



Raritan Basin Watershed Management Project

www.raritanbasin.org

Strategies for Nonpoint Source Pollution Control

Many of the WMA Goals & Objectives address the control of nonpoint sources of pollution in some manner. To assist the WMA Committees with strategy development, the following general strategies are provided; where example projects are available, they are noted. Please note that these are not “recommended” or “required” strategies, but rather are just some alternatives available. WMA Committees should feel free to add, delete or modify from these approaches. In other words, think of this paper as an “idea dump” – the ideas are here to reuse, recycle or leave in the dump.

Strategy Options – Physical Projects

- Streambank and riparian area stabilization/restoration projects (various watershed associations, Middlesex County, NRCS, etc.)
- Reforestation projects (various watershed associations, etc.)
- Program of activities to remove NPS pollutants from stormwater flows such as street sweeping, litter cleanup, and storm catchbasin retrofitting (stormwater utilities in various states, NJDOT)
- Bioengineering approaches to capture/treat NPS pollutants, such as artificial wetlands creation (Ten Towns/Great Swamp Committee)
- Landscape modifications in public open space, such as low-water gardens (Essex County and Cape May County)
- Operations and maintenance of stormwater systems by stormwater utilities (Virginia, Maryland, Georgia and many other states – *would require new legislation in NJ*)
- Stormwater volume reduction through capture of rooftop precipitation (Gap, Inc. Headquarters, California)

Strategy Options – Non-regulatory

- Financial incentives for BMP implementation on existing agricultural and suburban land uses (NJ Agricultural Cost-Share Program, NRCS Environmental Quality Incentive Program)
- Financial or other incentives for incorporating BMPs, reducing NPS loadings, etc., beyond current standards in redevelopment projects
- Financial incentives for replacing old septic systems with state-of-the-art individual disposal systems with nutrient reduction technology
- Protect NPS discharges from liability, nuisance law actions, or individual permit requirements if they comply with BMPs, unless there is proof of contribution to actual pollution (Nebraska, Montana, Vermont)

- Educational programs for students and residents (NJ Audubon Society-NJ WATERS, Project WET, various watershed associations, parks, Lake Champlain Program, South Carolina Champions of the Environment program)
- Educational programs for technical professionals (Cook College Short Course Programs, specialty conferences and workshops)
- Educational programs for businesses and major landowners (Cook College Short Course Programs, Clean Marina Program)
- Training programs for municipal, developer, contractor and environmental organization personnel and landowners in improved land development and land management techniques, BMPs and construction oversight for NPS reductions (Nonpoint Education for Municipal Officials-NEMO, Cook College Short Courses)
- Technical assistance and BMP demonstration programs (Farm Conservation Plans, Farm*A*Syst Program, NJ Cooperative Extension and Agricultural Extension Services outreach, NJIT industrial technical assistance program, EPA guidance manuals, Musconetcong River NPS Demonstration Project, Toms River NPS Demonstration Project)
- Targeted acquisition or preservation of lands that have attributes likely to exacerbate NPS loadings if developed, such as highly erodible soils, steep slopes, acid-producing soils, etc. (Conservation Reserve Program, Conservation Reserve Enhancement Program)
- Household hazardous waste drop-off programs (most NJ counties)
- Watershed or subwatershed cooperative programs to reduce NPS loadings through a collection of strategies (Navesink River NPS Project, many states through the Rural Clean Water Project and the Section 319 program)
- Creation of non-profit watershed associations or watershed management groups to provide a local focus for implementation projects

Strategy Options – Investigations

- NPS Watershed Pollutant Loading Models (being developed for Raritan Basin by NJDEP/NJWSA; Whippany River Watershed Project)
- Biological and habitat assessments to determine the causes (e.g., pollution, habitat disruption) for moderate and severe macroinvertebrate impairment (NJDEP-Water Monitoring Management)
- Water Watch programs (aka River Assessment Teams, Stream Watch) to identify problem areas for NPS inputs (several NJ watershed associations and school systems, Tennessee Valley Authority, Alabama)
- Bacterial source identifications (Monmouth University, NJDEP-DWM-Water Monitoring Management, Health Department sanitary surveys)
- Stream channel assessments to determine stability, sources of NPS loadings from nearby land uses, etc. (NRCS Visual Stream Assessment Method)

