authority for NPDES permitting and enforcement oversight and the ability to promulgate stronger rules for CAFOs and stormwater, which in fact the agency has already promised to pursue. If EPA and the public do not see measurable progress toward achieving the interim and final Bay TMDL targets, CPR expects EPA to increase its presence in the Bay restoration effort. If history is any guide, EPA will need to remain tenacious in its efforts to spur genuine state action. Such vigilance may be the only way to materially improve the health of the Chesapeake Bay, thus allowing the Bay to serve as the economic engine and environmental treasure all in the region need it to be.

## Introduction

The effort, interest, and energy devoted to restoring the health and living resources of the Chesapeake Bay have never been greater, and for good reason. Despite nearly three decades of promises from policymakers, the Bay has languished, suffering from excess input of nitrogen, phosphorus, and sediment. The establishment of a Bay-wide Total Maximum Daily Load (TMDL), the result of a partnership among the Environmental Protection Agency and the Bay jurisdictions, is one of the most significant landmarks on the path to restoring the Bay and, for that matter, watersheds around the country.

The Bay TMDL process consists of two primary components: the Bay TMDL itself, or the limit on the total amount of pollutants that can be discharged into the Bay, and an accountability framework to ensure that the Bay TMDL is achieved. The centerpiece of the accountability framework is the expectation that all Bay jurisdictions submit three phases of Watershed Implementation Plans (WIPs), which demonstrate how the jurisdiction will achieve its assigned pollutant allocations.

The Phase I WIPs provide information for EPA to consider as it finalizes wasteload allocations for point sources (known, fixed sources of pollution) and load allocations for nonpoint sources (diffuse sources not specifically identified) under the Bay TMDL. These WIPs also provide an opportunity for Bay jurisdictions to compile and assess baseline information that will be useful in monitoring progress toward achieving the Bay TMDL. Jurisdictions submitted a draft Phase I WIP to EPA on September 1, 2010, which gave EPA the opportunity to provide feedback prior to submission of the final Phase I WIPs. Most Bay jurisdictions submitted their final Phase I WIPs to EPA on November 29, 2010. Maryland submitted its WIP on December 3, 2010, and New York submitted its WIP on December 17, 2010.

Phase II WIPs will include greater detail on smaller geographic levels about pollutant allocations. They are due on November 1, 2011. Phase III WIPs will cover pollutant reduction actions between 2017 and 2025, during which time the jurisdictions are expected to implement all controls needed to meet the Bay TMDL. These WIPs are due on November 1, 2017.

This report assesses the Phase I WIP submissions from the states and the District of Columbia, evaluating them based on *Ensuring Accountability in the Chesapeake Bay: Metrics for the Phase I Watershed Implementation Plans*, released by the Center for Progressive Reform in August 2009.

## Methodology

The purpose of grading the final Phase I WIPs is to establish accountability in this new, reinvigorated Chesapeake Bay restoration effort. For the past nearly three decades, accountability has been a missing component of these efforts. By grading the Bay jurisdictions' WIPs at the outset of a new era in restoration, the public will be able to better understand the starting baseline from which future progress may be measured. CPR developed a set of metrics to grade the WIPs based on two key documents issued by EPA:

- A Letter to Chesapeake Bay Program Principals' Staff Committee Outlining EPA's Expectations for Watershed Implementation Plans, dated November 4, 2009; and
- A Guide for EPA's Evaluation of Phase I Watershed Implementation Plans, dated April 2, 2010.

These documents include eight elements to be addressed by the Bay jurisdictions in their Phase I WIPs. Based on these elements, CPR Member Scholars and staff developed a series of specific criteria for evaluation. Those criteria identified key information that states would need to provide in their submissions—information necessary to assess the starting capacity of existing programs to achieve pollutant reductions and to evaluate the strength of these programs based on objective, numeric criteria. A copy of the CPR metrics, *Ensuring Accountability in the Chesapeake Bay: Metrics for the Phase I Watershed Implementation Plans*, was sent to EPA Administrator Lisa Jackson and the leaders of each Bay jurisdiction and the relevant heads of relevant agencies during the week of August 19, 2010.

The metrics focus on two major categories:

<b>Transparency of Information</b>	<b>Strength of Program Design</b>
The extent to which the WIP provides “building blocks” of information that make it possible for the public to monitor the state’s performance.	An assessment of the ability of state programs, described in the first category, to achieve the required TMDL reductions if fully implemented.

In assigning points for the Strength of Program Design, two caveats apply: first, Bay jurisdictions frequently did not receive points for a particular metric because they simply did not provide enough information to evaluate that metric, rather than an outright failure of the metric. For example, many jurisdictions did not indicate whether their NPDES permits were up-to-date for each of the major sectors, resulting in an automatic loss of 6 points. Second, CPR was limited to evaluating the program as described in the final WIP and not the on-the-ground, actual day-to-day implementation of the program. Thus, a strong program description could disguise an otherwise weak program, and a poorly described program could hide a relatively effective program. As the implementation of the WIPs proceeds, EPA must monitor the real progress made by states in achieving their pollutant allocations under the Bay TMDL, above and apart from their stated actions in the WIPs.

The grading panel assigned letter grades based on the total points earned in each of these categories. For the District of Columbia, sectors such as CAFOs, nonpoint sources, and air deposition do not apply and were deducted from the maximum achievable points. In addition, Bay jurisdictions may also be awarded up to four discretionary points based on the judgment of the grading panel, in cases where a particular component of the state's plan stands out as exemplary or innovative. For example, Maryland received a discretionary point for committing to an accelerated timeline, and West Virginia received a discretionary point for providing a specific timeline for implementing contingent actions.

For the final grades, the grading panel made three changes that affect the maximum point total for the Strength of Program Design evaluation:

For the NPDES Permitting sector, the original metrics awarded a maximum of 24 points for disclosure of the percentage of NPDES permits that are up-to-date for each of the major sectors (6 sectors, up to 4 total points per sector). For Bay jurisdictions that did not provide this information, they automatically lost 24 points of the total 64 points for the Strength of Program Design, meaning that even if they achieved full points on each of the remaining metrics, they could only achieve a maximum of 40 total points, or a D. In the final grades, the grading panel decided to award a maximum of 6 total points for this NPDES permitting metric, or a maximum of 1 point per sector for having 80 percent of NPDES permits up-to-date.

For the Monitoring and Verification for Nonpoint Sources sector, the original metrics awarded up to 4 points for the state with the most funding per acre of nonpoint source land. In applying this metric to the final Phase I WIPs, the grading panel found this metric impossible to determine and thus eliminated it.

For the Contingencies sector, the original metrics awarded up to 4 points for Bay jurisdictions that specified a timeline for implementing contingent actions 30, 60, 120, or 180 days from determining the failure of the primary pollutant control action. In grading the final Phase I WIPs, the grading panel determined that this metric was not instructive in capturing a jurisdiction's commitment to implementing contingent actions and eliminated it.



As a result of these changes, the grading scale for the final Phase I WIPs is:

<b>Grading Key</b>			
<b>Transparency of Information 45 Points Total</b>		<b>Strength of Program Design 38 Points Total</b>	
Points	Grade	Points	Grade
40-45	A	34-38	A
34-39	B	29-33	B
28-33	C	24-28	C
22-27	D	19-23	D
≤ 21	F	≤ 18	F

A three-member panel of CPR Member Scholars evaluated and graded the Phase I WIPs. These scholars are leading experts in the Clean Water Act and environmental law and included:

**William L. Andreen**, the Edgar L. Clarkson Professor of Law, University of Alabama School of Law;

**Robert L. Glicksman**, the J.B. and Maurice C. Shapiro Professor of Environmental Law, George Washington University Law School, and Board Member, Center for Progressive Reform; and

**Rena I. Steinzor**, Professor of Law, University of Maryland School of Law, and President, Center for Progressive Reform.

Shana Jones, Executive Director of CPR, and Yee Huang, CPR Policy Analyst, assisted the scholars in the grading process.



