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Message from the Chair

By Dustin P Ordway

I would like to introduce our new Section Administrator, Brian Figot. Brian is an attorney and has long experience serving as the administrator of the Federal Bar Association for the Eastern District of Michigan. He comes to us highly recommended and has quickly taken up the mantel of Section Administrator. Please feel free to contact Brian if you need assistance. I am sure you will find him helpful. Many thanks to our departing Administrator, Joan O'Sullivan, for the great work she did for us during her tenure of over a year.

As part of our effort to focus on ways to support our committees better in providing value to Section members, the Council will hold a retreat in Lansing on March 5, 2013. If you have any questions or suggestions regarding our committees, please contact me. There is summary information on each committee on our website. And do not hesitate to contact a committee chair to become involved today.

Thanks are due to many of our members for achievements this year. Kurt Kissling has worked with Lee Johnson to ensure a smooth transition in the leadership of the Air Committee, as well as putting together another outstanding fall program with the A&WMA. Chuck Barbieri chaired an ad hoc committee to evaluate our Section's use of its funds. Several of the committee's recommendations have already been considered and adopted by the Council. The Council is (a) considering ways to work with ReLeaf Michigan to support tree plantings that benefit communities across the State; (b) exploring preparing an issue of the State Bar Journal dedicated to environmental law with the SBM officials who handle the Journal; and (c) working on a Legal Milestone on an environmental case or cases of importance. Most important, members of the Section have stepped forward and offered to lead these initiatives. And this is just a sampling of work accomplished by many council members, committee leaders and others who are involved.

We have multiple upcoming events, including a webinar on *The Lender's Perspective on Borrowers, Lawyers, and Environmental Risks* on February 19 at noon, and a joint conference with MMA on April 11 titled *Emerging Air Quality Laws and Policies: What's on the Horizon in Michigan* at the Lansing office of the Michigan Manufacturers' Association. And watch for a section conference in Lansing in June. Additional webinars and conferences will occur during the year. And our Membership Committee is in the process of organizing mixers for Section members to gather, relax and meet interested law students.

As always, do not hesitate to contact me or any Council member with your expression of interest in becoming involved or with questions or feedback for us.

Dustin P. Ordway, Chair
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Upcoming Events

February 19, 2013

Teleconference: The Lender's Perspective on Borrowers, Lawyers, and Environmental Risks
Hear a banker's perspective on what a bank needs from its environmental counsel. Learn how to best help your client in dealing with its bank on an environmental issue. The speaker is Jeff Furton, vice president and assistant group manager for environmental risk management at Comerica. Jeff is also a committee chair for the Legal/ASTM group of the Environmental Bankers Association. The webinar is presented, at no cost to section members, by the Hazardous Substances and Brownfields Committee. Register online now or e-mail Brian Figot at brian@attorneywordsmith.com to register.

April 11, 2013

Emerging Air Quality Laws and Policies: What's on the Horizon in Michigan
The 4th Annual Conference co-sponsored by the Air Committee of the Environmental Law Section and the Michigan Manufacturers Association (MMA).

Join us at the MMA Headquarters at 620 S. Capitol Ave., Lansing, for a half-day program featuring updates on the most urgent environmental regulatory issues facing Michigan companies. Experts from government, industry, advocacy groups, technical consultants, and the legal profession will address the latest developments and what to expect. Lunch will be provided.

Topics to be discussed: (speaker line up coming soon)

- ORR Air Initiatives (panel discussion)
- National Ambient Air Quality Standards (NAAQS) (panel discussion)
- Legal Update on Prominent Air Cases and Regulations
- EPA Lunch Keynote

Online registration starts March 28, 2013. Pre-registration and pre-payment required.

Questions regarding registration may be directed to MMA's LeAnn Hicks at (517) 487-8557 or (800) 253-9039, press 9 and ext. 557, or hicks@mma-net.org.

Watch the Section's web page for updates regarding these and other events currently in the planning stages!

A "Lame Duck" Can Make a Big Splash: Michigan Legislative Changes to Environmental Cleanup of Contaminated Sites and Leaking Underground Storage Tanks

By Tammy Helminski, Charles Denton, and Kenneth Vermeulen, Barnes & Thornburg LLP

While many Michigan newspaper headlines in December 2012 were focused on the Right-to-Work legislation, Michigan's "lame duck" legislature was faced with scores and scores of other bills. Of importance to environmental practitioners, Public Act 446 enacted changes that affect environmental cleanup of contaminated sites and leaking underground storage tanks. Following the amendments made to the Natural Resources & Environmental Protection Act (NREPA) Part 201 (environmental remediation) in December 2010 and the Part 213 (leaking underground storage tanks) in May 2012, Public Act 446, signed by Governor Snyder on December 22, 2012, makes further changes to Michigan's program to cleanup contaminated sites.

Many of these legislative reforms are the result of the recommendations from the Environmental Rules Advisory Committee organized by the Michigan Office of Regulatory Reform and the MDEQ Collaborative Stakeholder Initiative, such as clarifying the regulation of soils relocated within a contaminated site, the ability to get a Certificate of Completion and the ability for the MDEQ to make "due care" determinations.

The main clean-up reforms from the MDEQ's January 2, 2013, Highlights of the Changes to Michigan's Cleanup Programs are summarized below.

Relocation of Contaminated Soil

The revised statute exempts relocated soil from the definition of "solid waste" under Part 115 and exempts it from the definition of a "release." This change now allows contaminated soil to be relocated from or within a site if it will not pose a threat to health, safety, welfare or the environment, and it cannot be relocated to a location that is not a facility. Previously, relocation of contaminated soil was prohibited without MDEQ approval as part of a remedial action plan. Prior MDEQ approval is required for off-site relocation under certain conditions. The statute also allows soil relocation onsite, so long as the owner complies with their Section 7a "due care" continuing obligations.

Certificates of Completion

A person may now apply for a "certificate of completion" after a response activity has been conducted. This is likely most beneficial for a specific investigation or interim response action, to provide proof that the work was satisfactorily completed. For more significant remedial actions, parties will likely pursue a No Further Action (NFA) determination as discussed below. If a person had undertaken the response activity without MDEQ's prior approval, then the MDEQ has 150 days to make a completion determination. If the MDEQ pre-approved the response activity, then the deadline for the determination is shortened to 90 days. Like with other requests to the MDEQ, such as for a NFA determination, MDEQ's decisions are appealable to

the Response Activity Panel, and if the MDEQ does not issue a written decision within the given statutory timeframe, then the application is considered approved.

Scope of No Further Action Requests

The statute now clarifies that "no further action" (NFA) requests can be brought by either liable or non-liable parties, and most significantly provides that NFA requests do not have to be made for a whole facility, for all media, and for all pathways. The statute now allows NFAs to be requested based on a particular release, a specific hazardous substance(s), one media (e.g., groundwater only), part of a facility, or any combination thereof. This provides greater flexibility to persons conducting clean-ups, and some positive reinforcement for completed remedial actions. Of course it is expected that MDEQ determinations on partial NFAs will appropriately reserve the Department's rights as to any remaining contamination.

Indoor Air Criteria

Previously, if the volatile compound (like TCE) at issue for the environmental response action was also still being used in the facility, parties were faced with a situation where Part 201 cleanup criteria might be competing with MIOSHA standards. To eliminate the duplicative and potentially inconsistent criteria, a person can now demonstrate compliance with Part 201 indoor air criteria by using the MIOSHA standard, regardless of whether the substance is actually still used in the manufacturing process. To do so, though, the facility has to be in one of the North American Industry Classification System (NAICS) manufacturing sectors (sectors 31-33) and the hazardous substance must be included in the facility's hazard communication program.

Due Care Determinations

To accommodate certain lending scenarios where a person is required by a lender to obtain agency approval of Section 7a "due care" continuing obligations at a property (such as with loans from the Small Business Administration), the recent revisions now provide a mechanism for the MDEQ to conduct a review and provide this approval. Importantly, MDEQ is required to provide its determination within 45 business days. If the MDEQ declines to provide approval, its decision is appealable to the Response Activity Review Panel. This "due care" documentation approval procedure is provided for under both Part 201 and Part 213.

Flexibility for UST Corrective Action

The new revisions to Part 213 confirm that an owner or operator may choose whether to fulfill its corrective action obligations under Part 213 or Part 201, in the circumstance where a release or threat of release is not solely from USTs. These reforms also allow venting groundwater (GSI) issues to be handled under the June 2012 Part 201 legislative changes that addressed the groundwater—surface water interface (GSI) clean-up criteria.

Clarification of Liable/Non-Liable Parties Under Part 213

The new amendments to Part 213 clarify terminology throughout the leaking UST statute to distinguish which provisions apply to all "owners and operators," and which provisions only apply to those who are liable for cleanup.

Other Statutory Changes

- The MDEQ's deadline for revising cleanup criteria administrative rules is extended until December 31, 2013.
- The statute rescinds all rules promulgated under Part 201 except a portion of the Part 7 rules related to establishing generic cleanup criteria and screening levels.
- There are new provisions for how a person may demonstrate "background" concentrations for a hazardous substance, to avoid or minimize remedial actions for naturally-occurring substances.
- The new provisions clarify that site-specific criteria may be numeric or non-numeric.
- The exclusion from the definition of "release" for the application of pesticides has been changed to say pesticides are excluded if applied per the methods developed "under the Right to Farm Act."
- A person who owned or occupied a residential condominium unit is now exempt from strict (no-fault) liability for contamination, under certain circumstances.
- The provision of an alternate water supply is now included in the definition of "response activity."
- The statute clarifies that parties who are exempt from liability under Part 213 are not liable for claims for corrective action costs, fines or penalties, natural resources damages or equitable relief under Part 17, Part 31 or common law.
- The statute rescinds all PCB regulations under Part 147 (R 299.3301 to R 299.3319).

These are likely not the last revisions that will be made to Part 201. Other areas anticipated for discussion include the allowance of a permit exemption for sites undergoing response activities and the reference to screening levels instead of cleanup criteria. Additionally, the MDEQ seems open to discussing other changes that may arise to respond to problems and issues encountered during the implementation of these new statutory provisions.

Michigan Supreme Court Rules Municipalities are Responsible for Discharges of Raw Sewage by Their Residents into State Waters

By Neil D. Gordon, Assistant Attorney General, State of Michigan

On May 17, 2012, the Michigan Supreme Court ruled that a municipality can be held responsible for raw sewage discharged into state waters by private parties within the municipality's borders under Part 31 of the Natural Resources and Environmental Protection Act (NREPA), MCL 324.3101 *et seq*. *Department of Envtl. Quality v. Worth Twp.*, 491 Mich 227 (2012). The Court thereby reversed a 2010 ruling from the Court of Appeals (*Department of Envtl. Quality v. Worth Twp.*, 289 Mich App 414 (2010)), which had interpreted Section 3109(2) of NREPA (MCL 324.3109(2)) to preclude a municipality from being held liable for such discharges.

The case arose from contamination of surface waters from failing septic systems on private properties in Worth Township, along the shore of Lake Huron. Many of the properties were originally built as summer cottages and have been converted into year-round residences. Septic

systems in the Township are old, undersized and failing, resulting in raw human sewage from toilets, showers, and sinks being discharged into streams and ditches that lead to Lake Huron.

In 2004, the Township agreed to construct a municipal sewerage system, but did not build it, citing a lack of funds. The Department of Environmental Quality (DEQ) then filed a complaint seeking injunctive relief to require the Township to halt the discharges.

The trial court granted DEQ's motion for summary disposition. It ordered Worth Township to take necessary corrective measures within a specific time frame and pay fines in the amount of $60,000 and attorney fees.

The Court of Appeals reversed. In a two-to-one decision, the majority held that under MCL 324.3109(2) a municipality is not responsible for the discharge of raw sewage into state waters when the municipality itself did not discharge the sewage. 289 Mich App at 422-24.

However, last May the Supreme Court reversed the Court of Appeals, concluding that "under NREPA, a municipality can be held responsible for, and required to prevent, the discharge when the raw sewage originates within its borders, even when the raw sewage is discharged by a private party and not directly discharged by the municipality itself." *Worth Twp.*, 491 Mich at 227. The Court's ruling was based on the language of Section 3109(2) of NREPA, MCL 324.3109(2), the context in which it is used in Part 31 of NREPA, and the historic obligation of local units of government to address the discharge of raw sewage from within their borders when the discharge is by a private party.

The Court began its analysis by examining Section 3109(1), which states that a "person" shall not "directly or indirectly discharge into the waters of the state a substance that is or may become injurious" to public health. MCL 324.3109(1). Within Part 31, the definition of "person" includes a township. MCL 324.3101.

At the heart of the case is Section 3109(2), which states that "the discharge of any raw sewage of human origin, directly or indirectly, into any of the waters of the state shall be considered prima facie evidence of a violation of this part by the municipality in which the discharge originated unless the discharge is permitted" by an order or rule of the DEQ. MCL 324.3109(2).

The Court of Appeals' majority interpreted this provision to create a rebuttable presumption that the municipality caused the discharge if it occurred within the municipality's borders. Therefore, according to this reasoning, if the municipality rebuts the presumption by showing another person caused the discharge, then the municipality has no responsibility to address it. *Worth Twp.* 289 Mich App at 417-22.

