

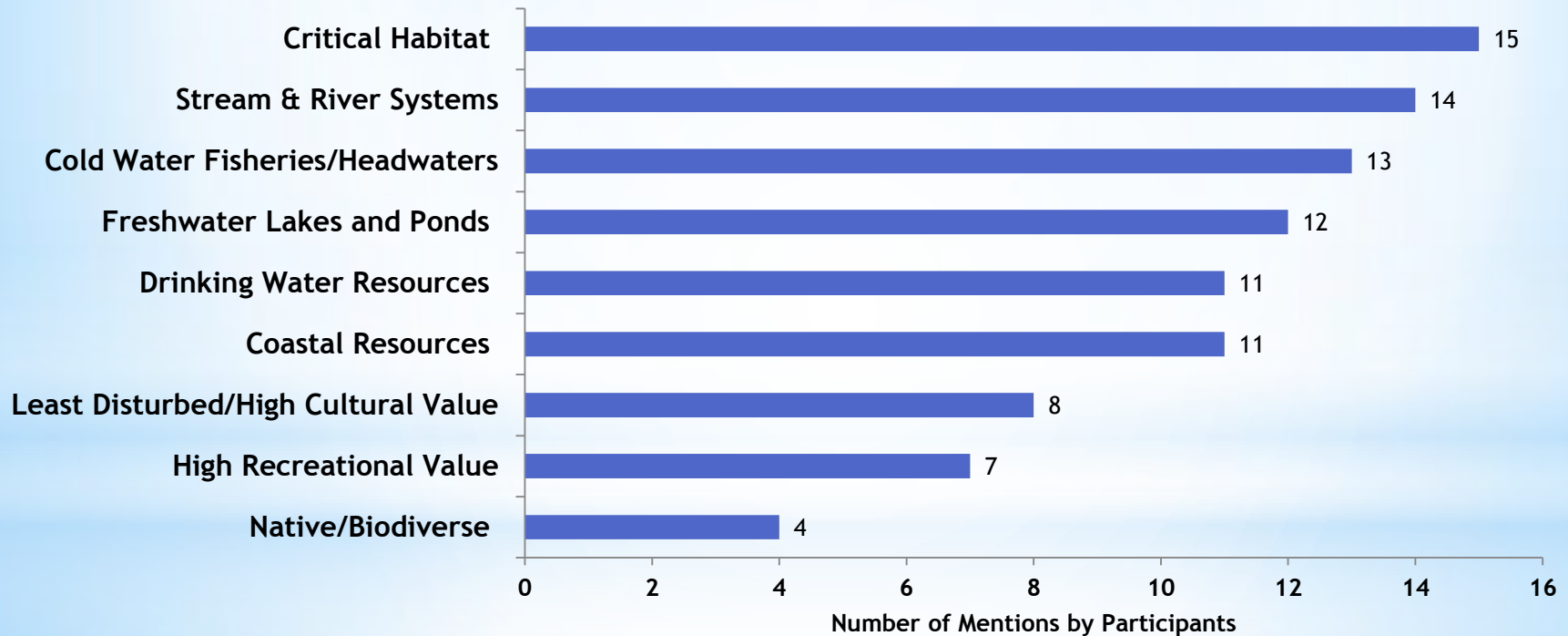
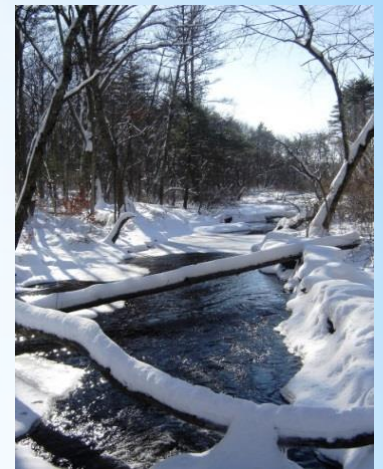
*Prioritizing: Protection & Restoration of our state waters



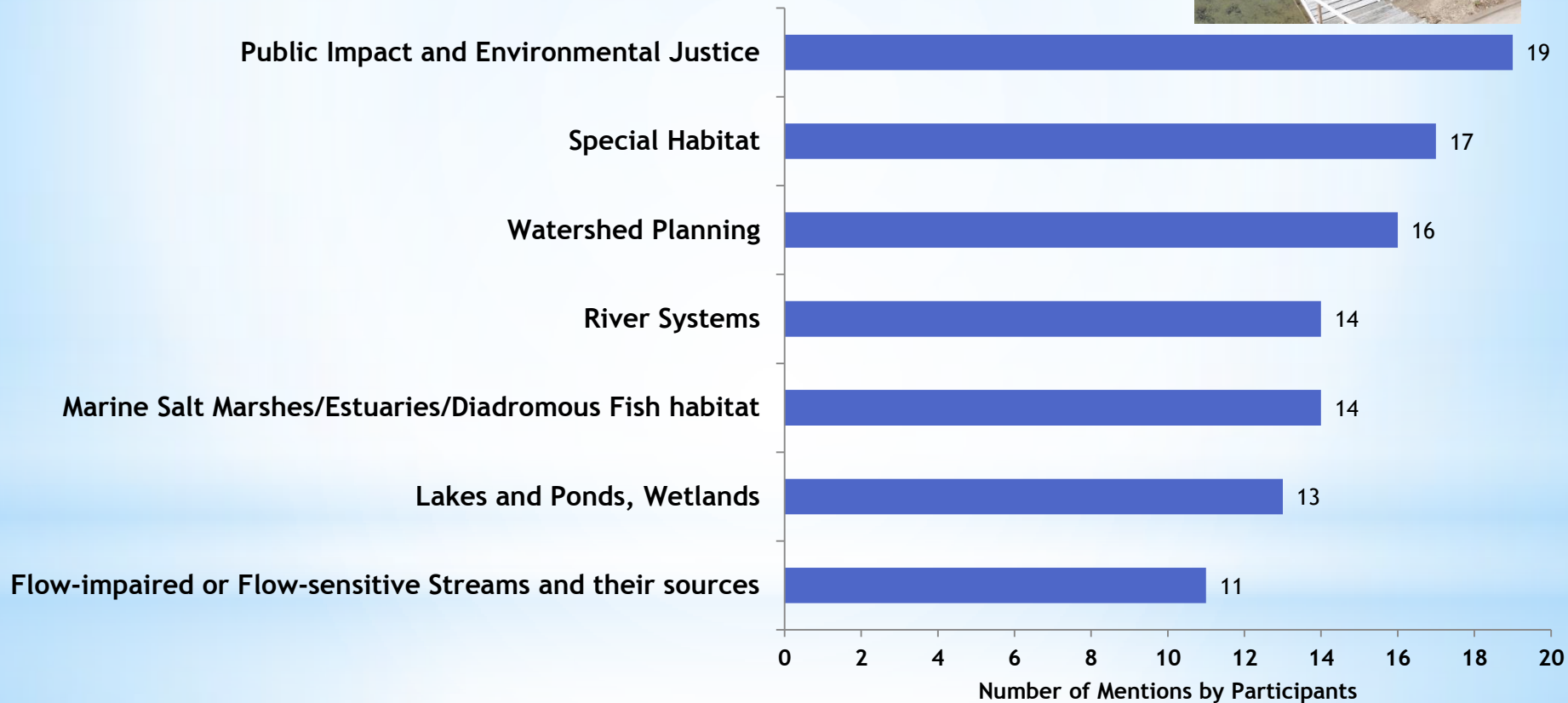
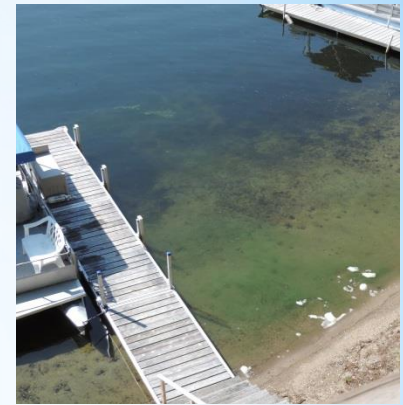
What did you tell us about your priorities?



