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

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National TMDL Meeting
How Can We Build A Bridge to Water Quality Success?

Data, Environmental Information & Goals → Action Plan: Bridging the Gap → Implementation Program

Data
Criteria
Monitoring
Standards
Natural Resource & Stressor Information

Groundwater Remediation
Non-point Source
Wastewater Permitting
Natural Resource Management
Watershed Plans

Use the Right Tools!
Connecticut Department of Energy and Environmental Protection

Build Your Water Quality Tool Box

Standards
Stressor Relationships
Communication
Partnerships

Water Quality Restoration & Protection Toolbox: Urban Waters & Other Challenges
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
- Consider adopting WQS for groundwater with designated uses to include supporting uses in surface waters
- No significant WQ impact if first inch of storm water is not discharged and BMPs applied
Tools: Describe Stressor Relationships

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
Tool: Improved Communication

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

Aquatic Life Condition

% Impervious Cover

NEMO Bioretention Cell Laurel Hall UCONN

NEMO Green Roof UCONN
Tool: Improved Communication

- Online GIS Interactive Web “Storyboard”

Connecticut's Enhanced Watershed Protection and Restoration Strategy

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...
Tool: Improved Communication

Town-specific storm water and WQ analysis

Connecticut Department of Energy and Environmental Protection
Tool: Improved Communication

Town-specific storm water and WQ analysis
Tools: Partnerships

- Web Resources for Towns
- Background Materials
- Plan Templates
- Dedicated Staff to help with MS4 Outreach
Build Your Water Quality Tool Box

- Standards
- Stressor Relationships
- Communication
- Partnerships

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

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Result: Water Quality based Stormwater Permits

- Requirement to infiltrate / treat first inch of stormwater post construction
- Additional Requirements for Implementation
  - Potential for future statewide permit

Construction GP

- Nitrogen
- Phosphorus
- MS4
- Bacteria
- Impervious Cover
Result: Sediment Clean Up to Meet Designated Uses

Human Health Risk Assessment
- Sediment & Surface Water
- Fish & Shellfish Tissue
- Children & Adults Fishing and Direct Contact

Ecological Risk Assessment
- Sediment & Surface Water
- Plants, Aquatic Organisms, Birds & Mammals
- Biological Assessments for Survival, Growth & Reproduction

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