The Supreme Court rejected that interpretation. It noted that the phrase "prima facie evidence" is modified by "of a violation of this part." *Worth Twp.*, 491 Mich at 240-41. The statute means that the discharge of raw human sewage into state waters is "prima facie evidence of a violation" of the prohibition in Section 3109(1) against discharging substances that injure public

health. *Id.* In other words, Section 3109(2) creates a rebuttable presumption that the discharge of raw sewage is injurious, not that the municipality caused the discharge. A party may rebut the presumption by showing, for example, that the amount of sewage is so small that there is no injury to public health.

The Court noted that this interpretation was consistent with subsections (4) and (5) of Section 3109 (MCL 324.3109(4) and (5)). Those provisions identify other substances—medical waste and ballast water—that, when discharged, also create a presumption that they injure public health. *Worth Twp.*, 491 Mich at 243.

The Court further emphasized that Section 3109(2) does more than establish that the discharge of raw human sewage is presumptively injurious to public health—it also identifies the party responsible for the discharge "as the municipality in which the discharge originated." *Id.* at 245. Although a municipality may present evidence to rebut the presumption that the discharge of raw human sewage is injurious, the municipality is liable under Part 31 "irrespective of who actually caused the discharge." *Id.* at 241.

Chief Justice Young was the lone dissenting Justice. He would have affirmed the Court of Appeals' determination that Section 3109(2) creates a rebuttable presumption a municipality caused the discharge.

In response, the six-Justice majority stressed that "any municipality that *actually* discharges an injurious substance is already in violation" of Section 3109(1). *Id.* at 252 (emphasis in original). The dissent's interpretation "would operate solely to create a presumption" the municipality is the discharging party, "and only cases in which human sewage constitutes the discharged substance." *Id.* Although the dissent's interpretation "does not render subsection (2) entirely nugatory, it comes close. Our interpretation, on the other hand, provides full effect to the language in MCL 324.3109." *Id.* at 253.

Furthermore, the Court noted that subsection (3) of Section 3109 (MCL 324.3109(3)), reinforces the conclusion that a municipality is responsible for discharges by private parties within its borders. Subsection (3) establishes an exception to the general rule of municipal liability when the discharge is caused by a sewerage system not owned by the municipality. *Id.*

The Court also emphasized the "historical obligation of a municipality to oversee the proper disposal of sewage within its boundaries[.]" *Id.* at 241. That obligation was contained in a prior version of the statute that Section 3109(2) replaced.

Finally, the Court noted that townships have the authority to prevent the discharge of raw sewage. Among other things, townships have the power to finance, construct, and maintain a sewerage system under the Township and Village Improvements Act, MCL 41.411 *et seq*., and can enact ordinances to regulate the public health under the Township Ordinances Act. MCL 41.181. In light of townships' authority to prevent dangerous discharges of raw sewage, the Court concluded "[t]here is simply no reason why a township, as a 'municipality,' cannot be

deemed a responsible entity under the language of MCL 324.3109(2) when a discharge occurs within its borders." *Worth Twp.*, 491 Mich at 250.

The Supreme Court remanded the case for the Court of Appeals to decide two remaining arguments: (1) whether the remedial action ordered by the trial court violates the Headlee Amendment (Const 1963, art 9, § 29); and (2) whether the trial court's order establishing a schedule for corrective action, a fine, and an award of attorney fees is authorized by Part 31 of NREPA. *Id.* at 4.

On December 11, 2012, the Court of Appeals issued its opinion on remand. It concluded the trial court may, without violating the Headlee Amendment, impose a $60,000 fine, award attorney fees, and order Worth Township to comply with Part 31 of NREPA by setting a schedule within which the Township must remedy the discharges of raw sewage. *Department of Envtl. Quality v. Worth Twp.*, 2012 Mich App 2516 (Dec. 11, 2012). The Court of Appeals determined that ordering the Township to address the discharges does not violate the Headlee Amendment because, although it may be financially burdensome, it does not shift the financial burden from the state to the Township. Instead, Part 31 of NREPA continues the Township's responsibility for discharges of raw sewage that existed prior to the enactment of the Headlee Amendment on December 22, 1978. *Worth Twp.*, 2012 Mich App 2516 at *7-10. In addition, the Court of Appeals ruled that the trial court's order establishing a timeframe for the Township's compliance, imposing a fine, and awarding attorney fees is indeed within the trial court's jurisdiction under MCL 324.3115(1). *Id.* at *13.

On January 22, 2013, Worth Township filed an application with the Supreme Court seeking leave to appeal the Court of Appeals decision on remand.

Sixth Circuit Strikes Down Michigan's Unique-Mark Amendment to the Bottle Bill as Violating the Dormant Commerce Clause—Seinfeld's Kramer and Newman Come Back to Michigan

By: Brad H. Sysol, Miller, Canfield, Paddock, and Stone PLC[1]

So do you remember this one?

> [*Seinfeld* (NBC television broadcast May 2, 1996; Season 7, Episode 131)]
> [Newman finishes his soda and drops the bottle in Jerry's bin.]
> KRAMER: What're you doing [fetching the bottle from the trash]? Don't throw that away.
> NEWMAN: Well, I'm not paying the five cents for that stupid recycling thing.

[1] Brad Sysol is a principal in the Kalamazoo office of Miller, Canfield, Paddock, and Stone PLC, and focuses his practice on complex commercial and environmental litigation. He also is an adjunct professor at Thomas M. Cooley Law School, teaching environmental law and water law.

KRAMER: You don't pay five cents, you get five cents back. Here, read the label here [reads from bottle] Vermont, Connecticut, Massachusetts, New York. Refund, (brings bottle up close to Newman's eyes) vrrup, five cents.
NEWMAN: [taking bottle] Refund?
. . . .
NEWMAN: [peering at bottle label] What is this "MI, ten cents"?
KRAMER: That's Michigan. In Michigan you get ten cents.
NEWMAN: Ten cents!?
KRAMER: Yeah.
NEWMAN: Wait a minute. You mean you get five cents here, and ten cents there. You could round up bottles here and run 'em out to Michigan for the difference.

For Michigan, unfortunately, this fictional storyline was not entirely fictional. Michigan's response to it was addressed by the U.S. Court of Appeals for the Sixth Circuit in *American Beverage Ass'n v. Snyder*, 700 F.3d 796 (6th Cir. 2013).

To encourage recycling, Michigan in 1976 enacted the Michigan Container Act, MCL § 445.571 *et seq.* (the "Bottle Bill"), requiring consumers to pay a 10¢ deposit when they purchase beverages in certain types of containers (*e.g.,* cans and plastic bottles). If the consumer returns the empty container to a store for recycling, he or she receives a cash refund. As Michiganders, we know the drill. Retailers, in turn, then return the empty containers to beverage manufacturers or distributors and collect the 10¢ refund. *American Beverage* at 800-801.

As the Sixth Circuit explained, "the Bottle Bill has been successful in improving the environment by promoting the recycling of beverage containers," but the law produced two unanticipated problems: "(1) consumers deposited more money on nonalcoholic beverage containers than distributors or manufacturers paid out in refunds (underredemption); and (2) the value of the deposits collected by the distributors or manufacturers was less than the total value of refunds paid (overredemption)." *Id.* at 801. To remedy the under-redemption problem, the Bottle Bill was amended in 1989 so that "the value of unclaimed deposits escheat to the State Treasury." *Id.*

The over-redemption problem continued, however; the scenario set forth in *Seinfeld* episode 131 was a reality. As the Court noted, "the State recognized that individuals would purchase beverage containers outside Michigan and then attempt to return the beverage container in Michigan to redeem the ten-cent deposit." *Id.* According to a 1998 study, these fraudulent bottle returns in Michigan resulted in a loss of $15.6 to $30 million in deposits every year. *Id.*

In 2008, to combat this problem, Michigan further amended the Bottle Bill by requiring that "in addition to the MI 10¢ designation, containers for certain brands of beverages bear a 'symbol, mark, or other distinguishing characteristic that is placed on a designated metal container, designated glass container, or designated plastic container by a manufacturer to allow a reverse vending machine to determine if that container is a returnable container . . . .'" *Id.* (*quoting* Michigan's "Unique-Mark Amendment" to the Bottle Bill, MCL § 445.572a(10)). The mark must

be unique to Michigan, and may only be used in Michigan or other states with container refund schemes.

On February 25, 2011, the American Beverage Association filed suit in the U.S. District Court for the Western District of Michigan, claiming that the Unique-Mark Amendment to the Bottle Bill violated Dormant Commerce Clause principles. *American Beverage* at 802. Under the Commerce Clause of the U.S. Constitution (art. I, § 8, cl. 3), the U.S. Congress has the power to regulate commerce among the States. However, many potential subjects of federal regulation escape congressional attention due to the local nature of the issue. "In the absence of federal legislation [*i.e.,* preemption] these subjects are open to control by the states so long as they act within the restraints imposed by the Commerce Clause itself." *City of Philadelphia v. New Jersey*, 437 U.S. 617 (1978). In other words, the Commerce Clause, by negative implication (*i.e.,* the "Dormant" Commerce Clause), prohibits States from enacting legislation that in essence regulates interstate commerce by erecting barriers to such trade. *American Beverage* at 803.

The Supreme Court has on several occasions struck down state laws enacted to protect the State's natural resources or promote other environmental goals. *See, e.g.*, *City of Philadelphia v. New Jersey*, *supra* (striking down a New Jersey law that prohibited the importation of solid and liquid waste originating outside the state); *Chemical Waste Management, Inc. v. Hunt*, 504 U.S. 334 (1992) (striking down Alabama law that imposed a substantial additional fee on out-of-state hazardous waste being disposed of in Alabama); *Fort Gratiot Sanitary Landfill, Inc. v. Michigan Dept. of Natural Resources*, 504 U.S. 353 (1992) (striking down Michigan law that allowed counties to ban importation of waste not only from other Michigan counties, but also from outside the state); and *C&A Carbone, Inc. v. Town of Clarkstown*, 511 U.S. 383 (1994) (striking down local flow-control ordinance requiring all solid waste originating in town to pass through a local transfer station for recycling efforts).

In *American Beverage*, the district court granted summary judgment in favor of the State of Michigan, finding that the Unique-Mark Amendment to the Bottle Bill was not discriminatory against out-of-state beverage manufacturers or distributors, and that it was not extraterritorial (*i.e.,* it did not directly control commerce occurring outside Michigan). *American Beverage* at 802. The Sixth Circuit disagreed. Although it also found that the Unique-Mark Amendment was not discriminatory against out-of-state commerce, it determined that it nevertheless violated the Commerce Clause because it is extraterritorial.

In finding that the Unique-Mark Amendment was not discriminatory, the Sixth Circuit noted that it "does not distinguish between in-state and out-of-state beverage manufacturers and requires all beverage containers to follow the unique-mark requirement." *Id.* at 804. It held, accordingly, that "[o]n its face, the [amendment to the Bottle Bill] is neutral in application." *Id.* The Court also found that there was nothing to indicate that Michigan enacted the amendment to purposefully discriminate against out-of-state beverage companies to the benefit of local actors. Instead, "the statute confirms that the Michigan Legislature intended to address a significant problem," which was the scenario set forth in *Seinfeld* episode 131; the "fraudulent redemption of beverage containers purchased outside the State . . . ." *Id.* at 806. Finally, the

Court found no discriminatory effect "because all manufacturers and distributors are subject to the same provision," and thus it burdens in-state beverage companies the same as it does out-of-state actors. *Id.* at 807.

In the end, however, the Court held that the Unique-Mark Amendment was extraterritorial and thus violated the Commerce Cause. "A statute is extraterritorial if it directly controls commerce occurring wholly outside the boundaries of a State [and] exceeds the inherent limits of the enacting State's authority." *Id.* (cite and internal marks omitted). The American Beverage Association argued that the Unique-Mark Amendment "projected its regulatory regime into the jurisdiction of another state" and could cause the "destruction of the national common market through the adoption of state-exclusive product laws." *Id.* at 809-10. The Court agreed and concluded that the unique-mark requirement was extraterritorial because it "not only requires beverage companies to package a product unique to Michigan but also allows Michigan to dictate where the product can be sold," the violation of which could result in significant criminal penalty. *Id*. at 810. The Court was also critical of Michigan's failure to "explore other alternative measures" to combat the redemption fraud problem, such as requiring consumers who wish to recycle to "provide a proof of purchase receipt, which would indicate that the container was sold and purchased in the state." *Id*. at 809.

So for now, Michigan's Unique-Mark Amendment to the Bottle Bill does not stand in the way of Kramer and Newman from resuming their cross-border bottle running scheme. As Kramer would often say (with a shaking thumb pointing up in the air): "Giddy-up!"

Policy Issues Facing Michigan as We Increase Natural Gas Production

By Susan Hlywa Topp, Topp Law PLC

This article will review significant energy policy issues that Michigan will face in 2013 and beyond, especially pertaining to hydraulic fracturing and other oil and natural gas regulatory matters.

