



# Connecticut Department of Energy and Environmental Protection



Connecticut Department of  
**ENERGY &  
ENVIRONMENTAL  
PROTECTION**

# Moving Beyond Assessments to Successful Implementation: Tools for Use with Urban Waters

June 2, 2017

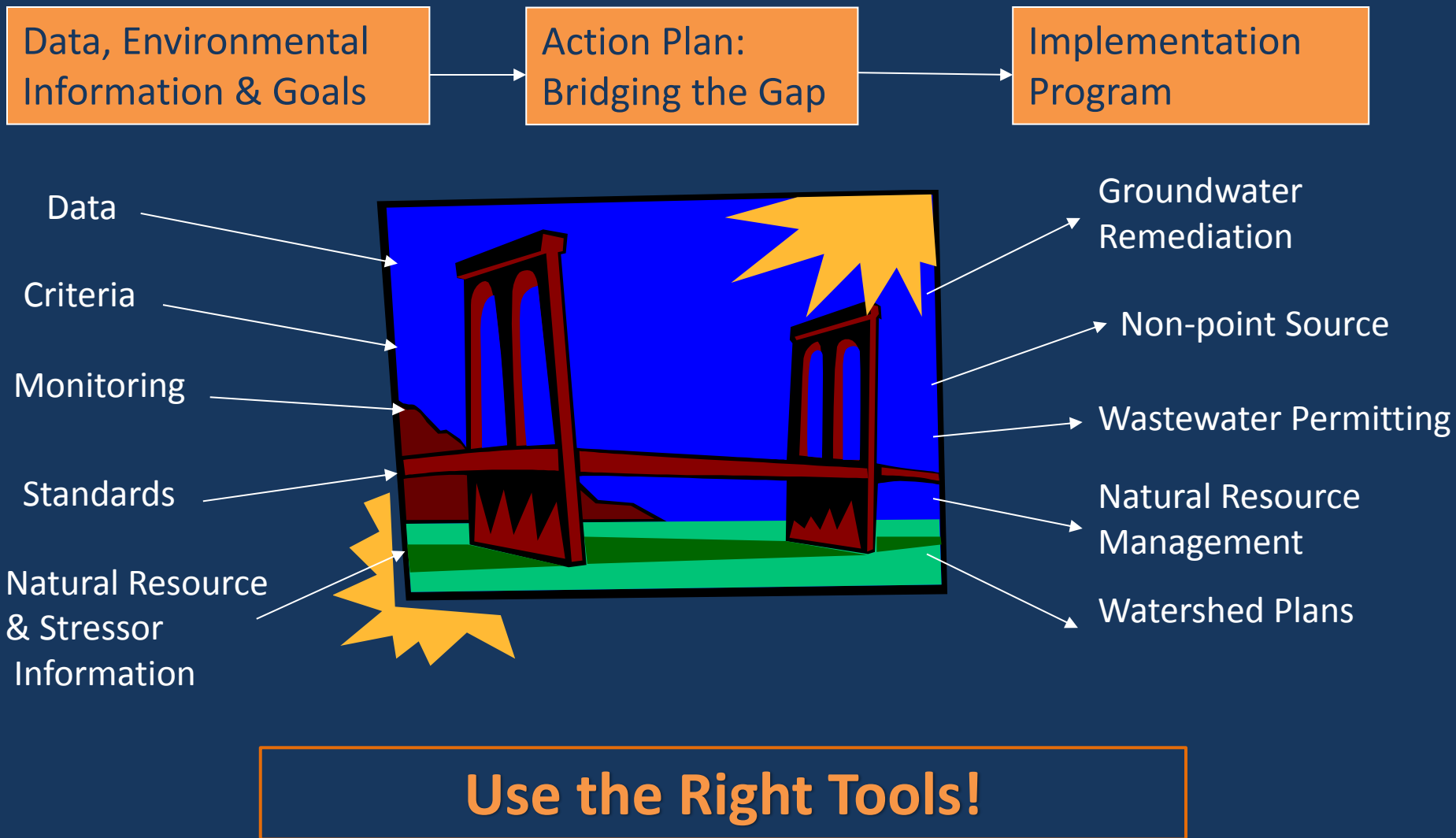
Traci lott, CT DEEP

National TMDL Meeting



Connecticut Department of Energy and Environmental Protection

# How Can We Build A Bridge to Water Quality Success?



# Build Your Water Quality Tool Box

Standards

Stressor  
Relationships

Communication

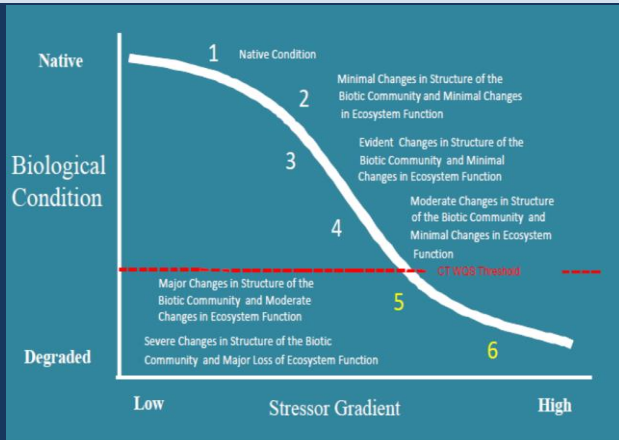
Partnerships

**Water Quality Restoration & Protection Toolbox:  
Urban Waters & Other Challenges**