## Overall Evaluation

The final WIPs submitted by Bay jurisdictions all reflect improvements when compared to the draft WIPs that were submitted on September 24, 2010, but ultimately provide little confidence that the Bay TMDL will be met without additional commitments by the jurisdictions and EPA. The final WIPs included better disclosure provisions regarding each sector, provided more information on available funding and personnel resources, and analyzed gaps in capacity to achieve pollutant reductions in greater detail. Nevertheless, the final WIPs generally did not provide specific commitments for actions and dedicated funding for the listed programs. Without these two key elements, the Phase I WIPs would more appropriately be described as tailored inventories of state pollutant management programs, rather than the concrete roadmaps that clearly describe how a Bay jurisdiction will achieve its allocations under the Bay TMDL. In that sense, the states' WIPs still fall short to varying degrees and, without subsequent improvements in actions and Phase II WIPs, leave EPA with little choice but to use backstop measures to ensure the Bay TMDL is met.

As the table below demonstrates, Maryland's WIP scored the highest on both transparency of information and the overall strength of the program. Virginia and West Virginia brought up the rear in terms of transparency and strength of program design. All programs fell into the D-F range for overall strength of program design, either because the programs as described were unconvincing or because jurisdictions simply failed to provide the information necessary to judge that metric.

Phase 1 WIPs		
Bay Jurisdiction	Transparency of Information 45 Total Points	Strength of Program Design 38 Total Points
Delaware	27/D	21/D
District of Columbia*	10/C	9/D
Maryland	32/C	22/D
New York	28/C	21/D
Pennsylvania	27/D	16/F
Virginia	16/F	11/F
West Virginia	19/F	10/F

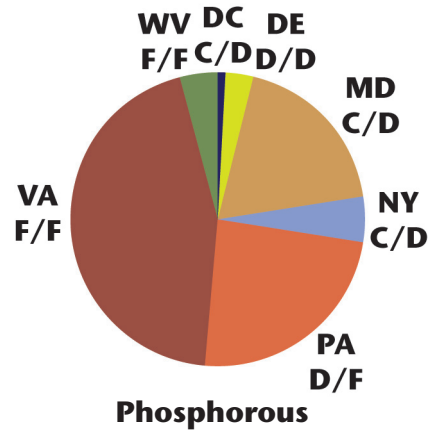
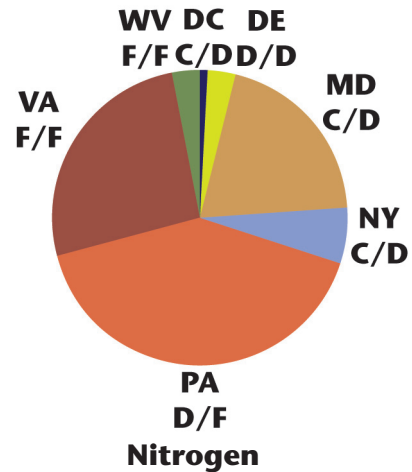
\* The final grades for the District of Columbia were calculated out of 23 maximum points for Transparency of Information and 21 maximum points for the Strength of Program Design. Sectors that do not apply to the District were not included in the final grade.

## Proportion of Pollution Contribution to the Bay by Jurisdiction with Grades

Taken together, the jurisdictions' WIPs portend meager improvement in the health of the Bay over the long-term. As a very rough gauge of the progress that the states might make together if they follow the plans as submitted to EPA, we calculated an overall grade for the plans—a single grade that considers the plans from all the states and the District of Columbia. To account for the ecological reality that not all states contribute equally to the pollution problems of the Bay, the grade begins with each jurisdiction's individual grade, then weights that grade according to the state's contribution of phosphorous and nitrogen, the two pollutants that are the focus of cleanup efforts. So, for example, since Pennsylvania accounts for 41 percent of the nitrogen polluting the Bay and 24 percent of the phosphorous, we weighted the grades for Pennsylvania's WIP accordingly—assigning it 41 percent of the overall grade for nitrogen and 24 percent of the overall grade for phosphorous. By contrast, New York State accounts for just 6 percent of nitrogen pollution in the Bay, and 5 percent of phosphorous, so our overall grade gives less weight to New York State's plan.

The results are most discouraging. The deficiencies of the WIPs from the states that contribute the lion's share of the pollution guarantee a poor grade for the package of WIPs as a whole. On both nitrogen and phosphorous pollution, the full package of WIPs earns failing grades—an F in each.

The process also highlights the critical role that three states play in effort to clean up the Bay: Pennsylvania, Virginia, and Maryland. Together, these states contribute the overwhelming majority of the pollution now burdening the Bay (87 percent of the nitrogen, and 88 percent of phosphorous). If water quality in the Bay is improve, and if the economic enterprises and the ecosystems that depend on the Bay are to return to health, those three states must do a better job at preventing pollution than their WIPs indicate.



## Sector Trends

These tables show the trends for each sector and each state. For the Strength of Program Design evaluation, Bay jurisdictions frequently did not receive points because they did not provide information to calculate the metric rather than a specific failure to meet the metric. The trends indicate that Bay jurisdictions did not disclose much enforcement information, resulting in negative trends for the strength of program design for enforcement as well.

In these tables, a green block indicates that the Bay jurisdiction received 75 percent or more of the total available points for a particular sector; a yellow block indicates that the Bay jurisdiction received between 25 and 75 percent of the total available points for a particular sector; and a red block indicates that the Bay jurisdiction received less than 25 percent of the total available points for a particular sector.

Transparency of Information							
	NPDES Permitting	Enforcement	Monitoring and Verifying Practices by NPS	Contingencies	CAFOs	Stormwater	Air Deposition
Delaware	Green	Yellow	Green	Yellow	Green	Green	Red
D.C.	Yellow	Red				Green	
Maryland	Green	Yellow	Green	Green	Green	Green	Yellow
New York	Green	Yellow	Green	Yellow	Yellow	Green	Yellow
Pennsylvania	Green	Yellow	Green	Yellow	Yellow	Yellow	Yellow
Virginia	Yellow	Red	Yellow	Yellow	Yellow	Yellow	Red
West Virginia	Yellow	Red	Green	Green	Yellow	Yellow	Red

Strength of Program							
	NPDES Permitting	Enforcement	Monitoring and Verifying Practices by NPS	Contingencies	CAFOs	Stormwater	Air Deposition
Delaware	Yellow	Yellow	Green	Green	Green	Green	Red
D.C.	Yellow	Red				Green	
Maryland	Red	Yellow	Green	Green	Green	Green	Green
New York	Red	Yellow	Green	Green	Green	Green	Green
Pennsylvania	Yellow	Red	Green	Green	Green	Yellow	Green
Virginia	Red	Red	Yellow	Yellow	Yellow	Red	Red
West Virginia	Yellow	Red	Yellow	Green	Red	Red	Red

## Sectors for Phase I WIP Evaluation

CPR's metrics to judge the states' WIPs are divided into eight major sectors, each of which will play a key role in reducing pollutant discharges into the Chesapeake Bay.

### National Pollutant Discharge Elimination System Permitting

The linchpin of the Clean Water Act is the National Pollutant Discharge Elimination System (NPDES) permitting program, which places enforceable pollutant discharge limits on all point sources. All point sources must obtain a permit before they discharge any pollutant into a state's waters. The primary categories of point source dischargers that discharge nitrogen, phosphorus, or sediment into the Bay watershed include wastewater treatment facilities, urban and suburban stormwater areas, and concentrated animal feeding operations. Because these dischargers must all comply with their permits, a strong and up-to-date NPDES permit program is the guaranteed means of reducing pollutant discharges.

Overall Assessment	
Transparency of Information	Strength of Program Design
Bay jurisdictions fared relatively well for this metric and disclosed the number of NPDES permits for most major sectors. However, most states did not provide explicit details on permit backlogs, if any. Delaware and New York scored the most points for this metric.	Bay jurisdictions generally did not provide sufficient information to determine the up-to-date status of their NPDES permit program. Delaware received the most points for providing the renewal dates for its wastewater permits. West Virginia, D.C., and Pennsylvania received points for committing to permit updates by 2016.

When a permit expires, the facility is not shut down but rather continues to operate indefinitely under its expired permit, which may not incorporate new standards or regulations passed in the interim. A significant number of expired permits indicates that a state lacks the capacity to administer an effective permitting program, a crucial deficiency given the need to rewrite all permits in a timely fashion to meet TMDL allocations. Permits are typically written for a five-year term. Expiring NPDES permits must be renewed promptly, in compliance with any applicable TMDL. For the Bay TMDL, all NPDES permits should incorporate the wasteload allocations by no later than December 30, 2015.\*

The final Phase I WIP should establish and achieve both implementation and institutional milestones. For example, progress on implementation milestones may be measured by counting the number of facilities that undergo necessary upgrades. Institutional milestones, however, focus on the state agency's progress in updating and reissuing permits, targeting enforcement actions, or acquiring new funding to fill existing gaps. Adopting both types of milestones will ensure achievement of the Bay TMDL.

