

DCR and Stormwater

Stormwater runoff is the main source of pollution to Massachusetts' rivers, lakes and harbors. Poor stormwater management on roadways leads to flooding, erosion, pollution, potholes and hazardous driving conditions.

DCR Needs Additional Funds for Stormwater Program

We request the legislature increase the funds allocated to DCR's stormwater program in FY09 to \$3,000,000 (line item 2800-0401 currently has \$944,643) to enable DCR to undertake necessary stormwater management programs to protect public safety, recreational resources, environmental health and historic parkways integrity.



Background

After years of neglecting stormwater management, and failing to comply with federal regulatory requirements, DCR began developing a sound stormwater management program in 2005. With 475 lane miles of Parkways and Roadways in their urban parks system, as well as numerous parking lots, sidewalks and other areas in need of stormwater management, DCR has enormous responsibilities for stormwater management. Across the Commonwealth, including the watersheds of the Charles, Mystic, Neponset, Blackstone, Connecticut and Merrimack Rivers—and especially the Emerald Necklace's Muddy River—DCR's stormwater infrastructure is in need of repair or replacement.

DCR's efforts in the stormwater program in the past three years have focused on basic system inspection, information gathering, data management, infrastructure assessment and mapping, as well as some training and several small pilot projects. DCR now has a complete inventory of their system, and a better understanding of what is needed to repair infrastructure and bring their system up to "good housekeeping" standards, and to protect the water resources their stormwater discharges into, as well as the parklands adjacent to these waterways.

Current Needs

While the capital budget in the administration's environmental bond reflects the significant need for investment in infrastructure repairs and upgrades (\$30 million over the 5 year bond), the administration's proposed operations budget for stormwater management of just under \$950,000 is **not sufficient** to achieve federal and state regulatory compliance, implement a reasonable system of stormwater management practices, and manage the numerous capital improvement projects that must be undertaken.



DCR currently has no dedicated stormwater operations staff, and has one stormwater engineer. Based on the past several years' actual operational costs, and the requirements to achieve stormwater compliance moving forward, a \$3 million operational budget is needed. The Environmental League of Massachusetts Green Budget calls for this level of funding as well.

If sufficient funds are not provided in the operations budget, these programs—which are mandated by law—must be funded using capital funds, leaving insufficient capital dollars for infrastructure repairs, and/or by taking funds from other programs.

Emerald Necklace Pilot Program

DCR’s Emerald Necklace parkway stormwater infrastructure provides an example of the severity of the problems across the state. In 2007, CRWA and the Emerald Necklace Conservancy undertook an intensive study of DCR’s drainage from their parkways into the Muddy River. This study highlighted some of the severe problems in DCR’s stormwater infrastructure, and the resulting impacts including flooding, park erosion and water pollution.



CRWA Staff sampling overland flow from the Riverway into the Muddy River

CRWA and the Emerald Necklace Conservancy are working with DCR to develop a pilot program to upgrade and repair the stormwater infrastructure in this area, and to develop improved “good housekeeping” measures. This pilot project will serve as a model for DCR’s infrastructure improvements across their entire parkways and roadway system.

Increased funds in DCR’s FY09 budget are needed for:

- *Dedicated stormwater program operations staff (some could be seasonal)*
- *More frequent street sweeping (most parkways are now swept only once per year)*
- *Catch basin inspection and cleaning*
- *BMP operations and maintenance*
- *Monitoring*
- *Emergency response*
- *Dedicated stormwater engineers*
- *Environmental compliance*
- *BMP design and implementation*
- *Contract oversight*
- *Training programs*
- *Evaluation of pilot projects*
- *Coordination across agency (planning, operations, flood control)*



Emerald Necklace
CONSERVANCY

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DCR Stormwater Infrastructure Pilot Project

Massachusetts Department of Conservation and Recreation's (DCR) parkway drainage infrastructure needs extensive capital and operational upgrades across their entire system. In an effort to prioritize critical areas, and to support the Muddy River Restoration Project commencing in 2008, Charles River Watershed Association and The Emerald Necklace Conservancy have been working closely with DCR to develop a pilot project in the Emerald Necklace Parkways. This project will serve as a model for DCR's stormwater work across their parkways and roadway system.