Summary of the Governor's Message on Energy and Environment

In the November 28, 2012, "Message on Energy and Environment," Governor Snyder made it clear that the State's policy decisions on energy must be based upon the following three principles: excellent reliability, an affordable price, and a protected environment. The Governor plans to implement these three energy principles by encouraging efficient production of energy and by having the State take its natural gas royalties in kind instead of in cash, made possible because of our large natural gas storage capacities. Further, the Governor proposes to upgrade our electrical transmission line infrastructure, including the electrical connection between the Upper and Lower Peninsulas. And lastly, the Governor intends to work toward the creation of a national comprehensive energy strategy, hopefully available by 2015.

With reference to the environment, Governor Snyder's Message suggested shifting away from the historic reactive approach which the Governor believes lacked overall vision. Instead, the Governor proposes adopting an ecosystem approach to guide decisions on the State's

ecological and natural assets so that such decisions will be more strategic about what we own, and why we own it. The Governor intends to apply this ecosystem strategy to the state's integrated management of land and water. As part of this strategy, the Governor proposes that Michigan create a Water Use Advisory Council to examine water use issues. In terms of hydraulic fracturing, the Governor is awaiting the report of the University of Michigan's Graham Sustainability Institute which is currently studying this issue.

How will these changes in policies on energy and environment affect the environmental lawyer? What new legal challenges will they bring? It is clear that increased natural gas production will occur, which necessitates hydraulic fracturing in the shale formations. That in turn will result in the use of more groundwater. In order to comply with the Governor's "ecosystem approach," the oil and gas industry must find a way to extract the gas without negatively impacting our groundwater resources. Otherwise, the increased production of natural gas will not conform to the Governor's three pillars/principles: excellent reliability, an affordable price, and a protected environment.

Hydraulic Fracturing or "Fracking"

The last chapter on hydraulic fracturing or "fracking" has not yet been written, but new chapters are being written daily across the United States. The oil and gas industry has used the hydraulic fracking process since the late 1940's. It is only the recent application of this technique to tight non-porous shale formations that has raised more questions about the safety of this methodology.[1] The purpose of hydraulic fracking is to create artificial fractures in the shale formation by injecting chemically enhanced water into perforations in the horizontal well bore under high pressures.[2]

Congress excluded hydraulic fracking fluids from regulation under the Safe Drinking Water Act of 1974 (SDWA),[3] so federal regulation of fracking fluids that come in contact with groundwater is weak. Some of the environmental concerns arise when 30% to 60% of the fracking fluid may stay in the geologic formation, and it is unknown if the fluid will escape through new or existing formation fractures to contaminate the groundwater. If escape occurs, opponents fear that the fluids are toxic and carcinogenic.[4] There have been allegations that fracking releases underground methane gas which then migrates to groundwater. Some claim that the methane

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[1] *See* Susan Hlywa Topp, Deep Shale Natural Gas Production in Michigan—Opportunities, Problems, and a Shot in the Dark, 90 Mich BJ 32 (2011).

[2] *See* U.S. Dep't of Energy, Modern Shale Gas Development in the United States: A Primer (2009) for in depth discussion of the fracking process and history.

[3] 42 U.S.C. § 300h(b)(1), Underground Injection Control 42 U.S.C. § 300h *et seq.; See* Adam Orford, Fractured: The Road to the New EPA "Fracking" Study, Marten Law (Sep. 17, 2010) for an excellent summary of the history and evolution of EPA regulation of fracking fluid; EPA, Evaluation of Impacts to Underground Sources of Drinking Water by Hydraulic Fracturing of Coalbed Methane Reservoirs, EPA 816-R-04-003, at 7-5 (2004).

[4] Abrahm Lustgarten, Buried Secrets: Is Natural Gas Drilling Endangering U.S. Water Supplies? ProPublica (Nov. 13, 2008); See also Topp, *supra* note 1.

gas escapes the groundwater via residential water wells and creates a fire hazard.[5] Some states have also sued over fracking fluid spills.[6]

In Michigan, although fracking has been used extensively in the shallow Antrim shale formation, fracking is generally unregulated in the state's oil and gas industry.[7] The Michigan Supervisor of Wells provides guidance through administrative directives or "instructions."[8] In 2011, the Supervisor of Wells implemented new "Instructions" over concern pertaining to the new drilling taking place in the Utica/Collingwood Shale Formation.[9] But, fracking operations fall under the existing regulations pertaining to secondary recovery of oil and gas and to the introduction of water and other substances into the producing formations. These regulations are enforced for oil and gas production and drilling operations by the Office of Oil, Gas, and Minerals of the Michigan Department of Environmental Quality (MDEQ). However, at this time, fracking operations require no special additional permits beyond the general permit required for drilling the oil and gas well.[10]

This existing regulatory framework, or lack thereof, will prove to be inadequate to protect our water resources with the increased production of natural gas and the need for more hydraulic fracking. Will the Governor's Water Use Advisory Council really be able to bridge the gap? This author anticipates that legal challenges will arise over the disclosure (or nondisclosure) of fracking fluid components, water withdrawal, local government preemption of fracking regulations, nuisance claims, and subsurface trespass. Out of these, water use/withdrawal and subsurface trespass issues may prove to be the most challenging.

Water Use

It is expected that about 5,000,000 gallons of water will be needed to fracture a shale well in the Collingwood formation.[11] This is about 100 times more than the amount of water used to fracture an Antrim shale well.[12] Most of this water will not be available for return into the groundwater system due to the chemical contaminants which are added in the fracturing process.[13] Proponents of fracking point out that the process doesn't actually deplete water supplies forever. Rather, they argue that combustion of natural gas through household and

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[5] Bryan Walsh, Another Fracking Mess for the Shale-Gas Industry, Time (May 9, 2011).
[6] Allison Grande, Maryland to Sue Chesapeake Energy Over Fracking Spill, LAW360 (May 2, 2011).
[7] MDEQ, Office of Geological Survey, Hydraulic Fracturing of Natural Gas Wells in Michigan (May 31, 2011).
[8] MDEQ, Supervisor of Wells Instruction 1-2011, High Volume Hydraulic Fracturing Well Completions (May 23, 2011) (Instruction 1-2011).
[9] *Id;* Keith B. Hall, Michigan Issues New Hydraulic Fracturing Regulations, Environmental & Energy Law Brief (June 13, 2011).
[10] MDEQ, *supra* note 7; *See also* MCL § 324.61506(i), Mich Admin Code R.324.201-.216; Thomas E. Kurth, Michael J. Mazzone, Mary S. Mendoza, and Christopher S. Kulander, American Law and Jurisprudence on Fracking, 58 *Rocky Mt. Min L. Inst*. 4-1 (2012).
[11] FracFocus, Hydraulic Fracturing Water Usage.
[12] Tip of the Mitt Watershed Council and National Wildlife Federation, Hydraulic Fracturing: The Basics (September 19, 2011).
[13] MDEQ lists common fracturing fluid components in Questions and Answers About Hydraulic Fracturing in Michigan.

industrial use yields water vapor that goes into the atmosphere, which then condenses and replaces what is lost underground in just a matter of months.[14]

The withdrawal of water for oil and gas exploration and production operations is also exempt from the requirements of Michigan's water withdrawal statute, the Great Lakes Preservation Act.[15] The Office of Oil, Gas, and Minerals in the MDEQ has developed an online "Water Assessment Tool" which purports to measure the impact of a specific proposed water withdrawal project.[16] Opponents of fracking fear that to date there has been little concrete assurance that use of the Tool will protect Michigan's groundwater resources.[17] If the Water Assessment Tool does not indicate adverse impacts, the user may proceed with the withdrawal and no site specific review is required. Although water withdrawal of over 2 million gallons per day is subject to separate permitting, water withdrawals for oil and gas extraction under Part 615 (Supervisor of Wells) are exempt from the permit requirements.[18]

Subsurface Trespass

Michigan has adopted the "ownership in place" theory of mineral ownership, which modifies the "rule of capture" to limit recovery to a ratable share of the recoverable oil and gas in the common pool.[19] Each landowner has correlative rights at common law in the producing formation, and the conduct of one landowner cannot injure the correlative rights of another landowner.[20]

In addition to the water use issues, there will be new legal battles based on subsurface trespass.[21] This will come about in the application of common law trespass principles to horizontal drilling and fracking operations when there are different owners of the subsurface strata, minerals, and surface estates.[22] The owner of the mineral formation being fracked may not be the owner of the surface estate.[23] There may also be different owners along the subsurface mineral stratum, both horizontally and vertically. This creates the potential for subsurface mineral trespass to occur during fracking operations if the fracturing extends

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[14] Tom Shepstone, Turning Natural Gas Into Water: Hydraulic Fracturing Doesn't Deplete Water Supplies, Energy in Depth, Northeast Marcellus Initiative (April 6, 2012).

[15] MDEQ, *supra* note 7, at 2; MCL § 324.32727 (2011).

[16] Michigan's Water Withdrawal Assessment Tool.

[17] Tip of the Mitt, *supra* note 12; Tip of the Mitt Watershed Council and National Wildlife Federation, Hydraulic Fracturing and Water Use (October 3, 2011); Tip of the Mitt Watershed Council and National Wildlife Federation, Hydraulic Fracturing: Chemical Use and Public Disclosure (October 17, 2011); Tip of the Mitt Watershed Council and National Wildlife Federation, Hydraulic Fracturing: Treatment and Disposal of Fracking Fluid Waste (October 31, 2011), Tip of the Mitt Watershed Council and National Wildlife Federation, Hydraulic Fracturing and Public Participation (November 7, 2011).

[18] MCL 324.32706(b); MCL 324.32727.

[19] *Northern Michigan Exploration Co. v. Public Serv. Comm'n*, 153 Mich App 635 (1986).

[20] Williams and Meyers, *Oil & Gas Law* § 204.6 (2012 Lexis Nexis), *citing Manufacturers Gas & Oil Co. v. Indiana Natural Gas & Oil Co.,* 57 N.E. 912 (Ind. 1900).

[21] John W. Morrison and Wade C. Mann, Reservoir Development: Competing Rights of Horizontal and Vertical Developers and Other Oddities of Vertical Legal Principles Gone Sideways, 58 *Rocky Mt. Min L. Inst*. 11-1 (2012).

[22] An action for subsurface trespass is recognized at common law. Restatement Torts, 2d, § 159.

[23] In Michigan, the mineral estate can be severed from the surface. *Rathburn v. State,* 284 Mich 521 (1938).

beyond the leased stratum owned or the area under lease, and the claimant can demonstrate an injury.[24]

Another important aspect of subsurface trespass arises when the wellhead of a horizontally drilled well is located on the surface property of one owner outside the drilling unit but the horizontal drill extends below the property of others.[25] For example, the well pad/surface location of the wellhead is in Section 12 of XYZ County, but the wellbore passes through the subsurface stratum in Section 12 and the bottom hole of that well is located in Section 13, which is the targeted drilling unit. This potential is increasing with producers using common well pads for multiple well heads "kicking out" in several directions. Some commentators anticipate that an easement from the surface owner for the wellhead is sufficient as long as the wellbore does not pass through hydrocarbon bearing formations and/or does not interfere with the mineral owner's production of minerals from those formations in Section 12.[26]

This issue becomes more complicated since oil and gas are not the only "minerals" that are at issue in subsurface formations. Oil and gas producers have been found liable for displacing other mineral substances under lands of another. Courts have been reluctant to allow regulatory permits to insulate from liability those who displace more valuable mineral resources with less valuable substances under the land of another.[27] For example, some courts have characterized the "brine" produced in oil and gas wells as a "mineral," entitling the mineral owner to extract the brine for commercial use.[28] In Michigan, the definition of minerals under the Mineral Mining Act, Part 633, of NREPA includes "every inorganic substance that can be extracted from the earth for profit whether it is solid, as rock, fire clay, the various metals, and coal, or *fluid, as mineral waters*."[29] Further, the Mineral Mining Act defines brine well as a well drilled or converted for the purposes of producing "natural brine." "Natural brine" means naturally occurring mineralized water other than potable or fresh water.[30] "Underground waste" is defined in Part 625 of NREPA as damage or injury to potable water, mineralized water, or other subsurface resources.[31] These provisions of Part 633 and Part 625 of NREPA make it clear that the interference with and displacement of resources in unleased subsurface formations could be considered not only a trespass, but "underground waste" under Part 625.

In addition, the use of the "pore space" or subsurface storage area for gas belongs to the surface owner, not the mineral owner.[32] Legal issues pertaining to the invasion of the surface owner's pore space by the fracking fluid could arise. There may also be legal challenges if the

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[24] *Coastal Oil & Gas Corp. v. Garza Energy Trust,* 268 SW3d 1 (Texas 2008).
[25] A "drilling unit" is the amount of leased acreage which MDEQ requires to issue the permit for a particular type of well; a "production unit" is a combination of drilling units into a larger unit for economic sharing of costs of production.
[26] Morrison and Mann, *supra* note 21.
[27] Williams and Meyers*, supra* note 20, at § 204.5.
[28] *Id.* at § 219.6.
[29] MCL 324.63301(a).
[30] MCL 324.62501(b); MCL 324.62501(h).
[31] MCL 324.62501(q).
[32] *Department of Transp. v. Goike*, 220 Mich App 614 (1996).