\*This date assumes that EPA finalizes the Bay TMDL on or before December 31, 2010. Assuming that the last new or reissued permit issued before the Bay TMDL goes into effect is December 30, 2010, and expires on December 30, 2015, this permit would need to be updated or reissued in accordance with the TMDL on or before the expiration date. All currently expired permits, if reissued after the Bay TMDL is in effect, must include the applicable Bay TMDL allocation.

## Enforcement of NPDES Permits

A strong, deterrence-based enforcement program is the most effective way to ensure compliance with NPDES requirements. Deterrence-based enforcement is based on the theory that regulated entities will comply with the law where complying costs less than violating the law. Thus, penalties for noncompliance must be severe enough to motivate compliance. Deterrence-based enforcement is characterized by four essential elements: (1) sufficient, consistent, and regular compliance monitoring to identify violators; (2) timely initiation of enforcement actions against violators; (3) a mandate that the violator come into compliance with applicable laws and regulations; and (4) imposition of penalties that, at a minimum, eliminate any economic benefit that the violator gained from violating the law and that provide a deterrent for future violations.

Overall Assessment	
Transparency of Information	Strength of Program Design
Bay jurisdictions varied widely on this metric, with New York receiving the most points for disclosing specific numbers of overall enforcement actions and Maryland close behind for including enforcement actions by sector and disclosing funding and personnel needs to strategies to fill those gaps. Virginia and West Virginia received the fewest points because they disclosed very little enforcement information.	The amount of information disclosed affected the ability to evaluate the strength of the enforcement program design. Similar to above, New York and Maryland received points for meeting EPA standards for frequency of inspections for the stormwater sector and, in New York, for the CAFO sector. The remaining jurisdictions generally did not provide sufficient information to determine inspection and enforcement rates.

Because the NPDES permitting program has been the key to reducing pollution from point sources, ensuring compliance through effective enforcement is crucial. The Phase I WIPs should provide detailed information regarding a state's enforcement program in order to allow the public to understand and assess the effectiveness of the program.

One possible venue for annual public disclosure is for the all Bay jurisdictions to publish an annual enforcement report, such as the report required by section 1-301(d) of the Maryland Environment Code. This section requires the Maryland Department of Environment (MDE) to publicly disclose information such as the number of permits issued and in effect for the preceding year and information on the total number of injunctions, corrective actions, and

stop work orders issued. MDE also discloses the annual budget for each program and the level of staffing. By publishing this information each year, the public can track the effectiveness of MDE's NPDES permitting program and encourage improvements in its enforcement programs. Other Bay states should follow Maryland's example and also compile an annual enforcement report or press for legislation requiring annual disclosure. If all of the Bay states had similar annual disclosure reports, states may be further encouraged to improve their enforcement programs by comparison and political pressure.

Overall Assessment	
Transparency of Information	Strength of Program Design
Delaware, New York, and Pennsylvania all provided specific details on the programs available to address pollutant from nonpoint sources, including the program requirements, current and future funding levels, and gaps in resources.	All Bay states rely on a variety of voluntary programs that provide financial incentives for participation. Delaware and Maryland described regular inspections to determine compliance with the voluntary programs, whereas West Virginia's programs appeared entirely voluntary.

for implementing BMPs or other pollutant controls do in fact have these practices in place, maintained, and functioning. For example, federal grant programs in section 319(h) of the CWA and in USDA's primary conservation funding programs (Environmental Quality Incentives Program, Conservation Reserve Program, and Wetlands Reserve Program) provide funding for implementation of these practices. Thus, monitoring and verifying these practices is important not only for achieving substantive reductions in pollutants from nonpoint sources but also for maintaining accountability for spending public funds.

Overall Assessment	
Transparency of Information	Strength of Program Design
Maryland and West Virginia explicitly listed contingent actions for achieving pollutant allocations under the Bay TMDL. New York, Virginia, and to some extent Pennsylvania focused on inputs and corrections to the Bay Watershed Model to account for any discrepancies in achieving the allocations. Many states included a general increase of NPDES permit enforcement as a contingent action.	Maryland and West Virginia included the most specific contingencies. For example, West Virginia plans to pursue residual designation authority to bring additional areas under stormwater permits and to propose other stormwater legislation by 2017. Overall, few jurisdictions spoke of contingent actions in concrete or specific terms.

revised legislation or regulations occur; if participation rates in voluntary programs fall below projections; or if compliance rates with regulatory programs are not achieved. States should also consider changes in land use, development rates, and voluntary participation rates.

## Monitoring and Verifying Voluntary Practices by Nonpoint Sources

While nonpoint sources are not subject to mandatory pollutant controls under the Clean Water Act, they are assigned load allocations under the Bay TMDL. Achieving these load allocations depends largely on voluntary practices and federal, state, and private incentive programs that subsidize farmers for implementing best management practices (BMPs) to control nutrient runoff, for example. In the WIPs, EPA and all Bay states must commit to making every effort to regularly monitor and verify that nonpoint sources that have received public funding

## Contingencies

Contingencies are a crucial part of the Phase I WIPs because they provide a concrete, alternative plan for how states will achieve their TMDL allocations if the primary pollutant controls are not implemented or fail to achieve the required reductions. Identifying contingencies requires states to undergo careful planning by identifying the full arsenal of potential tools that can be used to achieve reductions. Committing to implementing strong contingencies also provides assurance that, either through primary controls or the secondary contingent controls, the Bay TMDL and states' allocations will be achieved.

According to EPA guidance, states need to implement contingencies if delays in the adoption of new or



Overall Assessment	
Transparency of Information	Strength of Program Design
Only New York provided a snapshot of all sources of agricultural pollution. All states disclosed the status of their CAFO permit programs, and states varied on the explicit identification of funding and personnel gaps and strategies to fill those gaps.	Delaware, Maryland, New York, and Virginia all received four of four total points for this metric by virtue of having a CAFO NPDES permit program that is consistent with the 2008 federal regulations. However, this metric does not evaluate the implementation of these programs.

## Concentrated Animal Feeding Operations

Concentrated animal feeding operations (CAFOs) dot the entire Chesapeake Bay Watershed, with a high concentration of poultry operations on the Delmarva Peninsula. In 2008, Maryland poultry operations generated approximately 650 million pounds of chicken manure, which is high in nitrogen and phosphorus and contributes to the annual “dead zone” in the Bay. That same year, new federal CAFO regulations went into effect. Among the changes included a requirement that CAFOs submit nutrient management plans (NMPs) as part of the NPDES

permit applications. The regulations require state authorities must then review the NMPs and provide the opportunity for public comment and review. State authorities are required to include the terms of the NMP as enforceable elements of the NPDES permits. In general, states are required to update their CAFO permitting programs to be consistent with the federal regulations within one year of the effective date or, if a state statutory change is required, within two years.

Thus, by the end of 2010, all Bay states should have CAFO programs that are consistent with the 2008 federal regulations. More importantly, Bay states must ensure that all facilities that qualify as CAFOs receive permits that are consistent with both the updated federal regulations and the Bay TMDL. States should determine the status of the animal feeding operations in their state and issue CAFO permits where required.

Overall Assessment	
Transparency of Information	Strength of Program Design
All Bay jurisdictions received points for the stormwater sector. Only Maryland provided an example of a stormwater permittee’s self-disclosure form, while all other states provided information on the local authorities’ verification procedures and the gaps and strategies to fill gaps in funding and personnel.	Delaware, the District of Columbia, and Maryland each received 3 of 4 total points for the stormwater program design because they cited regular inspections, penalty assessments, enforcement authority, or permit coverage rates that indicated a strong program. The remaining Bay jurisdictions did not provide information by which to evaluate the strength of the stormwater program design.

## Stormwater

According to the Chesapeake Bay Program, stormwater runoff from urban and suburban areas contributes 17 percent of the phosphorus, 11 percent of the nitrogen, and 9 percent of the sediment loads to the bay. That stormwater also contains a variety of chemical contaminants from roadways and parking lots. As it courses from impervious surfaces and rushes into natural waterways, stormwater can erode and damage aquatic habitat and vegetation. Because rural and agricultural lands in the Bay are increasingly urbanized and paved or otherwise developed into impervious surfaces, stormwater is the only expanding source of pollution in the watershed.