DCR parkways in the Emerald Necklace/Muddy River Watershed

Significant failures of the Emerald Necklace parkway stormwater infrastructure have had enormous impacts on Muddy River water quality and on the parkland itself.

Problems include:

- roadway flooding,
- severe park erosion,
- undermining of tree roots,
- washouts of park pathways, and
- water quality problems in the Muddy River including excessive sedimentation, as well as loading of nutrients, pathogens and other organics.

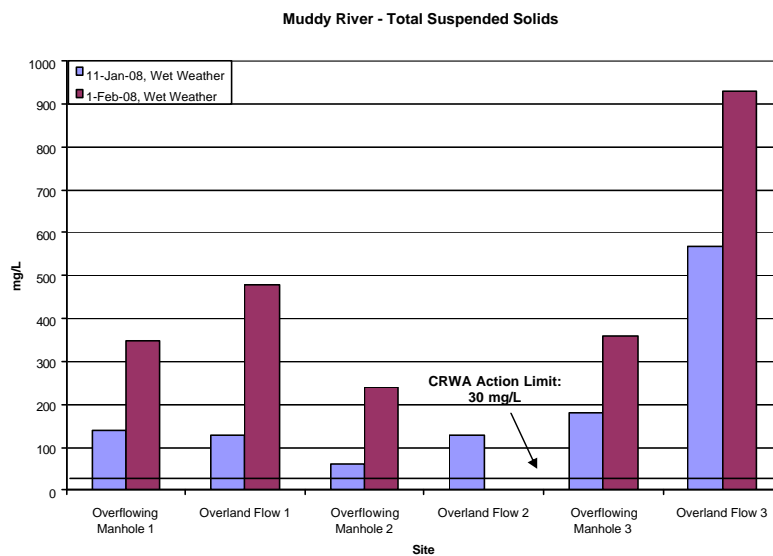
Failing catch basins, collapsed curbs, broken outlet pipes, and poorly sized inlets and drains all contribute to the problem. The worst impacts occur in locations where the stormwater pipes have broken underground or become completely blocked, causing stormwater to overflow into roadways and parklands. This pilot project aims to repair and replace failing infrastructure and upgrade stormwater operations in order to reduce water pollution and sedimentation to the Muddy River and destruction in the Emerald Necklace Parkways.



Sediment deposition and walkway washout along the banks of the Muddy River; the original river bank is shown by the arrow.

Charles River Watershed Association and the Emerald Necklace Conservancy have worked together to assess, measure and document these drainage problems. We are working to ensure that DCR has sufficient staff and resources to fix the stormwater system which is negatively impacting this important, historic park system. In 2005, DCR began to inspect and clean out catch basins and clear drain pipes where possible. Unfortunately, they do not currently have the necessary resources to address the most serious failures of the system and therefore require further financial support from the state legislature.

We have compiled an inventory of damage caused by stormwater runoff at approximately 18 sites along the Emerald Necklace Parkways, including photographic documentation, description of physical structures, and wet weather water quality monitoring. The level of sedimentation (measured as total suspended solids in runoff) at some of these points not only exceeds acceptable EPA thresholds but also exceeds levels seen *anywhere* by CRWA researchers.



TSS results are from samples collected as water overflowed from failing manholes or flowed over parkland prior to reaching the Muddy River.

Given the enormous investment of public funds in the ongoing Muddy River Flood Damage Reduction and Ecosystem Restoration Project, it is critical that DCR prioritize infrastructure repairs and stormwater management protocols to reduce sediment and other pollutant loading of the Muddy River.

The failures of DCR’s Emerald Necklace Parkway stormwater system are symptomatic of similar failures across the Commonwealth. These problems require long-term fixes both to protect public safety and the recreational resource of important historic and recreational facilities, such as the Emerald Necklace Parkways.



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