State begins to take its gas in kind, in lieu of cash royalty payments. That gas will need to be stored in subsurface formations, requiring the consent of the surface owner except where a pre-severance oil and gas lease or other agreement specifically grants storage rights. When the formation targeted for gas storage does not contain producible mineral deposits, but the right to use the subsurface formation has previously been conveyed to a mineral lessee through an oil and gas lease, then the consent of the mineral lessee is required.[33] If the gas migrates outside of the storage area, it could give rise to a claim of trespass by either the surface owner or the adjacent lessee. Michigan has recognized claims of trespass where natural gas has been stored in, or migrated to, the subsurface areas of the plaintiff's land.[34]

Another issue that has arisen in other states, notably Pennsylvania, is the ownership of shale gas when someone else owns the hard rock minerals that contain the shale gas. The Pennsylvania Supreme Court has ruled that the owner of the coal (not the owner of the natural gas) owns the methane gas in the coal formation.[35] Hotly contested litigation in Pennsylvania over the development of the Marcellus Shale formation and the ownership of similar mineral rights is still under appeal.[36] All eyes are on *Butler* as it will determine what a deed's grant of "minerals" means in that state. Historically, in Michigan a conveyance reserving or conveying "minerals" did not include oil and gas unless "oil and gas" was specifically included or identified by the grantor.[37]

Interpretation of the Oil and Gas Lease

Increased production of oil and gas will require increased leasing of minerals not already under lease. This was certainly the case in 2010 when a leasing frenzy in Northern Michigan exploded over the discovery of significant oil and gas reserves in the Collingwood/Utica shale formation. Thousands of oil and gas leases were taken in a few months' time and revenues from the State Mineral Lease Auction in May, 2010 reached an historic $178 million.[38]

Sadly, this tremendous boom came to a crashing halt when results from test wells were disappointing and the leasing was discontinued. Many of the oil and gas leases that were taken were terminated in 2010, resulting in tumultuous and ongoing litigation by the lessors against the lessees. At issue in these cases is the interpretation of the language in Michigan's standard oil and gas lease forms and the associated "Orders for Payment" used by the industry. Specifically at issue is whether approval of title is a condition precedent to a binding oil and gas lease contract when the Order for Payment is subject to lessee's "approval of title."[39] Alternatively, is the approval of title a condition subsequent to the oil and gas lease, which became binding upon execution? [40]

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[33] Williams and Meyers*, supra* note 20, at § 222.
[34] *Hope Land Mineral Corp. v. Panhandle E. Pipe Line Co.*, No 234202, Mich App June 3, 2003 (unpublished).
[35] *U.S. Steel Corp. v. Hoge*, 468 A.2d 1380 (Pa 1983).
[36] *See Butler v. Powers Estate*, 29 A.3d 35 (PA Superior Ct 2011) appeal granted, 41 A.3d 854 (Pa 2012).
[37] MCL 324.63301(a).
[38] MDNR, *State Oil and Gas Lease Auction Sets Historic Record for Revenue,* May 6, 2010.
[39] *Harbor Park Market, Inc. v. Gronda,* 277 Mich App 126 (2007).
[40] *Jaenicke v. Davidson,* 290 Mich 298 (1939); *Michigan Consol. Gas Co. v. Muzeck*, 4 Mich App 502, 507 (1966).

Another question raised by these cases is whether the lessee must give the lessor notice of any claimed defects within the title review period specified in the Order for Payment and an opportunity to cure. These issues and others are now pending before the Michigan Court of Appeals.[41] The author anticipates challenges to oil and gas leasing transactions will continue with Michigan courts having to further interpret lease and contract language.

The only thing that is certain is that there is still much uncertainty when it comes to how increased oil and natural gas production will affect our environment and our State's policy objectives for energy and the protection of the environment. However, it is clear that new oil and gas production techniques will raise new challenges, requiring new battles to be fought by our environmental and energy lawyers, the oil and gas industry, regulators, and environmental interest group.

[41] *See Cook v. Western Land Servs., Inc.,* Mich App No. 310430*; O'Hair v. OIL Niagaran,* Mich App No. 312893*; John Talbott v. OIL Niagaran,* Mich App No. 312440*; Kenneth and Anita Ginop, (Application for Leave to Appeal),* Mich App No. 311296.

Citizen Enforcement of MS4 Permits as a Tool to Address Inadequate Stormwater Runoff Regulation

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Effective regulation of stormwater runoff under the Clean Water Act (CWA or "the Act") is crucial for ensuring that the quality of water resources in the United States is preserved and improved. As rain or snowmelt collects and flows over impervious surfaces in urban areas, it collects pollutants in the form of trash, chemicals, and sediment and transports them along curbs and into gutters, following the intended city drainage system and emptying into the nearest lake or stream.[1] This pollution is a major contributor to deteriorating water quality in the United States,[2] and the current regulatory structure intended to address it is inadequate.[3]

This paper explores the opportunity for citizen groups to use the citizen suit provision in the CWA to enforce Municipal Separate Storm Sewer System (MS4) permits in order to protect water quality. Due to the discretionary authority of permitting agencies and flexible permit conditions, citizen suit enforcement of MS4 permits is a limited tool, though it could be a significant option when MS4 permits contain more restrictive provisions with clear limits. This paper concludes with suggestions for critical reforms to the MS4 permit system that would provide for more successful citizen suit opportunities, including requiring permit conditions that prohibit discharges that exceed CWA water quality standards.

I. Impact of Stormwater Runoff on Water Quality

Stormwater runoff from urban areas is a major factor contributing to the continuing decline of water quality in the nation's waters, and urban areas are rapidly growing.[4] Urban runoff is responsible for the impairment of over 38,000 miles of streams and rivers and close to 1,000,000 acres of lakes.[5] Surface waters near developed areas contain some of the most degraded waters in the U.S.[6] The adverse effect of urbanization on surface waters is the result of many factors. Urban areas increase the amount of impervious surface areas such as asphalt, leading to less absorption of rain or snowmelt and their infiltration into the ground and more surface runoff. In addition to the intensifying effect on erosion and flood damage, surface runoff from urban areas increases the temperature of the receiving water body, which in turn can negatively affect the biologic processes of organisms in the water.[7]

A critical factor determining the degree to which urban stormwater runoff affects water quality is the amount of pollution that is carried by runoff from buildings, streets, and other urban

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[1] EPA, Stormwater Program.
[2] National Research Council, *Urban Stormwater Management in the United States* (2008) (NRC Report), at 67.
[3] *Id* at 39.
[4] Allison H. Roy, Seth J. Wenger, Impediments and Solutions to Sustainable, Watershed-Scale Urban Stormwater Management, *Environmental Management* (2008), at 42: 344-359.
[5] NRC Report, *supra* note 2 at 21.
[6] *Id*.
[7] Michael J. Paul, Judy L. Meyer, Streams in the Urban Landscape, *Annual Review of Ecology & Systematics* (2001), at 32:333-365

locations into water bodies. Rain or snowmelt will flow along the conveyance system of streets, curbs and gutters, collecting and carrying oil, lawn fertilizer, trash, and other matter. This collection of chemicals and organic material will then flow, untreated, into nearby surface waters, degrading the quality of those waters.

II. Clean Water Act and MS4 Permitting

When Congress enacted the Clean Water Act in 1972, the Act's purpose was to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters."[8] The Act created the National Pollutant Discharge Elimination System (NPDES) which prohibited any "discharge of a pollutant" into navigable waters of the U.S. from a point source, unless the Environmental Protection Agency (EPA) or an authorized state has given the discharger a permit.[9] "Point source" is defined in the Act as "any discernible, confined, and discrete" conveyance, including any pipe, ditch, or channel.[10] A municipal separate storm sewer system is defined by the EPA as a conveyance or system of conveyances meant to control stormwater, including roads, curbs, or storm drains, that are owned by a city or town, or other public body, excluding combined sewers or public treatment works.[11] Under the Act's definition, while stormwater may initially be considered an unregulated non-point source as it flows over land, once it enters a storm drain or ditch it becomes part of a conveyance system that is expressly defined as a point source,[12] thereby falling under the NPDES program.

Traditional NPDES permits for industrial point sources include effluent limitations based on either technology-based treatment standards, ambient water quality standards (WQS), or both.[13] Technology standards can require limitations based on best conventional treatment (BCT), best available technology (BAT), or the best practicable control technology currently available to the industry (BPT). WQS are considered supplemental standards to ensure that overall water quality does not drop below acceptable levels needed to support the designated beneficial uses of the water body.[14] WQS are set by states authorized by EPA to administer the CWA and are reviewed periodically to ensure that the standards continue to protect water resources from degradation.[15] However, MS4 systems were developed under different historical situations and are permitted under different standards than traditional NPDES permits.

Even though municipal stormwater runoff met the literal definition of a point source and the EPA could have required NPDES permits for stormwater when the CWA was originally enacted,

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[8] 33 U.S.C. § 1251(a).
[9] *Texas Indep. Producers & Royalty Owners Ass'n v. EPA*, 435 F3d 758, 760 (7th Cir. 2006).
[10] 33 U.S.C. § 1362(14).
[11] 40 C.F.R. 122.26(b)(8)
[12] 33 U.S.C. § 1362(14)
[13] John H. Minen, Municipal Separate Storm Sewer System (MS4) Regulation Under the Federal Clean Water Act: The Role of Water Quality Standards? 42 San Diego L. Rev. 2015 (2005) at 1230.
[14] *Natural Res. Def. Council, Inc. v. County of Los Angeles*, 636 F3d 1235, 1239 (9th Cir. 2011).
[15] *Id.* at 1240.

EPA initially attempted to exempt storm sewer systems.[16] Though that attempt was rejected by the courts,[17] for the next decade EPA failed to properly address the problem of controlling pollution from municipal stormwater.[18] Congress stepped in by adding § 402(p) to the CWA in 1987 to require certain municipal separate storm sewer systems to obtain NPDES permits, establishing a two-step phased-in approach.[19] Phase I was intended to target the largest stormwater sources, such as medium and large cities and industrial sources, and require them to obtain NPDES permits, while Phase II brought select smaller sources under the permitting program twelve years later.[20] Under § 402(p), each municipality with a population over 100,000 is required to obtain a NPDES permit for stormwater discharges.[21] A smaller municipality may be required to get a permit if it falls under the Phase II definition of a regulated small MS4.[22]

While NPDES permits for traditional point sources contain both technology-based standards and ambient water quality standards, NPDES permits for MS4s instead require "controls to reduce the discharge of pollutants to the maximum extent practicable."[23] The "maximum extent practicable" (MEP) regulatory standard is statutorily defined to include "management practices, control techniques and system, design and engineering methods, and such other provisions" as either the EPA or other EPA approved permitting agency finds appropriate.[24] MS4 permits also require permit holders to control what goes into the municipal storm system and prohibit non-stormwater discharges from entering the system.[25] There is no expressly stated requirement to use specific end-of-pipe treatment technologies or meet ambient WQS in the statutory language regulating MS4 permits. The Ninth Circuit decision in *Defenders of Wildlife v. Browner* expressly states that the implementing statutes "did not require municipal storm-sewer discharges to comply strictly with" water quality standards.[26] However, the Court did recognize that the statute gives EPA the "discretion to determine what pollution controls are appropriate."[27]

EPA has developed regulations for MS4s that draw distinctions among large, medium, and small municipal systems, but those regulations do not create additional permit requirements that are more restrictive than the MEP standard. EPA promulgated 40 C.F.R. § 122.26 in 1990 to address the application process and specific definitions for the Phase I statutorily defined large and medium MS4s, but those regulations do not create additional permit requirements.[28] In 1999, EPA promulgated regulations to bring smaller MS4s under the stormwater program as part of

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[16] *See* *Natural Res. Def. Council, Inc. v. Costle*, 568 F2d 1369, 1371 (D.C. Cir. 1977).
[17] *Id.*
[18] Minen, *supra* note 13 at 1230.
[19] *Texas Independent Producers*, *supra*, 435 F3d at 761.
[20] *Id.* at 761.
[21] 33 U.S.C. § 1342(p)(2)(C), (D).
[22] 40 C.F.R. § 122.32.
[23] 33 U.S.C. § 1342(p)(3)(B)(iii).
[24] *Id*.
[25] 33 U.S.C. § 1342(p)(3)(B)(ii).
[26] *Defenders of Wildlife v. Browner*, 191 F3d 1159, 1166 (9th Cir. 1999).
[27] *Id.* at 1166.
[28] 40 C.F.R. § 122.26.

