

**RHODE ISLAND DEPARTMENT OF ENVIRONMENTAL MANAGEMENT
FY2000 WORK PLAN – Woonasquatucket River Watershed Pilot Project**

I. Program Name and Description: Woonasquatucket River Watershed Pilot Project

Introduction: The Woonasquatucket River watershed is a diverse geographic area that originates in the rural lands of Glocester, North Smithfield and Smithfield and flows into the urbanized communities of Johnston, North Providence, and ultimately Providence. As the river flows downstream, the degree of urbanization in the surrounding communities progressively increases. As these demographics change, the challenges facing the watershed change as well.

Over the past few years, many organizations and individuals have invested tremendous effort and resources into the recognition, revitalization and promotion of the river. However, the vast majority of that effort has been in the urban stretch of the river that flows through Olneyville and into downtown Providence. In the various discussions about the approaches and tasks outlined in this work plan, we have found that the vast majority of the people involved those discussions thought of the Woonasquatucket River watershed as a very limited, urban stretch of river in Providence.

The revitalization of the river in Providence has certainly been amazing. From the youth golf course under construction on the Providence-Johnston line down through the Greenway-related projects in Olneyville to the massive urban revitalization projects in downtown Providence, including the Capital Center project, the construction of Waterplace Park and the development of the Providence Place Mall, significant improvements have been achieved. The watershed is much more than that, however, and a major goal of this pilot effort is to educate all the communities in the watershed on their potential roles and interconnectedness with respect to environmental protection.

Even recognizing all the improvements that have been made to date in this watershed, many challenges still remain. As evident through the recent discovery of dioxin-contaminated sediment in North Providence, there is much more to be investigated and learned from this river and the surrounding communities, with particular focus on the upstream communities.

DEM and EPA have selected the Woonasquatucket River as a pilot to develop a multi-program, collaborative watershed approach to environmental protection. This river was selected due to the past investments made by various stakeholders, including DEM and EPA, the community interest in the river, and the myriad of challenges to be met. The following work plan is the first step in establishing that watershed approach.

II. Mission of Program:

To facilitate the development of a coordinated multi-program, multi-media, and multi-party environmental protection and management strategy in the Woonasquatucket River watershed.

The Management Objectives and Strategies for this work plan are to:

- 1) Work with our existing partners including the American Heritage Rivers Steering Committee, the Urban Rivers Team, and the River Navigator to represent local community group(s) to engage in planning on a watershed basis and provide local leadership on environmental issues.**

Strategy 1: Facilitate discussion, planning and problem solving at the local level to help define local watershed management objectives and address environmental challenges and pressures in the watershed.

Strategy 2: Communicate DEM and EPA efforts in environmental preservation, protection, and restoration and natural resources stewardship in the watershed.

- 2) Protect the Woonasquatucket River and watershed communities from further environmental degradation and restore the River from the effects of past impacts.**

Strategy 1: Conduct studies to assess the condition of the watershed and identify strategies to abate pollution.

Strategy 2: Take direct remediation, restoration and other pollution abatement actions.

Strategy 3: Develop training, education and assistance programs for local governments & groups to increase their knowledge of land use techniques and make people aware of the impacts of unplanned growth.

Strategy 4: Undertake, promote and support sustainable development within the Woonasquatucket River watershed.

Strategy 5: Address priority risks and threats to public health and the environment within the Woonasquatucket River.

III. Program highlights- The following program highlights directly support the DEM and EPA strategic priorities for the upcoming years

- Primarily, as evidenced by the first management objective and related strategy outlined above, DEM and EPA plan to work with their partners on the Urban Rivers Team and the American Heritage Rivers Steering Committee to engage in planning and on a watershed basis and provide local leadership on environmental issues.
- DEM and EPA plan to work together to produce a comprehensive Watershed Assessment. This report will include water pollution sources, water quality characteristics, TMDL's, Natural, Historical, Cultural Resources, Land use patterns including

transportation, residential centers, business centers, and municipal infrastructure. When completed this document will clearly articulate the current state of the watershed and provide a baseline for measuring performance in environmental quality and setting a framework for local decision making.