Under the Clean Water Act, stormwater is considered a point source and thus requires a NPDES permit. The stormwater permit covers operators of municipal separate storm sewer systems (MS4s) and construction and industrial stormwater. All Bay states have delegated authority to administer the stormwater permitting program, which is often in turn administered by local governments. Thus, information about how local governments administer this program is crucial to curbing pollutant discharges from stormwater.



<b>Overall Assessment</b>	
<b>Transparency of Information</b>	<b>Strength of Program Design</b>
Maryland, New York, and Pennsylvania provided information on state air programs and the remaining states did not provide any information or include a discussion of air programs.	Maryland, New York, and Pennsylvania each received three of four total points in the air sector. None of these states discussed penalties for violations of air regulations but they did discuss mandatory air pollution control measures. The remaining states did not provide any information by which to evaluate the strength of program design.

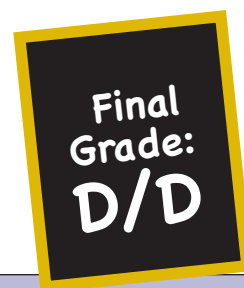
## **Air Deposition**

Approximately one-third of the nitrogen in the Chesapeake Bay comes from atmospheric deposition through mobile, industrial, agricultural, and natural sources. The boundaries of the Chesapeake Bay airshed extend far beyond the boundaries of the watershed; nevertheless more than half of the atmospheric deposition of nitrogen comes from Bay states. Thus, reducing air deposition will require coordinated efforts by Bay states and EPA under the Clean Air Act to ensure that emitters comply with their permits and to bring effective enforcement actions against those in violation of those permits.

## Delaware

Delaware is likely to need additional prodding from EPA in order to achieve its pollutant reductions under the Bay TMDL and may ultimately be subject to EPA backstops. Overall Delaware scored fairly high on transparency of information and fell into the middle for strength of programs, receiving a D for each category. The WIP disclosed a fair amount of specific information on its programs to achieve the assigned wasteload and load allocations of the Bay TMDL. The final WIP also did a good job of identifying gaps in the existing programs and providing a detailed strategy for filling those gaps, which is much improved from its draft WIP. Despite the relatively strong information disclosure, the final WIP did not provide much information by which to empirically evaluate the strength of its programs. Instead of listing actual inspection rates, for example, it stated the program goals. If the actual inspection rates match the stated goals, then Delaware has a stronger likelihood of meeting its allocations under the Bay TMDL.

Delaware constitutes 1 percent of the total Chesapeake Bay watershed area and contributes 2 percent of the total nitrogen and phosphorus and 0.8 percent of the total sediment to the Bay. Its agriculture sector, however, contributes 77 percent, 82 percent, and 68 percent of the nitrogen, phosphorus, and sediment, respectively, of the state's total contribution.



Transparency of Information			Strength of Program Design		
<b>NPDES Permitting</b>					
Delaware disclosed the number of NPDES permitted facilities for each of the major sectors. For the wastewater sector, Delaware indicates all facilities that require permits currently have them. For CAFOs, Delaware believes that nearly 100 percent of facilities that need permits have them.	Total Points	Max Points	For municipal and industrial wastewater, Delaware indicates that all permits are up-to-date and provides renewal dates.	Total Points	Max Points
	8	9		6	10
<b>NPDES Enforcement</b>					
The WIP fails to provide much specific information on the NPDES enforcement program. The WIP includes inspection rates and goals but generally does not disclose the actual number of physical, on-site inspections, penalties assessed or collected, or other enforcement information. For the industrial stormwater program, the WIP states that to date no cases have been assessed administrative penalties.  The WIP does discuss staffing needs in each sector and Section 16 provides an overview of funding needs and resources.			Delaware generally did not provide enough information to determine actual inspection rates. However, the WIP states all major and half of all minor wastewater facilities are inspected annually, indicating a strong enforcement program for wastewater. Delaware did not disclose enforcement information regarding CAFOs.		
	4	14		2	8

Transparency of Information			Strength of Program Design		
<b>Monitoring and Verifying Practices by Nonpoint Sources</b>					
The WIP provides a comprehensive list of programs available to assist nonpoint sources with nutrient management. For each program, the WIP lists the number of staff that manage the program; the process for eligibility and accountability; the rate of compliance; and information about past and current funding.	Total Points	Max Points	The detailed list of nonpoint source programs suggests that, while participation is voluntary in some cases, the programs have mandatory requirements that are binding and enforceable. Penalties for noncompliance generally include repayment of cost-share loans and future ineligibility for the program.	Total Points	Max Points
	4	4		3	4
<b>Contingencies</b>					
The WIP provides for general contingency actions in each sector. For example, Delaware "commits to convene a committee of experts to conduct a science-based review of the Phosphorus Site Index and will take actions to amend, if needed." At another point, the WIP states, "If compliance rates with regulatory programs are not achieved, enforcement actions will be taken."			While Delaware provides for contingency actions, they do not appear sufficiently stringent to motivate implementation of primary controls. The WIP provides few timelines for evaluating primary controls and for implementing, if necessary, the contingent actions. One exception is evaluating the implementation of BMPs by 2013 to determine whether voluntary measures should be converted to mandatory compliance.		
	4	6		3	4
<b>CAFOs</b>					
The WIP states that Delaware's updated CAFO regulations went into effect on November 11, 2010. The WIP does disclose past budgets and future funding needs in Table 44.			Delaware has updated its regulations to be consistent with the 2008 federal CAFO regulations, and the new state regulations are currently in effect. However, Delaware does not indicate how many permits have incorporated the new regulations and current data is insufficient to determine the number of AFOs versus CAFOs.		
	3	4		4	4
<b>Stormwater</b>					
The WIP states that 100 percent of construction sites are permitted through a general permit and 100 percent are inspected annually by a local delegated agency or by the DNREC. However, the WIP does not provide actual numbers to verify these statements. For industrial stormwater discharges, the WIP notes that "inspection frequency and compliance... was determined to be inadequate" and identified the need for an additional employee to increase inspection frequency.			Based on the stated goals for permit coverage and inspection rates of one inspection every two to three years, Delaware appears to have a solid stormwater program. However, the WIP does not provide actual statistics on permits or inspections, hindering the ability to evaluate the program.		
	3	4		3	4

Transparency of Information			Strength of Program Design		
<b>Air Deposition</b>					
The WIP includes a discussion on air deposition but focuses mainly on implementation of federal controls rather than state-generated initiatives. The WIP states, "There is little left in Delaware's regulatory arsenal to reduce point source NOx emissions within its boundaries. Even if more stringent air controls were identified and adopted in Delaware, little impact will be realized... due to the location of Delaware sources and climatic patterns."	Total Points	Max Points	The WIP provides no basis upon which to determine the strength of its air program.	Total Points	Max Points
	0	4		0	4
<b>Discretionary Points</b>					
Delaware's WIP provides some of the most detailed information regarding funding sources and needs. It also describes, in less detail, how it will acquire these funds but does not provide timelines for taking specific actions.					
	1	4			
<b>Total Points and Final Grade</b>					
	27	D		21	D

## District of Columbia

Achievement of pollutant reductions in the District of Columbia will result largely from NPDES permit enforcement by EPA Region 3 and the District Department of Environment. On its final Phase I WIP, the District received a C for transparency of information and a D for strength of program design. The District is unique among Bay jurisdictions because it does not contain any agriculture land, attributes the overwhelming majority of pollutants to point sources, and has its NPDES permits administered by U.S. EPA Region 3. Point sources, which are subject to NPDES permits, account for approximately 93 percent and 75 percent of the total nitrogen and phosphorus, respectively, that enter the Bay from D.C. As a result of these unique characteristics, some of the metric categories do not apply and have been noted below. The point totals for these categories have also been deducted from the total possible points and the final grades have been adjusted accordingly.

The primary strategy for the District of Columbia is to achieve its pollutant reductions from point sources. The Blue Plains wastewater treatment facility is already under several consent decrees and agreements to achieve significant reductions, and the District's updated MS4 permit will provide the additional reductions needed to meet the wasteload allocations assigned under the Bay TMDL. Because point sources are required to comply with their NPDES permits, the District is expected to achieve its allocations through compliance with the permits or through enforcement actions for failure to comply by EPA.



