

**Lower Raritan Watershed Management Area
Stormwater & Flooding Subcommittee
Strategy Worksheet LRSW-S2A4
Strategy Worksheet LRSW-S2B4**

<p>Strategy Name: BMPs to Manage Hot Spots¹ LRSW-S2A4. Identify existing 'hot spots' and recommend specific BMPs to ensure that water quality achieves or exceeds all standards. LRSW-S2B4. Require specific BMPs to manage discharges from potential 'hot spots' in new development in order to achieve management plan objectives.</p>	<p>Strategy Priority: H (H/M/L)</p>
<p>Objectives Addressed by Strategy: LRSW-O2A. Identification of surface and ground waters that are degraded or impaired by stormwater runoff quality in order to prevent further ecological degradation in the Lower Raritan WMA. By 2010, the quality of stormwater runoff from existing development will achieve or exceed standards with regard to stormwater pollutant loadings. LRSW-O2B. By 2010, there will be no net increase in stormwater pollutant loads from new development or redevelopment that may cause or contribute to violations of water quality standards.</p>	<p>Strategy Schedule: (Begin/End)</p>
<p>Narrative Description of Strategy: Development pressure and suburban sprawl are converting a great deal of forested and agricultural land to urban land uses within the WMA. Along with urban land uses comes an increase in impervious cover that increases stormwater runoff, decreases ground water recharge and baseflow, and degrades water quality of surface and ground water resources. New urban land also increases the number of bridges over streams, increases the number of stormwater outfall structures that discharge to streams, and physically alters the stream corridor. The surface waters of the WMA have documented pollutant loadings from non-point sources. The construction of housing and roads, known sources of sediment loading, along with runoff from the suburban landscape and storm drains, known sources of nutrient, fecal coliform bacteria and sediment loading, all contribute to the suburban non-point source pollution. Primary concerns within the WMA include fecal coliform and phosphorus.</p> <p>This strategy would define and identify specific "hot spots" (site-specific land uses or activities that contribute high levels of NPS loadings to area waters) throughout the WMA and would identify and evaluate specific methods to manage pollutant loads from "hot spots." Recommendations would be implemented through enforcement of current regulations and adoption of ordinances and best management practices that would require pollutant load reductions.</p> <p>Areawide WQM Plan Consistency Determination Issues: Potential TMDL implementation method.</p>	

Action Plan (Steps or Tasks)	Responsible Parties for Planning, Design & Implementation ²	Responsible Parties for Oversight	Resource Needs ³	Committed or Recommended Resources	Major Challenges and Opportunities	Evaluation Method & Indicators	Schedule and Milestones for Implementation
1. Define 'hot spots', based on types or intensity of land uses, generation of particular pollutants or impact to environmentally sensitive areas.	C: R: NJDEP, LRSW, LRLM, LRLU, (if active) ⁴	C: R: LRMC-WRA LRWVG LRWVAC ⁵ , Raritan Basin TAC	L	C: R: 319 grant, 604b grant	Challenge: Consensus on definitions of hot spots	Definition of hot spots	

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<p>2. Identify and classify specific “hot spots” in the Lower Raritan WMA. Where necessary, identify the pollutant sources associated with each hot spot.</p> <p>See: LRSW-S2A1: Characterize and Assess Existing Stormwater Systems, Action Step 2 LRLM-S2B1: Identification of Sources of Nutrient Impairments LRLM-S2C1: Identification of Sources of Sediment Impairments LRLM -S2D1: Identification of Sources of Non-conventional Pollutants LRLM-S2E1: Identification of Sources of Fecal Coliform Impairments</p>	<p>C: R: NJDEP, LRSW, LRLU, LRLM</p>	<p>C: R: LRMC-WRA, LRWMG, LRWMAC</p>	<p>M</p>	<p>C: LRSW-S2A1, LRLM-S2B1, LRLM-S2C1, LRLM-S2D1, LRLM-S2E1</p> <p>R: 319 grants, CBT</p>		<p>List, classification and description of “hot spots” and effects</p>	