- DEM and EPA plan to work with the American Heritage Rivers Team to produce a Watershed Report. This report will be in a highly readable and graphical format and provide a strong positive vision for the watershed based on the unique qualities of the watershed. The report will tell the story of growth of industry and mills along the river including sawmills in the upper reaches to provide a shared history and common ground between all the communities in the watershed. The report will build on community interest by identifying those qualities that make the Woonasquatucket a place that people care about and want to restore and protect.
- DEM and EPA plan to continue collecting and analyzing environmental information about the river to identify strategies to abate pollution, including initiation of a comprehensive study to develop a water quality restoration plan, otherwise known as Total Maximum Daily Loads (TMDLs) for the River. This will be coupled with further work to investigate the dioxin contamination in North Providence and conduct a detailed analysis of the need for further fish tissue and sediment sampling.
- Support the revitalization of Brownfields sites, which are vacant or underutilized properties where the suspicion or known presence of environmental contamination presents a significant barrier to redevelopment and investment in the community. DEM and EPA plan to continue their support of the clean-up and reuse of the former Lincoln Lace and Braid and Riverside Mills sites, which have both been deemed critical to the development of the Greenway and riverside bike path. Other sites will also be evaluated as redevelopment activities continue throughout the watershed.
- DEM and EPA propose to work with NBC, DOT, and local officials to identify and abate illegal dry weather discharges to the river and to develop a strategy to address non-CSO stormwater discharges to the river. This work is consistent with the proposed minimum control measures to be required under Phase II Stormwater permits.
- DEM, DOT and the Providence Plan will work together to establish a recreational bike path and greenway along the river and through all six communities in the watershed. This bike path, when constructed, will increase the public's awareness of the Woonasquatucket River and build support for future protection and restoration programs. The DEM will work with DOT to leverage bike path resources to fund restoration projects.
- DEM plans to immediately start restoration projects in the Watershed based on priorities generated from the EPA River Navigator from meeting with local governments and the American Heritage Rivers Steering Committee.

Some of our major potential watershed partners: Urban Rivers Team, Woonasquatucket American Heritage River Steering Committee, City of Providence, Town of North Providence, Town of Johnston, Town of Smithfield, Town of North Smithfield, Town of Glocester, the Providence Plan, Save the Bay, Steering Committee for the Providence Brownfields Showcase Community, RIDOT.

<p>OBJECTIVE 1: Work with our existing partners including the American Heritage Rivers Steering Committee, the Urban Rivers Team, and the River Navigator that represents local community group(s) to engage in planning on a watershed basis and provide local leadership on environmental issues.</p>	<p>Environmental Indicators</p> <ul style="list-style-type: none"> • Effective local/regional partnerships • Impaired waters/habitats restored • Miles of greenway and access to open space restored or preserved 	
<p>STRATEGY 1: Facilitate discussion, planning and problem solving at the local level to help define local watershed management objectives and address environmental challenges and pressures in the watershed</p>		
<p>ACTIVITIES</p>	<p>PERFORMANCE MEASURES</p>	<p>TIMELINE</p>
<p>Lead: Watershed Coordinator</p>		
<p>Create a standing watershed team to work on technical issues.</p>	<ul style="list-style-type: none"> • Creation of the team 	<ul style="list-style-type: none"> • by January 2000
<p>Work with the American Heritage Rivers Steering Committee, Urban Rivers Team, and the River Navigator. Coordinate meetings with active municipalities and environmental groups and explain the purpose, specifics and intent of this work plan.</p>	<ul style="list-style-type: none"> • Represent DEM at meetings • Establish regular dialogue with watershed groups in conjunction with the American Heritage Rivers Steering Committee, Urban Rivers Team, and the River Navigator. 	<ul style="list-style-type: none"> • by January 2000 • by January 2000
<p>Designate a DEM watershed coordinator to work toward building a watershed team to do locally based planning and implementation. Establish a regular dialogue with the EPA river navigator on watershed issues.</p>	<ul style="list-style-type: none"> • Establish dialogue with river navigator. • Finalize assignment of watershed coordinator 	<ul style="list-style-type: none"> • by January 2000 • by January 2000
<p>Support the creation of a locally based group of community representatives empowered to draft and implement a watershed-wide strategic plan and coordinate the drafting and implementation of annual action plans by member agencies.</p>	<ul style="list-style-type: none"> • Begin facilitation of the committee formation. • Committee formation. • Decision by committee on timeline for development of a watershed-based strategic plan 	<ul style="list-style-type: none"> • by March 31, 2000 • by September 30, 2000 • by January 1, 2001.

