

State of the Waters



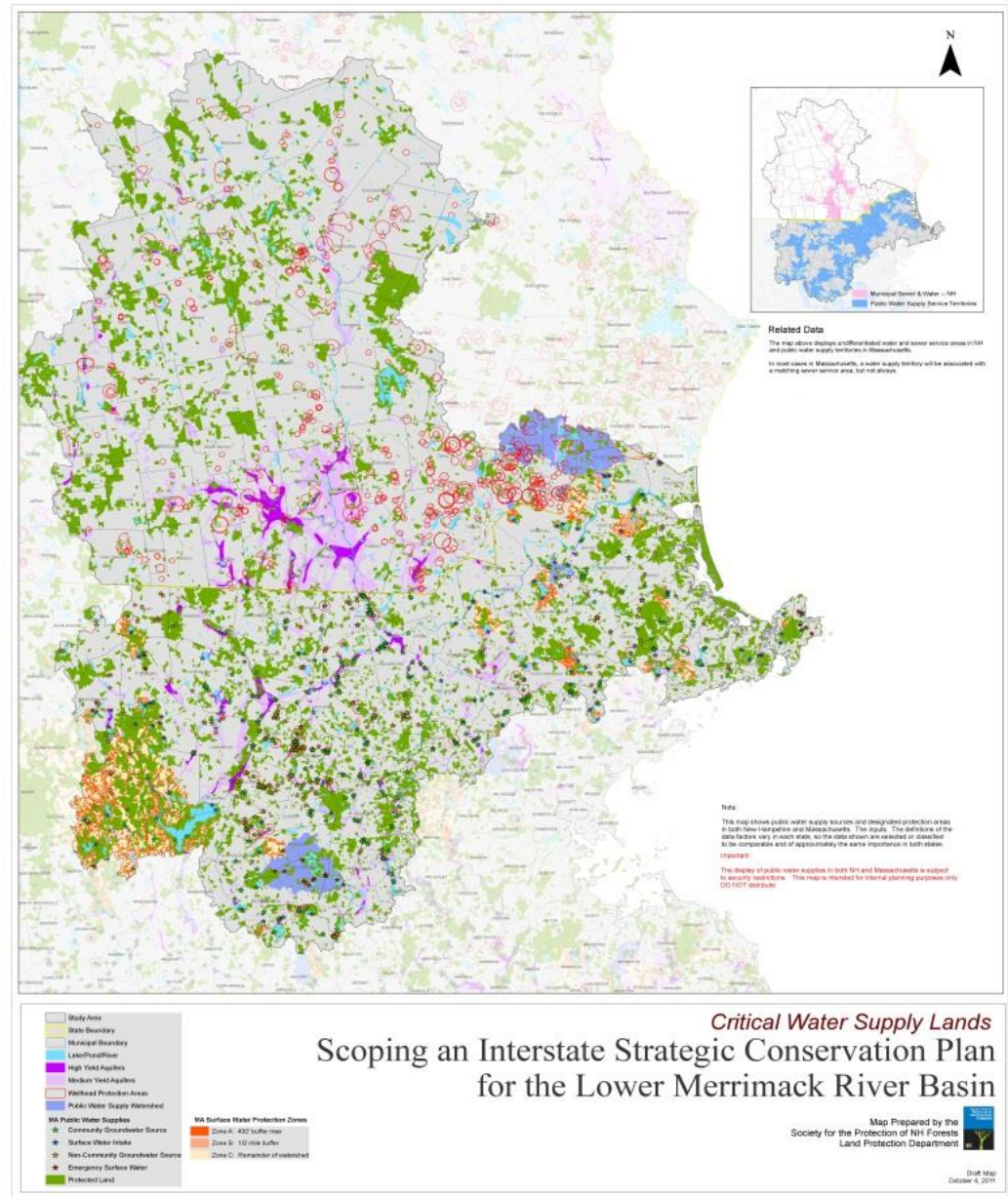
“Collecting Water Quality and Discharge Data for the Making A Visible Difference Project in Lawrence, MA”

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# “Merrimack River “ A Critical Public Resource

The Merrimack River is a Class B surface water which supplies drinking water for **five (5) Massachusetts communities**. These community systems serve more than **533,000 people**. (Lowell, Lawrence, Methuen, Andover, and Tewksbury, MA) as well as Nashua, New Hampshire.

■ **BUT .....**



# Lawrence MVD – Water Strategy for the Merrimack River

## Goals:

1. Evaluate water quality data, including microbial concentrations, to “Predict Potential Microbiological Exposures and health risks from recreational water use (boating & fishing) and drinking water.”
2. Map flood zones and local knowledge of areas prone to flooding to better plan for these events, including infrastructure assessments.
3. Develop water quality monitoring system and network to inform public users on the river.