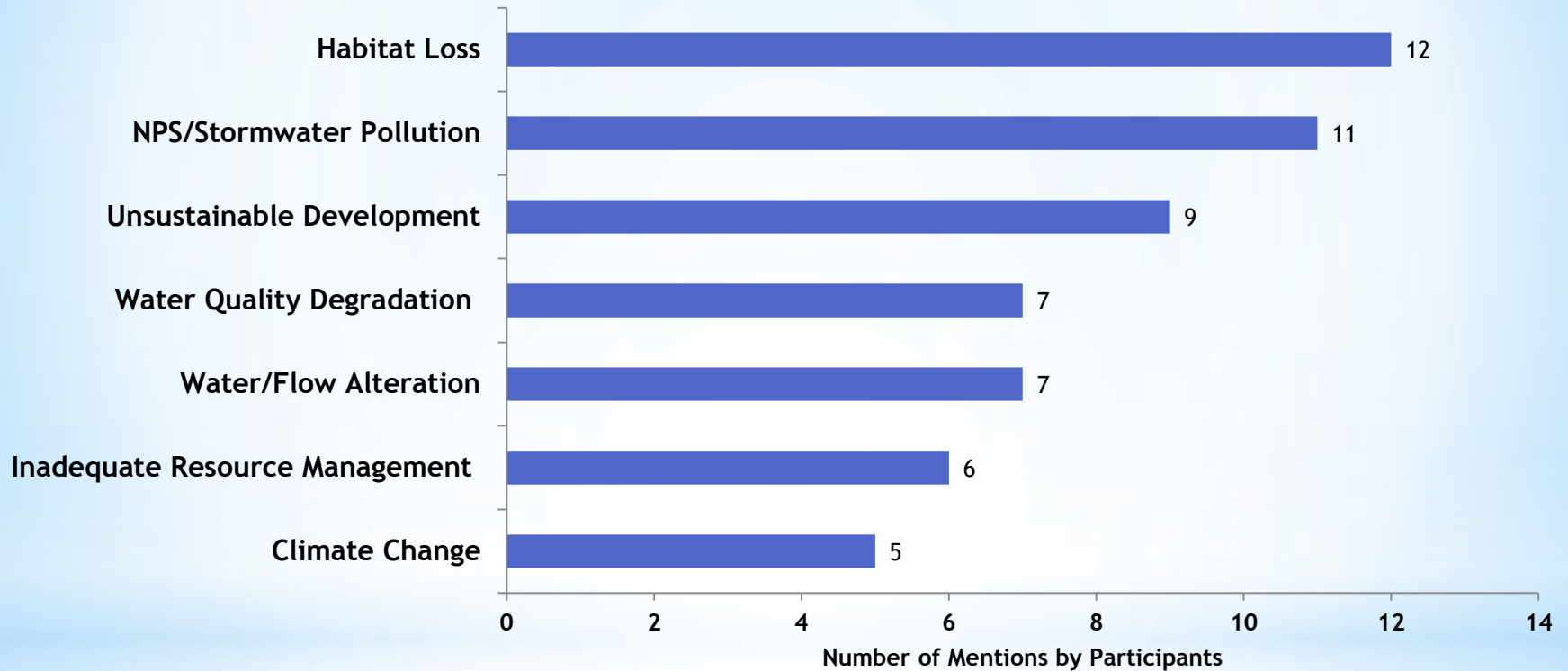
What are *your* Priority Waters for Protection?



What are *your* Priority Waters for Restoration?