Begin restoration projects in the watershed. Priority projects identified by EPA River Navigator and American Heritage Rivers Steering Committee and the local governments.	<ul style="list-style-type: none"> • Confirm list of projects at 10-18-99 American Heritage River Steering Committee meeting. • Start 3 projects • Project 3 more projects for Spring 2000 	<ul style="list-style-type: none"> • One project by December 1999 • by June 2000
Establish relationships and partnerships between the American Heritage Rivers Steering Committee and corporate sponsors to promote the watershed approach, awareness of the watershed, and identify project support.	<ul style="list-style-type: none"> • Complete a compilation of projects suitable for partnerships and corporate support. • Potential corporate partners approached for relationship opportunities. • Three major corporate partnerships established. 	<ul style="list-style-type: none"> • by March 1, 2000 • by May 1, 2000 • by June 30, 2000
Lead: DEM Division of Planning and Development		
Work with RIDOT and the cities and towns to design and build an off-road recreational bike path and greenway along the river and abandoned rail bed.	<ul style="list-style-type: none"> • 80% off road bike path and greenway. Bike Path design includes 6 new park sites along the river and greenway. 	
Work with the RI Golf Association to design, build, and manage a nine hole urban golf course on 25 acres of land adjacent to the River in Providence	<ul style="list-style-type: none"> • Construction schedule complete 	<ul style="list-style-type: none"> • Spring 2000
Work with non-profit organizations such as the Nature Conservancy, and local governments and land trusts to permanently protect open space, farmland, valuable habitat and environmentally sensitive land.	<ul style="list-style-type: none"> • Continue ongoing land protection program as defined in the Division's land protection plan. 	
Repair /reconstruction of the Stillwater Dam.	<ul style="list-style-type: none"> • Establish a funding plan for the dam repair in the DEM capital development budget. 	<ul style="list-style-type: none"> • By June 30, 2000

STRATEGY 2: Communicate DEM and EPA efforts in environmental preservation, protection, and restoration and natural resources stewardship in the watershed.		
ACTIVITIES	PERFORMANCE MEASURES	TIMELINE
Lead:		
Work with EPA to write a Watershed Assessment including water pollution, natural, historical, cultural resources, land use, transportation of municipal infrastructure.	<ul style="list-style-type: none"> Draft Watershed Assessment 	<ul style="list-style-type: none"> Sept. 2001
Work with the Urban Rivers Team, the American Heritage Rivers Committee, and the EPA River Navigator to produce a very readable, graphic State of the Watershed Report that highlights the unique qualities of the watershed and sets a strong positive vision for protection and restoration. The purpose of this report is to clearly communicate to local leaders, business owners, residents, and community groups why preservation and protection of this watershed is important.	<ul style="list-style-type: none"> State of the Watershed report completed 	<ul style="list-style-type: none"> Draft report Feb. 2000 Final report by June 2000

OBJECTIVE 2: Protect the Woonasquatucket River and watershed communities from further environmental degradation and restore the River from the effects of past impacts.	Environmental Indicators: <ul style="list-style-type: none"> • Water quality improved • Enhanced fish and wildlife populations • Hazardous and solid waste sites remediated • Environmental impacts of growth minimized 	
STRATEGY 1: Conduct studies to assess the condition of the watershed and identify strategies to abate pollution.		
ACTIVITIES	PERFORMANCE MEASURES	TIMELINE
Lead: Office of Water Resources		
Conduct studies to identify strategies to abate pollution (TMDLs)	<ul style="list-style-type: none"> • Utilizing all available data, a comprehensive assessment of the Woonasquatucket River watershed developed. • Develop supplemental monitoring plan (to possibly include dry and wet weather monitoring) for completion of TMDLs for the Woonasquatucket River addressing pathogens, PCBs, metals, dioxin, and biodiversity impacts. • Supplemental monitoring initiated. 	<ul style="list-style-type: none"> • by May 2000 • by June 2000 • by Summer 2000
Explore the sources of non-permitted dry weather and stormwater discharges (non-CSO) to the river	<ul style="list-style-type: none"> • OWR/Watersheds, OWR/Permitting, EPA, Watershed Coordinator, OCI, RIDOT, NBC, STB and local officials meet to discuss strategy. • All dry weather non-permitted discharges to the river from EPA survey data identified. • Begin tracing the flow of dry weather discharges to sources • Identify and initiate remediation of 	<ul style="list-style-type: none"> • by January 15, 1999 • by January 15, 2000 • April 31, 2000 • by July 31, 2000

