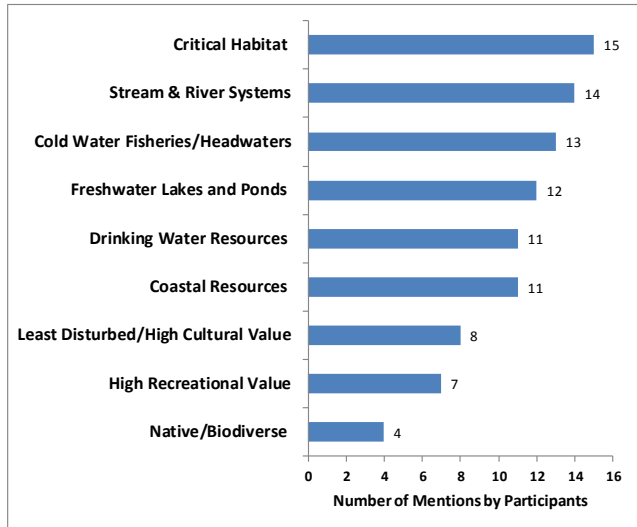


Summary of TMDL and Assessment Vision Stakeholder Input Presented November 2018

Priority for Protection

Overall Responses

Total	Summary
15	Critical Habitat
14	Stream & River Systems
13	Cold Water Fisheries/Headwaters
12	Freshwater Lakes and Ponds
11	Drinking Water Resources
11	Coastal Resources
8	Least Disturbed/High Cultural Value
7	High Recreational Value
4	Native/Biodiverse



Responses from Each Category

Total	Summary
5	Cold Water Fisheries/Cold Water Fishery Resources
4	Headwaters/1st Order Streams (including the Charles)
1	Trout Brook
1	Poor Farm Brook (CWF)
1	Cold River
1	Coal Mine Brook (CWF)
13	Cold Water Fisheries/Headwaters

3	Habitat/Critical Habitat, including Vernal Pools and ACECs
3	Diadromous Fish Runs (e.g., Herring Runs)
2	Connected Areas/Corridors
2	ORWs/High Quality Waters
1	Floodplain Connectivity
1	Sensitive Habitat
3	Areas with Endangered/State Listed spp
15	Critical Habitat

6	Drinking Water Sources and Protection Areas
5	Major Water Supply Reservoirs
11	Drinking Water Resources

1	Education
1	High Historical Cultural Value Rivers and Streams
3	Wild and Scenic Areas (e.g., Taunton and Westfield River Systems)
1	Parker NWR and environs
2	Undisturbed/Undeveloped Areas
8	Least Disturbed/High Cultural Value

4	Coastal Embayments--such as the Cape and MassBays
3	Saltwater Wetlands
2	Shellfish Habitat
1	Buzzards Bay
1	Narraganset Bay
11	Coastal Resources

3	Recreation
1	Public Access Areas
1	Riverways Associated with Greenways and Bike Paths
1	Bathing Beaches
1	State Parks
7	High Recreational Value

Total	Summary
2	Charles River Flood Storage Areas and Upper Watershed
1	Fowl Meadow (Neponset)
2	Freshwater Wetlands
2	Freshwater Ponds
1	The Ponds - Lynn Woods
1	Spot Pond-Middlesex Fells
1	Wenham Lake
1	Lake Quinsigamond
1	Echo Lake, Hopkinton
12	Freshwater Lakes and Ponds

