Weathering the Storm

Controlling Storm Water Pollution in the Great Lakes States

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ENVIRONMENTAL INTEGRITY PROJECT

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Environmental Integrity Project

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THE ENVIRONMENTAL INTEGRITY PROJECT (EIP) is a non-profit, non-partisan organization dedicated to stronger enforcement of existing federal and state anti-pollution laws, and to the prevention of political interference with those laws. EIP's research and reports shed light on how enforcement and rulemaking affect public health. EIP also works closely with local communities seeking the enforcement of environmental laws.

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Whether it is runoff loaded with sediment streaming from construction sites or the polluted water that flows from industrial lots and city streets into urban storm drains, uncontrolled storm water has a devastating effect on water quality across the United States and poses a serious threat to the Great Lakes region. Storm water damages ecosystems, wildlife, and aquatic habitats by washing bacteria, sediment, heavy metals, oil and grease, and debris into waterways, and also by compounding the effects of erosion and flooding.

- The International Joint Commission's 2004 *Report on Great Lakes Water Quality* estimates that major storm water-related discharges to the Great Lakes exceed 100,000 tons per year of sediment, oil, grease, metals, and other contaminants.

- Recent state water quality assessments show that urban runoff and storm sewers alone contribute to 15 percent of impaired Great Lakes shoreline. This statistic is based almost entirely on bacterial contamination, and does not even account for the sedimentation and erosion problems caused by construction and development.

- The U.S. Environmental Protection Agency (EPA) estimates that as much as 150 tons of soil per acre is lost to storm water runoff from construction sites.

- Despite the legal requirement to get a storm water permit, EPA estimates that nationally only about half of industrial facilities and one-third of construction sites actually comply. EPA reports that of those sites that have applied for permit coverage, noncompliance with permit requirements remains significant.

- Storm water enforcement is hampered by vague and subjective standards. Yet

federal officials have resisted efforts to give states practical and enforceable storm water standards.

The Environmental Integrity Project (EIP) analyzed the storm water programs of six Great Lakes states (Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin—EPA's Region 5). EIP conducted detailed telephone interviews with state environmental agency staff, compared state storm water regulations, and obtained available permitting and enforcement data from both the state agencies and EPA.

States and EPA face challenges identifying the thousands of storm water sources, and state program staff are unable, realistically, to inspect even a fraction of permit holders. Yet some states have found creative ways to identify potential dischargers. In addition, opportunities exist for states to strengthen compliance by improving permit data and making it available to the public, and by delegating certain responsibilities for construction storm water permitting to the local level.

How is Storm Water Pollution Regulated?

In most cases, polluted storm water is a point source discharge regulated under the federal Clean Water Act. Therefore, sources of storm water (construction sites, municipalities, and industrial lots) are required to obtain and abide by the terms of a discharge permit under the Clean Water Act's National Pollutant Discharge Elimination System, or NPDES, program.

The vast majority of facilities and sites covered by a storm water permit are covered under state-issued general permits or permits-by-rule, which cover an entire industrial sector. Rather than applying for a site-specific individual permit, these facilities and sites notify the permitting authority that they intend to be covered under a general permit. These permits give the regulated community maximum flexibility; covered entities develop their own storm water pollution prevention plans (SWPPPs) and implement best management practices (BMPs), such as good housekeeping measures and employee training.

When it comes to controlling storm water, industrial (including construction) sites are essentially self-regulating. Most sites never submit their pollution prevention plan for review, and with limited resources and staff, state officials are unable to inspect the vast majority of sites for compliance. Most sites are required to conduct self-inspections, but are not required to submit the results to any state or local oversight agency. For states to achieve the goal of controlling contaminated storm water, generally, three things must happen:

1. Regulated sites and facilities must notify the state that they intend to be covered by, or apply for, a permit;

2. Permit holders must develop a storm water pollution prevention plan that meets the state's requirements; and

3. Permit holders must actually implement the plan to avoid or minimize storm water pollution.

While enforcing the first two steps appears straightforward—a site must apply for coverage and have a plan—it is not. Roughly 20,000 industrial sites in the Great Lakes states have storm water permits, and perhaps many thousands more should be permitted but are not. This large pool of regulated entities confounds the more traditional permitting and enforcement approaches. State water programs, already strapped for resources and staff, lack the ability to adequately monitor and inspect the sites they know about, let alone find those facilities that need to be brought into the regulatory fold.

Finally, the third step—that permit holders take action to avoid unlawful discharges—is largely unenforceable, because the states, with EPA's blessing, rely on subjective and flexible "standards" which are difficult to measure.

In order for states to adequately control storm water pollution, they need support and oversight from EPA. Yet, despite assurances from federal officials that storm water pollution prevention is a national priority, the federal government has backed away from meaningful support. In April 2004, federal officials decided to drop consideration of a two-year old plan to adopt technology-based pollution control measures for construction storm water dischargers. If implemented, these measures, known as "effluent limitation guidelines," would give state and local agencies stronger and more enforceable storm water pollution standards.

Key Findings and Recommendations

States Face Challenges Defining the Universe of Covered Sites

Perhaps the single greatest challenge the states face in administering their storm water programs is simply getting a handle on the "universe" of regulated entities. Thousands of sites, and a flexible program that relies on self-policing, make it difficult for states to ensure that all those who should be permitted are applying for coverage.

This lack of knowledge about who needs a permit means that Great Lakes states are spending precious enforcement resources simply getting sites to apply for a permit, when those resources might be better spent making sure that regulated entities are complying with their permits. In 2003, 35 out of 57, or more than 60%, of all storm water violation notices issued by Illinois were for failure to have a permit. In Minnesota, seven out of 11 administrative penalty orders in 2002 were for failure to have a permit.

- States should use readily available comparison data (whether from Census Bureau, other state agencies, or private sector databases) to help define the universe of construction and industrial sites that may need to comply with storm water regulations.

- For construction sites, states should continue to build partnerships with local authorities who are already conducting building inspections or issuing soil conservation permits, to identify sites that require storm water permits.

Industrial Storm Water Permit Data is Often Unreliable

The vast majority of industrial (including construction) sites regulated under the storm water program are covered under general, rather than site-specific individual, permits. Michigan, Illinois, and Wisconsin are among the nation's top states for the number of industrial sites covered by storm water permits. EIP requested permit data from both states and from EPA Region 5. Some states had difficulty providing basic numbers (such as how many sites have permits), and EPA data did not match up with the states' reports.

State databases listing storm water permittees often contain outdated information because, unless a permittee informs the state that it no longer requires coverage, the state usually has no way of knowing if a permit is still "active."

- EPA Region 5 should provide oversight by collecting state permitting information and helping the states standardize their data. EPA should increase the use of its Permit Compliance System (PCS) database, and make it mandatory for states to report basic information regarding industrial and MS4 general permits.

- States should make storm water permit information available to the public.

One model is Illinois' notice of intent databases, available on the state agency's website. This tool allows the public to track storm water permits by facility name, county, and receiving water.

- States that do not assess annual fees for all storm water permits should consider revising their fee structure to require all industrial (including construction) permittees to pay an annual fee, which will provide an incentive for sites to notify the state when they have ceased operations or stabilized a construction area.

States Do Not Review and the Public Lacks Access to Most Storm Water Pollution Prevention Plans

A permittee's storm water pollution prevention plan identifies the areas of concern at the site and explains the best management practices to control the discharge of storm water. The SWPPP is, therefore, the functional equivalent of a permit.

Some states do not require a permittee to submit their SWPPP to the permitting authority, which means that there is no assurance of a site's most basic requirement to comply with the law. Minnesota and Ohio do not require the submission of a storm water pollution prevention plan. Illinois requires construction sites to notify the agency that a plan has been completed, but does not require submittal of the actual plan. Indiana and Michigan require construction SWPPPs to be sent to the soil conservation agency. Wisconsin requires submittal of a SWPPP only in certain cases.