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	<ul style="list-style-type: none"> non-permitted flows. Utilizing results of NBC/STB Wet Weather Surveys, strategy developed to address non-CSO wet weather discharges to the river. 	<ul style="list-style-type: none"> by September 2000
Begin development of Best Management Practices for controlling runoff Consistent with the proposed minimum control measures to be required under Phase II Stormwater Permits.	<ul style="list-style-type: none"> Utilizing Clean Water Action Plan and other state and federal funds, watershed restoration projects solicited via RFP process and grant awards issued in FY00 and FY01. Mechanisms to facilitate BMP designs investigated. Initiate steps to implement recommended approach as feasible. Work with DOT to develop a plan and schedule for retrofit of DOT stormwater discharges to the watershed utilizing ISTEA demonstration funds. 	<ul style="list-style-type: none"> by October 1, 2000 by October 1, 2001 by December 2000
Ensure that wastewater treatment facilities are properly operating	<ul style="list-style-type: none"> Inspect the Smithfield Wastewater Treatment Facility and five of the minor RIPDES facilities discharging to the river 	<ul style="list-style-type: none"> by October 1, 2001
Ensure that stormwater controls are installed at auto junkyards located along the Woonasquatucket River.	<ul style="list-style-type: none"> Determine whether all auto junkyards located within the watershed have obtained RIPDES stormwater permits. Inspect two of these junkyards for compliance with their RIPDES stormwater permit. 	<ul style="list-style-type: none"> by October 31, 2001

<p>Work with the Narragansett Bay Commission and other stakeholders to continue the Combined Sewer Overflow abatement project including implementation of the nine minimum controls required under EPA's CSO policy.</p>	<ul style="list-style-type: none"> • Complete review of NBC's Preliminary Design of Phase I CSO Abatement Plan • Complete review of NBC's plan to pilot test alternative technologies to control floatables. Upon approval by DEM, require NBC to implement floatable control plan. 	<ul style="list-style-type: none"> • By October 31, 2000 • April 30, 2000
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STRATEGY 2: Take direct remediation, restoration and other pollution abatement actions.		
ACTIVITIES	PERFORMANCE MEASURES	TIMELINE
Lead: Office of Waste Management		
Work with the City of Providence to complete the design of the remedial action at the former Lincoln Lace and Braid site under the RI Brownfields pilot program.	<ul style="list-style-type: none"> • Complete remedial design. 	<ul style="list-style-type: none"> • by November 30, 1999
Work with the City of Providence to complete the design of the remedial action at the former Riverside Mills site under the RI Brownfields pilot program.	<ul style="list-style-type: none"> • Complete scoping and contractor selection for tank removal. • Complete tank removal • Work with the City and the ACOE to complete the remedial design. 	<ul style="list-style-type: none"> • by September 30, 1999 • by March 1, 2000 • by October 30, 1999
Work with EPA to complete the investigation and assessment of the Centredale Manor site and the dioxin suspected to be related to that site.	<ul style="list-style-type: none"> • Draft listing package reviewed. • Final Listing reviewed. • Begin consideration of remedial scope of work and/or potential further Superfund removal actions. 	<ul style="list-style-type: none"> • by October 30, 1999 • package by February 1, 2000 • by June 30, 2000
Complete construction completion designation and initiate post-remedial monitoring as the Davis-Glocester/Smithfield Regional National Priorities List (NPL) Landfill	<ul style="list-style-type: none"> • Complete the construction completion designation. • Post-remedial groundwater monitoring initiated. 	<ul style="list-style-type: none"> • by March 1, 2000 • by June 30, 2000
Identify other Brownfields sites eligible for investigation and redevelopment support	<ul style="list-style-type: none"> • Meet with watershed community representatives. • Complete assessments of two additional sites. • Principles for support of Brownfields portion of the Providence "New Cities" initiative developed. 	<ul style="list-style-type: none"> • by October 30, 1999 • by May 1, 2000 • by November 1, 1999