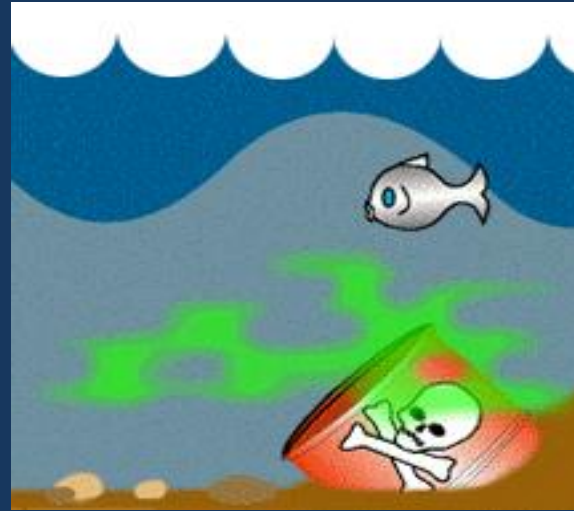


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# Tools: WQ Standards



Adopt the Biological Condition Gradient WQS



Insure “No toxics in toxic amounts” provisions address surface waters, sediments, bioaccumulation, and health impacts to people & wildlife



No significant WQ impact if first inch of storm water is not discharged and BMPs applied

Consider adopting WQS for groundwater with designated uses to include supporting uses in surface waters



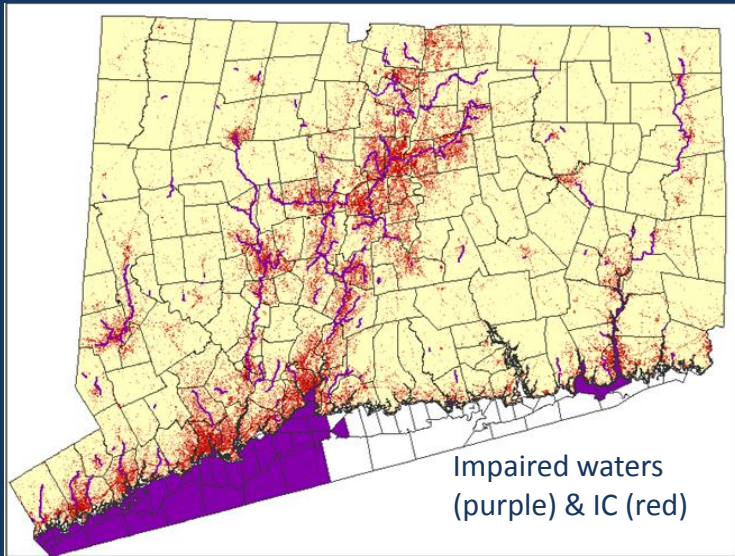
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# Tools: Describe Stressor Relationships