A quarter of all storm water violations in Illinois are for failure to create a SWPPP. This means that many industrial sites join the regulatory fold by submitting the requisite "notice of intent" and then simply go about their business as usual, taking no further action to actually comply with the law.

By failing to obtain regulated sites' plans, state permitting authorities not only lose a critical compliance opportunity, but also cut out public participation in the permitting process.

- All the Great Lakes states should require sites covered by a storm water permit to submit their storm water pollution prevention plans to the state oversight agency. At a minimum, states should require submittal of a plan summary, to ensure that sites are doing more than simply sending in a notice of intent without taking the real steps necessary to comply.

- Local building permits should not be granted unless a builder shows proof of a SWPPP. Local inspectors should issue Stop Work Orders if a plan has not been adopted or if it is not being followed.

States Lack Resources to Inspect Most Permittees and Rely Largely on Regulated Sites' Self-Inspections

States lack the resources and staff to adequately inspect all permitted facilities and sites. Storm water permits require sites to self-inspect, usually after a rainfall event, but the states do not require sites to submit inspection reports. One way states have begun to address this issue for construction sites is by partnering with local entities, typically soil and water conservation districts. Indiana has established a partnership between the Department of Environmental Management, the Department of Natural Resources (DNR), and local districts, in which DNR and the districts are responsible for plan approval and site inspection. The Minnesota Pollution Control Agency has begun a pilot program in which local soil and water conservation districts inspect construction sites in exchange for a grant. Illinois reports that it has initiated a pilot project in which

these local districts perform site visits in certain counties.

- States should continue to make use of complaint-based inspections as a way to respond to public concern and promote compliance.

- States should require sites to submit all self-inspection reports and summaries, even if they are simple logs showing that inspections took place. Without this requirement, state agencies have no way of knowing whether sites are complying with the law.

"Informal" Enforcement Actions are Often Untracked and Unreported

Enforcement discretion allows state inspectors to bring some violators into compliance quickly. Informal activities, such as face to face meetings, telephone calls, or warning letters, represent the bulk of the states' compliance activities. However, when informal warnings are not tracked or reported, repeat violators may go unnoticed.

- States should improve collection of enforcement data, particularly information on inspections and informal compliance actions, to ensure that enforcement is consistent across the state and to identify repeat violators and common violations.

Key Clean Water Act Requirements are Unenforced

The Clean Water Act requires dischargers to comply with both "technology-based" and "water quality-based" standards. EPA has expressly declined to set technology-based standards for construction and development, based on false assumptions and the tortured reasoning that existing rules are working fine.

Another key component of the Clean Water Act requires state permitting authorities to implement an "anti-degradation policy" to maintain existing water uses (for example, swimming, drinking, and fishing). Both states and EPA have long neglected the law's anti-degradation requirements when they issue storm water permits, essentially turning a blind eye to increased pollution loading in both impaired and pristine watersheds.

- Because EPA has failed to do so, states should adopt technology-based effluent limitation guidelines for the construction and development sector.

- States should make the Clean Water Act's anti-degradation requirement a meaningful part of their water quality standards, by denying any new storm water permit applications that allow discharges that would further degrade lakes, streams, and wetlands.

- If state permitting authorities, with EPA's blessing, continue to disregard important Clean Water Act requirements, then citizens should use all the available tools, including citizen lawsuits, to force their environmental officials to comply with the law.

Opportunities Exist for Targeted Enforcement to Prevent Storm Water Pollution

Because states have limited storm water enforcement resources, they can benefit from proactive compliance efforts targeting high priority dischargers or key watersheds. Each state's biennial water quality assessment provides a framework to identify watersheds that are most impacted by uncontrolled storm water. For example, in 2004, Illinois reported that siltation impaired 2,343 stream miles, and that construction impaired 46 inland lakes; Indiana reported that urban runoff and storm sewers were the source of 649 polluted stream miles; and Michigan reported that sedimentation polluted 536 river miles. Population growth often

goes hand in hand with construction and urban sprawl, which results in added threats from storm water pollution.

- Great Lakes states should use their biennial water quality assessments to identify watersheds that warrant special attention by storm water inspectors. In addition, states should use county growth data, available from the Census Bureau and other sources, to identify watersheds that may face the greatest threat of storm water pollution.

State Storm Water Program Requirements

TABLE 1A. CONSTRUCTION STORM WATER PERMITS

	Illinois	Indiana	Michigan	Minnesota	Ohio	Wisconsin
Permit Structure	General Permit with Notice of Intent.	Permit by Rule with Notice of Intent.	Permit by Rule with Notice of Coverage.*	General Permit with Application.*	General Permit with Notice of Intent.	General Permit with Notice of Intent.
NOI/NOC/ Application Due Date	At least 30 days before beginning construction.	48 hours prior to initiation of land disturbing activities at the site.	Before construction, but after obtaining soil erosion and sedimentation control (SESC) permit coverage.	At least 7days before construction for <50 acres; at least 30 days before 50+ acre sites.	At least 21 days before starting construction.	At least 14 working days before start of construction.
Permittee	Project site owner.	Project site owner.	Landowner, easement holder, or authorized public agency.	Owner and operator must both apply and are responsible for different sections of permit.	Operator (may be more than one).	Landowner.
Fee Structure	Application and annual fee ($500).	One time fee ($100).	One time fee ($400).	One time fee ($400).	One time fee (graded).	One time fee (graded).
Plan requested from site?	No, but site must notify agency when plan is completed.	Yes, submitted to SWCD; Construction approval document from SWCD must be submitted with NOI to IDEM.	Yes, submitted to local soil erosion agency, but not to MDEQ.	No, unless site is larger than 50 acres, and discharges within 200 feet of "special water" or site chooses alternative post-construction BMP.	No.	Yes, if potential impact to lake, stream, wetland, or threatened/ endangered resource.
Monitoring/ Self-inspection Requirements	Self-inspection reports must be retained as part of the SWPPP for at least 3 years after permit expires; Sites must submit "incidence of non-compliance" report.	Written self-inspection and evaluation reports must be made available to inspectors within 48 hours of a request.	Inspections recorded in log by storm water operator trained and certified by MDEQ and kept on-file for three years from the date of inspection or corrective action. Required to report noncompliance.	Retain inspection and maintenance records and keep with the SWPPP for three years after submitting NOT.	Retain inspection reports on site with SWPPP for three years after submitting NOT.	Retain weekly reports on site for three years after submitting NOT.
Inspections	Generally complaint-based, although partnering with SWCDs.	Generally complaint-based, although SWCDs and IDNR perform inspections based on risk.	Local soil erosion agent performs inspections.	Generally complaint based, although starting pilots with SWCDs to increase inspection coverage.	Generally complaint-based, although starting pilots with SWCD to increase inspection coverage.	Complaint-based.

NOI = Notice of Intent; NOC = Notice of Coverage (Michigan); SESC = Soil Erosion and Sedimentation Control; SWCD = Soil and Water Conservation District; SWPPP = Storm Water Pollution Prevention Plan; NOT = Notice of Termination

* Throughout this report, we refer generally to notices of intent.