Explore the initiation of further fish tissue and sediment sampling throughout the watershed with EPA.	<ul style="list-style-type: none"> • Sampling needs identified. • Resources available to support sampling and scope a sampling plan consistent with available resources identified. • Complete sampling under said plan. 	<ul style="list-style-type: none"> • by December 31, 1999 • by March 31, 2000 • by June 30, 2000
Begin soil remediation at Davis Liquid Waste Superfund Site	<ul style="list-style-type: none"> • Soil remediation begun. 	<ul style="list-style-type: none"> • by June 30, 2000
Lead: Office of Technical and Customer Assistance		
Work with DOH and Davies Vocational School to support more protective industry practices for auto body refinishing and sanding designed to eliminate lead exposure to workers.	<ul style="list-style-type: none"> • Compliance assistance provided to six initial auto body shops in the watershed signed on to the project. 	<ul style="list-style-type: none"> • by June 30, 2000
Lead: Office of Compliance and Inspection with Division of Planning and Development-GIS Program		
Establish a system to tag complaint data and emergency response activities occurring in the watershed in order to conduct future watershed-wide reviews of response data	<ul style="list-style-type: none"> • Coordinate with GIS program to establish • Watershed identifiers incorporated into the complaint-tracking database. • Begin tracking data for State FY 2000. 	<ul style="list-style-type: none"> • by October 30, 1999 • by December 31, 1999
Lead: Directors Office: Communications Director in conjunction with Watershed Coordinator		
Develop coordinated outreach materials for the watershed including a common graphical approach and a common section connecting specific issues to the watershed as a whole.	<ul style="list-style-type: none"> • Common graphical format developed for outreach. • The “Do’s and Don’ts” brochure redistributed in new format. • Watershed version of the statewide survey of fish populations published. • A list of outreach materials relevant to the watershed and needed by the community developed. • Create and publish the top three needed sets of outreach materials and begin distribution. 	<ul style="list-style-type: none"> • by November 30, 1999 • by March 1, 2000 • by June 1, 2000 • by December 1, 1999 • by June 1, 2000

Lead: Office of Technical and Customer Assistance & Office of Compliance and Inspection		
Initiate the development of a targeted inspection plan, to include both enforcement-oriented compliance inspections and assistance-oriented pollution prevention interventions, in priority industry sectors.	<ul style="list-style-type: none"> • Develop the targeting plan, in conjunction with EPA. • Complete 35% of the planned inspections. • Complete 100% of the planned inspections. 	<ul style="list-style-type: none"> • by September 30, 1999 • by December 31, 1999 • by June 30, 2000
Lead: Director's Office, Assistant to the Director Stephen Morin		
Continue tire removal at the Davis Liquid Waste Superfund Site.	<ul style="list-style-type: none"> • Remove a minimum of 250,000 tires in FY2000. 	<ul style="list-style-type: none"> • by June 30, 2000

STRATEGY 3: Develop training, education and assistance programs for local governments & groups to increase their knowledge of land use techniques and make people aware of the impacts of unplanned growth		
ACTIVITIES	PERFORMANCE MEASURES	TIMELINE
Lead: Office of Strategic Planning & Policy - Sustainable Watersheds Program		
Develop a training manual and course to assist towns, planners and developers to implement flexible zoning techniques.	<ul style="list-style-type: none"> • Training Manual developed and distributed to RI communities. 	<ul style="list-style-type: none"> • No later than Fall 2000
<u>Challenge Grant Program – Proposed.</u> To locate funding sources to support challenge grants program.	<ul style="list-style-type: none"> • To be developed 	
Lead: Division of Fish and Wildlife		
Develop a statewide Best Management Practice for control of nuisance populations of wild animals (deer, geese, etc. within the watershed	<ul style="list-style-type: none"> • Draft BMP completed. • Final BMP completed 	<ul style="list-style-type: none"> • by December 31, 1999 • by March 1, 2000