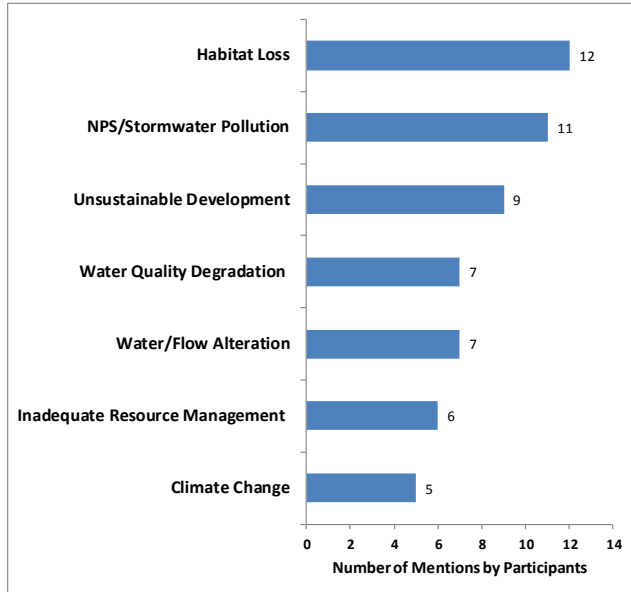
1	Migratory Bird Areas
1	Native Mussel Streams (Rivers)
1	Native Fish
1	Biodiversity
4	Native/Biodiverse

1	Dynamic (systems?)
1	Trap Hole Brook
1	N Branch, Hoosic River
1	Red Brook
3	Critical/Natural Flow including Groundwater
1	Mashpee River
1	Hoosic Basin
1	Deerfield Basin
1	Millers River Tributaries
1	Bash Bish Brook
1	Wine Brook
1	Palmer River
14	Stream & River Systems

Threats to Protection

Overall Responses

Total	Summary
12	Habitat Loss
11	NPS/Stormwater Pollution
9	Unsustainable Development
7	Water Quality Degradation
7	Water/Flow Alteration
6	Inadequate Resource Management
5	Climate Change



Responses from Each Category

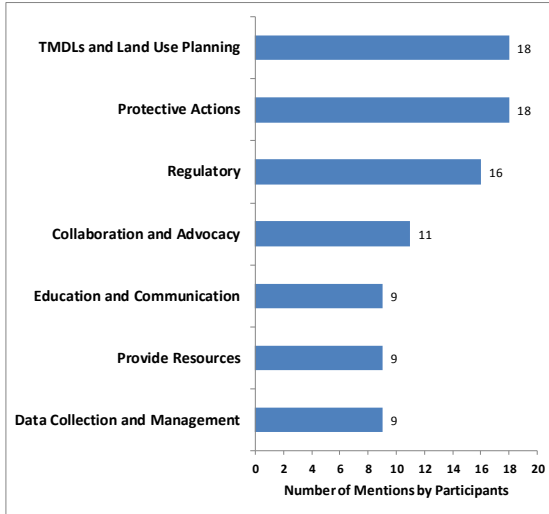
Total	Summary
4	Stormwater/NPS Pollution
2	Stormwater Runnoff/Pollution/Outfalls
1	Agriculture
2	Road Salt
1	Infiltration/Inflow
1	Atmospheric Deposition (N,Hg,pH)
11	NPS/Stormwater Pollution
1	Bacteria
1	Nutrients
2	Invasives
1	Eutrophication
1	Water Quality Degradation (gw+sw)
1	Littering
7	Water Quality Degradation
3	Water Withdrawals
3	Streamflow Alterations
1	Hydropower
7	Water/flow Alteration
3	Development
2	Unsustainable Development/Zoning Regs
1	Urbanization
1	On-site Systems (Septic)
1	Physical Alterations
1	Impervious Surfaces
9	Unsustainable Development

Total	Summary
4	Encroachment/Habitat Loss
3	Physical Barriers
1	Dams
1	Roads
2	Habitat Alteration
1	Fragmentation (Roads, Dams)
12	Habitat Loss
1	Resource Management
1	Lack of Awareness
1	Outdated WQS
1	Lack of Links between State/Federal Regs and Local Bylaws
1	Municipal Capacity to Manage Threats
1	Recreation
6	Inadequate Resource Management
3	Temperature/Climate Change
2	Climate Change Impacts (Changing Precip)
5	Climate Change

Protection Actions

Overall Responses

Total	Summary
18	TMDLs and Land Use Planning
18	Protective Actions
16	Regulatory
11	Collaboration and Advocacy
9	Education and Communication
9	Provide Resources
9	Data Collection and Management