TABE 1B. INDUSTRIAL STORM WATER PERMITS

	Illinois	Indiana	Michigan	Minnesota	Ohio	Wisconsin
Permit Structure	General Permit with Notice of Intent.	Permit by Rule with Notice of Intent.	General Permit with Notice of Intent.	General Permit with Application.	General Permit with Notice of Intent.	General Permit with Notice of Intent.
Types of General Permits	One.	One.	Regular general permit and "deluxe" general permit with monitoring.	Different general permit for mining.	One.	Two tiers of permit (heavy and light); special general permits for nonmetallic mining, scrap recycling, and auto dismantling.
NOI/NOC/ Application Deadlines	At least 180 days before discharge commences.	At least 90 days before operations begin.	Does not provide specific deadline.	At least 48 hours before operations.	At least 180 days before discharge.	At least 14 working days prior to initializing industrial operations.
Fee Structure	Application and annual fee ($500).	One time application fee ($50); Annual fee ($100).	Annual fee ($260).	Annual fee ($400).	One time fee ($350).	Annual fee (Tier 1 = $260; Tier 2 = $130).
Deadline for SWPPP	Prior to submitting NOI.	Within one year of submitting NOI.	Before Submission of NOI.	Before application.	Within 180 days of NOI.	Before submission of NOI.
Plan Requested from Site?	No.	No, but plan checklist is requested.	No, but SWPPP certification is requested.	No.	No.	No, but summary of plan is requested.
General Monitoring/ Reporting Requirements	Facility must perform annual inspections and submit annual facility inspection reports for all years of the permit.	Facility must perform annual monitoring and submit annual reports for all years of permit.	Regular general permit: comprehensive site inspection every six months and retain records in SWPPP. Deluxe general permit: must perform comprehensive site inspection at least every six months and retain results of inspection in SWPPP as well as submit monitoring plan with schedule and list of pollutants for which to monitor.	Inspect the industrial facility to assure compliance with the SWPPP once every two months. Submit annual reports each year of the permit.	Perform comprehensive site evaluation at least once a year and place reports in SWPPP. Annual monitoring and retention of monitoring reports for industrial activities associated with certain materials.	Both Tier 1 and 2 must perform annual and quarterly inspections and keep records. Tier 1 must submit their first 2 annual inspection information. Tier 2 keeps inspection records on-site.
Termination Policy	Termination is not effective until agency acts on a request to terminate by facility.	Agency might request inspection before termination is granted.	Request to terminate triggers inspection.	Facilities may terminate by applying for no-exposure exemption.	The operator of a facility must submit a NOT once all storm water discharges are eliminated.	Termination is effective upon submission of NOT

NOI = Notice of Intent; NOC = Notice of Coverage (Michigan); SESC = Soil Erosion and Sedimentation Control; SWCD = Soil and Water Conservation District; SWPPP = Storm Water Pollution Prevention Plan; NOT = Notice of Termination

* Throughout this report, we refer generally to notices of intent.

What is Storm Water and Why is it Important?

Storm water has a significant impact on water quality in the United States and in the Great Lakes region. Whether it is sediment laden runoff streaming from construction sites or the polluted water that flows from industrial lots and city streets into urban storm drains, uncontrolled storm water has a devastating effect on ecosystems, wildlife, and aquatic habitats. For this reason, storm water is one of U.S. EPA's national compliance and enforcement priorities.[1]

In urban areas, storm water that would naturally soak into the ground instead flows from roads, sidewalks, and parking lots, picking up oil and grease, heavy metals, nutrients, and other pollutants before it runs into a sewer system. Usually, this contaminated storm water flows untreated directly into streams and lakes. The International Joint Commission's *12th Biennial Report on Great Lakes Water Quality* points to recent Canadian estimates that major storm water-related discharges to the Great Lakes exceed 100,000 tons per year of sediment, oil, grease, metals, and other contaminants.[2]

Contaminants in storm water are not the only cause for concern. During wet weather events, the flow's sheer power can erode stream banks, sweep away vegetation, and destroy aquatic habitat. Another common problem with urban storm water is its high water temperature from the heat of city streets and roof tops, which harms aquatic life.[3]

Storm water from industrial sites becomes a problem when it mixes with harmful chemicals used in manufacturing processes. These include heavy metals, toxics, oil, grease, and de-icing salts, to name a few. Improperly stored materials can easily mix with rain water and then flow into the nearest ditch or drain.

During construction, earth is moved and vegetation is removed. Eroded soil mixes with rain water and then flows into stream and lakes. EPA estimates that 20 to 150 tons of soil per acre are lost to storm water runoff from construction sites.[4] Construction activity results in the

most concentrated form of erosion, at rates that can exceed agricultural-based erosion by 10 to 20 times.[5] Besides sediment loading, construction and development also generate pollutants like pesticides, petroleum products, chemicals, solvents, and acids, which can further pollute storm water runoff.[6]

Storm Water Pollution Impacts

While it is always challenging to isolate any one of the many interconnected causes of water quality degradation, it is clear that storm water pollution plays a major role. In 2000, EPA reported in the *National Water Quality Inventory* that urban storm water runoff and storm sewers contribute to 13 percent of impaired rivers and streams,[7] 18 percent of impaired lakes,[8] 55.5 percent of impaired shorelines,[9] and 46 percent of impaired estuaries.[10] In a 2004 Report to Congress, EPA concluded that storm water is the largest known source of pollution resulting in swimming beach closures.[11] In 2002, EPA warned swimmers that they face a 57 percent higher rate of illness if they swim near storm drains, as compared to those who swim more than 400 yards away from storm drains.[12] In 1999, storm water runoff caused the closure or issuance of health advisories for more than 6,000 beaches due to impaired water quality.[13]

Recent Great Lakes state water quality assessments point to uncontrolled storm water as a major player in the region's water quality degradation. Pollution from storm water runoff impacts not only environmental quality and human health, but also the economic health of the region. Water pollution, no matter the cause, impacts businesses that are dependent on water, such as tourism and fishing—in 2001, the trip and equipment expenditures of Great Lakes freshwater fishermen totaled $1.3 billion.[14]

Inconsistent water quality monitoring and reporting among the states make it difficult to isolate any one cause of impairment, such as storm water, and even harder to track the sources of water pollution, such as construction activity.[15] For example, measuring the effects of construction storm water pollution along the Great Lakes shoreline would require all the states to actually monitor for sedimentation, which they do not. Even with monitoring, it is difficult for state agencies to trace many sources of storm water pollution, because storm water pollution events are often time sensitive. For example, sediment plumes trailing from a construction site may appear after a heavy rain, but be gone by the time state agency inspectors are on the scene.

Even so, the available regional data suggests that storm water pollution is a persistent threat to water quality. Together, EPA's Region 5 states—comprising all the Great Lakes states except for New York and Pennsylvania—reported that urban runoff and storm sewers contribute to 15 percent of impaired Great Lakes shoreline.[16] Individual state water quality assessments present a similar picture, showing that storm water pollution remains a persistent threat—and indeed in light of urban sprawl, a growing threat—to the quality of the Great Lakes.

In 2004, Illinois reported that siltation (the primary reason for requiring construction sites to control storm water) was the fifth greatest cause of stream impairments, behind metals (which impaired 3,332 stream miles), organic enrichment/low dissolved oxygen (2,974 miles), PCBs (2,654 miles), and nutrients (2,588 miles). Siltation impaired 2,343 stream miles, slightly more than pathogens (fecal coliform), which impaired 2,311 stream miles.[17] Construction has been specifically linked to the impairment of 46 inland lakes, and urban runoff/storm sewers have been linked to the impairment of 80 inland lakes in Illinois, according to the state's most recent assessment.[18]

Indiana reports that urban runoff/storm sewers are the second greatest

cause of known stream impairments, degrading 649 stream miles in 2004. To put this in perspective, urban runoff/storm sewers in Indiana result in fewer stream mile impairments than agriculture (770 miles), but more than municipal point sources (572 miles).[19] In Michigan, sedimentation accounts for 536 miles of river impairments, the fourth greatest cause of impairments, behind habitat alterations (3,258 miles), priority organic compounds (1,559 miles), and pathogens (586 miles).[20]

While statewide statistics are persuasive, examples of storm water pollution at the local level provide perhaps the clearest picture of the problems. One example is the Clinton River in Michigan, which was polluted by sedimentation because construction sites failed to take proper soil erosion measures.[21] A similar situation occurred along the Cuyahoga River in Ohio, where storm water runoff from construction sites led to erosion and sedimentation, resulting in impaired water quality in Lake Erie.[22] In 2003, seven of the 11 beach closures in Ohio's Cuyahoga County were attributed to storm water carrying high levels of bacteria.[23] Industry and local governments face higher costs and lost tax revenues, a burden ultimately placed on consumers, when sediment-filled storm water clogs shipping routes, as has happened along the Saginaw River in Michigan.[24]

How is Storm Water Regulated?