STRATEGY 4: Undertake, promote and support activities directly related to sustainable development within the Woonasquatucket River watershed.		
ACTIVITIES	PERFORMANCE MEASURES	TIMELINE
Lead: Division of Agriculture		
Develop Guidance Documents and information brochures for weed control in the ponds within the watershed for distribution to associations and individual home owners	<ul style="list-style-type: none"> • Draft package completed. • Final package completed. 	<ul style="list-style-type: none"> • by July 1, 2000 • by December 31, 2000
Identify and preserve farmland in the watershed	<ul style="list-style-type: none"> • Farmland in the watershed identified. • Preservation plan developed. 	<ul style="list-style-type: none"> • by March 2000 • by June 30, 2000
Develop a plan to encourage and support urban gardening	<ul style="list-style-type: none"> • Potential areas and communities of interest in urban gardening identified. • Support plan developed • One new area for urban gardening supported. 	<ul style="list-style-type: none"> • by March 31, 2000 • by July, 2000 • by June 1, 2000
Begin development of Best Management Practices for controlling agricultural run-off.	<ul style="list-style-type: none"> • Completion of draft BMP manuals. 	<ul style="list-style-type: none"> • by December 31, 2000
Conduct a nutrient reduction workshop	<ul style="list-style-type: none"> • Identify appropriate partners for sponsoring such a workshop. • Agenda developed, location set and workshop scheduled. • Workshop held. 	<ul style="list-style-type: none"> • by June 30, 1999 • by March, 2000. • by June 1, 2000
Monitor pesticide use and nutrient loading throughout the watershed	<ul style="list-style-type: none"> • Sampling needs identified. • Resources available to support sampling identified and a sampling plan consistent with available resources scoped. • Sampling under said plan completed. 	<ul style="list-style-type: none"> • by December 31, 1999 • by March 31, 2000 • by June 30, 2000

STRATEGY 5: Address priority risks and threats to public health and the environment within the Woonasquatucket River watershed.		
ACTIVITIES	PERFORMANCE MEASURES	TIMELINE
Lead: Division of Planning and Development/Office of Compliance & Inspection		
Work with the Army Corps of Engineers to assess the integrity of the dams throughout the watershed.*	<ul style="list-style-type: none"> • Assessment of the three dams immediately down-stream of Centredale Manor completed. • Assessment of all high-hazard dams in the watershed completed. • Assessment of all dams in the watershed completed. 	<ul style="list-style-type: none"> • by September 30, 1999 • by June 30, 2000 • by June 30, 2001
Lead: Division of Agriculture		
Monitor, through regular surveillance, for Eastern Equine Encephalitis (EEE) and Rabies in the communities throughout the watershed	<ul style="list-style-type: none"> • Continue ongoing monitoring plans with development of an integrated communication strategy inter-linking with the Watershed Steering Committee. 	<ul style="list-style-type: none"> • by June 30, 2000
Lead: Office of Air Resources		
Identify urban areas where air toxics are at levels of concern and use community resources to rectify problems and inform the community of the dangers of toxics in the air.	<ul style="list-style-type: none"> • Secure funding for the project. • If funded, begin implementation. 	<ul style="list-style-type: none"> • by April 30, 2000 • by June 30, 2000
Lead: Office of Strategic Planning and Policy and Office of Waste Management		
Work with the DOH to implement the \$450,000 lead abatement grant awarded to the City of Providence. Create an integrated lead abatement strategy for the watershed.	<ul style="list-style-type: none"> • Lead abatement strategy completed in conjunction with the Watershed Steering Committee. 	<ul style="list-style-type: none"> • by November 30, 2000

* As dam restoration projects are developed, the inclusion of fish passage construction is strongly considered.

<p>Work with the RI Department of Health to implement their grant programs related to environmental justice and environmental equity</p>	<ul style="list-style-type: none"> • Discuss further DEM/EPA roles in project with DOH. • Assistance role instituted, where appropriate. 	<ul style="list-style-type: none"> • by October 1, 1999 • by January 1, 2000
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