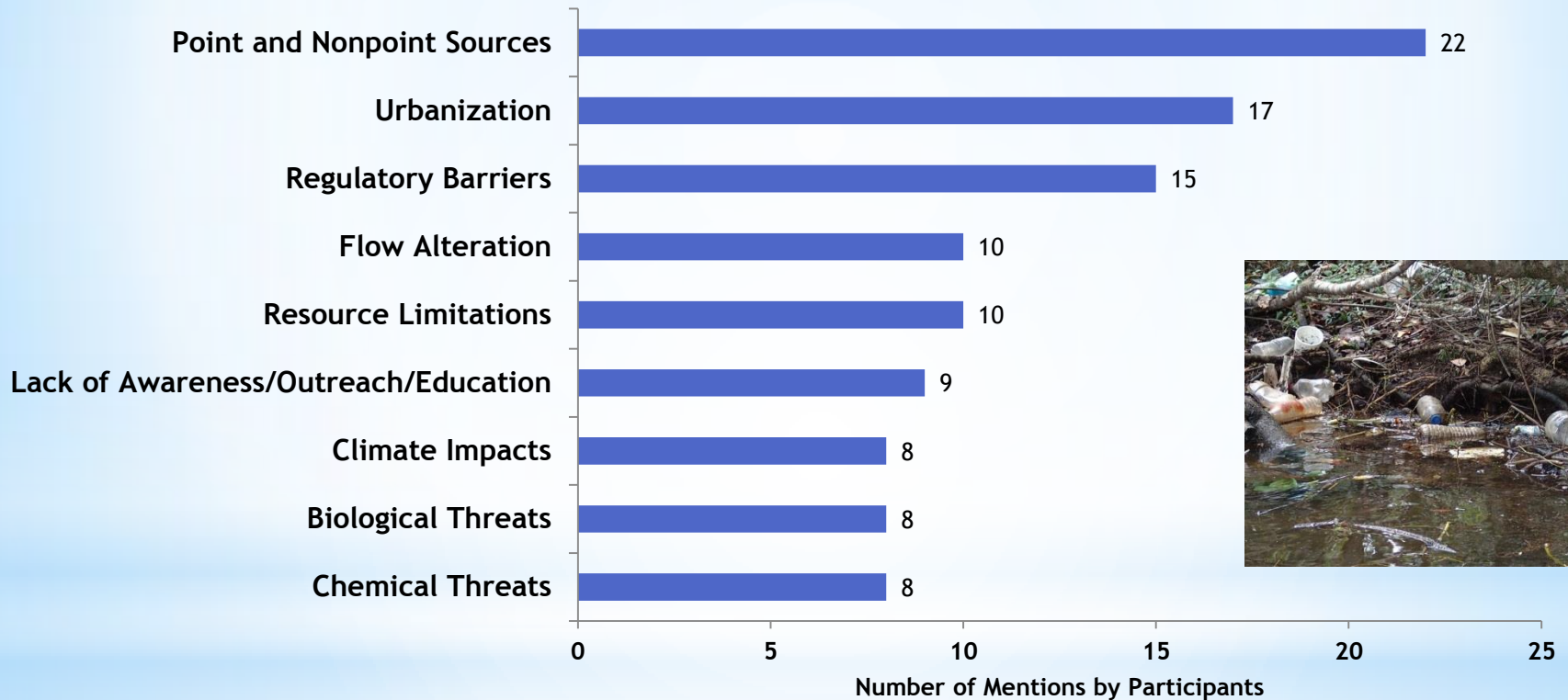
What are the biggest **Threats** to our Waters we want to **Protect**?



Waters for Protection

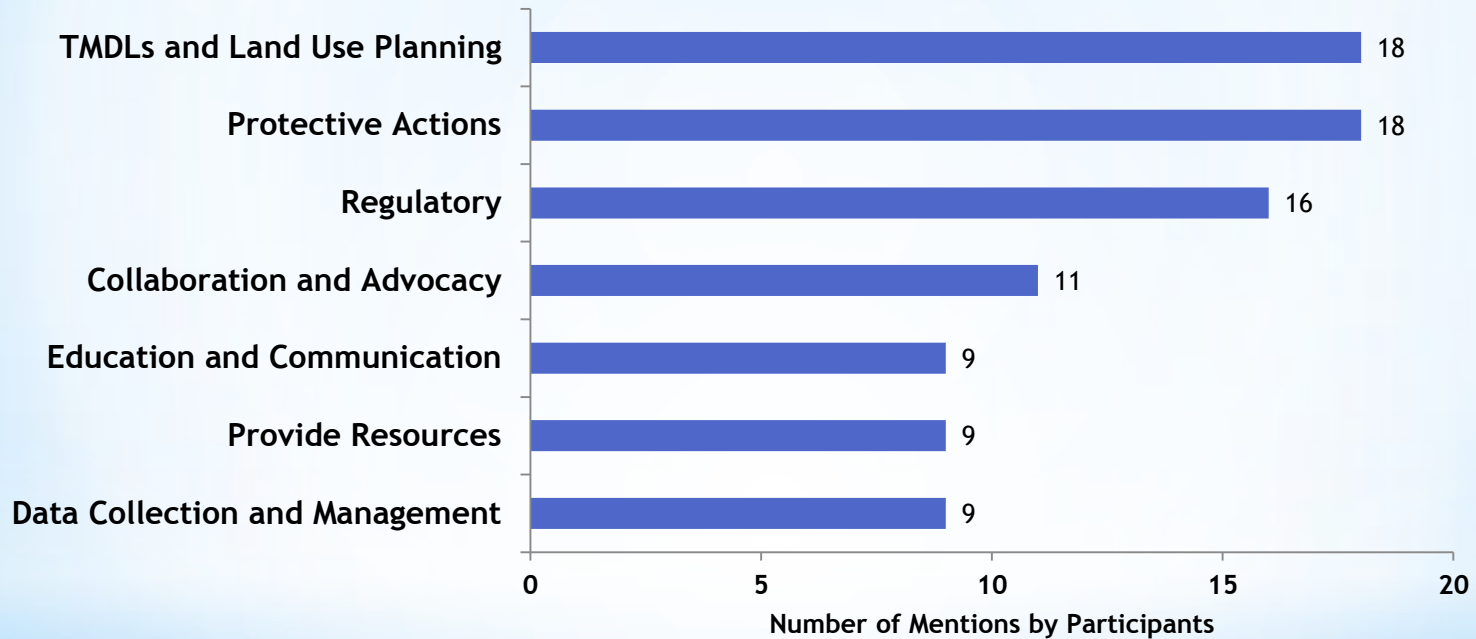


What are the biggest **Threats** to our Waters in need of **Restoration**?



