Chapter Seven:
Storm Water Pollution Problems

I. Introduction

As mentioned in Chapter Five, nonpoint source pollution has long been a serious threat to water quality. Because nonpoint source pollution discharge has proven difficult to regulate, Congress and the EPA have approached "wet weather" problems by increasing the scope of the NPDES program. The NPDES permit program has been largely successful at controlling discharges from industrial plants and municipal treatment works, and it is anticipated that this program will achieve similar results in controlling pollution from urban storm water, construction activities, and silviculture operations. Since the late 1980s, the NPDES permitting program has increasingly focused on solving these wet weather pollution problems.

II. The Storm Water Program

Storm water is defined in EPA regulations to include storm water runoff, snow melt runoff, and surface runoff and drainage.[1] It is generally discharged through a system of pipes and sewer lines that carry rainwater or snowmelt away from urban areas and commercial and industrial facilities. Although the water is discharged from pipes, it is intermittent and weather-dependent, thus having characteristics of both point and nonpoint source pollution. However, because storm sewers meet the legal definition of a "point source" (see Chapter One), the EPA has required NPDES permits for the discharge of storm water runoff. Between 1973 and 1987, the EPA promulgated a series of NPDES storm water regulations which resulted in extensive

[1] 40 C.F.R. § 122.26(b)(13).

litigation and little control of storm water.[2] Recognizing the need for a legislative solution, Congress addressed the problems associated with storm water through the 1987 amendments to the CWA.

In 1987, Congress added § 402(p) to the CWA. This section established a comprehensive regulatory scheme that included a phased approach to permitting storm water discharges. Several categories of storm water discharge comprise what the EPA calls Phase I of its storm water permit program. Phase I provisions cover industrial activities, "large" construction activity, and municipal systems serving a population of 100,000 or more.[3] In 1999, the EPA issued Phase II storm water rules to cover small municipalities (populations under 100,000) and construction sites of between one and five acres.[4] The industrial and construction site provisions of Phase I and Phase II are particularly relevant to BLM and will be discussed below.[5] Permitting authority for the storm water program is the same as that for NPDES permitting (see Chapter Two). Figure One shows the storm water permitting authority for western states.

[2] The EPA published and amended their NPDES storm water regulations in 1973, 1976, 1979, and 1984.
[3] 33 U.S.C. §§ 1342(p)(1) and (2). The specific sources included in Phase I are: 1) a discharge with respect to which a permit has been issued prior to February 4, 1987; 2) a discharge associated with industrial activity; 3) a discharge from a municipal separate storm sewer system serving a population of 250,000 or more; 4) a discharge from a municipal separate storm sewer serving a population of 100,000 or more, but less than 250,000; and 5) a discharge for which the EPA Administrator or the state, as the case may be, determines contributes to a violation of a water quality standard or is a significant contributor of pollutants to the waters of the United States.
[4] The EPA issued the final Phase II storm water rule December 8, 1999. 64 Fed. Reg. 68721 (Dec. 8, 1999), codified at 40 C.F.R. § 122.26(g).
[5] The Phase I and II municipal system provisions are not relevant to the BLM. For information on these programs see Ryan, Mark, editor. The Clean Water Act handbook. Chicago: Section of Environment, Energy, and Resources, American Bar Association, c2003; and Gallagher, Lynn M., Clean Water Handbook, Third Edition, Government Institutes (2003).

Figure One: Permitting Authority for NPDES Storm water Program

State	Is EPA the Permitting Authority?[1]	Additional Conditions[2]
Alaska	Yes	Possibly
Arizona	For Indian Country Only	Possibly
California	For Indian Country Only	No
Colorado	For Indian Country and Federal Facilities	No
Idaho	Yes	Possibly
Montana	For Indian Country Only	Possibly
Nevada	For Indian Country Only	No
New Mexico	Yes	No
Oregon	For Indian Country Only	Possibly
Utah	For Indian Country Only	No
Wyoming	For Indian Country Only	No

1. http://cfpub.epa.gov/npdes/storm water/authorizationstatus.cfm
2. See section 9 of the Construction General Permit at: http://cfpub.epa.gov/npdes/storm water/cgp.cfm

