



February 27, 2015

Newton Tedder
US EPA – Region 1
5 Post Office Square – Suite 100
Mail Code – OEP06-4
Boston, MA 02109-3912

Via Email: Tedder.Newton@epa.gov

Re: **Comments on Draft Massachusetts Small MS4 General Permit**

Dear Mr. Tedder:

On behalf of Mass Audubon, I submit the following comments on the U.S. Environmental Protection Agency's (EPA) draft General Permit for Stormwater Discharges from Small Municipal Separate Storm Sewer Systems (MS4) in Massachusetts. This permit will update authorizations for many communities to discharge stormwater under the National Pollution Discharge Elimination System (NPDES) pursuant to the federal Clean Water Act.

These comments are focused on the important role that Low Impact Development (LID) can play not only in cleaning up stormwater pollution but also for a host of other benefits to our natural and human communities. Mass Audubon is a member of the Massachusetts Rivers Alliance, which is providing more detailed comments on many other aspects of the permit.

Mass Audubon supports the permit overall, while recognizing that room remains for refinements and that flexibility will need to apply in administering the final permit. We also recognize that municipalities are faced with tremendous challenges in addressing not only the needs for upgrading their aging water, wastewater, and stormwater infrastructure but also many other demands on their limited finances. The 2014 draft permit is improved in many respects over previous versions. It includes specific requirements to better address the pollutants that are causing violations of water quality standards, while providing adequate time and substantial flexibility for municipalities to apply approaches most appropriate for local conditions. It also improves public access to information and opportunities for input into their communities' stormwater management programs. This permit is overdue, and Mass Audubon urges EPA to proceed expeditiously with finalizing it.

Context – Stormwater Management Challenges and Climate Change

A great deal of progress has been made in cleaning up waterways nationally and in Massachusetts over the past several decades. This progress has been particularly apparent in regards to point source discharges from industry and wastewater treatment facilities. Progress on cleaning up stormwater-related pollution has been much slower, and in many locations the problem is getting worse rather than better due to runoff from ever increasing amounts of impervious surfaces across the landscape. EPA Region 1 has found that stormwater is implicated in at least 55% of the violations of water quality standards in Massachusetts' waterways.

Meanwhile, climate change is causing an increase in intense storm events, while also leading to more frequent droughts. A new approach is needed to address these challenges.

Low Impact Development

Communities need a cost-effective way to support sustainable economic development. We urge that the final permit and related EPA programs strongly support broad adoption of land use plans and rules that promote the preservation and restoration of green infrastructure and the use of LID techniques¹. We need to shift our thinking about land and water management. We need to move away from viewing stormwater as a waste product that needs to be funneled downstream as quickly as possible, and instead work with the landscape to capture precipitation, keep it as clean as possible, and recharge our aquifers and streams. Water is too precious a resource to waste, and LID offers tremendous opportunities to take a new approach that works with our natural resources in ways that support our economic as well as environmental health.

First and foremost, more attention needs to be paid to the free ecosystem service functions and values provided by natural green infrastructure such as forests and upland vegetated buffers around wetlands and waterways. These areas provide vital functions for capturing, filtering, and infiltrating precipitation across our watersheds. By planning ahead for growth and development, and modifying local land use rules to support LID designs and techniques, communities can maximize the preservation of this natural infrastructure while minimizing the creation of new impervious surfaces and stormwater outfalls. And LID retrofitting for existing impervious surfaces or on redevelopment sites can help restore some of these functions and capture stormwater for productive uses such as landscape irrigation.

Mass Audubon's *Losing Ground: Planning for Resilience* report (2014, www.massaudubon.org/losingground) found that the rate of land development has slowed in recent years to 13 acres per day compared to over 40 acres per day in the 1980s and 90s. This represents considerable progress, but it also reflects a period of time (2005-13) that included the great recession when development was at a low point. We are already seeing the rate of development picking up, and it is important that this new development be done in a more efficient manner that better preserves natural green infrastructure. If we continue to build sprawling developments that consume large areas of forest while creating lengthy roads and

¹ A new report just issued documents the need for regulatory agencies to further incentivize the use of LID (aka Green Stormwater Infrastructure) and improvements to the compilation of data collection and sharing. *Accelerating Cost-Effective Green Stormwater Infrastructure: Learning From Local Implementation*, February 2015, Nell Green Nylen and Michael Kiparsky, UC Berkeley School of Law.

stormwater outfalls that communities cannot afford to maintain, this is not sustainable environmentally or economically.

Municipalities should be strongly encouraged to adopt conservation subdivision design and other project design regulations that provide more flexibility in dimensional requirements; reduce the length of roads and driveways; allow for narrower roads; minimize parking area requirements; and encourage use of pervious materials rather than regular pavement. Unfortunately, many existing local land use regulations effectively require excessive amounts of land alteration and creation of impervious surfaces, or allow those approaches by-right while making more creative LID designs difficult or uncertain to permit. More needs to be done to encourage and support communities in updating their land use rules to more thoroughly embrace LID as the preferred approach for all new and redevelopment. Local regulations can also require retention of trees and other existing natural vegetation on development sites and minimize the amount of cut and fill that alters natural topography and drainage characteristics.