Waters for Restoration

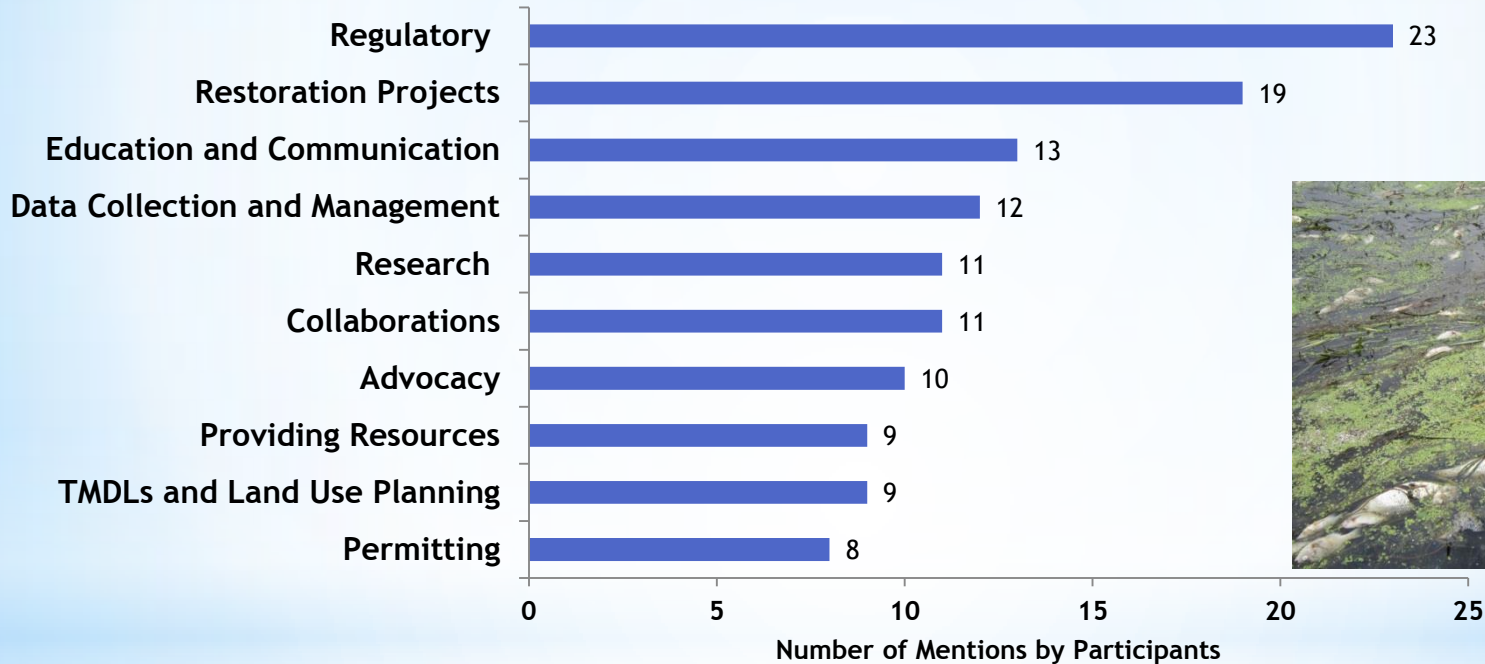
What **Actions** should we take to **Protect** Healthy Waters?



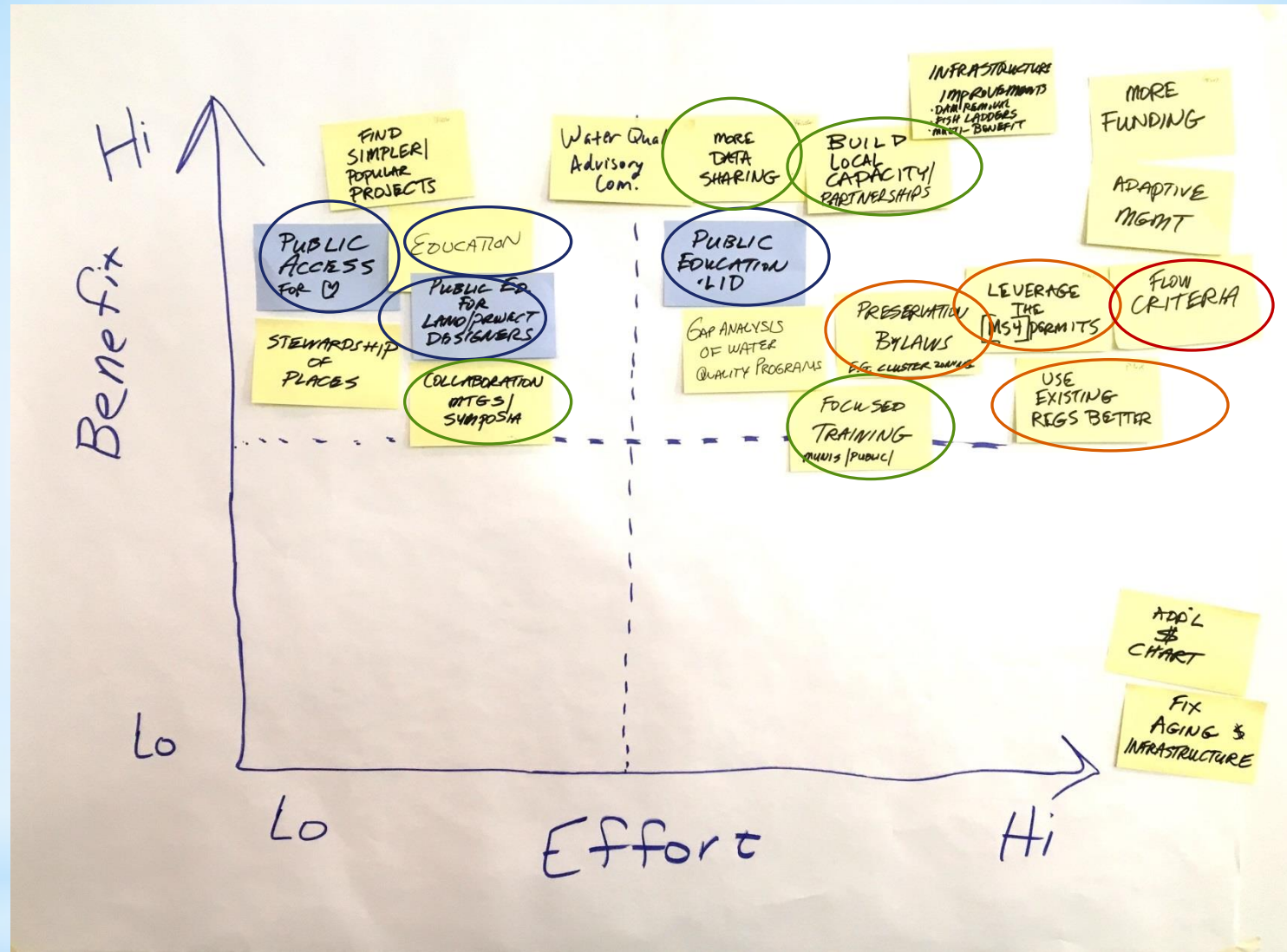
Waters for Protection



What **Actions** should we take to **Restore** Waters?