LRSW-S2A4 & LRSW-S2B4: BMPs to Manage Hot Spots

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<p>3. Using information developed in the Lower Raritan strategies, determine if there are additional appropriate guidelines and best management practices to manage the types of hot spots developed in Action Step 1.⁶</p> <p>See: LRLM-S2A2: Identification of Methods to Control Pollutant Contributions LRLU-S3A2: Policy and Planning Toolbox LRSW-S4C1/LRSW-S4C2/LRLU-S3A6: Improved Knowledge Regarding Stormwater Management and Environmentally Sensitive Development, Action Steps 1, 2 and 3 LRSW-S1A2: Improve Effectiveness of Existing Stormwater Management Systems LRSW-S1B2: Regulation of Stormwater from New Development to Protect Water Quality LRSW-S2A3 & LRSW-S2B3: Program of Activities to Remove NPS Pollution from Stormwater</p>	<p>C: R: NJDEP, LRSW, LRLU, LRLM, SCD</p>	<p>C: R: LRMC-WRA LRWMG, LRWMAC Raritan Basin TAC</p>	<p>L</p>	<p>C: 2003 NJDEP BMP Manual R: 319 grant, CBT</p>	<p>Opportunity: Identification of appropriate BMPs for the Lower Raritan WMA</p>	<p>Identification of guidelines and BMPs</p>	<p>NJDEP BMP Manual – early 2003</p>

LRSW-S2A4 & LRSW-S2B4: BMPs to Manage Hot Spots

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4. Develop a package of technical information, such as numerical standards, removal efficiencies and benefits of BMPs, to enable engineers and planners to compare different BMPs identified in this strategy.	C: R: NJDEP	C: R: LRMC-WRA LRWMG, LRWMAC Raritan Basin TAC	L-M	C: National BMP database www.bmpdatabase.org R: Existing studies regarding removal efficiencies, 319 grant, CBT	Challenge: Lack of data on removal efficiencies of some methods, particularly for NJ	Completion of package	
5. Enforce current regulations, ordinances and resolutions regarding management of hot spots. Where necessary, implement guidelines and BMPs for various types of hot spots through ordinances and resolutions that require load reductions, BMPs etc. The guidelines shall require specific responses or removal rates for various types of pollutants or land use activities. See: LRLM-S2B2: Nutrient Reduction Plan, LRLM-S2C2: Sediment Reduction Plan, LRLM-S2D2: Pollutant Reduction Plan for Non-conventional Pollutants, LRLM-S2E2: Fecal Coliform Reduction Plan, and LRLI-S1A2: Fill Regulatory Shortfalls for Watershed Management	C: R: Municipalities, Counties, LRSW, LRLM, LRLI, land owners	C: R: LRMC-WRA LRWMG LRWMAC	L-M per project	C: LRLM-S2B2, LRLM-S2C2, LRLM-S2D2, LRLM-S2E2, LRLI-S1A2 R: 319 grant, CBT, existing resources, development application fees	Opportunity: Reduction in pollutant loads Opportunity: A way to ensure that municipalities, counties and the state enforce current ordinances, resolutions and regulations must be identified. Challenge: Funding	Percentage of municipalities and counties adopting recommended ordinances and BMPs Implementation of BMPs	

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<p>6. Where ordinances are not appropriate or effective, implement programs where pollutant sources are provided an opportunity for voluntary control, with incentives where available.</p> <p>See: LRSW-S4A3 & LRLU-S3A5: Incentives for Incorporation of BMPs.</p>	<p>C: R: NJDEP, SCDs</p>	<p>C: R: LRMC-WRA LRWMG LRWMAC</p>	<p>L-M for most sources</p>	<p>C: LRSW-S4A3 & LRLU-S3A5 R: 319 grant, CBT</p>	<p>Challenge: Developing incentives for voluntary programs</p>	<p>Pollution mitigation achieved</p>	
<p>See also: NSSM-S3B2: Pollutant Load Reductions from “Hot Spots”</p>							