A. Phase I Industrial and Construction Provisions

Phase I of the NPDES storm water program addresses discharge from industrial sites and large construction activities (disturbing five acres or more of land).[6] Operators of these industrial and construction activities must obtain an NPDES permit. In addition, operators of construction sites disturbing less than five acres are required to obtain a permit if their activity is part of a "larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more."[7]

i. Exclusions

Excluded from the Phase I storm water program are discharges from facilities or activities that are already excluded from the NPDES program.[8] Of particular relevance to the

[6] 55 Fed. Reg. 47990 (Nov. 16, 1990). This rule identifies 11 categories of facilities considered to be engaging in "industrial activity," and Category 10 of this definition is "construction activities, including clearing, grading and excavation activities, except operations that result in the disturbance of less than five acres of total land area …." See also 40 C.F.R. § 122.26(b)(14)(x).
[7] 40 C.F.R. § 122.26(b)(14)(x).
[8] 40 C.F.R. § 122.26(b)(14).

BLM, the CWA exempts from NPDES permitting requirements storm water discharges from oil, gas, or mining operations that are not contaminated by contact with any overburden raw material, intermediate products, finished products, by-products, or waste products.[9] However, conveyances at oil, gas, and mining operations used to collect storm water that has been contaminated by contact with or that has come into contact with any overburden, raw material, intermediate products, finished products, by-products, or waste products located on the site of such operations are required to obtain an NPDES permit.[10]

ii. Phase I Permits: Individual and General

Operators who discharge storm water associated with construction activity are required to obtain either an individual or a general NPDES permit. Facilities seeking to obtain an individual permit must submit Form 2F (the NPDES application form applicable to discharges composed entirely of storm water). Form 2F requires facility-specific information,[11] as well as quantitative analytical data from storm events.[12]

Most dischargers obtain a general permit for storm water discharge. Where the EPA has issued a general permit for a group of dischargers (see Figure Two), an eligible facility must submit: 1) a Notice of Intent (NOI) to be covered by the permit, which includes general information and certification that the activity will not impact endangered or threatened species; [13] 2) a Storm Water Pollution Prevention Plan (SWPPP), which identifies appropriate BMPs to minimize the discharge of pollutants from the site;[14] and 3) a Notice of Termination (NOT) when

[9] 33 U.S.C. § 1342(l)(2).
[10] 40 C.F.R. § 122.26(b)(14)(iii).
[11] The required information is outlined in 40 C.F.R. §§ 122.26(c)(1)(i)(A)-(D).
[12] 40 C.F.R. § 122.26(e)(1).
[13] 40 C.F.R. § 122.21(a).
[14] 57 Fed. Reg. 41243 (Sept. 9, 1992).

final stabilization of the site has been achieved as defined in the permit or when another operator has assumed control of the site.

Figure Two: Categories Covered by The Multi-Sector General Permit - 2000
Timber Products
Metal Mining (Ore Mining and Dressing)
Oil and Gas Extraction and Refining
Mineral Mining and Dressing
Coal Mines and Coal Mining-Related Facilities
Landfills and Land Application Sites
Glass, Clay, Cement, Concrete, and Gypsum Product Manufacturing
Primary Metals
Hazardous Waste Treatment, Storage, or Disposal
Land Transportation Facilities
Water Transportation
Air Transportation Facilities
Paper and Allied Products Manufacturing
Asphalt Paving and Roofing Materials Manufacturing and Lubricant Manufacturing
Chemical and Allied Products Manufacturing
Automobile Salvage Yards
Scrap Recycling Facilities
Steam Electric Power Generating Facilities
Ship and Boat Building or Repairing Yards
Treatment Works
Food and Kindred Products
Textile Mills, Apparel, and other Fabric Product Manufacturing
Furniture and Fixture Manufacturing
Printing and Publishing
Rubber, Miscellaneous Plastic Products, and Miscellaneous Manufacturing Industries
Leather Tanning and Finishing
Fabricated Metal Products
Transportation Equipment, Industrial, or Commercial Machinery
Electronic and Electrical, Photographic and Optical Goods Manufacturing

Source: Gallagher, Lynn M., Clean Water Handbook, Third Edition, Government Institutes (2003).