Responses from Each Category

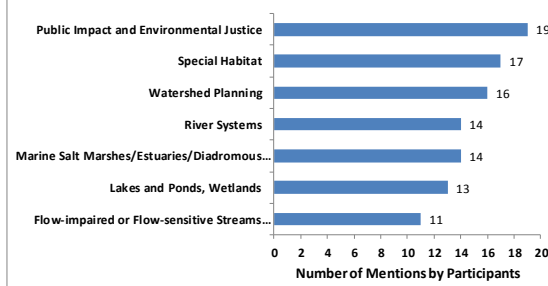
Total	Summary
4	Awareness/Public Education
1	Support Water Conservation Initiatives
1	[Encourage?] Recreation
2	Messaging to Different Audiences
1	Create Climate of Trust
9	Education and Communication
1	Site Designs
2	Integrated Planning and Coordination Among Agencies and Programs
3	Watershed Approach (Basin Teams?)
2	TMDL Implementation (esp. Protective TMDLs)
1	Watershed Planning Zoning
4	Better Local Land Use/Zoning
4	Land Acquisition and Protection (Encourage Connectivity)
1	Protection for Connectivity
18	TMDLs and Land Use Planning
2	Engagement/Collaboration/Info Sharing
2	Fostering Partnerships
1	Finding a Champion
1	Sharing Success Stories
1	Support Friends' Groups
1	Grass Roots Approach
2	Stewardship, Education and Advocacy
1	Gaining Political Support
11	Collaboration and Advocacy
1	Septic O&M and Inspection
1	Update to Title 5/N-Removing Septics
1	Changes in Regs
1	Examine Existing Regs to Evaluate Sufficiency
2	Strong Regulatory Protections
5	Enforcement
1	Reduce Water Withdrawals
1	Support Groundwater Recharge for Baseflows
2	Use of/Increase Special Protective Designations (esp. ACECs)
1	Lack of Clear Regulatory Categories for Restoration
16	Regulatory

Total	Summary
4	Funding for BMPS/Municipalities & Research
2	Develop Stormwater Utility Fees
1	Focus on Multi-Benefit Projects (More "Bang for the Buck")
1	Incentives for Better Development
1	Support Science and Analysis
9	Provide Resources
2	Stormwater BMPs
2	Sewering where Issues Exist/Sewer BMPs
1	Floodplain Protection
1	Reforest/Restore Riparian Zones
1	Erosion and Sediment Control
2	Interventions to Reduce TN, Green Infrastructure/Site Design
1	Improve Tidal Flushing
3	Barrier Removal/Restoration of Connectivity
1	Dam Removal
3	Plan with Resiliency in Mind (i.e, Climate Change)
1	Support Innovative Solutions (esp. Infrastructure)
18	Protective Actions
1	Quantify Impacts/Threats
1	Assess Feasibility
1	Scale of Focus
1	Compare Like-to-Like
1	Identify "Pristine" Resources at Scale
1	How Pristine?
2	Monitoring & Prevention/Better Data
1	Better Tools/Databases and Science-Based Resources for Watershed Groups
9	Data Collection and Management

Priority Waters for Restoration

Overall Responses

Total	Summary
19	Public Impact and Environmental Justice
17	Special Habitat
16	Watershed Planning
14	River Systems
14	Marine Salt Marshes/Estuaries/Diadromous Fish habitat
13	Lakes and Ponds, Wetlands
11	Flow-impaired or Flow-sensitive Streams and their sources