In 1972, Congress passed the Federal Water Pollution Control Act, usually called the Clean Water Act (CWA), which prohibits the discharge of pollutants to waters of the United States unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. The 1987 amendments to the CWA established a framework for regulating municipal and industrial (including construction) storm water discharges under the NPDES program.[25] In November 1990, EPA published rules establishing application requirements for storm water permits. These rules require that storm water associated with industrial activities discharged either directly to surface waters or indirectly through municipal separate storm sewers must be regulated by a NPDES permit.

The industrial activities that require a storm water NPDES permit are separated into 11 industrial categories, including construction. The chart, *Storm Water Phase I Industrial Categories,* shows these categories.[26] The regulations also require NPDES permits for storm water discharges from municipalities with populations over 100,000.

The regulations allow authorized states to administer the NPDES program, and all six of Region 5 states have been delegated the responsibility to administer the federal program. The Clean Water Act requires implementation of storm water regulation in two phases. Phase I regulations, adopted by EPA in November 1990,[27] bring three classes of storm water dischargers into the regulatory fold: industrial activities (including construction

Storm Water Phase I Industrial Categories

Category One: Facilities with Effluent Limitations

Category Two: Manufacturing

Category Three: Mineral, Metal, Oil and Gas

Category Four: Hazardous Waste, Treatment, or Disposal Facilities

Category Five: Landfills

Category Six: Recycling Facilities

Category Seven: Steam Electric Plants

Category Eight: Transportation Facilities

Category Nine: Treatment Works

Category Ten: Construction Activity

Category Eleven: Light Industrial Activity

sites over 5 acres);[28] "large" municipal separate storm sewer systems (MS4s) serving populations of 250,000 or more; and "medium" MS4s serving populations between 100,000 and 250,000.

In 1999, EPA adopted Phase II storm water regulations,[29] which require storm water permits for discharges associated with "small" MS4s (i.e., those systems serving populations under 100,000), and discharges from construction sites between one and five acres.[30] Phase II storm water regulations were in effect as of March 2003.

Phase II increases the scope of the storm water program, but also provides an "out" for any entity in an industrial category, other than construction, which can certify that none of its materials are exposed to storm water. These entities can carve themselves out of the program through the rule's No Exposure Exemption.[31]

Region 5 states have nearly completed issuance of Phase II storm water permits. Regulations were required to be in place by 2003. Because Phase II regulations are relatively new, states do not yet have a "track record" on how well this program is working. Therefore, this report focuses primarily on how states have implemented, and how sites are complying with, the roughly 10 year-old Phase I storm water program.

TABLE 2. STATUS OF PHASE II IMPLEMENTATION

State	Industrial/Construction	MS4s
Illinois	Final Phase II permits renewed effective June 1, 2003[32]	Final Phase II permit effective March 1, 2003[33]
Indiana	Revised Phase II Rules effective November 26, 2003[34]	Revised Phase II Rule effective August 6, 2003.[35]
Michigan	Industrial: Permits are issued by cycle year watershed – each permit varies as to when it is valid.[36] Construction: Phase II implemented, but note that 1-5 acre sites are automatically covered when they obtain an SESC permit (they do not need to submit an NOC like 5+ acre sites).[37]	Watershed-based general permit issued December 5, 2002. General permit based on six minimum measures issued February 25, 2003.[38]
Minnesota	Industrial: Draft of Phase II permit (new permittees apply subject to draft permit).[39] MPCA now in process of considering public comments to this draft permit; Phase I previously permitted entities should operate subject to the conditions of the expired permit.[40] Construction: Final Phase II permit for construction issued August 2003[41] Note: Minnesota has not altered the underlying state rules yet. MPCA is only in the initial stages of Phase II rulemaking.[42]	MPCA issued a permit effective March 10, 2003, but Minnesota Court of Appeals remanded May 6, 2003.[43]
Ohio	Phase II industrial permit (with no exposure provisions) effective August 1, 2000.[44] Final Phase II permit for construction effective April 21, 2003.[45]	Phase II Rules effective June 17, 2004.[46] Final general permits for Ms4s issued.[47]
Wisconsin	Phase II rule effective August 1, 2004.[48]	Phase II rule effective August 1, 2004.[49]

Storm Water Permitting and Enforcement

The dominant characteristic of the states' storm water programs is that the vast majority of permittees are self-regulated. Most sites submit notices of intent to be covered under state general permits (as opposed to site-specific individual permits), and then are expected to follow flexible site-specific storm water pollution prevention plans (SWPPPs) and best management practices (BMPs).

The effectiveness of flexible requirements such as BMPs to control storm water pollution is a matter of contention, and, unfortunately, there is no state data that measures the effectiveness of these practices beyond anecdotal evidence.

On one hand, contaminated storm water is a point source discharge required to be controlled under the NPDES program. Yet, on the other hand, states and EPA treat storm water pollution in a decidedly non-regulatory fashion. Supporters of the self-policing system point to the huge universe of regulated entities—thousands of known sources and perhaps many more as yet unidentified—which makes traditional permitting and enforcement impractical. Advocates for stronger storm water programs point out that flexible standards based on best management practices instead of effluent limits are nearly impossible to enforce. Once a rule or general permit has been adopted, the state programs are basically a rubber-stamp administrative process, with little transparency, no public input, and no chance that state program staff could inspect even a fraction of permittees.

States Face Challenges Defining the Universe of Covered Sites

One of the primary challenges that EPA and the states face in controlling storm water pollution is simply getting a handle on the "universe" of all those who should be covered under the program. In 2003, EPA reported that out of all of the sites required to have a storm water permit, only about half of industrial facilities and

one-third of construction sites have a permit.[50]

EPA's estimate for construction sites is especially troubling. Roughly 32 percent of all construction "starts" which should be covered by a storm water permit are, in fact, permitted. EPA estimates that the Phase I regulations apply to roughly 62,755 construction starts annually. Yet, based on the number of reported notices of intent provided to EPA by 45 of 54 states and territories, and estimates based on annual averages for those states and territories that did not provide EPA data, the agency estimated that only 19,856 construction starts were permitted under the Phase I storm water regulations across the U.S. in 1999.[51]

Poor permit coverage for construction sites under Phase I permits may signal a problem for the nascent Phase II program, since Phase II construction sites, which are smaller (one to five acres), will be even harder to track and more difficult to bring into compliance.

Industrial non-construction facilities covered by storm water permits are easier to locate and track than construction sites. Even so, tracking all potential industrial permittees is challenging for several reasons. Some industries that discharge storm water to a publicly owned treatment works or a combined sewer system may not require a storm water permit. In addition, many heavy industrial facilities have storm water requirements as part of their larger individual Clean Water Act discharge permits. Finally, many industrial sites are exempted altogether from storm water permit requirements, if no industrial processes are exposed to storm water. For these reasons, both EPA and the states have had only limited success evaluating the full universe of potential industrial storm water permittees.