¹ land uses or activities with higher potential loadings

² C = Committed, R = Recommended

³ General Estimates: Low = \$5,000 - \$50,000; Moderate = \$50,000 - \$250,000; High = \$250,000 - \$1 million; Very High = over \$1 million

⁴ All qualifiers in #1 (e.g. if active) for subcommittees apply throughout the action plan. LRSW = Lower Raritan Stormwater/Flooding Subcommittee
 LRLM = Lower Raritan Land Management & Open Space Subcommittee LRLU = Lower Raritan Land Use, Wastewater & Water Supply Subcommittee
 LRLI = Lower Raritan Legal, Institutional & Implementation Subcommittee TAC = Raritan Basin TAC

NSSM = North & South Branch WMA Stormwater Management & Hydrology Workgroup

BMP = Best Management Practice

SCD = Soil Conservation District

NJDEP = New Jersey Department of Environmental Protection

⁵ LRMC-WRA = Lower Raritan-Middlesex County Water Resources Association LRWMG = Lower Raritan Watershed Management Group

LRWMAC = Lower Raritan Watershed Management Area Committee or equivalent

⁶ The NJDEP BMP Manual will be released in draft form in January 2003. Suggested additional references:

American Society of Civil Engineers. National Stormwater Best Management Practices Database. <http://www.bmpdatabase.org/>

Center for Watershed Protection. Vermont Stormwater Management Handbook.

<http://www.vtwaterquality.org/Stormwater/TSDVermontStormwaterManagementHandbook.pdf>

Clark County, WA. Stormwater Pollution Control Manual. <http://www.co.clark.wa.us/pubworks/BMPman.pdf>

Georgia Stormwater Management Manual. <http://www.georgiastormwater.com/>

Idaho Department of Environmental Quality. Catalog of Stormwater Best Management Practices. http://www.deq.state.id.us/water/stormwater_catalog/index.asp

Maine Department of Environmental Protection. Stormwater Best Management Practices. <http://www.state.me.us/dep/blwq/stormwtr/material.htm#bmp>

Maryland Department of the Environment. Stream Response to BMPs. http://www.mde.state.md.us/assets/document/sedimentstormwater/319_report.pdf

Maryland Department of the Environment. Stormwater Design Manual.

http://www.mde.state.md.us/Programs/WaterPrograms/SedimentandStormwater/stormwater_design/index.asp

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Metropolitan Council, MN. Urban Small Sites Best Management Practice Manual. <http://www.metrocouncil.org/environment/Watershed/bmp/manual.htm>

New York State Department of Environmental Conservation. New York State Stormwater Management Design Manual. <http://www.dec.state.ny.us/website/dow/swmanual/swmanual.html>

Pennsylvania Association of Conservation Districts. Pennsylvania Handbook of Best Management Practices for Developing Areas http://www.pacd.org/products/bmp/bmp_handbook.htm

Portland, OR Department of Environmental Services. 2000. Stormwater Management Manual. http://www.cleanrivers-pdx.org/tech_resources/smm.htm

Texas Chapter, American Public Works Association. Texas Nonpoint Source Book. <http://www.txnpsbook.org/default.htm>

USEPA. 1999. Urban Stormwater Best Management Practices Study. <http://www.epa.gov/OST/stormwater/>

USEPA. 2000. Bioretention Application. http://www.wa.gov/puget_sound/Programs/lid_cd/pdf_docs/LID_BIO.PDF

USEPA. 2000. Vegetated Roof Cover. http://www.wa.gov/puget_sound/Programs/lid_cd/pdf_docs/LID_ROOF.PDF

Virginia Department of Conservation and Recreation. Virginia Stormwater Management Handbook. <http://www.dcr.state.va.us/sw/stormwat.htm#handbook>