# CSO Data Collection for Merrimack Communities

|                      |  |   |
|----------------------|--|---|
| <b>Manchester NH</b> | <p>Daily Event and Monthly Summary Data available for 2013-2015. Limited E. coli data for 2013-2014 available.</p> <p>Manchester completed continuous monitoring for Jan. 1, 2014- December 31, 2015</p> | <p>Manchester completed bacterial sampling for one of its main outfalls concurrently with their CSO metering period.</p> <p>Contains useful, storm-event specific data.</p> <p>Follow-up Items: CSO locations needed for specific CSOs.</p> |
| <b>Nashua NH</b>     | <p>Monthly summary reports in spreadsheet for 2010-2013, 2015.</p> <p>E. Coli samples for 2010 and 2012.</p>   | <p>CSO data for 2010-11 would be useful.</p>  |

# CSO Data Collection for Merrimack Communities

|                        |   |                                      |
|------------------------|---|--------------------------------------|
| <b>Lowell<br/>WWTP</b> | 2010-2013 Only annual summary data available.   | Waiting on 2014-2015 CSO data        |
| <b>Lawrence<br/>SD</b> | Daily CSO Activation data available for 2009-2014.<br>Annual summary data available for 2015. | Daily CSO Activation data available. |

*Notes: Lowell - Waiting for specific monthly data from the Lowell WWTP for the 2013-2015 timeframe. Pathogen monitoring data also requested.*

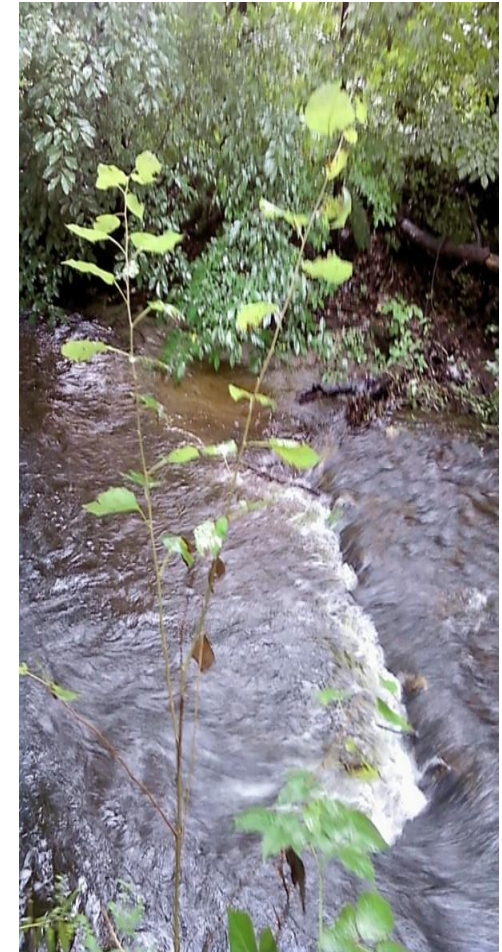
# Water Quality Data Collection for Lawrence MVD

|                                    |  |                      |
|------------------------------------|--|----------------------|
| Merrimack River Watershed Council, | Bacteria   | 2008 - 2011          |
| RARE (Stormwater) - EPA            | Borci Merrimack Data - Urban Rivers 2009 Final                 | 2009                 |
|                                    | Merrimack River Watershed Assoc data- Main Stem Data thru 2009 |                      |
| City of Lawrence                   | Stormwater - Dry Weather Screening Data                        | 2014                 |
|                                    | Stormwater - Wet Weather Screening Data                        | 2014                 |
| U.S. Army Corps of Engineers       | ACOE Merrimack River Database                                  | 2003-2004, 2008-2011 |
| MassDEP                            | TMDL Sampling Data for Pathogen TMDL                           | 2009-2012            |



# Water Quality Data – Pathogen Data Collected for Merrimack

|   |                |
|---|----------------|
| <u>Water Treatment Facilities:</u><br>Pennichuck Water, Lawrence, Andover | Pathogens      |
| <u>Wastewater Facilities</u> – Manchester NH                              | Enterococcus   |
| <u>Watershed Groups</u> -Merrimack River Watershed Council)               | E. Coli        |
| <u>Government Orgs:</u> EPA, MA DEP, NH DES                               | Fecal Coliform |



# Lawrence MVD – Monitoring Project

## EPA-Research & Development

### Monitoring Water Quality in the Merrimack

(Summer 2016) - EPA will be installing water quality monitoring stations at the intakes for the Lawrence Water Treatment Plant and the Andover Water Treatment Plant.

**Outcomes:** Data from these monitoring stations will be used to study the water quality of the river and inform climate resiliency plans.

Turbidity, DO, Temp., Spec Conductance, phycocyanin, pH, and Chlorophyll (A).

EPA may develop a real-time water quality website available to the public for the Andover station.





# Lawrence MVD – Water Strategy – Resiliency Planning

## Storm Event /Floodplain Data

- ❖ Flood maps, local knowledge and storm event data will be used to identify vulnerable infrastructure such as the drinking water treatment facility in Lawrence.
- ❖ EPA Office of Research & Development (ORD) evaluating areas of the city within the 100 year & 500 year flood plains.
- ❖ ORD is identifying 10 year and 25 year storm events. Models will attempt to project until 2100.
- ❖ ORD is also looking to identify “typical” size of storm events which lead to CSO discharges.



# Contact Information

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