Phase II,[29] requiring permits for small MS4s located within Census defined "urbanized areas," small MS4s that have caused or might cause adverse impacts on water quality, and small MS4s that are physically connected to another permitted MS4.[30] Those regulations did address small MS4 permit requirements, developing six "minimum control measures" that include public education and involvement and detection and elimination of illicit discharges.[31] Yet these minimum control measures do not require any more restrictive or enforceable permit requirements, instead continuing to require compliance with the MEP standard. Typically, EPA and other permitting agencies require individual permits for Phase I large and medium MS4s, and require general permits for Phase II small regulated MS4s.[32]

III. Problems With the Current Regulatory Structure

EPA's stormwater regulatory program continues to inadequately address the problem of pollution from urban runoff. The implementation of the MS4 permit program has been a slow and incomplete process, with 11% of targeted municipalities still unpermitted in 2006 and many others still in the early stages of implementation.[33] Further complicating the picture is the fact that many municipalities do not properly monitor the effectiveness of their efforts, nor do they consistently report to EPA on their implementation efforts or results.[34] Study efforts conducted by EPA Region 9 and the State of California have discovered many implementation problems in those areas, and EPA itself has admitted that it currently does not have a system in place to determine the level of success of the program.[35]

Implementation problems could also be a symptom of the larger challenge of the technical and logistical difficulties involved in controlling or treating stormwater runoff. In addition to the lack of information regarding the status of implementation, the current regulatory structure faces serious constraints in scientific and technical information available on how to actually treat or prevent polluted stormwater.[36] Significant variability exists in the intensity, frequency and volume of storm runoff, and pollutant loads will vary widely depending on the uses of the properties served by the system.[37] This variability presents significant challenges for any end-of-pipe treatment plan. Attempting to fit stormwater regulation into the NPDES program is also problematic because technological limitations would likely prevent EPA from being able to require specific best available control technologies as it does for industrial sources, even if EPA wanted technology limitations more restrictive than the "maximum extent practicable" standard.[38] Requiring monitoring and reporting of discharges, a key component of the NPDES

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[29] *See* 40 C.F.R. §§ 122.30–122.37.
[30] EPA, Stormwater Phase II Final Rule Fact Sheet Series, Who's Covered? Designation and Waivers of Regulated Small MS4s.
[31] 40 C.F.R. § 122.34.
[32] EPA, Stormwater Program, Stormwater Discharges From Municipal Separate Storm Sewer Systems.
[33] NRC Report, *supra* note 2 at 68.
[34] *Id.* at 67-8.
[35] *Id*.
[36] *See* Wendy E. Wagner, Stormy Regulation: The Problems That Result When Stormwater (and Other) Regulatory Programs Neglect to Account for Limitations in Scientific and Technical Information, 9 Chap. L. Rev. 191 (2006).
[37] *Id.* at 203-04.
[38] *Id*.

program, is also more challenging for MS4 permits because volume and pollutant loads fluctuate wildly even in the course of one storm event, thus making stormwater very difficult to monitor accurately.[39] "The irregular nature of the polluting event (rainfall) makes sampling stormwater discharges difficult at best. Indeed, in heavy storms, it can be nearly impossible to sample stormwater so that the sample or samples taken fairly represent the stormwater resulting from the entire rainfall event.[40] Furthermore, MS4s typically have many discharge points with varying levels of pollutants at each.[41]

The MS4 regulatory problem that has the most relevance for the focus of this paper is the discretionary and flexible permit requirements that limit the ability to use citizen suits as a tool to enforce compliance. Unlike the traditional NPDES permit requirements for industrial dischargers that require the permittee to comply with specified effluent limitations that can be achieved by employing appropriate technology (BPT, BAT, or BCT) as well as compliance with water quality standards, MS4 permit requirements only require municipalities to control discharge to the maximum extent practicable. The CWA states that the MS4 "shall require controls to reduce the discharge" of pollutants to meet the MEP standard, including other provisions "as the Administrator or the State determines appropriate for the control of such pollutants."[42]

EPA's regulations for large and medium MS4s address only application requirements and definitions, and do not provide more specific requirements in addition to what is required by the statute,[43] while EPA regulations for small MS4s describe the six minimum controls discussed above. Thus, municipalities are not required to use specific controls or take into account water quality standards for the receiving water unless the permit writer, through his or her considerable discretion, expressly requires them to. The permit writers, either state agencies or EPA, have no more guidance on when to include more specific controls than that found in the regulations, with EPA describing the MEP standard as "a flexible site-specific standard."[44] This flexibility leaves room for municipalities and clever attorneys to argue that any control mechanism can meet, or is meeting, the MEP standard.[45] Since controlling or treating polluted stormwater presents such challenges, the incentive exists for permit writers to take it easy on MS4 systems and not require clear benchmark controls so as to lessen the burdens on both municipalities and overtaxed regulatory agencies.

IV. The CWA and Its Citizen Suit Provision

One crucial component to the success of the Clean Water Act in protecting water resources is the citizen suit provision, which allows for a citizen or citizens group to sue a violator of the Act

[39] *Id.* at 204-11.
[40] Joel B. Eisen, Toward a Sustainable Urbanism: Lessons from Federal Regulation of Urban Stormwater Runoff, 48 Wash. U. J. Urb. & Contemp. L. 1 (1995), at 15-16.
[41] *Id*.
[42] 33 U.S.C. § 1342(p)(3)(B)(iii).
[43] *See* 40 C.F.R. § 122.26.
[44] NRC Report, *supra* note 2 at 85.
[45] *See* Minan, *supra* note 13 at 1237.

and enforce the Act's provisions.[46] This citizen suit provision was included in the regulatory scheme of the Act as an "expression of Congress' skepticism about the ability or willingness of the EPA or any other single agency to continuously and vigorously enforce the law."[47] Congress viewed citizen participation as necessary to fulfill the intention of the Act because of past experiences in which agencies that were delegated the task of enforcing the will of Congress became "captured" by those whom the agency was supposed to regulate.[48] Private citizens acting to enforce the Act were seen as a supplement to agency enforcement or a way to spur agency action.[49]

Under the CWA, any "citizen," which is defined as "a person or persons having an interest which is or may be adversely affected," may initiate a suit against any person that is violating the terms of a permit.[50] A suit can also be brought against the United States or any relevant agency.[51] Courts require that a citizen bringing an enforcement action must show he or she has standing to sue by demonstrating that he or she suffered a concrete and particularized injury that was actual or imminent, that there was a "fairly traceable" causal connection between the injury and the conduct, and that the injury can likely be redressed by a favorable outcome.[52] Very generally, this requirement can be met by demonstrating that citizens or members of an organization use the area that is affected by the activity that is challenged in the action.[53] This low bar for standing is often challenged by defendants and litigated in citizen enforcement actions, but nevertheless has given citizens and citizen groups a significant opportunity to play a role in the regulation of water resources.

V. The Limits to Citizen Suit Enforcement of MS4 Permits

The discretionary requirements of MS4 NPDES permits limit the effectiveness of citizen enforcement actions because an enforcement action can only enforce compliance with what the permit itself requires.[54] Citizen suits become much less effective when, as with MS4 permits, both the statute and permit conditions themselves contain substantial discretion or flexibility either because there is simply nothing to enforce or because there is no way to prove a particular MS4 operator's control choice does not meet the ill-defined MEP standard. Case law regarding the use of the citizen suit provision to enforce MS4 permit conditions is not extensive. In only two cases did a court deal with the merits of an MS4 challenge.[55] This could

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[46] 33 U.S.C. § 1365.

[47] William L. Andreen, Motivating Enforcement: Institutional Culture and the Clean Water Act, 24 Pace Envtl. L. Rev. 67 (2007).

[48] William L. Andreen, The Evolving Law of Environmental Protection in the United States: 1970-1991, 9 Envtl. & Plan. L. J. 9, 96-98 (1992).

[49] Andreen, *supra* note 47 at 76.

[50] 33 U.S.C. §§ 1365(a), (g).

[51] *Id.*

[52] *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992).

[53] *Id.* at 565-566.

[54] 33 U.S.C. § 1342(k).

[55] *Natural Res. Def. Council, Inc. v. County of Los Angeles*, 636 F3d 1235, withdrawn on denial of reh'g en banc 673 F3d 880 (9th Cir. 2011), reversed 568 U.S. ___ (2013); *Conservation Law Found., Inc. v. Boston Water & Sewer Comm'n*, 2010 WL 5349854 (D. Mass.).

be evidence that using the citizen suit provision to enforce MS4s is a difficult course of action, though the MS4 permit system is still relatively new. As this paper suggests, the difficulty could come from the inherent flexibility of MS4 permits, making it very difficult for challengers to prove that permit conditions have been violated. In one action brought by the Conservation Law Foundation (CLF) challenging an MS4 permit issued to the Boston Water and Sewer Commission (BWSC), the court denied CLF's motion for summary judgment because there was a difficult fact question that needed to be answered through the process of trial.[56] The fact question to be decided was whether BWSC had implemented the proper measures necessary to meet the "maximum extent practicable" standard, which the court understood to include many factors.[57] This case has since been settled before trial and a consent decree entered.[58] Proving a violation of a permit that contains a number of loosely defined factors is a daunting task that is likely to discourage many legitimate challenges.

While ambiguous permit standards can frustrate citizen enforcement, MS4 permits with clearer standards can provide opportunities for the use of citizen suits to enforce them. A recent Ninth Circuit case, which was argued before the U.S. Supreme Court on December 4, 2012, and decided on January 8, 2013,[59] demonstrates such a strategy. In *Natural Res. Def. Council, Inc. v. County of Los Angeles*, two environmental organizations sued Los Angeles County under the citizen suit provision, alleging discharges of polluted stormwater in violation of the county's MS4 permit.[60] After the district court granted summary judgment in favor of defendant, the plaintiffs appealed to the Ninth Circuit which reversed part of the district court's judgment, and held that the defendant had violated the terms of the MS4 permit by discharging polluted stormwater into the Los Angeles and San Gabriel rivers.[61]

The court found that specific conditions in the defendant's MS4 permit prohibited discharges that "cause or contribute to the violation of Water Quality Standards," which were specifically defined elsewhere in the permit.[62] The court further found that water samples taken at the defendant's monitoring stations showing exceedances were evidence of violations of the permit.[63] After emphasizing that MS4 permit holders could be held responsible for discharges coming from their systems, even if the permit holders did not themselves add any pollutant to the discharge, the court found Los Angeles County had violated the CWA and could be subject to penalties under the Act.[64] Plaintiffs had also charged Los Angeles County with violations for discharges into two other waterways, but the court found that the plaintiffs did not meet their evidentiary burden for those discharges.[65] However, the court suggested that the evidentiary

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[56] *Conservation Law Found., Inc., supra,* 2010 WL 5349854 at *7.
[57] *Id*.
[58] *Conservation Law Found., Inc. v. Boston Water & Sewer Comm'n*, Consent decree (2012).
[59] *Los Angeles County Flood Control Dist. v. Natural Res. Def. Council, Inc.*, 568 U.S. ___ (2013).
[60] *Natural Resources Defense Council*, *supra,* 673 F3d at 880.
[61] *Id.* at 902.
[62] *Id.* at 887.
[63] *Id.* at 898.
[64] *Id.* at 899-902.
[65] *Id.* at 883.

burden was minimal, stating that a "sample from at least one outflow that included a standards-exceeding pollutant" could meet that burden.[66]

The Supreme Court reversed the Ninth Circuit's opinion with regards to the narrow question of whether the flow of water out of a concrete channel within a river ranks as a "discharge of a pollutant."[67] The Court answered that question with a unanimous "no."[68] However, the Court did not address the issue relevant to this discussion, i.e. the District's specific permit conditions that required that the District's discharges meet water quality standards.

As this case demonstrates, citizen suits can be used to enforce MS4 permit requirements, but the facts that made the action successful must be carefully considered. Los Angeles County's MS4 permit specifically prohibited any discharge that would "cause or contribute" to a violation of the state's water quality standards. This clear, measurable standard allowed for a direct and relatively easy way to prove a challenge. Los Angeles County's permit also required the county to conduct water quality monitoring within the MS4 system.[69] This requirement produced data that was used to meet the challengers' evidentiary burden, avoiding costly independent sampling. Neither of these permit conditions is required by the CWA or EPA regulations, but they were included at the discretion of the permit writer. Why those permit conditions were required in this particular permit was not discussed by the court's opinion, but those conditions created the opportunity for an effective citizen suit.

Specifically regarding small MS4s, the six minimum control measures of Phase II small MS4s also do not provide strong and enforceable permit conditions. Small MS4 operators are given significant flexibility and discretion in creating their stormwater programs and meeting their control requirements. EPA regulations for small MS4s require implementation of education and public involvement programs and construction site stormwater control, but do not require specific actions and only provide guidance.[70] The regulations further require implementation of a program to detect and eliminate illicit discharges into the MS4, but the MS4 must only "to the extent allowable . . . effectively prohibit" illicit discharges and "implement appropriate enforcement procedures . . . ."[71] Unless there are obvious deficiencies, such as failure to implement basic program requirements, such flexible and discretionary language will frustrate attempts to use the citizen suit provision to challenge MS4 permittees for violations of the permit.