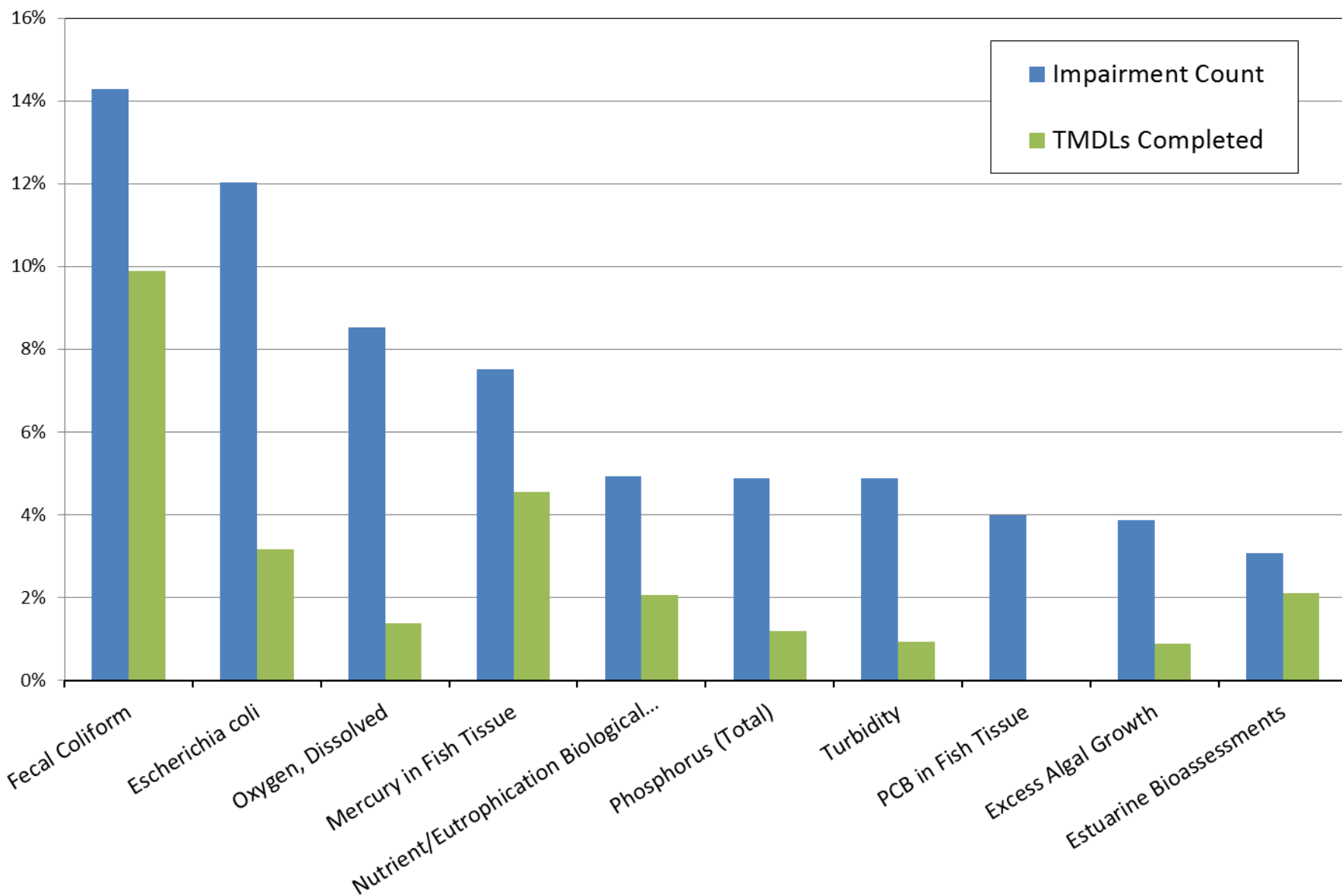


Waters for Restoration



*Benefit vs Effort

Top 10 Pollutant Impairments



Total Maximum Daily Loads (TMDLs)

- A “**pollutant budget**” designed to restore the health of a waterbody.
- Includes a comparison of relative contributions from all pollutant sources including both point and nonpoint sources.
- Defines reductions necessary to meet Water Quality Standards and designated uses.

# Impaired Segments Requiring a TMDL	Completed TMDLs	Causes for Impairment
~2,380	730	>80



*Where are we with
TMDLs?

THE ESTUARIES PROJECT

Southeastern Massachusetts Embayment Restoration

Base Map

The Massachusetts Estuaries Project (MEP)

NAME	NAME
1. PONDICOTT ISLAND BARRAGE	
2. PLYMOUTH BARRAGE	
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Jane Swift, Governor
Robert Durand, Secretary



All data subject to revision.
Cape Cod Commission provided by Cape Cod Commission
For Intra-Agency Policy Deliberations Only

➤ Collect data and evaluate 70 embayments

➤ Science based recommendations to improve water quality



MARTHA'S VINEYARD

Collaboration and Integration

- Watershed Towns
- Volunteers
- University (UMASS Dartmouth)
- Consultants
- Cape Cod Com/Buzzards Bay Coalition/Martha's Vineyard Com
- USGS
- MA Division of Marine Fisheries
- US EPA
- MassDEP

MEP Goals

Determine:

Nitrogen Loading Limits that are specific to individual estuarine systems in Southeastern Massachusetts