Illinois,[52] Ohio,[53] and Indiana[54] report that they do not regularly perform an examination of storm water permittees against any external sources (such as U.S. Census Bureau, other state agencies, or private sector databases) in order to make sure that all those entities who should be covered have applied for coverage. Without adequate comparison data to define the full universe of permittees, states are left with few options for finding sites and facilities that either do not know they need a permit, or worse, do not intend to comply with the law.

On the industrial side, there are fewer barriers to determining who should be covered. While the tools are inexact, they provide states with opportunities to get a sense of which industrial sectors may need to be targeted for additional outreach. For example, identification of facilities by standard industrial classification (SIC) codes is readily available through commercial databases, such as Dun & Bradstreet or the Harris Directory. Much of the commercially available data is based on information provided by the U.S. Census Bureau.

States have had some success using these tools to target the universe of potential industrial permittees. For example, Michigan used the Michigan Business Directory to send mailings outlining storm water requirements to approximately 17,000 businesses. Minnesota used a SIC code database to conduct outreach to industrial sectors that require permit coverage at the same time the agency issued public notice of a general permit. Wisconsin DNR used another state agency's database (the Wisconsin Department of Workforce Development's Standard Name and Address Product) to check for industrial facilities that may need a storm water permit.

While these types of data sets do not provide a fool-proof way to define the universe, they do provide a tool to help storm water program staff identify industrial sectors, or even individual facilities, that may warrant additional scrutiny. For example, an informal survey of different general permitting categories—Tier 1 (heavy industry),

Tier 2 (light industry), auto salvaging and scrap and nonmetallic mining—found 204 scrap recycling sites registered with the Wisconsin Department of Workforce Development, and 194 scrap recycling sites covered by a storm water permit. This may indicate that this sector is by and large in compliance with the requirement to obtain a permit. In industrial sectors with few facilities, such as shipbuilding and docking (SIC code 3731) and photographic equipment and supplies (SIC code 3861), the survey showed disparities between the number of storm water permits and the number of sites. While this exercise alone does not give conclusive evidence of non-compliance—a site may be exempt from storm water permitting requirements, for example—it would be relatively easy for state environmental officials to target potentially high risk industrial operations using this tool.

States continue to spend precious enforcement resources simply bringing entities into the regulatory fold, rather than checking for compliance with the terms of storm water permits. In 2003, 35 out of 57, or more than 60%, of all storm water related violation notices issued by Illinois were for failure to possess a permit.[55] In Minnesota, 7 out of the 11 administrative penalty orders in 2002 were for lack of a permit.

States Rely on Broad Outreach to Thousands of Potential Industrial Permittees

The primary way that states have attempted to bring the universe of regulated sites into compliance with storm water regulations is through public information dissemination, providing a significant amount of information for the regulated entities on web sites and through written materials. Minnesota[56] and Michigan[57] provide information to permittees explaining why it is important for regulated entities to comply. Ohio and Minnesota both reach out to state and local building associations to inform their members that they must apply for a permit.

States provide useful materials, such as Q & A documents, fact sheets and guidance. For example, Michigan offers sample pollution prevention plans, and information about their certified storm water operator program.[58]

States have also streamlined the application process to make permitting easier for applicants. For example, Ohio and Illinois have created application forms that can be filled in on-line and then printed out.[59]

Municipal Storm Water Permit Information is Well-Tracked and Publicly Accessible

Barriers to identifying covered municipalities—those with populations over 100,000—do not exist, as these municipalities are defined specifically in the regulations and are easily identifiable through Census Bureau information. A review of state and EPA Region 5 data showed that most MS4's have obtained permits. Municipal permits in several cities in Wisconsin and Illinois are pending. EPA permit data for Indiana, Michigan, and Ohio was incomplete, although these states report that all required permits have been issued. Illinois has a website showing dates of MS4 applications received and issued.

Industrial Storm Water Permit Data is Often Unreliable

In 1999, EPA estimated that Region 5 states had nearly 20,000 industrial sites covered by storm water permits. Almost all of these sites are covered under general permits. Nationwide, Michigan, Illinois, and Wisconsin are among the states with the largest number of industrial sites covered by storm water permits. See

Table 3. Unfortunately, states and EPA lack reliable and publicly accessible data, not only to track sites and individual operators, but also to track the total number of facilities covered by a permit. This means that compliance is compromised, because in order to ensure compliance state inspectors need accurate information regarding who is permitted and where the sites are located.

The vast majority of these sites are covered under general permits, with comparatively few individual permits. Yet, EPA data did not match what the states reported, making it difficult to say with any degree of certainty how many individual storm water permits actually exist. See Table 4.

In order to track the number of permittees, a state needs an accurate list of all active applications, or notices of intent. For most industrial facilities, once a site is covered, it is relatively easy to track, as long as the facility terminates coverage if it ceases operation or if it no longer requires a permit. Construction sites, on the other hand, present a challenge because construction activity is temporary. Once a site is stabilized or construction is completed a construction storm water permit is no longer needed.

Tables 5 and 6 show the number of new applications and notices of intent that the states received for sites covered under general permits or permits by rule since 1999. These numbers represent the best estimates based on data provided by the states. In most cases, we sorted state data based on the year in which a notice of intent was received by the state.

TABLE 4. INDIVIDUAL INDUSTRIAL STORM WATER PERMITS BY STATE

State	As Reported by State 2004	As Reported by EPA 2004
IL	205	1
IN	20	11
MI	244	None
MN	118	None
OH	205	None
WI	2	1

TABLE 3. INDUSTRIAL STORM WATER PERMITS – STATE TOTALS, 1999

IL	4,172
IN	1,535
MI	4,900*
MN	2,121
OH	3,282
WI	3,899
Total Region 5	19,909

Source: U.S. EPA, *Report to Congress on the Phase I Storm Water Regulations,* February 2000, page 5–3.

* Michigan reports the actual number should be 3,600.

States Do Not Review and the Public Lacks Access to Most Storm Water Pollution Prevention Plans

A permittee's storm water pollution prevention plan identifies the areas of concern at the site and explains the best management practices to control the discharge of storm water. In essence, a SWPPP is the functional equivalent to a permit.

Illinois, Minnesota, and Ohio do not require a site to submit its plan to the state environmental agency. By not requiring the submission of a SWPPP, these states forego the most basic opportunity to ensure compliance. The end result is that many regulated entities who apply for permit coverage have little incentive to actually do anything to comply. Roughly a quarter of all storm water violations documented by Illinois between 1999 and 2003 were for failure to create a storm water pollution prevention plan. See Table 7.

TABLE 5. NUMBER OF GENERAL PERMIT APPLICATIONS/NOIs – CONSTRUCTION

State	1999	2000	2001	2002	2003
Illinois	685	781	802	837	2,229
Indiana	597	747	895	1,015	1,197
Michigan	794	853	793	854	1,016
Minnesota	527	914	903	985	2,070
Ohio	1,097	1,080	990	1,055	2,025
Wisconsin	288	397	482	572	1,464

TABLE 6. NUMBER OF GENERAL PERMIT APPLICATIONS/NOIs – INDUSTRIAL (NON-CONSTRUCTION)

State	1999	2000	2001	2002	2003
Illinois	108	107	76	108	166
Indiana	78	125	84	107	149
Michigan	390	769	1,173	708	503
Minnesota	2,052	313	112	90	27
Ohio	*	1,244	954	191	166
Wisconsin	297	605	663	675	744

* No NOIs accepted in Ohio in 1999, due to expired permit.