Benthic community data collected by DEEP

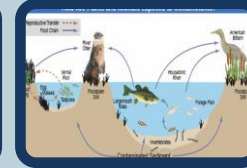


Storm Water:  
Link biological condition (Benthic MMI) to surrogate measure for storm water (Impervious Cover)



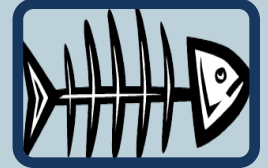
## Stressors

- Chemical
- Physical
- Biological



## Exposures

- Dermal
- Ingestion
- Inhalation



## Effects

- Acute
- Chronic

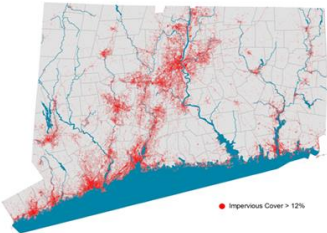
Develop risk assessment protocols that evaluate WQ impacts



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# Tool: Improved Communication

Connecticut Watershed Response Plan  
for Impervious Cover



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Bureau of Water Protection and Land Reuse  
79 Elm Street  
Hartford, CT 06106-5127  
(860) 424-3704  
Robert Klee, Commissioner

## Watershed Response Plan for Impervious Cover

- Watershed vs municipal boundary
- Resource Guide
  - What to do
  - Where to target efforts
  - Success stories
- Procedure to Calculate Directly Connected Impervious Cover