Provide:

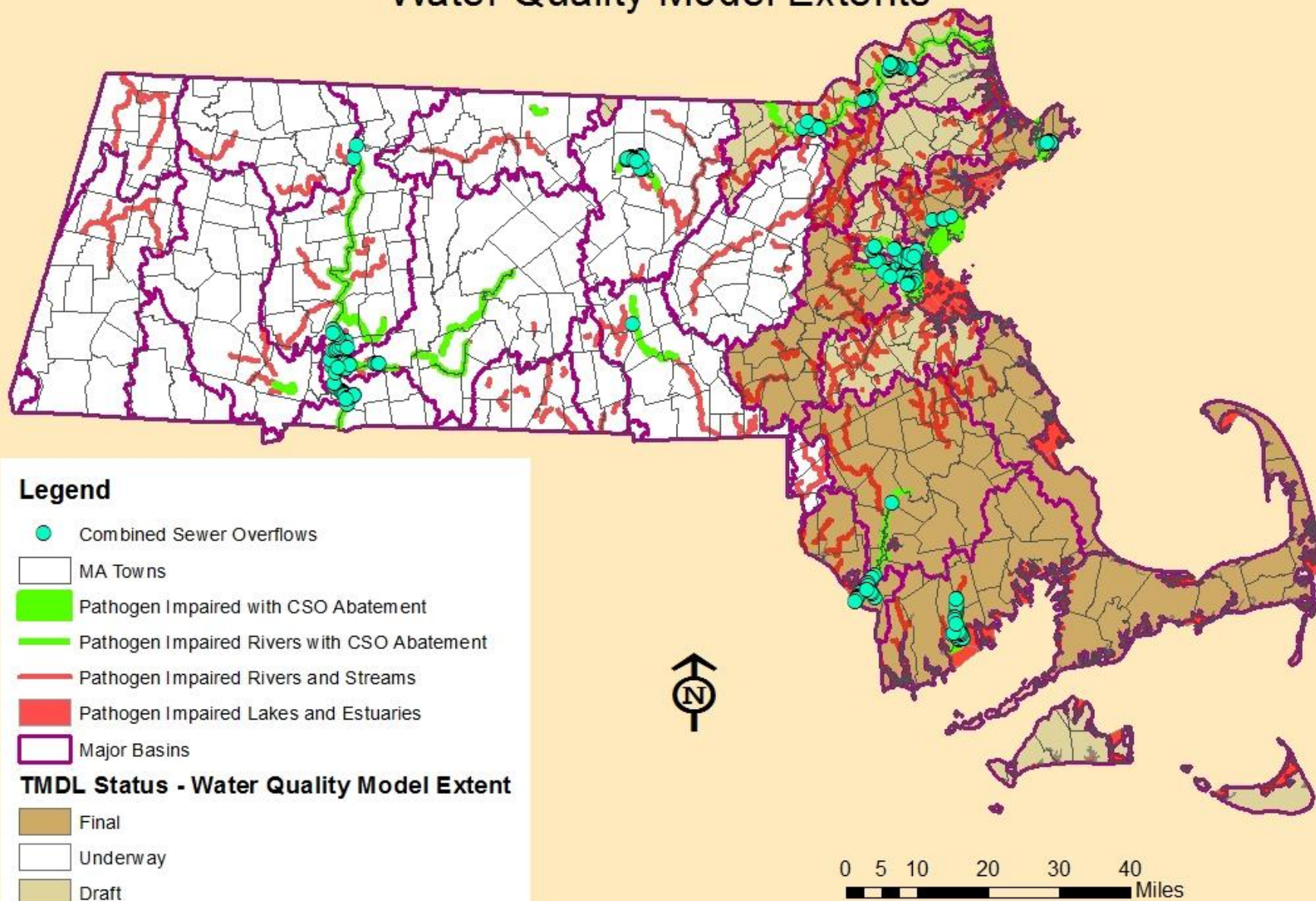
Nitrogen Management Strategies to achieve these limits

*Pathogen TMDLs

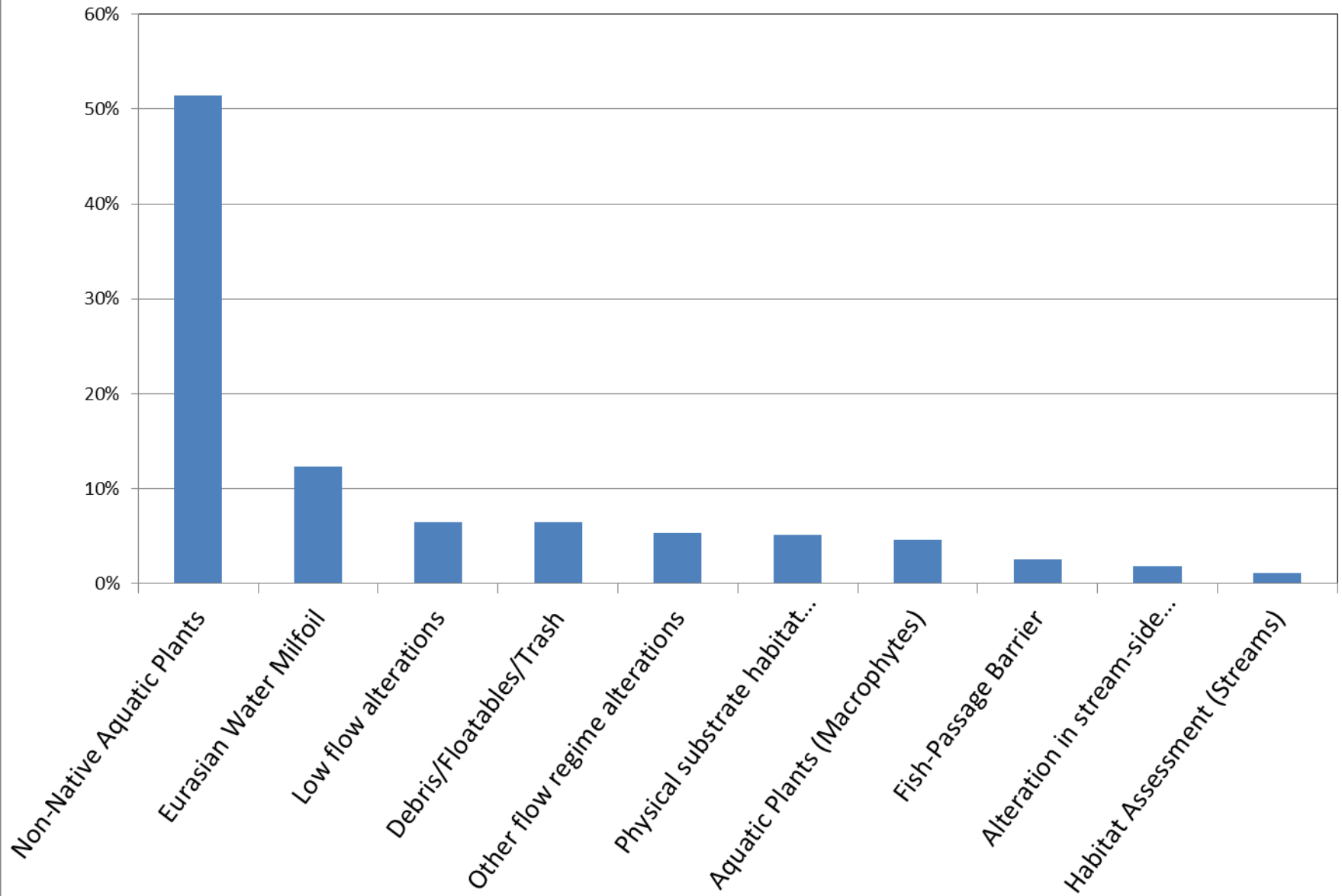
- *Completed- Coastal basins, 5 watersheds in draft, to be finalized
- *RFQ issued to complete freshwater TMDLs in Central and Western MA
 - *(15 lakes/ponds and 93 river/stream segments)
- *Anticipated completion June 2018