Transparency of Information			Strength of Program Design		
<b>NPDES Permitting</b>					
For wastewater facilities, the District has the Blue Plains Wastewater Treatment Facility and a handful of nonsignificant industrial dischargers. In addition, much of the land area in the District is covered by a single MS4 permit for stormwater. The Blue Plains permit is current, while the MS4 permit has been administratively extended pending final approval.	Total Points	Max Points	The current NPDES permit for Blue Plains was issued in 2007 and should include any additional requirements from the Bay TMDL by 2016. The MS4 permit has expired and been administratively extended since September 2009.	Total Points	Max Points
	7	7		5	9
<b>NPDES Enforcement</b>					
Although EPA Region 3 is the NPDES permitting authority for the District of Columbia, the District Department of Environment (DDOE) has the authority to implement and enforce the requirements of the MS4 permit. The Blue Plains facility has monthly reporting requirements.			The District of Columbia did not provide enough information to determine actual inspection rates or to evaluate the effectiveness of the enforcement program by EPA or the DDOE.		
The WIP indicates DDOE performed nearly 450 inspections of best management practices at stormwater facilities and issued over 350 enforcement actions for construction site and stormwater management BMP maintenance issues within the MS4 covered area.	2	12		1	8

Transparency of Information		Strength of Program Design			
<b>Monitoring and Verifying Practices by Nonpoint Sources</b>					
The District of Columbia does not attribute any pollutant discharges to nonpoint sources and does not have agricultural land.	-	-		-	-
<b>Contingencies</b>					
Because the District is relying on mandatory point source compliance with NPDES permits to achieve its wasteload allocations under the Bay TMDL, the only contingency is enforcement actions by EPA for failure to comply.	-	-		-	-
<b>CAFOs</b>					
The District of Columbia does not have any CAFOs within its jurisdiction.	-	-		-	-
<b>Stormwater</b>					
Although EPA issues NPDES permits for the District, the DDOE has authority to enforce the requirements of the MS4 permit. The WIP does include a narrative description of how DDOE verifies compliance and its enforcement procedure, ranging from informal to formal actions or referral to EPA. The WIP also discusses need for increased funding, achieved in part by a recent increase in the stormwater fee.	3	4	The WIP indicates that the DDOE's inspection efforts are strong. In FY 2008, the WIP cites nearly 9,000 construction site inspections, nearly 450 inspections of best management practices at stormwater facilities, and over 350 enforcement actions.	3	4
<b>Air Deposition</b>					
EPA and the District of Columbia do not attribute any nitrogen loadings to air deposition.					
<b>Discretionary Points</b>					
	0	4		0	4
<b>Total Points and Final Grade</b>					
	10	C		9	D

## Maryland

Among the biggest contributors of nitrogen and phosphorus, Maryland submitted a relatively strong final Phase I WIP that, if implemented and funded sufficiently, could enable the state to achieve most of its pollutant reductions under the Bay TMDL with some federal backstops. The final Phase I WIP received a C for transparency of information and a D for strength of program design. Maryland contributes roughly 20 percent of the nitrogen and phosphorus that enters the Bay. The WIP identifies specific strategies for reducing pollution, provides detailed cost estimates for these strategies, and provides information on how these strategies will be funded. Notably, Maryland has committed to an accelerated schedule for achieving its portion of the Bay TMDL: by 2017 Maryland has pledged to implement the pollutant controls necessary to achieve 70 percent of its reductions and by 2020 to implement all pollutant controls to achieve the Bay TMDL. The WIP provided detailed permitting and enforcement information for stormwater, indicating that the program conducts frequent inspections but does not impose very deterrent penalties. Maryland is moving toward greater reporting for best management practices and has programs and resources in place to monitor practices that receive public cost-share funding. Finally, Maryland has also identified specific contingent actions if the primarily pollutant control measures fail to achieve the necessary reductions.



Transparency of Information			Strength of Program Design		
NPDES Permitting					
	Total Points	Max Points		Total Points	Max Points
Maryland provides a list of its NPDES permits for all major sectors, except construction sites outside MS4 areas, in Appendix C. However, it did not indicate whether these facilities have up-to-date permits or whether there are facilities that require permits but do not yet have them. Maryland also identifies general personnel and funding gaps related to administering the NPDES permit program.	7	9	Maryland did not provide enough information to determine the up-to-date NPDES permitting rate for the six major sectors. The WIP did not disclose when all permits will include the Bay TMDL and the applicable tributary segment TMDLs.	0	10
NPDES Enforcement					
Maryland provides specific enforcement information for its stormwater program in Appendix H1, which includes information on the total number of violations and penalty actions and the total amount of penalties collected. Maryland also discloses a total of 42 staff for its enforcement program. The WIP did not provide enforcement information related to Maryland's CAFO and wastewater programs.	7	14	Maryland provided several appendices related to its sediment and erosion control program, which includes stormwater permits. The FY 2009 enforcement data indicates that MDE conducted roughly 4 inspections per permit and approximately 148 permits per inspector.	4	8



Transparency of Information			Strength of Program Design		
<b>Monitoring and Verifying Practices by Nonpoint Sources</b>					
The WIP provides a comprehensive list of programs available to assist nonpoint sources with nutrient management and provides information on verifying practices by nonpoint sources that receive public cost-share funding. For example, the Maryland Agricultural Water Quality Cost Share Program (MACS) reviews a random, computer generated sampling of 10 percent of all practices. In FY 2009, MACS conducted 559 spot checks.	Total Points	Max Points	The detailed list of nonpoint source programs suggests that, while participation is voluntary in some cases, the programs have mandatory requirements that are binding and enforceable. Penalties for noncompliance generally include repayment of cost-share loans and future ineligibility for the program.	Total Points	Max Points
	3	4		3	4
<b>Contingencies</b>					
The WIP provides specific contingencies in each sector and will use the two-year milestones to evaluate the need to implement these contingencies. Contingencies include increased NPDES watershed restoration requirements for MS4 areas, retrofitting minor industrial dischargers, or requiring cover crops on the highest risk acres. For each of the contingencies, Maryland provides a cost estimate and potential sources for funding.			The WIP lists 14 specific contingencies, including the strategy and the funding for implementation. The need for contingencies will be determined at the two-year milestone markers. Contingencies include retrofitting minor municipal wastewater facilities that have local impacts and increased enforcement of the Forest Conservation Act to prevent the loss of forest acreage.		
	6	6		4	4
<b>CAFOs</b>					
The WIP states that Maryland's CAFO program is currently consistent with federal regulations. However, it does not indicate how many permits have incorporated the new regulations. Maryland identified the need for 2 additional staff, increasing the program staff to 7 from 5, and has filled those positions with a grant from the Chesapeake Bay Regulatory and Accountability Program.			Maryland has updated its regulations to be consistent with the 2008 federal CAFO regulations, and the new state regulations are currently in effect.		
	3	4		4	4
<b>Stormwater</b>					
Maryland provided a copy of the information that stormwater dischargers must disclose and provided information on the authority delegated to local governments to administer stormwater permits. Maryland proposes to implement a statewide system of stormwater fees to fill funding gaps for implementing stormwater management practices.			The data on stormwater indicates that Maryland inspects regularly, between 1.5 and 2.7 inspections per inspector per day for local and municipal programs. In FY 2009, the enforcement program brought 534 court cases and collected approximately \$649,000 in penalties, or an average of \$1,200 per court case.		
	4	4		3	4

Transparency of Information			Strength of Program Design		
<b>Air Deposition</b>					
The WIP includes a discussion on Maryland's state authorities to regulate air emissions, including the Maryland Healthy Air Act, which required in 2009-2010 a reduction of NOx by 75 percent compared to 2002 baseline emissions. The WIP states that to date more than 300,000 pounds of nitrogen have been reduced.	Total Points	Max Points	Maryland provides the most thorough discussion of air emissions reductions. In addition to delegated authority to administer Clean Air Act programs, Maryland's Healthy Air Act went into effect in July 2007. This program requires reduction of NOx, sulfur dioxide, and mercury from the state's large coal-burning power plants, which contribute more than 95 percent of the air pollution in Maryland.	Total Points	Max Points
	2	4		3	4
<b>Discretionary Points</b>					
			Maryland has an accelerated timeline: by 2017 to implement pollutant controls to achieve 70 percent of necessary reductions and by 2020 to implement all pollutant controls.	1	4
<b>Total Points and Final Grade</b>					
	32	C		22	D

## New York

New York submitted a Phase I WIP with the potential to achieve its pollutant reductions under the Bay TMDL with relatively little prodding by EPA. The final WIP received a C for transparency of information and a D for strength of program design. New York has been the most vocal critic of the Bay TMDL process and submitted its final Phase I WIP on December 17, 2010, nearly three weeks after the deadline. The final WIP described a fairly strong CAFO program, and a future project could delve deeper into this description to discover how the program is actually implemented and its results on-the-ground. Despite the relatively high grades and potential for achievement, New York contributes only 6 and 5 percent, respectively, of the total nitrogen and phosphorus to the Bay.