Some Great Lakes states exercise varying degrees of oversight of SWPPPs. Currently, Indiana requires local Soil and Water Conservation Districts to examine and approve the plans before issuing a permit.[60] In Michigan, construction permit plans are submitted as part of the terms of the concurrent soil erosion and sedimentation control (SESC) permit.[61] Wisconsin does not require a submittal of a full plan, but does require submittal of a plan summary by industrial sites.[62]

By failing to obtain regulated sites' plans, states not only lose a critical compliance opportunity, but also cut out public participation. An important component of the Clean Water Act's NPDES permit system is that it provides for "citizen participation through the permit issuance process."[63] The permitting authority must make copies of all permit applications and permits available to the public.[64]

TABLE 7. ILLINOIS STORM WATER VIOLATIONS 1999-2003

Type of Notice	# Violations	# Violations: No SWPPP	% Violations: No SWPPP
Noncompliance Advisory (NCA)	39	13	33%
Violation Notice	167	39	23%

States Lack Resources to Inspect Most Permittees and Rely Largely on Regulated Sites' Self-Inspections

After the notice of intent is received, state programs have almost no other interaction with construction sites, and very little interaction with industrial sites. All states require construction sites to perform inspections at least once a week and after a major storm event, but the results of these inspection reports are not submitted to the agencies. This means that there is no assurance that these self-inspections actually happen.

States lack the resources and staff to inspect all the permitted sites, but have partnered with local entities—typically soil conservation agents—to fill in inspection gaps. For example, Michigan reports that it is able to inspect roughly 20 percent of all construction sites covered under its permit by rule, and many more sites are inspected by Soil Erosion Control agents. Ohio reports that it has teamed up with local soil conservation districts to conduct construction storm water oversight for the past 10 years. Illinois has a new initiative with Soil and Water Conservation Districts in which the local agents will perform site inspections.

Since 1992, Indiana has used three governmental entities (IDEM, local SWCDs, and the Department of Natural Resources) to implement the storm water construction site permit program. The soil and water conservation districts and DNR have authority to review plans and inspect sites. This relationship has extended into the implementation of Phase II of the storm water program.

According to Minnesota program staff, the state has initiated a pilot project in which local SWCD agents will compare building permits to a Minnesota Pollution Control Agency list of permitted sites, and then perform inspections in exchange for a pilot grant. Minnesota will provide grants not only to the SWCDs, but also to cities and counties in high growth or "special waters" areas.

Michigan's construction sites are simultaneously covered by a soil erosion permit and storm water permit, and a number of the tasks are delegated or performed in conjunction with soil erosion agents. Michigan storm water program staff report that soil erosion agents, who number in the hundreds, are better able to inspect sites and remind permittees that they must be covered by a storm water permit.[65]

Another important way that states fill in the gaps that result from inability to inspect sites—both industrial and construction—is by responding to complaints from the public. With limited state staff and resources, the public is often the agencies' eyes and ears in the field. All the Great Lakes states report that storm water inspections are largely complaint-driven. Ohio EPA inspectors respond to most citizen complaints, although a more formal complaint investigation procedure occurs under the state's "verified complaint" law, which requires a person to submit a sworn affidavit.[66] This system provides a valuable tool for some citizens to get a formal agency response.

Many Regulated Sites Lack Incentives to Notify the State When it is Time to Terminate Permit Coverage

All states require regulated entities covered by a general permit to notify the state when coverage no longer applies. For industrial sites, termination of coverage is necessary if, for example, a facility ceases operation or changes its processes in such a way that industrial activities no longer come in contact with storm water. For construction activity, a site should terminate its coverage once a construction project is complete, or once a site is "stabilized."

One reason that databases containing lists of permitted entities are inaccurate

and outdated is that there is little incentive for many sites to notify the state when they have ceased operations or stabilized a site. As with all other aspects of storm water programs, terminations are left up to the regulated entities; unless a permittee informs the state that it no longer requires coverage, the state usually has no way of knowing if coverage is needed. The result is that compliance efforts can be frustrated, because the state may not even know which sites to inspect. This problem is especially true for construction sites, and less of an issue for other—more permanent—industrial sites.

While some states—Indiana, Michigan, Minnesota, and Wisconsin—assess an annual storm water permit fee for industrial sites, only Illinois assesses an application fee and an annual fee for all industrial (including construction) sites.

In Indiana, program staff report that termination notices are generally submitted by industrial facilities, because they avoid paying an annual fee once they terminate coverage. A site operator simply submits a letter with the reason for the termination and the effective date, and then the agency has 60 days to accept, deny, or request an inspection.[67]

As in Indiana, industrial permittees in Michigan must submit a letter to DEQ in order to terminate coverage. However, unlike Indiana, Michigan program staff report industrial permits will only be terminated after an inspection by the DEQ which results in a finding that there is no need for a permit.

As in the other states, Michigan construction sites are required to submit a notice of termination when they no longer need permit coverage.[68] However, many construction sites in Michigan may not comply with this requirement because they feel it is duplicative with requirements of a Soil Erosion Sediment Control (SESC) permit. Michigan requires an SESC permit in order to be covered under the storm water permit by rule. When the SESC permit terminates, so does storm water permit coverage. Therefore, construction sites may be technically in compliance, but without notifying DEQ. The end result is that the state may not get notice of termination, even when construction sites are attempting to comply and may be in compliance with local soil erosion rules.

"Informal" Enforcement Actions are Often Untracked and Unreported

Enforcement discretion for state inspectors is useful, and informal compliance tools, such as verbal warnings, make sense in many instances, because the bottom line is to bring sites into compliance as quickly as possible to avoid pollution. However, these tools become meaningless when they are not backed up with stronger ones, such as monetary penalties. In addition, when informal warnings are not tracked and reported, the state and the public have no way of measuring the success of the program, and repeat violators may go unnoticed.

Tables 8–13 show enforcement activity reported by the states. Comparing state actions presents a challenge because each state tracks and reports differently. In addition, some states had difficulty providing comprehensive storm water enforcement data.

In many cases, informal warnings have no penalties or more serious consequences associated with them. Examples include Michigan (notice letters), Minnesota (warning letter), Ohio and Wisconsin (notice of noncompliance). While some violations which are first addressed informally become the subject of subsequent formal actions, most are never reported or tracked by the states.

Indiana provided construction enforcement information, and reported that there are only two industrial storm water cases. Indiana is likely significantly under-counting storm water violations, because the state does not track informal

TABLE 8. ILLINOIS STORM WATER ENFORCEMENT ACTIONS

Year	Non-compliance Advisory (NCA)	Notice of Violation	Notice of Intent to Refer (NOIR)
1999	1	6	3
2000	6	16	11
2001	7	70	10
2002	10	18	5
2003	15	57	16

TABLE 9. INDIANA CONSTRUCTION STORM WATER ENFORCEMENT ACTIONS

Year	Compliance Letter*	Notice of Violation	Final Order
1999	120	14	17
2000	111	23	28
2001	109	16	22
2002	140	15	17
2003	88	27	18

* State does not formally track these, however, program staff were able to supply data and report that Indiana intends to track this information in the future.

TABLE 10. MICHIGAN STORM WATER ENFORCEMENT ACTIONS

Fiscal Year	Notice Letter	Notice of Non-compliance	Administrative Order
1999	364	11	1
2000	168	11	3
2001	115	20	46
2002	253	18	2
2003	245	11	1

TABLE 11. MINNESOTA STORM WATER ENFORCEMENT ACTIONS*

Year	Notice of Violation	Administrative Penalty Order	Stipulation Agreement
1999	5	2	1
2000	15	16	0
2001	10	12	4
2002	15	11	7
2003	16	16	9

* According to MPCA staff, specific storm water enforcement activity is not readily available from state database. MPCA's industrial storm water program is integrated with other programs including other industrial point sources and hazardous waste.