Pathogen Impaired Water Bodies and Bacteria TMDL Status for Water Quality Model Extents



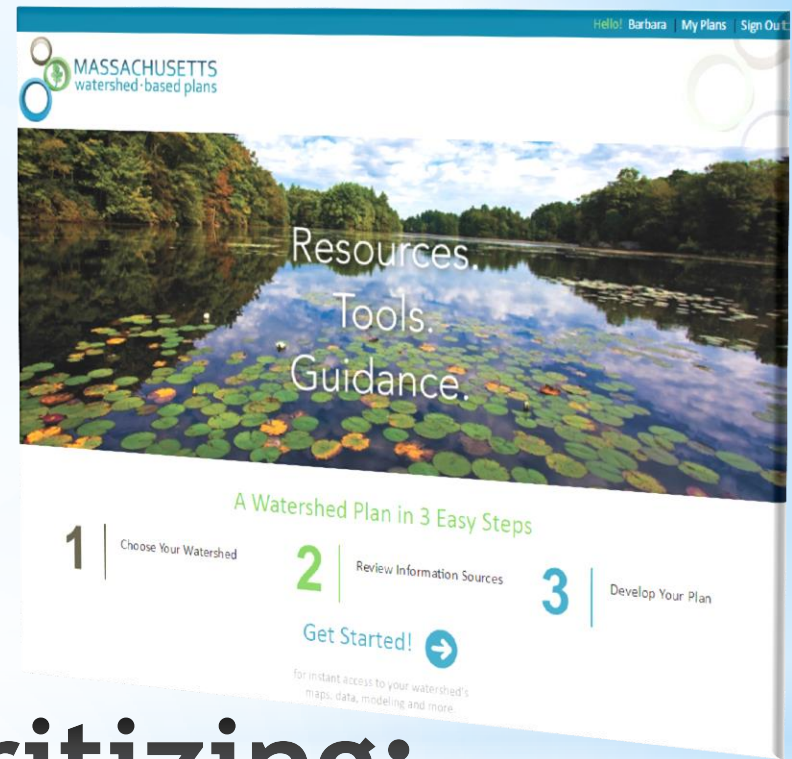
Top 10 "Pollution" Impairments



Other Statewide TMDLs

State	TMDL Description	Website
Connecticut	<ul style="list-style-type: none"> TMDL Alternative: Watershed Response Plan for Impervious Cover (15 Watersheds) Developing Statewide Nutrient TMDL to Address Eutrophication and HABs in Lakes and Impoundments 	http://www.ct.gov/deep/cwp/view.asp?a=2719&Q=567354&deepNav_GID=1654
Maine	<ul style="list-style-type: none"> Statewide TMDL for Nonpoint Source Pollution (N, P, sediment)(21 Watersheds) Impervious Cover TMDL (32 Watersheds) 	http://www.maine.gov/dep/water/monitoring/tmdl/tmdl2.html
Vermont	<ul style="list-style-type: none"> Acid Lakes Covers 39 Lakes and Ponds 	http://dec.vermont.gov/watershed/map/tmdl

- * EPA : Nine key elements of a WBP critical to achieving water quality improvements.
- * Projects funded thru Section 319 must have a WBP.

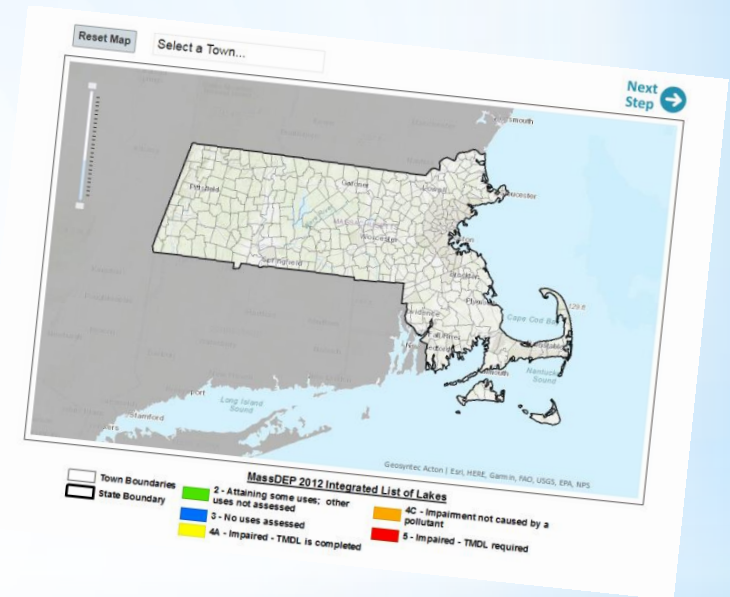


* Prioritizing: Watershed Based Plans

<http://prj.geosyntec.com/MassDEPWBP>

* *Not just for 319s*

- * MS4 SWMPs (~50% of Mass is regulated)
- * Lake and watershed groups
- * Municipal planning efforts
- * Education and outreach
- * Alternative TMDLs



* State-wide approach WBPs

You've selected a watershed... now it's time to start planning!

