

**North & South Branch Raritan Watershed Management Area
Stormwater Management & Hydrology Work Group
Strategy Worksheet NSSM-S1B2 & S3A2**

<p>Strategy: Regulation of Stormwater from New Development to Protect Water Quality NSSM-S1B2: Regulation of stormwater systems to minimize the extent to which they short circuit the beneficial effects of riparian areas for flow control and water quality. NSSM-S3A2: Adopt requirements for new development to protect water quality. Project designs shall:</p> <ul style="list-style-type: none"> • duplicate existing flow regime and volume conditions as closely as possible in a manner that protects water resources, • utilize the pervious landscape to naturally filter and infiltrate runoff before it leaves the development site where possible. • require utilization of nonstructural techniques, including pollution prevention and source reduction, to minimize the type of treatment stormwater needs. 	<p>Strategy Priority: (H/M/L) S1B2 – M S3A2 – H</p>
<p>Objectives Addressed by Strategy: NSSM-O1B: To have no increase in potential flood damages, by 2008. NSSM-O3A: By 2005, achieve no net loss/degradation of surface water quality (i.e., physical, chemical or biological) in any subwatershed.</p>	<p>Strategy Schedule: (Begin/End)</p>
<p>Narrative Description of Strategy: The intent of this strategy is to protect the water quality of receiving water bodies from the impacts of stormwater runoff as well as control the flow of stormwater runoff through riparian area protection. The ideal characteristics of ordinances and resolutions that protect water quality will be identified. The current ordinances and resolutions will then be reviewed to identify gaps. The NJDEP stormwater regulations proposed in 2002 will also be reviewed in order to minimize duplication. Changes to fill the identified gaps will be recommended and implemented. Documentation will be prepared for municipalities and counties, both with respect to the ordinances and the technical merits of the recommended techniques. Education of both the municipalities and the development community will be an important component of this strategy.</p> <p>While many areas within the WMA experience localized flooding problems following periods of heavy rainfall, the majority of flooding problems occur at the confluence of the North & South Branch Raritan Rivers and even further downstream at the confluence of the mainstem Raritan River and Millstone River (just outside of the N&S Branch Raritan WMA). In 1999, Hurricane Floyd deluged parts of Branchburg, Bridgewater and Flemington and resulted in new peaks of record at five gauging stations within the WMA (i.e., Spruce Run at Glen Gardner, Neshanic River at Reaville, North Branch Raritan River at North Branch, North Branch near Raritan and North Branch at Old York Road). Although much of the land along the North and South Branch Raritan Rivers is predominantly agricultural (according to the 1995 NJDEP land use/land cover data), development pressure and suburban sprawl are converting a great deal of agricultural land to urban land uses. Along with urban land uses comes an increase in impervious cover that both increases stormwater runoff and decreases ground water recharge, along with bridges over streams, stormwater outfall structures and other changes to the stream corridor. If the appropriate mitigation measures are not taken, new development can exacerbate existing flooding problems downstream and adversely affect water quality.</p> <p>Areawide WQM Plan Consistency Determination Issues: Potential NJPDES municipal stormwater permit requirement through Areawide WQM Plans</p>	

Action Plan (Steps or Tasks)	Responsible Parties for Planning, Design & Implementation	Responsible Parties for Oversight	Resource Needs (L,M,H,VH)	Committed or Recommended Resources	Major Challenges and Opportunities	Evaluation Method & Indicators	Schedule and Milestones for Implementation
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C = Committed; R = Recommended

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

Acronyms: NJDEP=NJ Department of Environmental Protection; CBT=Corporate Business Tax; BMP=Best Management Practices; NRCS=Natural Resources Conservation Service; SCD=Soil Conservation District; ANJEC=Association of NJ Environmental Commissions; CWP=Center for Watershed Protection; NJCWA=NJ Council of Watershed Associations

Committee Abbreviations: N&S Branch WMAC = North & South Branch Raritan Watershed Management Area Committee; NSSM = North & South Branch Raritan Stormwater Management & Hydrology Work Group; NSHW = North & South Branch Headwaters & Stream Management Work Group; NSEO = North & South Branch Raritan Education & Outreach Work Group; RBEO = Raritan Basin Education & Outreach Committee; RBC = Raritan Basin Council; TAC = Technical Advisory Committee