Benthic community data collected by DEEP



NEMO Bioretention Cell Laurel Hall UCONN



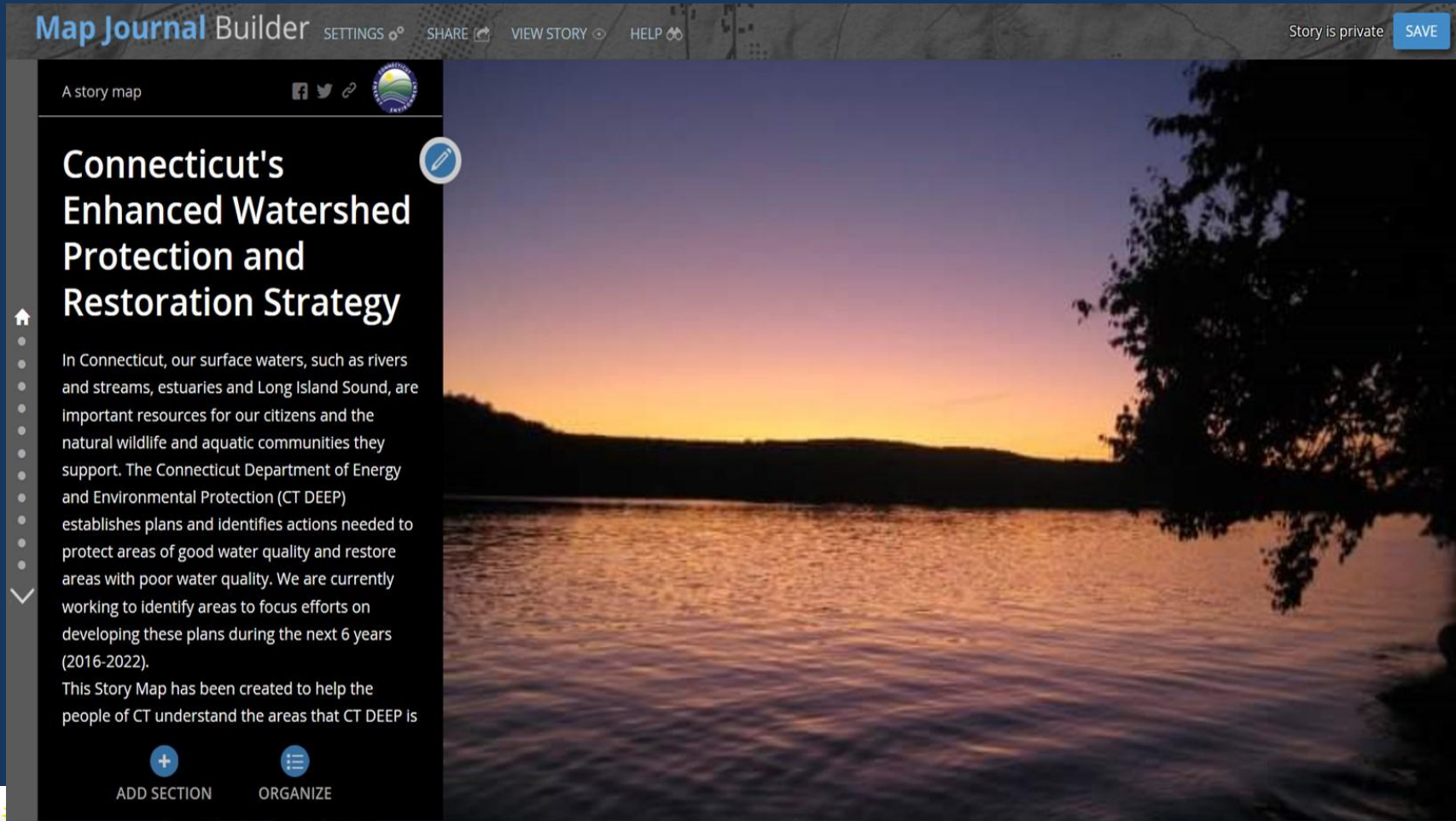
NEMO Green Roof UCONN



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# Tool: Improved Communication

- Online GIS Interactive Web “Storyboard”



The screenshot displays the 'Map Journal Builder' interface. At the top, there are navigation options: 'SETTINGS', 'SHARE', 'VIEW STORY', and 'HELP'. A 'Story is private' indicator and a 'SAVE' button are also visible. The main content area features a large background image of a sunset over a body of water. On the left, a dark sidebar contains the title 'Connecticut's Enhanced Watershed Protection and Restoration Strategy' and a detailed text block. Below the text are two buttons: 'ADD SECTION' and 'ORGANIZE'. The text in the sidebar reads: 'In Connecticut, our surface waters, such as rivers and streams, estuaries and Long Island Sound, are important resources for our citizens and the natural wildlife and aquatic communities they support. The Connecticut Department of Energy and Environmental Protection (CT DEEP) establishes plans and identifies actions needed to protect areas of good water quality and restore areas with poor water quality. We are currently working to identify areas to focus efforts on developing these plans during the next 6 years (2016-2022). This Story Map has been created to help the people of CT understand the areas that CT DEEP is'.