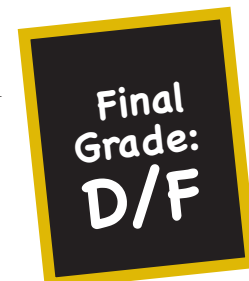
Transparency of Information			Strength of Program Design		
<b>NPDES Permitting</b>					
New York indicated that its trend in the number of permits issued has increase by 80% from 1998 to 2008, largely due to the addition of CAFO and stormwater programs. It provides basic permitting information for each of the major sectors and discusses gaps and strategies to fill those gaps but does not disclose information regarding its permit backlog, if any.	Total Points 8	Max Points 9	New York generally did not provide sufficient information to assess the strength of its NPDES permits. It disclosed that the most recent MS4 permit was issued and effective in Spring 2010.	Total Points 1	Max Points 10
<b>NPDES Enforcement</b>					
New York provided limited information regarding the number of physical, on-site inspectors for the major sectors. However, it lists the total number of inspections in FY 2008 as 2,400. It specifies roughly 150 enforcement actions and a significant non-compliance rate of 28 percent for major facilities in FY 2008.	8	14	The WIP indicates that New York meets the federal inspection minima for CAFOs and stormwater. It does not provide detailed information on enforcement resources.	4	8
<b>Monitoring and Verifying Practices by Nonpoint Sources</b>					
The WIP provides a detailed overview of the Agricultural Environmental Management Program, which covers approximately 95 percent of the dairies in the state. The WIP also discloses a comprehensive list of funds and cost estimates for its voluntary programs.	4	4	The list of nonpoint source programs suggests that, while participation is voluntary in many some cases, the programs have mandatory requirements that are binding and enforceable. Penalties for noncompliance generally include repayment of cost-share loans and future ineligibility for the program.	3	4

Transparency of Information			Strength of Program Design		
<b>Contingencies</b>					
The WIP identifies increased compliance and enforcement efforts for the NPDES permitting program as a contingent action for all sectors and also includes some specific but noncommittal contingent actions for stormwater.	Total Points	Max Points	The listed contingent actions are somewhat coordinated with specific sectors, but New York generally intends to rely on increased enforcement as the primary action.	Total Points	Max Points
	2	6		3	4
<b>CAFOs</b>					
New York provides a partial snapshot of all agricultural sources of pollutants, citing at least 2,285 farms in the Bay Watershed that are covered by the state Agricultural Environmental Management program. New York does not provide any gap analysis for its CAFO program.			New York's CAFO program has always required Comprehensive Nutrient Management Plans. In addition, New York considers its CAFO program as one of the most robust in the country, exceeding federal minimum standards.		
	2	4		4	4
<b>Stormwater</b>					
New York discussed the authority granted to local governments to administer stormwater programs and explicitly stated that its stormwater program has no gaps and thus no need for a gap-filling strategy.			New York indicates that it inspects approximately 20 percent of stormwater management plans and construction sites each year. Local authorities have enforcement authority that is roughly equivalent to state authority.		
	3	4		2	4
<b>Air Deposition</b>					
Although New York did not identify its internal sources of air pollution, it described the state air program, including year-round NOX controls, low emission vehicle standards, and its membership in the RGGI carbon-trading group. New York did not discuss gaps in the air program or gap-filling measures.			New York cited mandatory air pollution control measures and discussed its legal authority to enforce them. It did not touch on penalties for violations.		
	1	4		3	4
<b>Discretionary Points</b>					
	0	4	New York's CAFO program appears to be the strongest among the Bay jurisdictions.	1	4
<b>Total Points and Final Grade</b>					
	28	C		21	D

## Pennsylvania

Pennsylvania contributes a considerable amount of nitrogen and phosphorus to the Bay—41 percent and 24 percent, respectively—and its final Phase I WIP is not commensurate with the reductions it must make. The WIP is a significant improvement over its draft submission but it still fails to demonstrate commitment and specific actions to reduce pollutant discharges. The final grades for its Phase I WIP is a D for transparency and an F for Strength of Program Design, meaning that Pennsylvania will likely need significant prodding from EPA to achieve its allocations.

While the WIP discloses a relatively large amount of information, the strength of Pennsylvania’s programs—and thus the state’s ability to achieve the assigned nitrogen, phosphorus, and sediment reductions under the Bay TMDL—is questionable. The major weaknesses in the WIP are the limited disclosure of enforcement information, the stringency of contingencies, and its ability to reduce pollutant discharges from nonpoint sources. In addition, Pennsylvania does not have sufficient resources to implement the necessary pollutant controls and does not describe how it will attempt to fill these gaps. The WIP is also focused on getting credit for existing activities, which would translate into fewer additional reductions that Pennsylvania would have to achieve.



Transparency of Information			Strength of Program Design		
NPDES Permitting					
	Total Points	Max Points		Total Points	Max Points
Pennsylvania disclosed detailed information regarding the number of NPDES permitted facilities across the Bay watershed. Although it did not list major and minor sources separately, it disclosed that there are 183 municipal wastewater facilities; 30 industrial wastewater facilities; 317 CAFOs under permit; 278 municipalities that constitute MS4 areas; 808 industrial stormwater sites; and more than 21,000 acres covered by the construction stormwater permit.	7	9	Pennsylvania generally did not provide enough information to determine the up-to-date NPDES permitting rate for the major sectors. However, it did provide a phased renewal plan for municipal wastewater facilities with a target for final updates in 2016.	5	10

Transparency of Information			Strength of Program Design		
<b>NPDES Enforcement</b>					
<p>The WIP provided limited information on enforcement. For stormwater, the DEP and local conservation districts conducted 10,243 inspections (roughly 60% of statewide inspections) and investigated 1,439 citizen complaints. The conservation districts initiated 39 enforcement actions and collected \$135,225 in penalties. For CAFOs, the policy is to inspect annually, but the WIP does not indicate how many inspections were actually conducted.</p> <p>Regarding resources, the WIP indicated that 15 staff members address agriculture regulations under the CAFO, erosion and sediment, and nutrient management programs. In addition, Pennsylvania estimates it will need 2 new staff members to implement its target watershed enforcement strategy and will seek funding from the Chesapeake Bay Regulatory and Accountability Program to hire more staff in the stormwater sector.</p> <p>The WIP describes the levels of authority delegated to conservation districts.</p>	Total Points	Max Points	<p>Pennsylvania did not provide enough information to calculate actual inspection rates although it did provide specific inspection numbers. For CAFOs, Pennsylvania states an inspection rate of once every year.</p>	Total Points	Max Points
	6	14		1	8
<b>Monitoring and Verifying Practices by Nonpoint Sources</b>					
<p>The WIP provides a thorough list of programs available to assist nonpoint sources with nutrient management. For each program, the WIP contains details regarding the costs of different practices and information on past and current funding.</p>			<p>Pennsylvania's describes its programs but does not provide details on how it ensures compliance with these voluntary programs or how it encourages participation apart from providing a cost share for implementing management practices.</p>		
	4	4		2	4
<b>Contingencies</b>					
<p>While the WIP provides for specific contingency actions in most sectors, the state did not find any gaps in the wastewater sector and therefore did not identify any contingency actions for that sector. The contingency action identified for CAFOs relies on increased and targeted watershed enforcement. The WIP does not provide timelines for assessing when contingency actions may be necessary and when those actions, if necessary, will be implemented.</p>			<p>While Pennsylvania provides for contingency actions, those actions do not appear stringent enough to ensure that primary controls are implemented. The WIP does not provide any timelines for evaluating primary controls and, if necessary, for implementing contingency actions. The WIP primarily relies on increased and targeted enforcement.</p>		
	4	6		2	4