Responses from Each Category

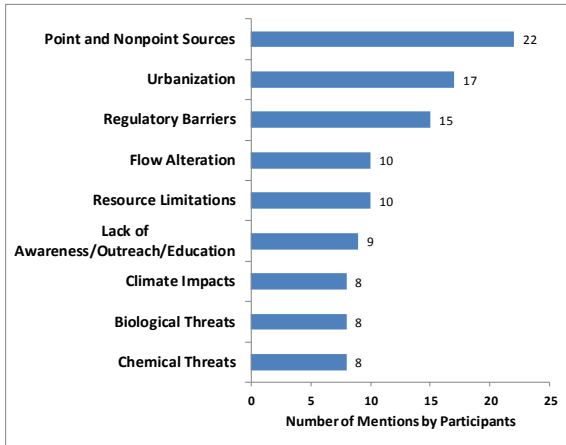
Total	Summary
3	Urban Harbors And Watersheds (esp. Mystic River)
1	Mainstem Rivers
2	CT River (i.e., Bacteria, Hydromodification)
1	Nashua River, Pepperell Pond
1	Taunton River Watershed
1	Neponset River
1	Charles River Lakes District + Lower Basin
1	Emerald Necklace
1	Cold River
1	Fowl Meadow
1	Wine Brook
14	River Systems
1	Freshwater Lakes, Ponds
1	Quabbin
1	Nutrient-Impaired Lakes, Ponds
1	Lake Quinsigamond
1	Long Lake, Littleton
1	Wigwam Pond
1	Wenham Lake
1	Ponds in Lynn Woods
1	Middlesex Fells
1	Great Ponds
1	Eutrophication
2	Wetlands
13	Lakes And Ponds, Wetlands
3	Shellfish Beds (esp. Closed Beds)
1	Salt Marshes
2	Estuaries
2	Eelgrass Beds
2	Migratory Fish Habitat
1	Parker River NWR
1	Mass Bay
1	Diadromous Fish Spawning and Nursery Habitat
1	Boston Harbor
14	Marine Salt Marshes/Estuaries/Diadromous Fish Habitat
1	Impoundments
1	Canals/Channelized Waters
1	Flow Impaired Streams
1	Ipswich River
1	Gulf Brook- CW Fisheries Adjacent to Municipal Well
1	Poor Farm Brook
1	Coal Mine Brook
1	Groundwater
2	Headwater Streams
1	Effluent-Dominated Streams
11	Flow-Impaired or Flow-Sensitive Streams and their

Total	Summary
2	Connected Areas
4	Species, Habitats of Special Concern, Rare [and Endangered]
3	Coldwater Fisheries
1	ORWs
1	Vernal Pools
1	Native Mussel Streams (Rivers)
1	Migratory Bird Areas
1	ACECs
1	Pristine Condition
1	Wild & Scenic
1	Lack of Biodiversity
17	Special Habitat
1	CSO Receiving Waters
5	Swimming/Boating/Recreation Areas
4	Public Health/Water Supplies
1	State Parks
1	Size/Extent/Severity of Restoration Area
2	Residential Density/Population Served
2	Social/Environmental Justice [Areas]
1	[Prioritize Based on Threats to] Public Health
1	Economic Drivers, Urban Revitalization
1	Multi-Benefit Projects
19	Public Impact And EJ
1	Low Hanging Fruit
1	Data Availability
1	[Prioritize Based on] Uses
3	Extent Of Local/State/Regional Support
3	303(d) List, Length of Time on List
1	Watershed Size
1	Watershed Approach
1	Scale
1	Compare Like to Like
3	Recovery Potential
16	Watershed Planning

Restoration Threats and Barriers

Overall Responses

Total	Summary
22	Point and Nonpoint Sources
17	Urbanization
15	Regulatory Barriers
10	Flow Alteration
10	Resource Limitations
9	Lack of Awareness/Outreach/Education
8	Climate Impacts
8	Biological Threats
8	Chemical Threats