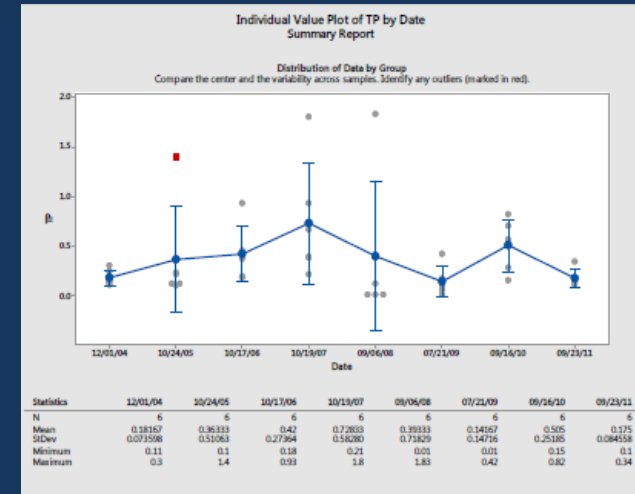
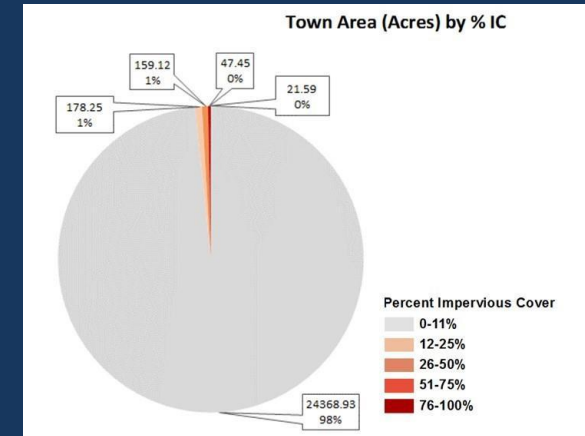
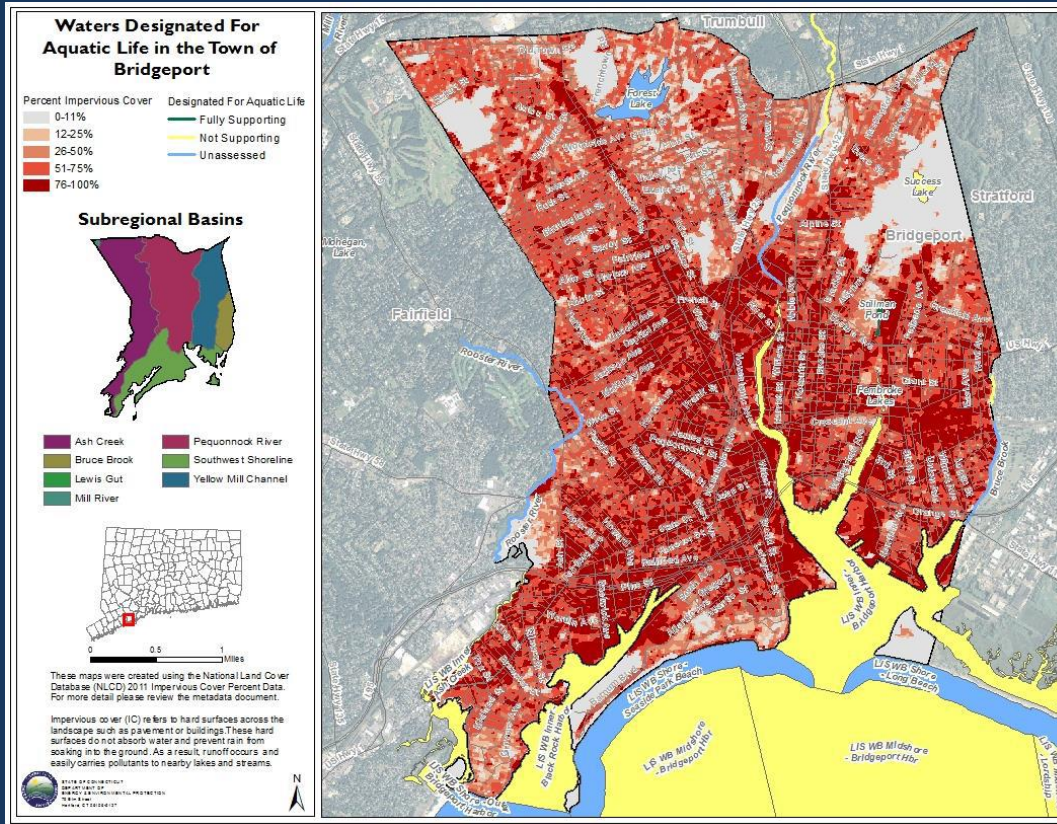