B. Phase II Construction Activity Storm Water Discharge

Phase II of the storm water program covers all storm water discharges not addressed under Phase I. CWA § 402(p)(5) required the EPA to study and designate additional storm water discharges that should be regulated and to establish a comprehensive program to regulate these discharges. The EPA issued these required regulations in 1999, extending NPDES permitting to discharges from "small" construction sites.[15] The requirements for small construction permits

[15] 64 Fed. Reg. 68722 (Dec. 8, 1999).

are very similar to the requirements place on large construction sites. However, there are a couple of key differences. First, unlike large construction sites, small sites can be waived from the NPDES permitting program based on either the rainfall intensity anticipated for the project period, or a water quality analysis that shows construction controls are not necessary to protect water quality.

i. "Small" Construction Sites

"Small" construction sites are construction activities disturbing between one and five acres of land (or activities smaller than one acre which are part of a larger common plan of development or sale with a planned disturbance of equal or greater than one acre and less than five acres).[16] Sites below one acre can be designated for permitting by the EPA or an authorized state where the discharge has the potential to contribute to a violation of water quality standards or to be a significant contributor of pollutants.[17] Unlike sites greater than five acres, however, the EPA regulations provide that "small" construction sites may qualify for a waiver from permitting requirements.

ii. Waivers

To obtain a waiver, an operator of a small construction activity must certify that either 1) the construction is in a region with a "rainfall erosivity factor" of less than 5,[18] or 2) activity will

[16] 40 C.F.R. § 122.26(b)(15).
[17] 40 C.F.R. §122.26(b)(15)(ii).
[18] The erosivity factor is determined by the 1997 USDA handbook Predicting Soil Erosion by Water: A Guide to Conservation Planning with the Revised Universal Soil Loss Equation (RUSLE) at 40 C.F.R. § 122.26(b)(15)(i)(A).

occur in an area where controls are not needed to protect water quality (based on a TMDL or equivalent water quality analysis).[19]

iii. Phase II Permits

Under these Phase II regulations, small construction activities are required to apply for NPDES permit coverage and implement storm water discharge management controls (BMPs) that effectively reduce or prevent the discharge of pollutants into receiving waters. Figure Three identifies several common BMPs. The EPA anticipates that most discharges from small construction activity will be regulated through general permits.[20] For small constriction sites that do not obtain coverage under a general permit, the operator must submit the same individual permit application that larger construction sites submit.[21]

Figure Three: Recommended Structural BMPs for Small Construction Sites

Erosion Controls	Sediment Controls
Mulch Grass Stockpile Cover	Silt Fence Inlet Protection Check Dams Stabilized Construction Entrances Sediment Traps

III. Silviculture Provisions

The EPA has adopted special regulations to govern NPDES permitting of silvicultural activities.[22] A silvicultural point source in need of an NPDES permit is "any discernible,

[19] 40 C.F.R. § 122.26(b)(15)(i)(B).
[20] 64 Fed Reg. 68777 (Dec. 8, 1999). The requirements are similar to those for large constructions except EPA has relaxed the requirement for small construction facilities to submit an NOI to be covered under a general permit.
[21] 40 C.F.R. § 122.26(c)(1)(ii).
[22] 40 C.F.R. § 122.27.

confined and discrete conveyance related to rock crushing, gravel washing, log sorting, or log storage facilities which are operated in connection with silvicultural activities."[23] Specifically *excluded* are "non-point source silvicultural activities such as nursery operations, site preparation, reforestation and subsequent cultural treatment, thinning, prescribed burning, pest and fire control, harvesting operations, surface drainage, or road construction and maintenance from which there is natural runoff."[24]

The EPA argued in 1999 that certain silvicultural activities, most notably road construction, may result in the discharge of pollutants from a "confined, discernible, and discrete conveyance," and should be regulated as point sources. The EPA proposed changing its regulation, which would have had the effect of making most silvicultural discharges subject to Phase II storm water provisions.[25] This proposal, however, was withdrawn in the face of controversy, thus leaving the exiting silvicultural regulations in place.

[23] 40 C.F.R. § 122.27 (b)(1).
[24] *Id*.
[25] 64 Fed. Reg. 46012 (Aug. 23, 1999).