Transparency of Information			Strength of Program Design		
<b>CAFOs</b>					
<p>The WIP states that Pennsylvania and EPA are still in discussions to update the state's CAFO program. Pennsylvania's general permit expires on September 30, 2011, so any revisions will be made at that time. Pennsylvania does not plan to expand the coverage of the CAFO program to smaller operations.</p> <p>To cover its personnel gap, Pennsylvania received a grant to hire four new positions at DEP. Once trained, these staff members are expected to increase agriculture inspections by 450 per year and also contribute to stormwater inspections and other compliance actions.</p>	Total Points	Max Points	<p>Pennsylvania does not specifically indicate when its CAFO regulations will be updated to be consistent with federal regulation. The WIP states that any regulatory updates will occur when the current general permit expires in September 2011.</p>	Total Points	Max Points
	2	4		2	4
<b>Stormwater</b>					
<p>The WIP specifically discusses the levels of delegated authority for conservation districts and their responsibilities for implementation and enforcement of stormwater requirements.</p> <p>Pennsylvania identified a personnel gap that has been resolved with a grant to hire four new DEP staff that will assist with all NPDES permits, including an increase of 50 stormwater inspections per year (representing approximately 10 percent of their time).</p>	Total Points	Max Points	<p>The WIP did not provide sufficient information to determine whether its stormwater enforcement efforts amount to an effective, deterrence-based program.</p>	Total Points	Max Points
	2	4		1	4
<b>Air Deposition</b>					
<p>The WIP highlights several state initiatives to reduce air emissions, including an anti-idling act that is anticipated to reduce nitrogen oxide emissions by 195 tons per year within the Bay watershed and result in a reduced nitrogen loading to the Bay of some 2,500 pounds per year. The implementation of new regulations for cement kilns and glass melting furnaces are also expected to reduce nitrogen oxide emissions statewide by approximately 3,800 tons per year. There is no indication of what impact these new regulations will have on nitrogen loadings to the Bay.</p>	Total Points	Max Points	<p>The WIP cites a number of state initiatives to determine the strength of its air program. For example, DEP and state law enforcement officers are authorized to enforce the requirements of the Diesel-Powered Motor Vehicle Idling Act of 2008. There is no indication, however, of what impact the new rules governing cement kilns and glass melting furnaces would have on nitrogen loadings to the Bay.</p>	Total Points	Max Points
	1	4		3	4
<b>Discretionary Points</b>					
<p>Pennsylvania's final WIP marks a significant improvement over its draft WIP.</p>	Total Points	Max Points		Total Points	Max Points
	1	4		0	4
<b>Total Points and Final Grade</b>					
	27	D		16	F



## Virginia

Virginia contributes a considerable amount of nitrogen and phosphorus—26 percent and 45 percent, respectively—to the Bay, and its final Phase I WIP does not give confidence that the state will be able to make the necessary reductions. The final is a significant improvement from the draft submission, but it still lacks specific details to demonstrate that Virginia has both the commitment and resources to achieve its nitrogen, phosphorus, and sediment reductions under the Bay TMDL. The final grades for its Phase I WIPs are both F for transparency and strength of program design, falling on the low end of all Bay jurisdictions. Virginia intends to rely heavily on nutrient trading to meet its allocations, and the final WIP provides a specific timeline for introducing legislation to expand the program. However, serious concerns remain about the effectiveness and accountability of trading. The final WIP also fails to disclose much of the information needed to establish a baseline of existing capacity in order to measure and compare future progress. Ultimately Virginia may be subject to strong backstops by EPA in order to achieve its allocations.

**Final Grade: F/F**

Transparency of Information			Strength of Program Design		
<b>NPDES Permitting</b>					
Virginia disclosed the number of facilities in each sector but did not indicate the status of the facilities' permits. The WIP also did not contain a timeline or other commitments for updating permits, nor did it disclose funding or personnel needs for the NPDES permitting program.	Total Points 5	Max Points 9	Virginia did not provide enough information to determine the up-to-date NPDES permitting rate for the six major sectors.	Total Points 0	Max Points 10
<b>NPDES Enforcement</b>					
The WIP fails to provide specific information on the NPDES enforcement program, except with regards to the CAFO and animal agriculture program. In FY 2010, Virginia conducted 998 inspections on these operations, amounting to a single enforcement action with a \$6,500 penalty.	3	14	Virginia did not provide enough information to determine actual inspection rates or generally the strength of its NPDES enforcement program. By law it is required to inspect CAFOs once every year, but Virginia has proposed a targeted strategy to better use its resources instead of annual inspections.	1	8
<b>Monitoring and Verifying Practices by Nonpoint Sources</b>					
The WIP provides a comprehensive list of mandatory and voluntary programs available to assist nonpoint sources with nutrient management, including enforcement authority on farm operations that do not require permits. The WIP also provides some estimates of cost-share needs through 2025 for implementing agricultural best management practices but does not specify how the state will fill these needs.	2	4	The programs for pollutant discharge reductions from nonpoint sources are a combination of mandatory and voluntary cost-share programs. If enforced and implemented as described, these programs have the potential to be effective.	3	4

Transparency of Information			Strength of Program Design		
<b>Contingencies</b>					
The WIP identifies contingencies such as increased enforcement efforts and amendments to state legislation. However, the WIP does not cite timelines or funding resources to implement these contingencies.	Total Points	Max Points	The WIP does not specifically commit to implementing the identified contingencies. Although it generally identifies them by sector, it does not provide timelines for implementing them. Virginia also intends to rely on increased enforcement and compliance activities.	Total Points	Max Points
	3	6		3	4
<b>CAFOs</b>					
The WIP states that Virginia's revised regulations have been approved by EPA, but DEQ is in the process of updating all the permits. The updated permits are expected to be complete by early 2012.			Virginia's CAFO program is consistent with federal regulations and in the process of updating existing permits.		
	1	4		4	4
<b>Stormwater</b>					
The WIP includes some information on how the state and delegated local authorities verify dischargers are meeting their permit requirements. In addition, the state reviews all local erosion and sediment control programs every five years.			The WIP indicates that the DDOE's inspection efforts are strong. In FY 2008, the WIP cites nearly 9,000 construction site inspections, nearly 450 inspections of best management practices at stormwater facilities, and over 350 enforcement actions.		
The WIP identifies the need for financial incentives for implementing stormwater best management practices and proposes that local authorities establish stormwater fees to generate revenue for these incentives.	2	4		0	4
<b>Air Deposition</b>					
The WIP contains limited discussion on reductions from air implementation, stating generally that it expects significant air reductions without specifying how these reductions will be generated.			The WIP provides no basis upon which to determine the strength of its air program.		
	0	4		0	4
<b>Discretionary Points</b>					
	0	4		0	4
<b>Total Points and Final Grade</b>					
	16	F		11	F

## West Virginia

West Virginia's final WIP does not indicate that the state will meet its allocations under the Bay TMDL and suggests that EPA may be required to apply some backstops. The final WIP is fairly similar to its draft WIP and contains uneven information disclosure. The final grades on the Phase I WIP are F for both transparency of information and strength of program design. It provides helpful appendices on the NPDES permitting program but does not contain enforcement or air programs. West Virginia contributes 3 percent of the nitrogen and 4 percent of the total phosphorus to the Bay. To achieve pollutant reductions, West Virginia intends to rely heavily on its voluntary programs, which traditionally have not been as strong as mandatory regulations and depend on high rates of participation. Its CAFO program is relatively new, providing the opportunity for the state to implement strong measures from the beginning. West Virginia was unique in proposing to seek residual designation authority as a contingent action to bring more areas under stormwater permits.