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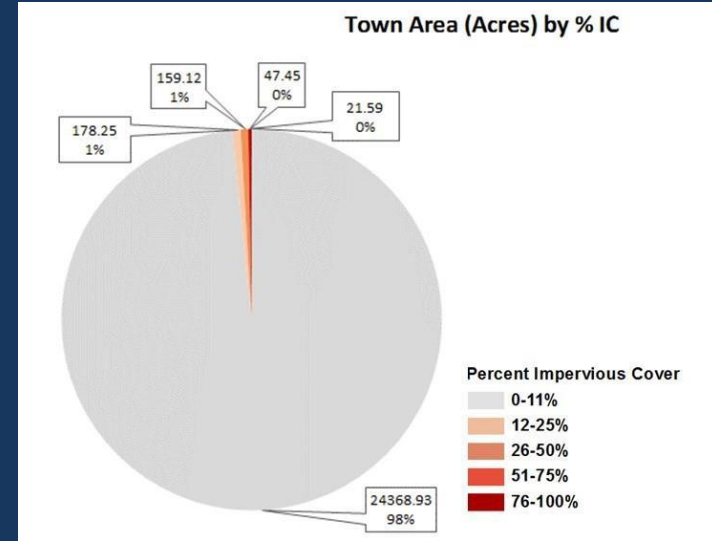
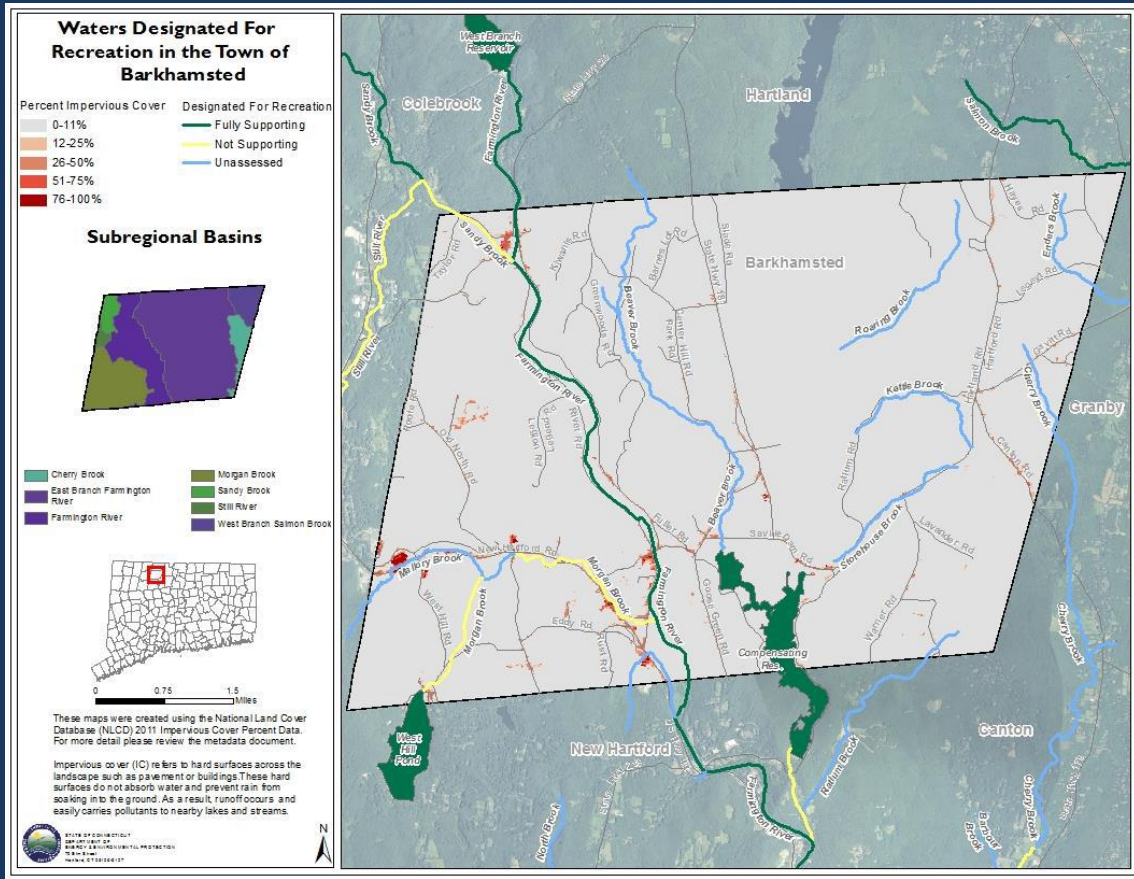
# Tool: Improved Communication