The State of Wisconsin's general permit for small regulated MS4s provides an example of weak permit condition requirements for citizen suit enforcement of water quality standards. Rather than expressly prohibiting permittees from causing violations of water quality standards, section 1.3.1 of the general permit states that compliance with state water quality standards

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[66] *Id.* at 901, *quoting* trial court.
[67] 568 U.S. at ___ .
[68] *Id*.
[69] 673 F3d at 888.
[70] 40 C.F.R § 122.34(b)(1), (b)(2).
[71] 40 C.F.R. § 122.34(3)(ii)(B).

will be addressed "by adherence to general narrative-type storm water discharge limitations and implementation of storm water management programs and practices."[72] The permit also contains the six minimum control measures that require implementation of programs focused on education, public involvement, construction, and illicit discharge connection, but again the language is focused on program structure and is light on specific program requirements. Regarding illicit discharges, the general permit requires each permitted municipality to enact an ordinance that prohibits illicit discharges and establishes enforcement authority, but it does not include enforceable specifics within that program,[73] such as requiring a discharge hotline, onsite discharge investigations, or other best practices.[74] Even after authorizing the permit, the Wisconsin Department of Natural Resources (DNR) is still not required to ensure water quality standards are met. Section 4.19 states that if DNR makes a discretionary determination that an MS4 is contributing to a violation of water quality standards, DNR "*may* require the permittee to" address the problem, submit contrary information demonstrating attainment, or apply for an individual permit (emphasis added).[75] Under this general permit, there are no sufficient benchmarks or standards that could be relied on in a citizen suit to protect water quality.

Citizen suits could also be used to enforce the statutory requirement that MS4 permits prohibit non-stormwater substances from being discharged into the system,[76] but such attempts would likely run into the same challenge of flexible language. The exact statutory wording requires permits to "effectively prohibit" these illicit discharges.[77] While that wording has yet to be interpreted by the court system in the context of MS4s, it could be interpreted to mean that any action implemented that could have the effect of prohibiting illicit discharges would satisfy the statute, even if some illicit discharge still occurred.[78] The statute thus gives flexibility to the municipality as to how to approach the prohibition of illicit discharges. As discussed above, EPA Phase I regulations do not add to the permit requirements of the statute. EPA Phase II regulations that apply to permits describe program implementation requirements while again using the language "effectively prohibit."[79] If MS4s fail to implement whole program components, citizen suits could be used to force compliance with those requirements, as EPA has done in EPA Region 1 (New England).[80] A citizen suit that seeks to absolutely prohibit all illicit discharges may find the "effectively prohibit" language to be a substantial hurdle.

Unfortunately, research regarding the actions of the federal government to enforce MS4 permits does not provide much insight on citizen suit enforcement. A recent search of the Enforcement and Compliance History Online (ECHO) Database, which compiles EPA

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[72] Wisconsin DNR, WPDES Permit No. WI-S050075-1, § 1.3.1.
[73] *Id.* at § 2.3.1.
[74] *See* EPA, Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments.
[75] *Id.* at § 4.19.
[76] 33 U.S.C. § 1342(p)(3)(B)(ii).
[77] *Id*.
[78] *See Second Generation Props., LP v. Town of Pelham*, 313 F3d 620 (1st Cir. 2002) (availability of "some" coverage did not preclude determination that town effectively prohibited delivery of personal wireless services).
[79] 40 C.F.R. § 122.34(b)(3)(ii)(B).
[80] EPA, News Releases from Region 1, 8/12/2009.

enforcement data, revealed that formal enforcement actions have been brought against MS4 operators. A quick review of those actions indicated that the majority were administrative orders requiring small MS4 operators to implement required program components, such as a program to detect and eliminate illicit discharges into the MS4 system. Yet, the author's research did not discover an example of EPA or a state agency bringing an enforcement action against an MS4 operator based on violations of the MEP standard or any water quality standard. A more thorough and comprehensive search on this topic, including information requests addressed to EPA and state agencies, might yield results that support or disprove the argument that MS4 permits are difficult to enforce.

VI. Suggested Reforms to Strengthen Citizen Suit Enforcement

As this paper attempts to demonstrate, the discretion and flexible standards in the MS4 permit system limit the ability of citizen actions to be successful when seeking to enforce permit requirements and protect water quality. The simple answer to address this limitation, then, is to simply remove discretion and flexibility from the MS4 system as much as possible. As discussed above, certain technical constraints make requiring specific stormwater controls very difficult. But changes to the system that would require MS4 dischargers to meet CWA ambient water quality standards and establish a monitoring system within the MS4 are practical and feasible. Such changes would not only provide benchmark standards to guide dischargers and regulators, but would also provide citizen groups real opportunities to take part in enforcing those standards.

Such reform could come in the form of an action by Congress to amend § 402(p) of the Clean Water Act to include language that would require MS4 dischargers to meet any applicable state or federal water quality standards, and also monitor their discharges. This could be as simple as inserting the requirement that permits must meet the applicable standards of § 301 of the Act, as was done for industrial stormwater discharges.[81] While such an action by Congress would be the most authoritative, it is also likely to be politically unfeasible. With the current political climate, environmental statutes are not viewed in a favorable light and any suggested changes to them proposed in the current Congress would be intended to weaken them and not strengthen them.

EPA could also initiate reform of the MS4 system by changing its own regulations and requiring the necessary permit conditions. Given the language of the implementing statute, EPA already has sufficient authority for more strictly regulating municipal discharges. Changing the system through regulatory rulemaking, while less directly political, would still encounter substantial challenges. All agency rulemakings must allow for the public to be involved in the process, which can often be contentious and time consuming. And any final rule created by EPA would likely face a legal challenge. But considering the degree of deference the courts usually afford to agencies[82] and the mounting evidence that the current regulations are not achieving the desired result, EPA would likely prevail in such reforms.

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[81] 33 U.S.C. § 1342(p)(3)(A).

[82] *See* *Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc.*, 467 US 837 (1984).

EPA has in fact initiated a rulemaking to strengthen its MS4 stormwater program.[83] According to EPA's website, this rulemaking is going to include "exploring options for expanding the protections" of the MS4 program and evaluating whether to establish "a single set of minimum measures requirements" for MS4 permit holders.[84] EPA intends to propose a rule to strengthen the national stormwater program by June 10, 2013, and complete a final action by December 10, 2014.[85]

Lacking an act of Congress or a significant rule change by EPA, another strategy to reform the system would be to advocate through the administrative process available at each permitting agency to persuade permit writers to include permit conditions necessary for effective enforcement. Since most permits are written by state agencies and require public involvement under administrative law requirements, advocacy through the public comment process for individual MS4 permits could influence permit writers and create stronger permits with clear benchmarks. However, this strategy places the resource burden, which can be quite demanding, on the public, and can lead to inconsistent results across different states or even among different individual permits.

VII. Conclusion

As the U.S. population continues to migrate to urban areas, and more ground is paved over, the degradation of U.S. waters will continue to accelerate. The reform of the municipal stormwater regulatory system is necessary to adequately address this growing problem. The discretion and flexibility that exists in the current system should be limited to allow enforcement to be effective. By requiring that MS4 permits include strict standards and monitoring requirements, citizens can continue to play a vital role in protecting water resources.

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[83] See EPA, Stormwater Rulemaking (last visited 12/26/12).
[84] *Id*.
[85] *Id*.

Nonpoint Source Water Pollution: Legal Tools and Regulation

By Suzanne Howard, Suffolk University Law School

Introduction

Pesticides that are applied to croplands across the United States often wash into our nation's waterways.[1] Contaminants washed away by natural precipitation events fall within a broad category of pollution called nonpoint source pollution.[2] Surface, ground, and coastal waters of the United States are showing signs of degradation due to inadequate control of nonpoint source pollution.[3] Certain bodies of water will not be realized for their intended uses if action is not taken to mitigate nonpoint source pollution.[4] This article explores what is considered to be a nonpoint source, the environmental problems caused by nonpoint source pollution, and the legal tools used for controlling nonpoint source pollution. The scope of the article is limited to federal regulation and control.

I. Background

A. Sources of Nonpoint Pollution

Agricultural and urban run-off are the primary sources of nonpoint source pollution.[5] Depending on the source of pollution, a wide range of water quality problems can be present. In urban areas, precipitation collects in sewers transporting debris and contaminants to the closest natural water body.[6] Some of the rainwater that accumulates in sewers is sent to a wastewater treatment facility, but it is not economically feasible to treat all of the runoff.[7] In agricultural areas, runoff carries a high concentration of sediment and chemical residue, such as pesticides and fertilizers, into surface waters.[8] Sources that have traditionally been considered to cause nonpoint pollution are as follows:[9]

- Fertilizer and pesticide application
- Leaking underground storage tanks
- Chemical and oil spills
- Septic systems

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[1] Clare F. Saperstein, State Solutions to Nonpoint Source Pollution: Implementation and Enforcement of the 1990 Coastal Zone Amendments Reauthorization Act Section 6217, 75 B. U. L. Rev. 890, 889-921 (1995) [*Solutions*].

[2] William Whipple Jr., Joseph V. Hunter, and Shaw L. Yu, Unrecorded Pollution from Urban Runoff, 46 *Water Pollution Control Federation Journal* 873-885 (1974) [*Unrecorded Pollution*].

[3] Association of State and Interstate Water Pollution Control Administrators, Meeting the Challenge of Nonpoint Source Control, 58 *Water Pollution Control Federation Journal* 733, 730-740 (1986) [*Nonpoint Source Assessment*].

[4] *Nonpoint Source Assessment*, *supra* note 3 at 733.

[5] Mackenzie Davis & David Cornwell, *Introduction to Environmental Engineering* (McGraw Hill, 1998) ch 4, p 285 [*Environmental Engineering*]; William Rodgers Jr., 2 Environmental Law (West 2011), § 4:09 (Nonpoint Sources—Background and Related Laws), at 1 [*Rodgers*].

[6] *Environmental Engineering*, *supra* note 5 at 285.

[7] *Id*. at 285.

[8] *Id*.

[9] *Environmental Engineering*, *supra* note 5 at 285; *Nonpoint Source Assessment*, *supra* note 3 at 739; *Unrecorded Pollution*, *supra* note 2 at 873.

- Abandoned mining sites
- Land disposal sites
- Heat
- Dams
- Silviculture (forestry)
- Saltwater intrusion
- Storm and combined sewers discharges
- Some construction activities

B. Extent of the Nonpoint Source Pollution Problem

Nonpoint source pollution causes water quality degradation throughout the nation.[10] America's Clean Water: The State's Nonpoint Source Assessment 1985, conducted by the Association of State and Interstate Water Pollution Control Administrators shows that 30% of lake acres, 17% of estuary square miles, 11% of total river miles, and 6.2% of ocean coastlines in the United States are impaired due to nonpoint source pollution.[11] In lakes and estuaries, pollutants cannot disperse easily and are more likely to settle and create a waste sink, a place where waste contaminants concentrate.[12] In waste sinks, pollutant concentrations build up over time and contribute to a higher percentage of impairment than in rivers and ocean coastlines.[13] Nonpoint source pollution is cited as the most widespread reason for not being able to achieve water quality standards throughout the nation.[14]

C. Specific Environmental Problems Caused by Nonpoint Source Pollution

Nonpoint sources cause a wide array of environmental problems. Since nonpoint pollution comes from a variety of sources, each source causes a unique environmental problem. Examples include:[15]

Symptom	Source	Effect
Eutrophication	• Excessive nutrient concentration	Change to the ecosystem
Too much oxygen demanding material	• Decaying plant life	Less oxygen for species that need oxygen
Pathogens	• Manure from grazing	Disease of aquatic species
Toxic components and heavy metals	• Pesticides, herbicides, fungicide • Leachate from urban areas • Mining	

[10] *Nonpoint Source Assessment*, *supra* note 3 at 733.
[11] *Id*. at 733.
[12] *Unrecorded Pollution*, *supra* note 2 at 873.
[13] *Environmental Engineering*, *supra* note 5 at 285.
[14] Mandi M. Hale, Comment: *Pronsolino v. Marcus*, The New TMDL Regulation, and Nonpoint Source Pollution: Will the Clean Water Act's Murky TMDL Provision Ever Clear the Waters? 31 Envtl. L. 981, 982 (2001).
[15] *Nonpoint Source Assessment*, *supra* note 3 at 732.