**Final Grade: F/F**

Transparency of Information			Strength of Program Design		
<b>NPDES Permitting</b>					
West Virginia provides several appendices to its final WIP that disclose the number and type of wastewater and stormwater facilities. For example, the West Virginia portion of the Bay watershed does not have any Phase I MS4 areas but has 3 Phase II MS4 areas. The final WIP sets deadlines for compliance with allocations under the Bay TMDL: by 2015 for significant industrial wastewater facilities and by 2017 for significant municipal wastewater facilities. However, it does not disclose funding or personnel gaps or how those gaps will be filled.	Total Points	Max Points	West Virginia did not provide enough information to determine the up-to-date NPDES permitting rate for the six major sectors. However, the state did commit to compliance with the assigned wasteload allocations by no later than 2015 for significant wastewater facilities.	Total Points	Max Points
	5	9		4	10
<b>NPDES Enforcement</b>					
The WIP provides little if any enforcement information for this metric. The WIP does disclose that of the 19 listed significant municipal and industrial wastewater dischargers, only 7 are in compliance for nitrogen and 5 are in compliance for phosphorus for the period between July 2008 and June 2009.			The WIP did not provide sufficient information to determine the strength of the NPDES enforcement program.		
	1	14		0	8

Transparency of Information			Strength of Program Design		
<b>Monitoring and Verifying Practices by Nonpoint Sources</b>					
The WIP indicates that West Virginia relies primarily on voluntary practices and programs to reduce pollutant discharges from unregulated nonpoint sources. The WIP describes these programs in general but does not include specific procedures for assuring participation and compliance with these programs. The WIP does provide tables to demonstrate current staffing resources and future needs and commits to seeking funding for these needs.	Total Points 3	Max Points 4	The state's programs for nonpoint sources are largely, if not completely, voluntary.	Total Points 1	Max Points 4
<b>Contingencies</b>					
The WIP provides specific contingencies in each sector. For example, West Virginia commits to pursuing residual designation authority for stormwater areas and to pursue post-construction stormwater requirements if EPA regulations are not passed. West Virginia also proposes to implement the stormwater contingencies by 2017 and commits to proposing legislation, if necessary, to the 2017 legislature.	5	6	The WIP links contingencies with failures in each sector and provides definite deadlines for implementing the contingencies. In addition, the contingency to seek residual designation authority is already supported by the Clean Water Act.	4	4
<b>CAFOs</b>					
The WIP emphasizes that West Virginia's CAFO program is in its infancy and is in the process of hiring dedicated inspectors and program staff. State CAFO regulations have not yet been updated because they are pending amendments and EPA approval.	2	4	West Virginia's CAFO permit program is pending approval by EPA, and the WIP does not indicate when EPA will approve of the program.	0	4
<b>Stormwater</b>					
The WIP does not detail the authority granted to local governments to administer stormwater permits, noting that stormwater management is new to most communities. However, the WIP identifies a personnel gap that will be filled by 2011 and a funding gap that could be filled by establishing stormwater utilities and stormwater fees. The WIP identified the need for an additional employee to increase inspection frequency.	2	4	The WIP does not provide sufficient information to determine the adequacy of West Virginia's stormwater program based on inspection frequency, assessment of penalties, enforcement authority, and permit coverage rate.	0	4

Transparency of Information			Strength of Program Design		
<b>Air Deposition</b>					
The WIP does not include any discussion of air deposition controls.	Total Points 0	Max Points 4	The WIP provides no basis upon which to determine the strength of its air program.	Total Points 0	Max Points 4
<b>Discretionary Points</b>					
Unlike the other jurisdictions, West Virginia commits to deadlines for measuring success of primary controls and implementing contingencies if necessary.	1	4	For contingent actions, West Virginia intends to propose legislation by 2017.	1	4
<b>Total Points and Final Grade</b>					
	19	F		10	F

## A Note on EPA's Evaluation of the Phase I WIPs

As this report was being finalized, EPA issued the final Chesapeake Bay TMDL and its evaluations of the jurisdictions' WIPs. EPA evaluated the WIPs based on two criteria:

1. Whether they met assigned pollutant limits for nitrogen, phosphorus, and sediment under the Bay TMDL, and
2. Whether they provided EPA with "reasonable assurance" that the Bay jurisdictions would implement the necessary pollutant controls for both point and nonpoint sources to achieve their assigned pollutant limits.

EPA found that all jurisdictions except New York met their pollutant limits or "target allocations." EPA's assessment of reasonable assurance is reflected in its three levels of oversight:

**Ongoing Oversight.** For jurisdictions that met EPA's expectations, EPA will carefully review the implementation of the strategies and programs described in the Phase I WIP to ensure that measurable progress is made toward achieving the pollutant reductions. This type of oversight applies to all jurisdictions.

**Enhanced Oversight.** Although the states' final Phase I WIPs were vast improvements over earlier drafts, EPA still has remaining concerns with the ability of some states to meet their pollution limits for specific sectors. Thus, for Pennsylvania, Virginia, and West Virginia, EPA indicated it may consider future federal actions—such as oversight of NPDES permits and reallocation of pollutant limits—if these states do not demonstrate specific, short-term progress through the two-year milestones and Phase II and III WIPs.

**Backstop Allocations, Adjustments, and Actions.** For certain sectors in New York, Virginia, and West Virginia, EPA has already taken action to ensure that they meet the target allocations and to improve reasonable assurance. For example, to address stormwater runoff in Pennsylvania, EPA shifted some pollutant limits to permitted point sources from unpermitted nonpoint sources. If Pennsylvania fails to achieve pollutant reductions through NPDES stormwater permits, EPA may increase the number of sources required to have permits.

In evaluating the final Phase I WIPs, CPR and EPA examined different aspects of the submissions and reached different conclusions as a result. CPR relied exclusively on the statements and commitments described in the WIPs. While EPA may have received additional verbal assurances and feedback through meetings with state officials that improved the agency's estimation of the WIPs, the paper submissions are, in the end, what the public and EPA can use to hold the jurisdictions accountable in the face of future political and personnel changes. In addition, CPR relied on a different and, in the judgment of our panel of experts, more telling standard for assessing the likelihood that Bay jurisdictions will actually achieve their pollutant limits. Specifically, we gave greater weight than EPA appears to have given to the information in the submissions regarding the current state of the jurisdictions' CWA and nonpoint source programs. As part of that consideration, CPR's metrics placed a high value on disclosure of this information and overall transparency because transparency has been an area of gross failure for the jurisdictions in the past, which has in turn contributed to the lack of accountability that has so plagued Chesapeake Bay cleanup efforts over the years. For the TMDL mechanism to be successful in restoring the Bay, jurisdictions must be held accountable, meaning that they must be subject to the public spotlight and be open and transparent about the baseline effectiveness of their pollutant control programs. Those states that failed to explicitly disclose this data in their WIPs lost points in CPR's evaluation because their failure is an indication of existing weaknesses and potential trouble on the road to Bay restoration.

## About the WIP Grading Panel



**William L. Andreen** is the Edgar L. Clarkson Professor of Law at the University of Alabama School of Law. He is a nationally and internationally recognized expert in the Clean Water Act and water and water management law. Professor Andreen was a Fulbright Senior Scholar and a Visiting Fellow at the Australian National University's National Europe Centre and has served in an advisory capacity for numerous organizations, including the National Environment Management Council of Tanzania; the Environmental Law Section of the American Association of Law Schools, and the Environmental Law Commission of the World Conservation Union. He has published widely on the Clean Water Act, state water laws, and other water pollution law.

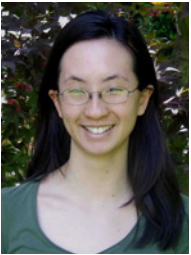


**Robert L. Glicksman** is the Treasurer of the Center for Progressive Reform and the J.B. and Maurice C. Shapiro Professor of Environmental Law at the George Washington University School of Law. He is a nationally and internationally recognized expert on environmental, natural resources, and administrative law issues. Professor Glicksman previously taught at the University of Kansas School of Law, where he was the Robert W. Wagstaff Distinguished Professor of Law. He is the author of two casebooks on environmental, natural resources, and administrative law; and dozens of articles and book chapters on these topics. Professor Glicksman's recent research on Clean Water Act enforcement includes three law review articles and an upcoming book on enforcement of the Clean Water Act nationwide.



**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 council to the U.S. House of Representatives' Energy and Commerce Committee's subcommittee with primary jurisdictions over federal laws regulating hazardous substances and was the partner in charge of the environmental law practice at Spiegel and McDiarmid.





**Yee Huang** is a Policy Analyst with the Center for Progressive Reform. She graduated cum laude from Rice University with a B.A. in biology and received a Rotary Ambassadorial Scholarship to study international law at the University of Kent in Brussels, Belgium, where she received an L.L.M. with distinction. Ms. Huang received her J.D. cum laude from the University of Florida Levin College of Law. During law school, she published articles in the University of Denver Water Law Review, the Florida Journal of International Law, and the Cardozo Law Review.



**Shana Campbell Jones** is the Executive Director of the Center for Progressive Reform. She joined CPR as a policy analyst in 2007 and was appointed to her current position in 2009. Ms. Jones served as a law clerk to U.S. District Judge Robert G. Doumar and to Maryland Court of Appeals Judge Lynne Battaglia and also worked as an associate attorney in the Norfolk office of McGuire Woods, LLP. Ms. Jones received her law degree from the University of Maryland School of Law and graduated Order of the Coif. During law school, she served as Manuscripts Editor of the Maryland Law Review.

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