TABLE 12. OHIO STORM WATER ENFORCEMENT ACTIONS

Year	Administrative Order*	Attorney General
1999	4	1
2000	1	0
2001	2	2
2002	2	2
2003	5	0

* Ohio EPA Director's Final Findings and Orders ("DFFO")

TABLE 13. WISCONSIN STORM WATER ENFORCEMENT ACTIONS

Year	Notice of Violation	Referral to Attorney General
1998	18	4
1999	34	4
2000	72	2
2001	60	2
2002	37	3
2003	32	2

compliance letters, which is the main tool that inspectors use to bring a site into compliance before initiating formal enforcement action. According to Indiana, compliance letters can be issued by either IDEM or DNR based on the nature of the violation.

Minnesota's storm water enforcement data for industrial permits is integrated with all other point source discharges. Minnesota was able to provide information on construction storm water violations, but the data likely includes other industrial violations.

Ohio EPA reports that while it has consistently tracked formal storm water enforcement actions, it has not consistently tracked the more commonly used compliance tools like inspections and letters of noncompliance. As shown in Table 8, "formal" enforcement actions (referral to the Attorney General and agency administrative orders) are not very common and, therefore, present only a narrow view of the state's compliance efforts.

Wisconsin program staff acknowledge that data collection for violation notices is spotty, and that notices of noncompliance (NONs), which can be in the form of a warning letter, a face to face meeting, or a phone call to a site, are not tracked at all. These informal notices represent the bulk of all enforcement activity; state agency staff report that there are about six NONs for every one notice of violation. It is not mandatory for inspectors to enter violation notices into a database, and inspectors typically maintain their own files and have their own tracking systems.

Key Clean Water Act Requirements are Unenforced

The Clean Water Act requires dischargers to comply with both "technology-based" and "water quality-based" standards. Technology-based standards, or effluent limitation guidelines, establish the maximum degree of effluent reduction economically achievable for a particular industry. EPA has expressly declined to set effluent limitation guidelines for construction and development, based on the tortured reasoning that *if* all construction sites complied with existing storm water rules—a scenario that even EPA admits is far from the reality—then stricter standards would be unnecessary.[69]

EPA's failure does not let states off the hook; state permit writers must still follow the Clean Water Act. When there is no applicable effluent limitation guideline, the permitting authority must exercise its best professional judgment to set technology standards for each permit on a case-by-case basis.[70] This means that the Great Lakes states can, and indeed should, adopt effluent limitation guidelines to protect the integrity of their waters.

Another key component of the Clean Water Act requires the permitting authority to set water quality standards, or goals for specific water bodies.[71] These standards must include an "anti-degradation policy," which means that they must be sufficient to maintain existing uses (*e.g.* swimming, drinking, fishing), and prevent further degradation. Different types of water bodies get different levels of protection, depending on their quality. For example, Outstanding National Resource Waters, also known as "Tier 3" water bodies, receive the highest level of protection.[72] Waters that have been identified by the state as "impaired" under Section 303(d) of the Clean Water Act are to receive "no new discharge."[73]

Both states and EPA have long neglected the law's anti-degradation requirements, essentially turning a blind eye to "new dischargers" in both impaired and pristine watersheds. Storm water general permits compound the problem, because growing cities and new construction mean new discharges, more pollution, but little oversight. In 2003, a Minnesota court determined that the Phase II MS4 permit violated that state's

anti-degradation policy because it failed to account for the "new discharges" that go along with population growth.[74]

Opportunities Exist for Targeted Enforcement to Prevent Storm Water Pollution

One enforcement opportunity is for states to use their water quality assessments—the biennial reports required under federal law—which are intended to show which water bodies are impaired and what is causing the pollution. These assessments form the basis for a state's 303(d) list, or list of impaired waters. While state monitoring and assessment of water quality is limited, it provides a basic framework to identify watersheds that are most impacted by uncontrolled storm water.

These assessments should point inspectors to high risk areas that warrant enforcement attention. For example, in 2004, Illinois reported that siltation impaired 2,343 stream miles. Illinois also reported that construction impaired 46 inland lakes, and urban runoff/storm sewers impaired 80 inland lakes.[75] Indiana reported that urban runoff/storm sewers impaired 649 stream miles in 2004.[76] In Michigan, sedimentation caused 536 miles of river impairments.[77]

Another opportunity for targeted enforcement and compliance efforts is county growth data. Fourteen of the nation's top 100 fastest growing counties are located in Region 5 states.[78] Population growth often goes hand in hand with construction and urban sprawl, which results in added threats from storm water pollution.

EPA can offer the states a regional approach to compliance, by helping states identify large regional companies or repeat violators. Tracking repeat violators on a regional basis may be a challenge in the construction sector, because the states vary in their requirements as to who is responsible for obtaining a permit. Ohio requires the "operator" to apply for permit coverage, while Illinois, Indiana,

TABLE 14. FASTEST GROWING COUNTIES IN REGION 5 STATES

National Rank	Geographic Area	Percent Increase in Population from April 1, 2000 to July 1, 2003
10	Kendall County, IL	22.0
15	Scott County, MN	21.3
16	Delaware County, OH	20.7
21	Hamilton County, IN	18.7
33	Will County, IL	16.8
40	Shelburne County, MN	15.9
52	Warren County, OH	14.7
62	Hendricks County, IN	14.2
64	Wright County, MN	13.9
75	Kane County, IL	13.1
76	Isanti County, MN	13.1
84	St. Croix County, WI	12.7
90	Carver County, MN	12.5
92	Chisago County, MN	12.3

Michigan, and Wisconsin require the landowner to apply for permit coverage. Minnesota requires both the owner and operator to apply for permit coverage, although they are responsible for different aspects of the permit. The result is that in most of the Great Lakes states, an "operator" who repeatedly fails to implement an adequate SWPPP may be hard to identify because the states primarily track the permit by landowner.

Finally, many large retail chains, often called big-box stores, are known for expanding their reach into new markets by constructing new stores. Ensuring compliance with storm water requirements among these major players goes a long way. EPA and the Department of Justice have targeted large retailers with multiple sites in order to maximize compliance. An example is the Wal-Mart multi-state storm water enforcement action, in which Wal-Mart has committed to a comprehensive environmental management plan to increase compliance at each of the store's construction sites.[79]

Recommendations

1. States Should Use Available Tools to Define the Universe of Regulated Sites

EPA estimates that of all the sites required to be covered under the storm water program, only about half of industrial facilities and one-third of construction sites are permitted. Poor permit coverage for construction sites signals a problem for the nascent Phase II program, since small construction sites (one to five acres) will be even more difficult to identify and bring into compliance than sites covered under Phase I.

Use Comparison Data for Industrial Facilities

States should use any available comparison data—whether it is Census Bureau data, other state agencies, or private sector databases—to help define the universe of construction and industrial sites. Although not a silver bullet, these tools provide states with opportunities that would complement their current outreach efforts.

For industrial facilities, information is available through commercial databases, such as Dun & Bradstreet or the Harris Directory. Michigan's use of a state Business Directory to send mailings to roughly 17,000 businesses, and Minnesota's use of a standard industrial classification database to conduct outreach to certain industry sectors are two examples where states have creatively sought to define the universe of permittees. Wisconsin has shown that utilizing other state agency information (in this case, a Wisconsin Department of Workforce Development product) can be a useful way to check for industrial facilities that may require a storm water permit.

Continue Partnerships with Local Authorities for Construction Sites

For construction sites, states should consider relying on local authorities who are already conducting building inspections or issuing soil conservation permits, to identify sites that require storm water permits. Wisconsin recently made it

possible for municipalities to take over storm water permitting of construction sites.[80] States should carefully follow Wisconsin's progress and consider delegating construction storm water responsibilities to local government entities, which may already be performing similar duties.