Sedimentation	• Construction • Forestry	Materials broken down by wind and erosion collect in waterways
Salt	• Application to roadways	Saltwater intrusion
Heat	• Dams	Reacts to generate ammonia and phosphorus

Negative water quality can cause a water body to die, change ecological behavior, or create a situation where the water cannot be used as intended.[16] For example, the application of fertilizer that contains nitrogen to farmlands increases the crops' nutrient concentration and better enables them to grow.[17] Nutrients, which are naturally present in water bodies, support the ecosystem at the levels required for the ecosystem to live.[18] When the fertilizers wash into rivers and lakes from farmlands, a surplus concentration of nutrients occurs and causes certain organisms to grow and others to die off.[19] Algae will grow in the presence of excess nutrients.[20] In areas where this type of nonpoint source pollution is prevalent, an algae bloom can encompass the entire surface of the water body.[21] As algae dies off, it demands oxygen from the water and leaves less oxygen available to support aquatic species.[22]

D. Problems with Controlling Nonpoint Source Pollution

The attempt to control nonpoint source pollution presents a number of complexities. Each state that manages nonpoint source water impairment has different hydrology, topography, population density, water supply, point-source contribution, and land use.[23] It is common for pollutants to wash into waterways during or directly after precipitation events.[24] Snowmelt and rainfall generate large volumes of runoff and action must be taken quickly in order to obtain accurate measurements to effectively assess the degree and extent of pollution.[25]

State programs are dispersed, uncoordinated, and optional which makes the mitigation of nonpoint source pollution difficult at the state level.[26] Since nonpoint source pollution is a local problem based on local activities the federal requirements work for some, but not all, areas

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[16] William Rodgers Jr., 2 Environmental Law (West 2011) § 4:10 (Nonpoint Sources—Formal Definitions, Theory, and Case Law) [*Rodgers, Definitions*].
[17] *Environmental Engineering*, *supra* note 5 at 285; *Rodgers*, *supra* note 5 at 5.
[18] *Environmental Engineering*, *supra* note 5 at 284.
[19] *Id*. at 285.
[20] *Id*. at 284.
[21] *Id*. at 286.
[22] *Id.*
[23] *Id.*
[24] *Nonpoint Source Assessment*, *supra* note 3 at 733.
[25] *Id*. at 735.
[26] *Environmental Engineering*, *supra* note 5 at 285.

because they are uniform for all states.[27] State programs in some areas work better than in other areas because they are optional.[28]

II. Legal Regulation and Control of Nonpoint Source Pollution

A. Control of Nonpoint Source Pollution

1. The Clean Water Act—Primary Federal Regulation of Water Pollution

The Clean Water Act (CWA), 33 U.S.C. 1251 *et seq*., controls the discharge of point source pollution by granting individual permits under the National Pollutant Discharge Elimination System (NPDES).[29] Originally, industrial sources were the target of point source regulation.[30] The 1972 CWA did not define a nonpoint source, but defined point source as "any discernible, confined, and discrete conveyance, including but not limited to any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, or vessel or other floating craft, from which pollutants may be discharged."[31] A nonpoint source could be construed as everything else that pollutes waterways.[32]

The federal circuit courts have ruled that the CWA is primarily limited to point sources.[33] State agencies and courts have to decide whether a certain pollution source requires a permit under the NPDES program as a point source.[34] In 1987, Congress amended the CWA and directly addressed nonpoint source pollution. The amended CWA defined a nonpoint source as a source, which "does not result from a discharge at a specific, single location (such as a pipe), but generally results from land runoff, precipitation, atmospheric deposition, and percolation."[35]

The U.S. Supreme Court extended the CWA's definition of point source pollution to certain nonpoint sources in *South Florida Water Mgmt. Dist. v. Miccosukee Tribe of Indians*.[36] In that case, Plaintiff argued that a NPDES permit was necessary for pumping phosphorus laden water between a canal and a reservoir.[37] Although the two sources had different water quality levels and would not naturally flow into one another, the government claimed that no permit was required because the source of the phosphorus was from agricultural run-off in the area.[38] The

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[27] *Nonpoint Source Assessment*, *supra* note 3 at 738.
[28] *Id.*
[29] *Id.*
[30] 33 USCA 1342 (2008); Reed D. Benson, Pollution Without Solution: Flow Impairment Problems Under Clean Water Act Section 303, 24 Stan Envtl L J 219, 199-267 (2005) [*Section 303*].
[31] *Section 303*, *supra* note 30 at 219.
[32] *Sources*, *supra* note 5 at 1.
[33] *Id*.
[34] *Barnum Timber Co. v. U.S. Envtl. Prot. Agency*, 633 F3d 894, 902 (9th Cir. 2011); *U.S. v. Earth Sciences, Inc.*, 599 F2d 368, 371 (10th Cir. 1979).
[35] *Rodgers, Definitions*, *supra* note 16 at 2.
[36] *Solutions*, *supra* note 1 at 893.
[37] *South Florida Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 US 95, 106; 124 S Ct 1537 (2004).
[38] *Id*. at 106.

Court emphasized that the distinction should be whether the source is the cause-in-fact of the release of pollutants into navigable waters.[39] The flow of pollutants that would not occur naturally is the cause in fact of the pollutant discharge.[40]

3. Is a Person a Point Source?

In *U.S. v. Plaza Health Labs., Inc.*,[41] the defendant was charged with violating the CWA because he knowingly discharged pollutants that required a permit.[42] The defendant had taken waste vials of potentially contaminated human blood from his laboratory and thrown them into the Hudson River.[43] The vials were found by a group of eighth graders on a field trip.[44] A jury found the defendant guilty of knowingly discharging pollutants from a point source without a permit into the Hudson River.[45]

The appeals court found that, because the pollution was caused by a human, it was a nonpoint source under the CWA.[46] The CWA definition of point source pollution was not meant to include a human being's individual acts.[47] The court was reluctant to hold anyone throwing anything into a river liable under the CWA, providing the example of "a passerby who flings a candy wrapper into the Hudson River."[48] In enacting the CWA, Congress's focus was on targeting industrial dischargers.[49] However, the claim could have been argued as a violation for nonpoint source pollution under the Rivers and Harbors Act of 1899 (RHA).[50] The RHA encompasses a broader approach by Congress to stop more general, individual polluting behavior.[51]

4. First Attempt to Control Nonpoint Source Pollution—The Rivers and Harbors Act

The RHA of 1899 was the first attempt to control nonpoint sources of pollution.[52] The RHA makes it a misdemeanor to excavate or fill in land next to navigable water, to dispose of refuse into any navigable water, or to create a dam.[53] The RHA's definition of refuse provides broad coverage.[54] Refuse is defined as any kind of pollutant or foreign substance that is placed into a

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[39] *Id*. at 103.
[40] *Id*. at 105
[41] *U.S. v. Plaza Health Labs., Inc.*, 3 F3d at 643 (2nd Cir. 1993).
[42] *South Florida Water Mgmt. Dist. v. Miccosukee Tribe of Indians*, 541 US 95 at 103 (2004).
[43] *U.S. v. Plaza Health Labs., Inc.*, 3 F3d at 643 (2nd Cir. 1993).
[44] *Id.*
[45] *Id*. at 644.
[46] *Id*. at 645.
[47] *Id*. at 645.
[48] *Id*. at 647.
[49] *Id*. at 646.
[50] *Id*. at 647.
[51] *Id*.
[52] *Id*. at 648
[53] 33 USC 401 (1899); 33 USC 407 (1899).
[54] 33 USC 401 (1899); 33 USC 407 (1899).

waterway, including nonpoint source pollution.[55] The RHA can be used to invoke criminal liability and, therefore, can provide an effective deterrent to nonpoint pollution.[56]

In *U.S. v. Pollution Abatement Services of Oswego, Inc.*,[57] the court held corporate officers of a chemical company liable for storing highly toxic chemicals, including: polychlorinated biphenyls (PCBs), pesticides, and hydrocarbons alongside a creek.[58] The officers and managers of the corporation were held strictly liable under the RHA and were charged for the cleanup cost.[59] The court determined that the officers had direct control over the unacceptable storage and were accountable for the improper disposal.[60] The act provides that ". . . every person and every corporation that shall violate, or that shall knowingly aid, abet, authorize, or instigate a violation . . ." is accountable for an injunction, civil, or criminal liability.[61]

5. Control of Nonpoint Source Pollution Through Grants

Grants are often used to develop state programs that are responsible for controlling nonpoint source pollution under the CWA and the Coastal Zone Management Act of 1990 (CZMA). Two programs have been set-up to create incentive based grants under the CWA.[62] Under the first regime, Section 208, state governors have the option to create waste management authorities to plan for regional control of construction, agriculture, and silviculture activities.[63] If a state participates, it is eligible for federal grants and technological assistance from the federal government.[64] Each state plan has to be federally approved before the state can gain access to the grant money.[65] Section 208 has not been very successful because few states participate and the federal government does not have effective means to enforce the plans.[66]

In 1987, a second grant regime, Section 319, was enacted under the CWA.[67] The regime set up a $400 million grant to provide states with funding over a four-year period if they met certain water quality improvement milestones for nonpoint source pollution.[68] Participating states Identify their impaired waterways and determine how they could best improve the quality of the waterways.[69] Under this regime, participating states typically create plans based on the

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[55] Andrew Franz, Changing Currents: Perspectives on the State of Water Law and Policy in the 21st Century: Crimes Against Water: The Rivers and Harbors Act of 1899, 23 Tul Envtl L J 277 (2010) at 278 [*Crimes*].
[56] 33 USC 407 (1899).
[57] *U.S. v. Pollution Abatement Services of Oswego, Inc.*, 763 F2d 133 (2nd Cir. 1985).
[58] *Crimes*, *supra* note 55 at 277; *U.S. v. Pollution Abatement Services of Oswego, Inc.*, *supra,* 763 F2d at 133
[59] 763 F2d at 133.
[60] *Id*.
[61] *Id*. at 134.
[62] *Id.* At 134-135.
[63] Robin K. Craig, Local or National? The Increasing Federalization of Nonpoint Source Pollution Regulation, 15 J Envtl L & Litig 187 (2000) at 188 [*Local*].
[64] *Id*. at 187.
[65] *Id*.
[66] *Id*. at 188.
[67] *Id*.
[68] *Id*. at 187.
[69] *Id*.

specific land uses in their areas.[70] Each plan has to be federally approved, and the states continue to receive the money only if they implement best management practices (BMPs) and meet pollution reduction goals.[71] Again, this schema is voluntary and has no means of enforcement.[72] Implementation of BMPs can be a timely and costly use of resources so it may be easier for states to forgo adopting these voluntary programs.[73] Today, 46 states that include 368 partially restored or restored waterbodies participate in this program.[74]

In contrast, the Coastal Zone Management Act of 1990 (CZMA) uses a grant schema that has potential for enforcement.[75] If any participating state does not comply, the federal grant money that it would typically receive is withheld.[76] Each state that contains a coastal zone must develop a program enforced by the state.[77]

The CZMA requires each coastal state to identify land uses that contribute to nonpoint pollution and to implement ways to mitigate the pollution.[78] The Act requires the federal government to provide assistance to handle the technical difficulties in controlling nonpoint sources.[79] The CZMA creates a basic schema for common land uses that create issues, such as agricultural and urban run-off, dams, shoreline erosion, and marinas.[80] Some states, such as New Jersey, have issued permits under the NPDES program of the CWA for coastal nonpoint source pollution to comply with CZMA.[81] Courts in other jurisdictions have found the NPDES program under the CWA to include only point sources.[82] Today, more items are being included in the point source NPDES permitting program, thereby aiding to mitigate the water pollution problem.

6. Total Maximum Daily Load Regime

Section 303 of the CWA was initially enacted to collect information that each state could use to control nonpoint source pollution.[83] Section 303 of the CWA requires states to set water quality standards for each waterway through total maximum daily load (TMDL) limits.[84] The TMDL schema is an accounting process that grants pollutant allowances based on the health of the receiving water body.[85] Waterways that do not meet set criteria are required to have a TMDL

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[70] *Id*.
[71] *Id*.
[72] *Id*.
[73] *Id*.
[74] EPA, Water: Nonpoint Source Success Stories (accessed June 25, 2012)
[75] *Solutions*, *supra* note 1 at 893.
[76] *Id*. at 890.
[77] *Id*.
[78] *Id*. at 900.
[79] *Id*.
[80] *Id*.
[81] *Id*. at 902.
[82] *Id*. at 911.
[83] 33 USC 1313 (d)(1)(C) (1999).
[84] *Local, supra* note 63 at 189.
[85] *Id*.

established under the 303 program.[86] The goal is to keep waterways from becoming further polluted from point sources in areas where nonpoint sources were causing a larger amount of pollution.[87]

Over time, Congress has expanded the requirements under the TMDL program when a discharger can be identified.[88] For example, in 1990 the TMDL permit program was extended to storm water discharges in connection with industrial and construction polluters.[89] Under 40 C.F.R. § 122.26, targeted industries must obtain a storm water discharge permit under the NPDES system for storm sewers associated with industrial activity and municipal sewers of large and medium size.[90] In 2011, the Court of Appeals for the Ninth Circuit found that silviculture storm water is also subject to NPDES permits.[91] Sewer dischargers must plan, monitor, report, and use best management practices to keep pollutants out of the storm water sewers.[92] Also, the EPA Regional Administrator can trigger a permit if he determines that a water quality standard is violated through an unregulated storm water discharge.[93]

7. Section 401 of the Clean Water Act

Section 401 of the CWA provides a control tool with the most potential for the states to combat nonpoint source pollution.[94] Section 401 allows each state to review the waters within its borders to determine when certifications should be granted to known dischargers that require permits under any federal or state program, not just the TMDL program.[95] The language in 401 is broader and includes "any discharge into any water."[96] Although Section 401 has not been used proactively, it might be the regulation that eliminates gaps for nonpoint sources that are not already controlled by some state and federal program.[97]

In 1994, in *PUD No. 1 of Jefferson County v. Washington Dep't of Ecology*,[98] the U.S. Supreme Court held that states can utilize Section 401 as an enforcement technique to maintain the quality of their waterways, including nonpoint sources.[99] The Court upheld additional requirements made by the state for a permit for a federal hydroelectric facility that was issued under the Federal Energy Regulatory Commission (FERC).[100] The state added conditions to