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<p>1. Identify standards for protection of water quality to be included in ordinances and resolutions, such as performance criteria for sensitive areas and targets for removal of pollutants from stormwater prior to release. Specific methods of protecting water quality shall be identified.</p>	<p>C: NJDEP 2002 (proposed) stormwater regulations R: NSSM, NJDEP</p>	<p>C: R: N&S Branch WMAC, Raritan TAC</p>	<p>L-M</p>	<p>C: R: Existing resources, 319 and CBT funds</p>	<p>Opportunity: Improvement of ordinances & resolutions Cannot violate State rules, but should complement them</p>	<p>Identification of standards to be included in ordinances & resolutions Identification of protection methods</p>	<p>NJDEP BMP manual - 2002</p>
<p>2. Identify Basin or WMA-specific techniques that are recommended for use to protect water quality. Identify the limitations and benefits for each BMP based on the limiting factors (e.g. soils) in each watershed.</p>	<p>C: R: NJDEP, SCD, NRCS, NSSM</p>	<p>C: R: N&S Branch WMAC</p>	<p>L</p>	<p>C: NJDEP BMP manual R: Existing resources, 319 and CBT funds</p>	<p>Opportunity: Identification of techniques most appropriate to the WMA</p>	<p>Identification of techniques, limitations and benefits</p>	<p>NJDEP BMP manual – late 2002</p>

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3. Using the standards and BMPs developed in Action Steps 1 and 2, identify gaps in municipal ordinances, county resolutions and state regulations. Implementation of the NJDEP stormwater regulations (proposed in 2002) will be the basic requirement; identify where local actions should be more stringent than the NJDEP regulations.	C: R: NJCWA, ANJEC, N&S Branch WMAC, Rutgers Environmental Law Clinic, Seton Hall Environmental Law Clinic, Bloustein School for Planning & Public Policy	C: R: N&S Branch WMAC	M	C: R: University research grant, foundations, CBT, existing resources	Challenges: Funding Ordinance review is a detailed process that requires local knowledge of underlying reasons for practices	Completion of gap analysis	
4. Identify or develop ordinances appropriate to fill the gaps identified in Action Step 3.	C: R: ANJEC, CWP, River Network, Center for Environmental Communication, Bloustein School for Planning & Public Policy, Watershed Institute	C: R: N&S Branch WMAC	L-M	C: R: Foundations, CBT, existing resources	Challenge: Ordinance changes must be tailored to local needs	Development of list of model ordinances Recommended changes to ordinances	

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5. Test feasibility and viability of identified ordinances. Ensure enforceability of ordinances.	C: R: ANJEC, Association of Counties, League of Municipalities, NJDEP, Center for Environmental Communication, Bloustein School for Planning & Public Policy	C: R: N&S Branch WMAC	L	C: R: Foundations, existing resources	Challenge: The method must focus on key issues, not local variability that reflects geographic differences	Testing method Completed analysis	
6. Develop a package of technical information, such as numerical standards, removal efficiencies and benefits of techniques, to enable engineers and planners to compare different techniques identified in this strategy.	C: R: NJDEP	C: R: N&S Branch WMAC	L-M	C: NJDEP BMP manual R:	Challenge: Lack of data on removal efficiencies of some methods	Completion of package	
7. Prepare municipal package detailing model ordinances, case studies and feasibility of implementation.	C: R: ANJEC, Center for Environmental Communication, Association of Counties, League of Municipalities, Watershed Institute	C: R: N&S Branch WMAC	M	C: R: Foundations		Completion of package	

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8. Implement changes to ordinances and resolutions to fill the identified gaps.	C: R: ANJEC, Association of Counties, League of Municipalities, municipalities, counties	C: R: N&S Branch WMAC	M	C: R: Local resources for adoption, foundation funds for assistance		Percentage municipalities & counties adopting and enforcing ordinances	
9. Work with municipalities as they develop and implement their Phase II stormwater programs to identify specific strategies of the Raritan Plan that can be implemented as part of or in concert with the Phase II plans.	C: R: NJDEP, NSSM	C: R: N&S Branch WMAC	L	C: R: Existing resources	Opportunity: Implementation of Raritan Plan strategies through the Phase II stormwater program	Implementation of specific strategies as part of municipal stormwater programs	
10. Develop and implement a campaign to educate developers, counties and municipalities about the benefits of the methods identified in this strategy (Action Steps 2 and 3). Refer to: LRSW-S4C1: Improved Knowledge Regarding Stormwater Management Other education strategies	C: R: NSSM, NSEO, League of Municipalities, Association of Counties, NJ Society of Municipal Engineers	C: R: N&S Branch WMAC	L	C: R: Package developed in Action Step 6 Existing continuing education programs	Challenge: Reaching the appropriate people and changing their mind set	Evidence that the methods are being used in site design and construction	

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11. Periodically assess implementation and enforcement of ordinances.	C: R: NSSM, RBC replacement organization	C: R: N&S Branch WMAC	L	C: R: Student research grant, existing resources		Percentage municipalities & counties adopting and enforcing ordinances or resolutions	