## Town-specific storm water and WQ analysis



# Tool: Improved Communication

## Town-specific storm water and WQ analysis



# Tools: Partnerships

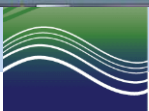
The screenshot shows the NEMO (Nonpoint Erosion Management Office) website for Connecticut. The header includes the UConn logo and the text 'UNIVERSITY OF CONNECTICUT'. Below the header, there's a search bar and the NEMO logo. The main navigation bar includes links for Home, Basics, SWM Plan, Implementation, Tools, About, MS4 News, FAQs, NEMO, and CLEAR. The content area features three main sections: 'MS4 Basics' (About stormwater, the new MS4 permit, & deadlines), 'Stormwater Management Plan' (Developing your stormwater management plan), and 'Implementation' (Implementing the 6 minimum control measures in your plan). There are also sections for 'News & Updates' and an 'MS4 Calendar' showing events for Saturday, June 3, 2017, including a 60 Day Public Comment Period on Stormwater Management PI.

- Web Resources for Towns
  - Background Materials
  - Plan Templates
- Dedicated Staff to help with MS4 Outreach

The cover of the report features the title 'Responding to an Impervious Cover-Based TMDL' and the subtitle 'A Brief Step-By-Step Guide'. Below the text is a row of five small photographs showing people working on stormwater infrastructure, such as inspecting manholes and installing catch basins. At the bottom of the cover is a large map of a town area with various colored overlays representing different land use types and stormwater management features. The logos for UConn and CLEAR are visible at the bottom.

The screenshot shows the 'UConn Green Infrastructure Virtual Tour' interface. It features a main image of a building with a steeple and a field of colorful flowers. To the right is a satellite map of the campus with various green infrastructure practices marked with colored icons. Below the main image is a text box titled 'UConn Green Infrastructure Tour' with a description: 'The University of Connecticut has begun to replace traditional stormwater practices in parts of campus with green infrastructure practices. Green infrastructure protects water quality by allowing stormwater to soak into the ground rather than run over impervious surfaces where it can collect pollutants and transport them to the stormwater system. This tour provides information on the various practices being used.' At the bottom, there is a row of 17 small thumbnail images representing different green infrastructure practices.

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# Build Your Water Quality Tool Box

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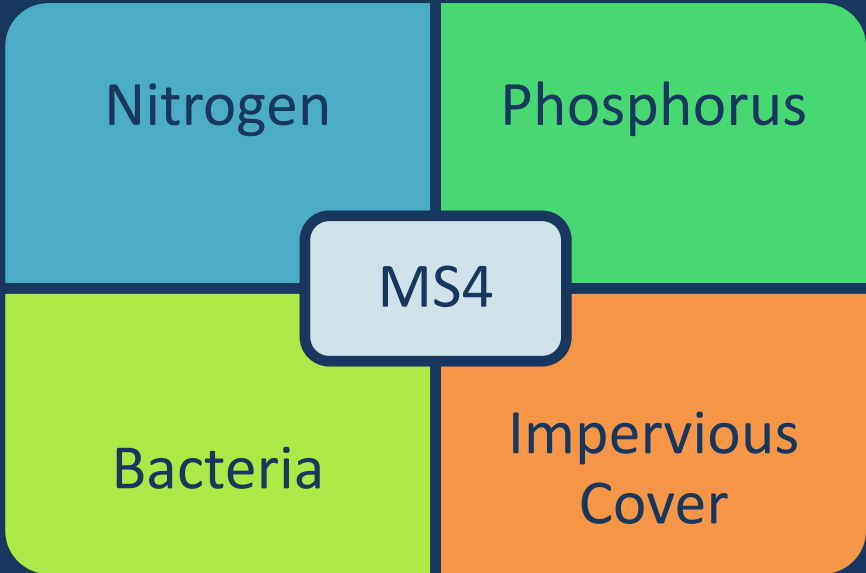


**Water Quality Restoration & Protection Toolbox:  
Urban Waters & Other Challenges**



# Result: Water Quality based Stormwater Permits

Construction GP



- Requirement to infiltrate / treat first inch of stormwater post construction

- Additional Requirements for Implementation
- Potential for future statewide permit



# Result: Sediment Clean Up to Meet Designated Uses