Responses from Each Category

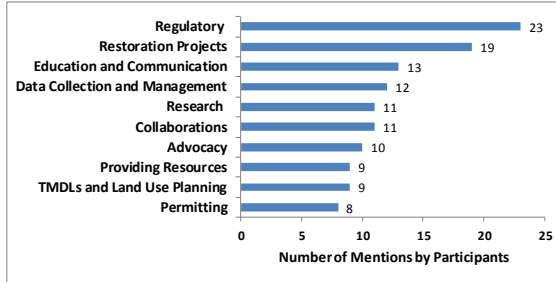
Total	Summary
1	Anaerobic Digesters
2	Impervious Surface Runoff
3	Stormwater
1	Point Sources
3	NPS
2	Outfalls
2	Septic Systems
2	Agriculture
1	[Contaminated] Sediment
1	Golf Courses
1	Landfills
1	Atmospheric Deposition
2	Illicit Discharges
22	Point And Nonpoint Sources
2	Power Generation
3	Infrastructure
1	Thermal Pollution
1	Littering
2	Habitat Fragmentation
1	Encroaching Development
2	Habitat Loss
1	Lack of Riparian Corridor
3	Development
1	Recreation Overuse
17	Urbanization
4	Climate Change
1	Lack of Snow, Ice Cover
3	Drought
8	Climate Impacts
1	Stream Depletion
4	Water Withdrawals
1	Water Movement
1	Quantity of Water
3	Hydromodification
10	Flow Alteration
3	Cyanobacteria/HABs
1	Bacteria
4	Invasive spp.
8	Biological Threats

Total	Summary
1	Pollutants at Swimming Areas
2	Nutrients
1	PCBs
2	Emerging Contaminants
2	Road Salt
8	Chemical Threats
5	Regulations/Permitting Limitations
2	WQS Issues
2	Agency Capacity
1	Politics
3	Lack of Political Will
1	Grant Rules Force Project Segmentation
1	Lack of Links Between State/Federal Regs & Local Bylaws
15	Regulatory Barriers
2	Not Changing Habits (e.g., Landowners)
4	Lack of Awareness/Outreach/Education
1	Lack of Integrated Restoration Outreach
2	Resistance (to Change, Innovation)
9	Lack of Awareness/Outreach/Education
1	Competing Needs
1	Lack of Data and/or Analysis
2	Lack of Data on Emerging Contaminants
1	Lack of Resources
1	Scale of Problem
3	Reduced Funding
1	Logistics
10	Resource Limitations

Restoration Actions

Overall Responses

Total	Summary
23	Regulatory
19	Restoration Projects
13	Education and Communication
12	Data Collection and Management
11	Research
11	Collaborations
10	Advocacy
9	Providing Resources
9	TMDLs and Land Use Planning
8	Permitting



Responses from Each Category

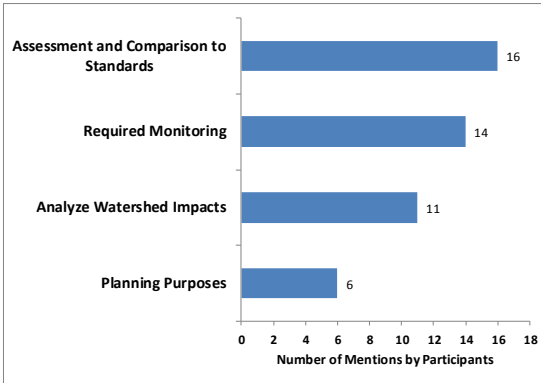
Total	Summary
1	Roadway Improvements
3	BMPS LID
1	Incentives for Better Development
1	Habitat Improvement
2	Barrier Removal
3	Green Infrastructure
1	Focus on Redevelopment Improvements
1	Improve Local Land Use Rules
1	Bank & Floodplain Restoration
1	Low Impact Green/Clean Energy
1	Innovative Solutions (esp. Infrastructure)
1	Fish Passage Improvements
1	Sewering
1	Improve & Replace Crossing: Culverts & Bridges
19	Restoration Projects
1	Public Education [on] LID
1	"Long View" Education (Students, Engineers)
5	Education, Behavioral Mindset
1	Education for Land Designers
1	Training
1	Messaging to Different Audiences
1	Create Climate of Trust
1	Change of Habits
1	Wise Water Use + Conservation
13	Education And Communication
1	Local, State, Political Support
1	Build Local Capacity
1	Build Momentum and Social Support
1	Gaining Political Support
2	Engagement w/Communities
1	Locus for Advocacy ("The Lorax")
1	Advocacy
1	Finding a Champion
1	Sharing Success Stories
10	Advocacy
1	Regulations
1	Clear Reg Categories for "Restoration"
1	Water Quality Advisory Commission
1	Local Bylaws; Monitor, Improve
2	Enforce Rules and Regulations
1	Examine Existing Regs to Evaluate Sufficiency
3	Improved Regs
1	Integrated Water Resources Management, Planning
1	Stormwater Utility
1	Habitat/ Flow in WQS
1	Use Special Protective Designations
1	Floodplain Protection
1	Strengthen Wetland Protection Act, Buffer Zone Protection
1	Expanding Use of Streamflow Criteria
1	Strengthen Protection of Resources in Acecs
1	SWMI HUC 10
1	Reduce Water Withdrawals
1	Updated Stormwater Standards
1	GHG Emission Reductions
1	Reduced Atmospheric Deposition
23	Regulatory