LID can avoid or at least minimize the creation of new outfalls on many development sites, and for redevelopment or retrofitting can effectively disconnect existing impervious surfaces from the MS4 outfalls system.

LID techniques are not only becoming more cost effective to construct, but they can help the community make progress toward the required water quality improvement targets. Where development proceeds with traditional catch basin and piping systems this creates new outfalls or additional contributions to existing ones, which then often become part of the community's MS4 responsibilities. Full use of LID on new development can avoid and minimize these increased burdens, which otherwise may mean the community is always playing "catch-up," since any improvements to existing systems continue to be offset by new contributions of additional stormwater flows from new development. The fact sheet for the draft permit mentions that LID techniques require maintenance costs. It is true that maintenance is required for LID stormwater BMPs (although not, generally, for retention of natural landscapes). But maintaining traditional piping, catch basins, and detention areas is expensive, and often inadequately funded. In many instances, an LID approach can be cost-effective for the developer, the municipality, and property owners.

LID and Green Infrastructure also have a host of other environmental, community quality of life, health, energy, and property value benefits. There is ample evidence of this, as well as examples from across the nation that municipalities can learn from. The following list is a short selection of the many references, guides, and case studies available:

American Rivers, WEF, American Society of Landscape Architects and ECONorthwest, 2012. *Banking on Green: A Look at How Green Infrastructure Can Save Municipalities Money and Provide Economic Benefits Community-Wide*.
<http://www.americanrivers.org/assets/pdfs/reports-and-publications/banking-on-green-report.pdf>

Center for Neighborhood Technology and American Rivers. 2010. *The Value of Green Infrastructure: A Guide to Recognizing its Economic, Environmental, and Social Benefits*.
<http://www.cnt.org/repository/gi-values-guide.pdf>

University of NH Stormwater Center, 2011. *Forging the Link: Linking the Economic Benefits of Low Impact Development and Community Decisions*. <http://www.unh.edu/unhsc/forgingthelink>

U.S. Environmental Protection Agency reports and case studies:

Case Studies Analyzing the Economic Benefits of Low Impact Development and Green Infrastructure Programs (2013) http://water.epa.gov/polwaste/green/upload/lid-gi-programs_report_8-6-13_combined.pdf

Getting to the Green: Paying for Green Infrastructure -- Financing Options and Resources for Local Decision Makers (2014) http://www2.epa.gov/sites/production/files/2015-02/documents/gi_financing_options_12-2014_4.pdf

Enhancing Sustainable Communities With Green Infrastructure: A guide to help communities better manage stormwater while achieving other environmental, public health, social, and economic benefits (2014) <http://www.epa.gov/smartgrowth/pdf/gi-guidebook/gi-guidebook.pdf>

Reducing Stormwater Costs Through LID Practices (2007)
http://water.epa.gov/polwaste/green/upload/2008_01_02_NPS_lid_costs07uments_reducingstormwatercosts-2.pdf; fact sheet:
http://water.epa.gov/polwaste/green/upload/2008_01_04_NPS_lid_costs07uments_factsheet-reducingstormwatercosts.pdf

Relationship to Massachusetts Stormwater Standards

The Massachusetts Stormwater Standards, while helpful, do not address the full scope of stormwater management needed to achieve water quality standards. The state rules are applied primarily through application of the Massachusetts Wetlands Protection Act, which is limited in jurisdiction to work within state wetlands resource areas or adjoining buffer zones. Projects located outside of these areas, regardless of size or scope, do not require a wetlands permit and therefore the local conservation commission cannot require that stormwater emanating from upland sites meet the standards. This is true even when stormwater from new or redevelopment in uplands will flow into existing local stormwater conveyance systems that discharge to wetlands or waterways. Therefore, it is important that the MS4 permit require communities to more comprehensively regulate stormwater from all new and redevelopment, regardless of whether or not the entire site and scope of work is located within uplands.

Conclusion

The Massachusetts Water Infrastructure Commission (2012) found that addressing stormwater maintenance and upgrade needs over the next 20 years could cost in the range of \$18 billion dollars. At the same time, many communities are facing more frequent, intense flooding events along with potential water supply shortages, and streams are drying up due to excessive water withdrawals and/or loss of infiltration capacity. By using our landscape in a smarter, more efficient way, we can reduce these burdens. Precipitation can be filtered, infiltrated, and used for irrigation and to recharge water supplies and rivers, while the need for expensive engineered structures to treat and convey ever increasing flows from more intense storm events can be minimized. This is not a panacea, but continuing the path of developing larger and larger areas

of impervious surfaces channeled into inadequate storm drainage systems will only increase the challenges communities face. We urge a shift in thinking about land and water management, and a strong embrace of LID principles and techniques.

Thank you for considering these comments.

Sincerely,

A handwritten signature in black ink, reading "E. Heidi Ricci". The signature is written in a cursive, flowing style with a prominent initial "E".

E. Heidi Ricci
Senior Policy Analyst

Cc: Fred Civian, DEP