2. EPA and States Should Improve Industrial/Construction Storm Water Permit Tracking and Make the Data Publicly Accessible

State inspectors need accurate information regarding who is permitted and where the sites are located, because unreliable permit data compromises a state's ability to ensure compliance. One reason state permit databases may be inaccurate is that many sites fail to notify the state that they have ceased operations or completed construction. Unless a permittee informs the state that it no longer requires coverage, the permitting authority usually has no way of knowing if coverage is needed.

EPA Region 5 Can Provide Oversight and Help Standardize Basic NOI Information

EPA Region 5 should provide oversight to the state programs by collecting information from the states on a regular basis and assisting the states in compiling their permit/notice of intent data. EPA should increase the use of its Permit Compliance System (PCS) database and make it mandatory for states to report basic information regarding their general permits. Unless all the states submit basic permit information to EPA, the value of its PCS database is highly questionable.

Strengthen Efforts to Ensure that Storm Water Permittees Submit Notices of Termination

States should enforce the termination provisions in their permits and rules. For construction sites, the states' permit applications or notices of intent require a permittee to declare the anticipated end date of construction. States should conduct periodic checks of permit databases for construction projects that should be completed, in order to identify sites which should be inspected and to remove sites listed in the database if they have terminated. Further, states should consider automatic permit termination for construction sites after an appropriate period of time, unless a permittee submits a written request for continuing coverage.

In addition, states should consider revising their storm water permit fee structure so that industrial and construction permittees pay an annual fee instead of just a one-time fee, because an annual fee will act as an incentive for sites to notify the state when they have ceased operation or stabilized a construction area. This fee structure is already in place in Illinois.

Public Access to Permit Information is Required Under the Clean Water Act

States should increase the level of information available to the public about current permittees. This improvement would allow the public to play a stronger role in compliance. One way states can provide information to the public is on agency web sites. Illinois, for example, publishes notices of intent on its web site, giving members of the public an easy way to know if a site or facility of interest to them is covered under a permit.

3. States Should Strengthen Oversight of Storm Water Pollution Prevention Plans

Individual permittees' SWPPPs are the core of a state's storm water program because the plans identify the areas of concern at the site and lay out the management practices that will be implemented to control the discharge of storm water. Yet, all the Great Lakes states do not require the plan to be submitted to the storm water permitting authority. The result is that state officials have no way of knowing whether regulated entities who apply for permit coverage are actually doing anything to comply with the requirements.

Minnesota and Ohio do not require a site to submit its plan to the state environmental agency. Illinois requires notification that a plan has been completed before construction begins. Indiana requires local soil and water conservation districts to review the plan. Wisconsin requires submittal of a plan summary. Michigan requires a plan to be submitted as part of a construction site's soil erosion and sedimentation control permit.

Permittees Should Submit Their SWPPP to the State Oversight Agency

All the states should require sites covered by a storm water permit to submit their pollution prevention plans. At a minimum, states should require submittal of a plan summary, to ensure that sites are doing more than simply sending in a notice of intent to be covered by a permit without taking any steps to comply.

State inspectors will not be able to review each plan due to the large number of permittees. The purpose of submitting a SWPPP should not be to make the agency staff review each plan, especially in those states where another entity, such as a local soil erosion district, is conducting a review. Instead, submitting a plan will help ensure that permittees actually take the step to create a plan. In addition, the public will have better access to these documents, which are in essence the functional equivalent of a permit.

Building Inspectors Should Issue a Stop Work Order if a SWPPP is Not Being Implemented

Developers and builders pay close attention to local building and zoning requirements and are accustomed to interacting with building inspectors. For construction sites, local building permits should not be granted unless a builder shows proof of a storm water pollution prevention plan. Local inspectors should issue a "Stop Work Order" if a plan has not been adopted or is not being followed.

4. The Public Should Demand That Storm Water Permits Comply with all Clean Water Act Requirements

Despite EPA's claim that storm water pollution prevention is a national priority, the federal government has backed away from meaningful support for state programs. In April 2004, EPA expressly declined to set effluent limitation guidelines for construction and development. If implemented, these technology-based measures would give state and local agencies stronger and more enforceable pollution standards.

Even though EPA has failed to act, states must still follow the Clean Water Act. States should adopt effluent limitation guidelines for the construction and development sector. In the absence of these guidelines, permit writers should use their best professional judgment to set technology standards for each permit on a case-by-case basis.

States should make the Clean Water Act's anti-degradation requirement a meaningful part of their water quality standards, and issue no new storm water permits that allow discharges that would further degrade lakes and streams. If state permitting authorities continue, with EPA's blessing, to shirk this responsibility,

then citizens should use all the available tools, including citizen lawsuits, to force their environmental officials to issue permits that comply with *all* applicable Clean Water Act requirements.

5. States Should Seize Opportunities to Improve Compliance Through Targeted Enforcement

States lack the resources and staff to inspect each of the thousands of storm water permittees. One way that states fill this gap is by responding to complaints from the public. States also use enforcement discretion and informal compliance tools, such as verbal warnings, to achieve compliance efficiently. Self inspections by the regulated sites are not intended to replace state agency inspections, but are an important component of storm water compliance. Yet, these tools become meaningless when they are neither tracked nor backed up with stronger measures, such as monetary penalties, when permittees fail to comply.

Inspection Efforts Should be Responsive to the Public

With limited staff and resources, the public are often the agencies' eyes and ears in the field, and all the Great Lakes states report that storm water inspections are largely complaint-driven. Therefore, states should continue to make use of complaint-based inspections as a way to respond to public concern and promote compliance.

Regulated Sites Should Submit Inspection Reports

For construction sites, all of the Great Lakes states require self-inspections at least once a week and once after a major storm event, but the results of these inspection reports are not submitted to the agencies. This means that there is no assurance that self-inspections actually happen.

States should require sites to submit all self-inspection reports and summaries, even if they are simply logs of when the inspections took place. Without this requirement, state agencies have no way of knowing whether sites are complying with the law.

Improve Tracking and Reporting of "Informal" Enforcement

In general, all the Great Lakes states should continue to track storm water enforcement actions, in order to evaluate widespread compliance issues, identify sectors that need heightened attention, and identify repeat violators. States should improve data collection on a statewide level, particularly for information on inspections and early enforcement actions, to ensure that enforcement is consistent across the state.

States should pay special attention to informal warnings. These activities are part of the compliance process and, in fact, represent the bulk of storm water inspectors' enforcement activity. Examples include Michigan's notice letter, Minnesota's warning letter, and Ohio's and Wisconsin's notice of noncompliance. While some violations which are first addressed informally may become the subject of subsequent formal actions, most are never reported or tracked by the states. Indiana should require inspectors to report all violations, including those resolved through compliance letters or other informal means. Wisconsin should track notices of noncompliance, whether they are a warning letter, a face to face meeting, or a phone call to a site.

Conduct Watershed and Sector-Based Enforcement

Great Lakes states should use their biennial water quality assessments to identify watersheds that warrant special enforcement and compliance attention.

States such as Illinois and Indiana have identified urban runoff/storm sewers as the cause of numerous lake and

river impairments. These specific water bodies may warrant additional scrutiny by storm water permitting and inspection staff.

Another way states could target enforcement activity is through county growth data. Population growth often goes hand in hand with construction and urban sprawl, which results in added threats from storm water pollution.

Finally, states and EPA should work together to target large retailers with multiple sites, and to monitor large regional construction firms in order to give maximum effect to limited enforcement resources. To identify repeat violators in the construction sector, who may operate in more than one state, EPA Region 5 should work with the states to resolve information gaps that occur as a result of different state requirements as to which entity (owner or operator) must apply for permit coverage. Enforcement efforts aimed at large operators will improve compliance at multiple sites and also send a signal to smaller operators who may be unaware of regulations or unwilling to comply.

NOTES

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