Total	Summary
1	Vulnerability Assessment Plans
1	Quantify Impacts/Threats
1	Assess Feasibility
1	Identify Pristine Resources @Scale
1	Efficient Ways to Treat for PCPs and Emerging Contaminants
1	Anticipatory Beach Closures
1	Pilot/Demonstration Project (i.e., Oysters)
2	University Assistance
1	Research Response Tools & Options
1	Better Social Science to Find Out True Barriers
11	Research
1	Comprehensive Data Collection
1	Monitor Recovery
1	Standard Data Collection + MGT
2	Monitoring
1	Better Data
1	Citizen Science
1	Net Increase Monitoring and Use of Data
1	Gap Analysis of Water Quality Programs
1	Electronic Reporting - Transparency of Data, Info
1	Assistance with Compliance Tracking
1	Track Restoration Activities
12	Data Collection And Management
1	"Direct To Action" Streamlined Projects
3	Permits
2	Leverage MS4 Permits
1	Conditioning Water Management Act Permits
1	Streamline Permitting for Eco. Restoration
8	Permitting
1	Resource Sharing + Collaboration + Communication
1	Regional [Action? Partnerships?]
2	Collaboration/Communication
1	Watershed Community Planning
2	Partnerships
1	Share/Analyze Results
2	Watershed Approach
1	Expanding Private Partnerships/Edu + Outreach
11	Collaborations
5	Funding
2	Assistance for Municipalities
1	Assistance with Regulatory Permitting
1	Incentives
9	Providing Resources
1	Public Access
1	Open Space Protection
1	Land Protection & Acquisition
1	Land Use Planning
1	Halt/Minimize Impacts
2	TMDL Implementation
1	TMDLs
1	Adaptive MGT
9	TMDLs and Land Use Planning

What Questions are You Trying to Answer Through Your Monitoring Program?

Overall Responses

Total	Summary
16	Assessment and Comparison to Standards
14	Required Monitoring
11	Analyze Watershed Impacts
6	Planning Purposes