Strategy Options – Regulatory

- Municipal ordinances to prevent or regulate location or extent of land disturbances of riparian areas, other near-stream areas, and other areas likely to affect surface water quality (Stony Brook-Millstone Watershed Association Model Stream Corridor Ordinance)
- Municipal ordinances to prevent the net increase in NPS pollutant loadings from new development (Montgomery Township, NJ)
- Zoning provisions regulating the density of individual septic systems
- Zoning provisions regulating the location of individual septic systems away from surface waters
- Zoning provisions regulating the location of individual septic systems away from highly sensitive ground water recharge areas such as geologic faults, excessively drained soils
- Local health regulations requiring proper maintenance of septic systems (Rhode Island)
- Zoning based on NPS performance standards related to the location, design, construction and maintenance of new development (Rhode Island Flexible Zoning for the Scituate Reservoir watershed)
- Site plan provisions requiring low-impact development designs, such as minimum disturbance of natural vegetation, minimize stormwater flow increases and loss of ground water recharge
- Site plan provisions requiring minimum disturbance of lands that have attributes likely to exacerbate NPS loadings if developed, such as highly erodible soils, steep slopes, acid-producing soils
- Prohibit use of certain categories or strengths of lawn chemicals (Mountain Lakes NJ ordinance or Lake Mohawk County Club rules mandating use of low-phosphorus fertilizers)
- Prohibit classes of NPS discharges unless they have permits (NJPDES construction general permit, soil conservation district certification)
- Prohibit NPS discharges unless in compliance with Best Management Practices (BMPs) (NJPDES industrial stormwater general permits, Vermont, Maryland [agriculture must have approved soil and water conservation plan])
- Mandate NPS BMPs for NPS categories, without permit fall-back (NJ Farmland Preservation Program for lands with State-purchased development rights, cooperator agreements under Food Security Act of 1985, Pennsylvania Nutrient Management Act for animal farms)
- Require individual NJPDES permit for NPS discharges that do not comply with Best Management Practices (BMPs) – this provision is also called a “bad actor” approach – or surface water pollution control plans (aka TMDL) (Oregon TMDL implementation)

- Require individual NJPDES permits for all members of specific NPS categories (EPA concentrated animal feeding operations requirements)
- Require on-site record keeping of BMP implementation for selected NPS categories, with local right of record review and inspection (NJ Pesticide Control Program, NJ Underground Storage Tank program)
- Certification process to log the existence and characterization of land uses contributing NPS pollutants and BMPs, or the use of hazardous chemicals (NJ pesticides program)
- Establish special performance standards (above and beyond Soil Erosion and Sediment Control, Stormwater Management and other standards) for NPS control from new developments in highly sensitive watersheds
- Establish special performance standards (above and beyond existing standards if any) for NPS control from existing developments controlled by commercial interests or homeowners associations (i.e., where the stormwater system is privately owned) in highly sensitive watersheds
- Mandate that road or bridge improvements or replacements incorporate NPS BMPs in their design and construction

Information Resources

Center for Watershed Protection. 1998. Better Site Design: A Handbook for Changing Development Rules in Your Community. Ellicott City, MD. www.cwp.org

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NJDEP. 1995. New Jersey Coastal Nonpoint Pollution Control Program Plan.

Prince George's County Department of Environmental Resources. 1999. Low-Impact Development Design Strategies: An Integrated Design Approach. Prince George's County, Largo, Maryland.

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USEPA. 1997. Section 319 Success Stories: Volume II, Highlights of State and Tribal Nonpoint Source Programs. EPA 841-R-97-001. <http://www.epa.gov/owow/nps/Section319II/>

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