Click the elements below to review, add, or edit information associated with your watershed plan.



Watershed Plan Elements

Element A	Identify causes and sources that need to be controlled.	resume
Element B	Determine pollutant load reductions needed to meet water quality goals.	begin
Element C	Develop management measures to achieve water quality goals.	begin
Element D	Estimate the technical and financial assistance needed to implement the plan.	begin
Element E	Public information and education	begin
Element F Element G	Implementation schedule Interim measureable milestones	begin
Element H Element I	Criteria to measure progress Monitoring	begin

[Export Completed Plan to Microsoft Word](#)

[References/Appendix](#)

[Export Basic Template to Microsoft Word*](#)

*Note: This template will be automatically populated with the watershed data.

* *Mystic River Watershed Eutrophication Study*

* *(25 river miles, multiple impoundments, 7 lakes)*

* Partners: MyWRA, EPA, MWRA, MassDEP, consultants

* Priority?

- Active, engaged watershed association
- Multiple impairments due to excessive nutrients
- Development and re-development pressures
- Recreational value
- Environmental justice

*** Alternative TMDL
Direct to Implementation**

QAPP/Data/Modeling

- Hydrologic, Watershed Framework
- Watershed, Landuse TP Load Estimates
- Model Calibration
- TP Reduction Needed to Achieve Restoration

Implementation Strategy

- Opti-Tool: General, Watershed-wide BMPs
- Cost-effective Strategies for Different Land Uses and Soil Types

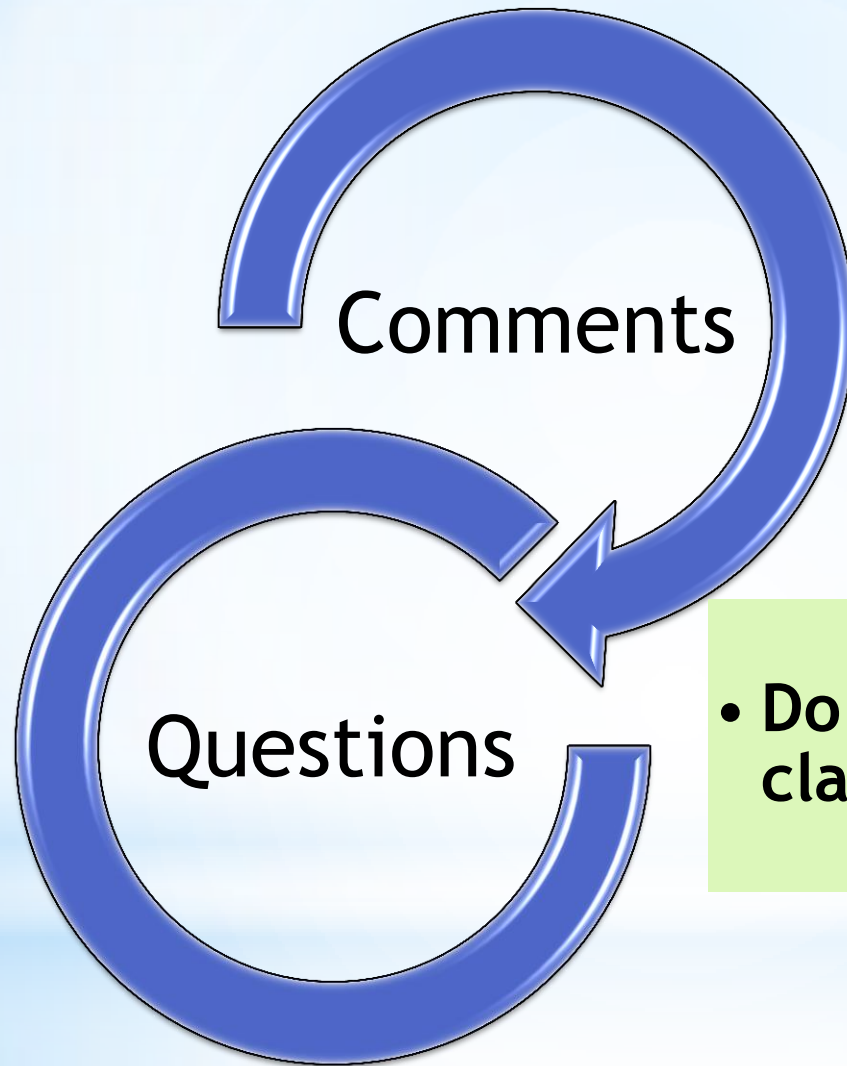
Multiple Levels of Public Outreach
JUNE 2018

- * Priorities include all waters of the Commonwealth
 - * Rivers, Lakes, Coastal Waters
 - * Critical Habitats and Biodiversity
 - * Recreational Waters/Urban Waters
- * Major Threats
 - * Urbanization, development
 - * NPS Pollution
 - * Resource Limitations
- * Actions
 - * Regulatory Measures and Enforcement
 - * Landuse Planning/Zoning/Protection
 - * Education and Outreach

* Workshop Priorities

- * Continue to finalize TMDLs to address **Nutrients and Bacteria**
- * Develop process for **IDENTIFYING** state-wide priority areas to address other impairments, either with TMDLs or Alternative TMDLs
- * Develop process to work with **STAKEHOLDERS** on non-DEP priorities
- * Maximize and leverage **PARTNERSHIPS**

* **MassDEP Priorities**



- Are we missing or overlooking anything?

- Do you wish to add or clarify anything?