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[86] *Id*.
[87] *Id*. at 190.
[88] 40 CFR 122.26 (1998); *Local*, *supra* note 63 at 188.
[89] 40 CFR 122.26 (1998).
[90] *Id.*
[91] *Northwest Envtl. Def. Ctr. v. Brown*, 640 F3d 1063 (9th Cir. 2011).
[92] 40 CFR 122.26 (1998).
[93] *Id.*
[94] Debra L. Donahue, The Untapped Power of Clean Water Act Section 401, 23 Ecology L Q 201 (1996) at 201 [*Untapped Power*]
[95] Scott D. Anderson, Comment: Watershed Management and Nonpoint Source Pollution: The Massachusetts Approach, 26 B C Envtl Aff L Rev 339, 345 (1999) [*Watershed*].
[96] *Id*. at 344.
[97] *Id*.
[98] 511 US 700; 144 S Ct 1900 (1994).
[99] *Id*. at 700
[100] *Id*.

ensure that the operation of a proposed dam would not cause water quality issues downstream.[101] Section 401 allows the states to impose conditions based on the specific use of their waterways, as opposed to generic conditions aimed to fix the nation's waterways.[102] Future use of Section 401 will be a powerful option for the states to improve the health of their water bodies.[103]

8. Citizen Suits

The CWA authorizes citizen suits that can highlight abuse of the NPDES permit program.[104] If a discharger violates a NPDES permit by releasing more than its allotted amount of pollutants into a river, it can be brought to the attention of a state agency by citizens who use the polluted river.[105] In *Northern Plains Res. Council v. Fidelity Exploration & Dev. Co.*,[106] a citizen suit was brought against a coal mine discharger who discharged pollutants into a nearby river without a permit.[107] The court found that the discharge was a pollutant and violated the CWA because the discharger should have applied for a permit before discharging the waste into a waterbody.[108]

In *Concerned Area Residents for the Environment v. Southview Farms,*[109] a citizen suit gave rise to the requirement that a permit be obtained for a potentially exempt agricultural activity.[110] The farms at issue in that case had large manure lagoons from a concentrated animal feeding operation (CAFO).[111] When rainfall occurred, fecal coliform bacteria washed into the nearby waterways.[112] The court held that if the operation were to continue, the agricultural activity of spreading manure via liquid spreaders required a NPDES permit.[113] Because a CAFO is a listed point source included in the definition of a point source, the court said it was not covered by the agricultural exemption and required a permit.[114]

9. Other Efforts to Control Nonpoint Source Pollution

Federal agencies other than the EPA also devote technical and financial resources to control nonpoint pollution, totaling 32 programs in 17 federal agencies.[115] A few of the most cited federal agencies that have such programs are: Soil Conservation Service, U.S. Forest Service, Office of Surface Mining, Bureau of Land Management, and the U.S. Army Corps of

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[101] *Id*.
[102] *Watershed*, *supra* note 95 at 344.
[103] *Id*. at 347.
[104] Environmental Law Practice Guide: State and Federal Law (Matthew Bender) [*Environmental Practice Guide*] Ch 4-18, § 18.16 at 4.
[105] *Id*. at 2.
[106] *Northern Plains Res. Council v. Fidelity Exploration & Dev. Co.*, 325 F3d 1157 (9th Cir. 2003).
[107] *Id*. at 1157.
[108] *Id*. at 1161.
[109] *Concerned Area Residents for the Environment v. Southview Farms*, 34 F3d 115 (2nd Cir. 1994)
[110] *Id*. at 116.
[111] *Id*.
[112] *Id*.
[113] *Id*.
[114] *Id*.
[115] *Nonpoint Source Assessment*, *supra* note 3 at 736.

Engineers.[116] Since Federal agencies issue permits for forestry and mining activities, they may be the most appropriate means to manage the nonpoint source pollution control in these areas.[117] States rated federal programs to be 17% effective, 80% locally or partially effective, and 3% were rated as ineffective.[118] The states each rated their programs based on how effective the plan was in achieving its goals.[119]

Three hundred fifty-four state and local programs throughout the country aid in the control of nonpoint pollution sources.[120] Local agencies have duties in land use management areas, such as zoning and planning, and enable them to add pollution controls during the permitting process.[121] Eighty-four of the regulated programs that are used effectively by state and local areas consist of construction, hydromodification, and mining programs.[122] One example is in the area of groundwater management. Groundwater management plans exist in 46 states and utilize tools like permitting, surveillance, facility siting requirements, regulation of discharges, and disposal to control pollutants that can migrate into groundwater.[123]

B. Regulation of Nonpoint Source Pollution

1. What Types of Point Sources are Now Regulated?

Today, point sources subject to the NPDES permitting process include the following:[124]

- Storm water runoff, mining waste
- Overflows from surface impoundments
- Waste lagoons at industrial sites, mushroom farming operations
- Landfill leachate into marshland
- Discharge of manure through spraying systems
- Collection of manure in ditches
- Cattle feedlot capable of discharge in extreme storm events trucks
- Helicopters spraying pesticides
- Storm water runoff in various areas
- Bulldozers and dump trucks
- Navy planes dropping bombs

Some of these sources were ambiguous and needed interpretation by the courts to be considered a point source; for example, in 2010 trucks spraying pesticides were held to be point

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[116] *Id*.
[117] *Id*.
[118] *Id*. at 737.
[119] *Id*. at 736.
[120] *Id*.
[121] *Id*.
[122] *Id*.
[123] *Id.* at 737.
[124] *Environmental Practice Guide, supra* note 104, ch 4-18, § 18.01 at 4.

sources that require permits under the CWA.[125] The following discussion will highlight some sources of regulated nonpoint source pollutants.

2. Construction

Construction activities cause pollution from processes that generate dust and debris and expose soil to erosion.[126] Local and state agencies regulate construction activities through subdivision laws, dredge and fill statutes, and regulations covering dams, roads, excavation, grading, and earthwork.[127] Construction companies must submit plans and specifications to the state, which regulates how construction will be completed in a way that aims to preserve aquatic species from runoff.[128] As of 1998, amendments to the CWA that concern storm water control require construction industries to comply with certain requirements that control discharges from storm water sewers.[129] Each construction site that has the potential to contribute to a TMDL violation or significantly contributes pollutants must obtain a storm water discharge permit.[130] A construction company's owners or operators may have to submit plans that describe how they will control erosion and sediment.[131] States can issue permits under the CWA to ensure that plans meet criteria and control pollution.[132]

3. Storm Water and Combined Sewers

Pollution from storm water discharges, as well as combined sewer overflows, were initially considered nonpoint sources and not controlled by the CWA.[133] In 1987, Congress amended CWA section 401(p) to require permits for discharges from storm and combined sewers.[134] A two-phase approach was instituted. The first phase targeted known industrial activities, municipal storm sewers, and significant contributors to pollution loading.[135] The second phase included a more inclusive list composed of anyone already permitted under the TDML program, small municipal storm sewers, military bases, government owned hospitals, prison complexes, highway sewers, small construction sites, and anything causing a significant pollution problem.[136]

4. Land Use Regulation

Section 302(b) of the Federal Land Policy Management Act (FLPMA) states "in managing the public lands the Secretary shall, by regulation or otherwise, take any action necessary to

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[125] *Id*. at 6.
[126] *Sources*, *supra* note 5 at 4.
[127] *Id*.
[128] *Id*.
[129] *Id*.
[130] *Id*.
[131] *Id*.
[132] *Id*.
[133] *Environmental Practice Guide, supra* note 104, ch 4-18, § 18.05 at 1.
[134] 40 CFR 122.26 (1998).
[135] *Environmental Practice Guide, supra* note 104, ch 4-18, § 18.05 at 1.
[136] *Id*. at 2.

prevent unnecessary or undue degradation of lands."[137] The FLPMA has been applied to mining activities.[138] If the owner or operator of a mine cannot clean up the site to meet the standard set forth in the FLPMA, then the mine cannot be developed.[139] One example where a court used the act to control nonpoint sources occurred in *Clouser v. Espy*.[140] The court interpreted the act to prohibit motorized vehicles from forest mining sites because they would cause irreparable damage to the land.[141] The mining site was located on a forest reserve land.[142] The Forest Service felt that the scope of work did not require motorized vehicles; it did not want to put the wilderness characteristics of the land in jeopardy.[143]

5. Mining

Mining causes pollution because the mineral extraction byproducts are highly acidic and can change the pH of waterways.[144] The runoff often contains toxic chemicals that can disrupt the ecological habitat.[145] The displacement of land can cause erosion and sediment issues.[146] Under the Surface Mining Control and Reclamation Act of 1977, no person can mine without having a permit issued by either the state or federal government.[147]

The Mineral Leasing Act requires each mining company to complete a permit application describing any new project that can have "a significant impact to the environment" in detail.[148] The plan has to describe how the mining activities will take place including construction, operation, and rehabilitation of the land.[149] A bond must be posted to ensure compliance with the plan. If the applicant fails to follow the plan, the permit is suspended and the applicant will lose the bond.[150] A miner is required to control nonpoint sources by preventing water from coming into contact with toxic substances, treating drainage to reduce the environmental risk, sealing and managing wells to keep the toxic drainage from migrating, cleaning up settling ponds in a manner approved by regulatory authority, managing the site in a way that will prevent undue erosion, and avoiding channels that will change flow patterns of waterways thus disrupting the ecosystem.[151]

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[137] Roger Flynn & Jeffrey C. Parsons, The Right to Say No: Federal Authority Over Hardrock Mining on Public Lands, 16 J Envtl L & Litig 249, 259 (2001).
[138] *Id*.
[139] *Id*.
[140] *Clouser v. Espy*, 42 F3d 1524 (9th Cir. 1994).
[141] *Id*. at 1524.
[142] *Id*.
[143] *Id*.
[144] *Sources*, *supra* note 5 at 5.
[145] *Id.*
[146] *Id.*
[147] *Id.* at 6.
[148] *Id.* at 5.
[149] *Id.*
[150] *Id.*
[151] *Id.* at 6-7.

6. Forestry

Forest harvesting leaves the land susceptible to erosion, so that wind and precipitation can wash the earth into waterways causing sedimentation issues.[152] The National Forest Management Act of 1976 includes controls that aid in the management of silviculture nonpoint sources.[153] Most forest lands that are harvested are controlled by the federal government through the use of a sales contract that controls the potential for pollution.[154] The sales contract usually contains provisions that are aimed at controlling the nonpoint source pollution.[155] For instance, the land may need to be replanted with trees when the removal operation is complete.[156]

7. Agriculture

The application of pesticides, synthetic fertilizers, herbicides, and irrigation return water flows can all contribute to increased chemical loading in ground and surface water.[157] Fertilizers can cause increased nutrient loading of nitrogen and phosphorus that causes spikes in vegetation growth and algae blooms.[158] Certain agricultural activities are exempt from the NPDES permit requirement as a point source.[159] The EPA's view was that pollution that comes predominantly from rainfall does not require an NDPES permit.[160] The Department of Agriculture program known as the Rural Agriculture Assistance Program provides incentives that allow farmers to recover up to 50% of their costs if they undertake BMPs for their nonpoint source pollution.[161]

Animal feeding operations (AFOs) were originally exempt from the permit requirement under the NPDES program.[162] The AFOs put animals, feed, manure, dead animals, and production operations in a very small area.[163] These operations can cause a significant amount of pollution as runoff containing pathogens and nutrients that may cause diseases, kill fish, and contaminate drinking water.[164] As of 2003, the EPA requires AFOs to obtain an NPDES permit.[165]

III. Conclusion

As the nation's waterways continue to decline in quality, regulation will have to be increased to better control nonpoint sources. The primary focus of upcoming regulations should be on land use and should define and control nonpoint source pollution through best management

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[152] *Id.* at 7.
[153] *Id.*
[154] *Id.*
[155] *Id.*
[156] *Id.*
[157] *Environmental Engineering*, *supra* note 5 at 285.
[158] *Id.*
[159] *Northwest Envtl. Def. Ctr. v. Brown*, *supra*, 640 F3d 1065 (9th Cir. 2011).
[160] *Id.*
[161] *Sources*, *supra* note 5 at 4.
[162] *Environmental Practice Guide, supra* note 104, ch 4-18, § 18.09 at 1.
[163] *Id.*
[164] *Id.*
[165] *Id.*

practices.[166] Best management practices can potentially stop nonpoint source pollution from reaching and polluting a waterway. Common practices, such as applying salt to snowy roads, may need to be limited if the runoff flows to an estuary causing salt-water intrusion. More intensive control of agricultural nonpoint sources may be key in order to preserve the waterways of the nation. States will also play a large part in controlling these sources because they have the ability to control local land uses. In the future CWA section 401 will likely be a source states can utilize to control non-attainment areas.[167] It is a very powerful provision enabling the states to add requirements as they see fit to control the local water quality.[168]

[166] *Environmental Practice Guide, supra* note 104, ch 4-18, § 18.13 at 4.
[167] *Untapped Power*, *supra* note 94 at 191.
[168] *Id.*