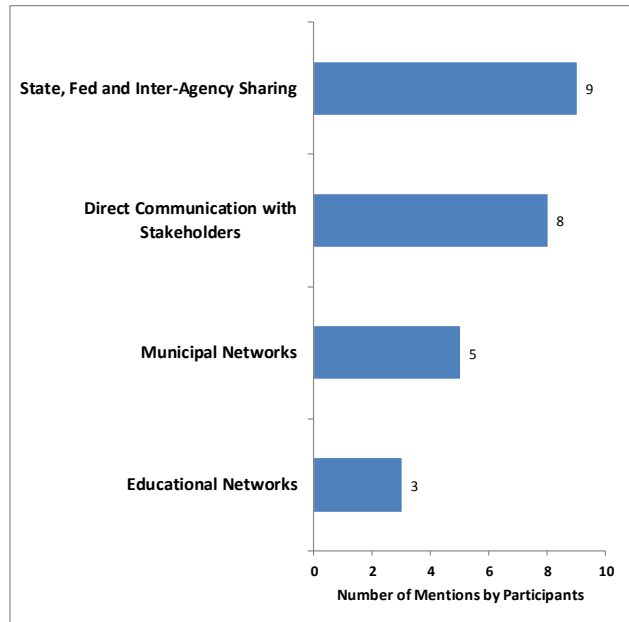
Responses from Each Category

Total	Summary
1	Needs Assessment by Watershed
1	ENF Actions?
1	Behavioral Change -Research
1	Engagement
1	What's the Next Step?
1	Establish Baseline -Reference Conditions to Est. Policy
6	Planning Purposes
1	What is the Story?
1	Negative and Positive Stories?
1	Reference Waters [Reference-RW?]
1	What Does Data Mean?
1	How Do We Know? [Results + Discussion?]
1	Effects of Rainfall on WQ
1	How Landuse Effects WQ
2	Long Term Trends
1	ID Invasive Aquatic Vegetation
1	Assess Emerging Contaminants
11	Analyze Watershed Impacts
1	Total P (BMP Effectiveness Monitoring)
1	Compliance
2	Meet Standards
1	Technology/BMP Verification - Discharge, RW
1	Probabilistic Monitoring 1.)305(b) Overall Condition
1	Off the 303(d) List
2	Post-TMDL Monitoring
4	NPDES Compliance and Understanding
1	Merrimack Nutrient Capacity
14	Required Monitoring
3	Problem Identification
1	Flow Conditions in Tribs
1	Impacts on Aquatic Life Uses (Bio Monitoring)
1	Ecological Health of Wetlands
1	TN, TP, Cl, Turb, E. Coli, Understanding the Watershed in a
2	Recreational Use Assessment
1	Current Condition Assessment
1	Numerical Criteria esp. for Swimming
1	Wetlands Assessment
1	Water Temp (Coldwater Fishery ID)
1	[Status] Assessment
1	DO, Temp (Flows, Water Withdrawal)
1	Collaborative Looking at Results
16	Assessment and Comparison to Standards

With Whom Do You Share Your Data?

Overall Responses

Total	Summary
9	State, Fed and Inter-Agency Sharing
8	Direct Communication with Stakeholders
5	Municipal Networks
3	Educational Networks



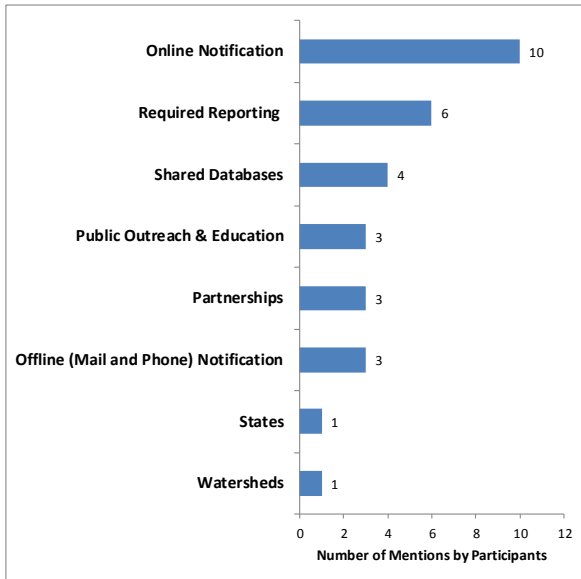
Responses from Each Category

Total	Summary
2	Public Release
1	Public Webpage
1	Monthly Report Cards
1	Last Green Valley Coldwater Fisheries Mapping
1	Notify People of Interest if over Standards
1	Owner/Operator
1	Other Professions (NEWEA Presentation Conferences)
8	Direct Communication with Stakeholders
4	State Agencies
4	Federal Agencies
1	National Database
9	State, Fed and Inter-Agency Sharing
1	CUAHSI
2	School Assistance and Volunteer Outreach
3	Educational Networks
2	Municipal Reporting
1	Incentive for Town Support
1	Conservation Commissions
1	Central Mass Stormwater Coalition
5	Municipal Networks

How Do You Share Your Data?

Overall Responses

Total	Summary
10	Online Notification
6	Required Reporting
4	Shared Databases
3	Public Outreach & Education
3	Partnerships
3	Offline (Mail and Phone) Notification
1	States
1	Watersheds



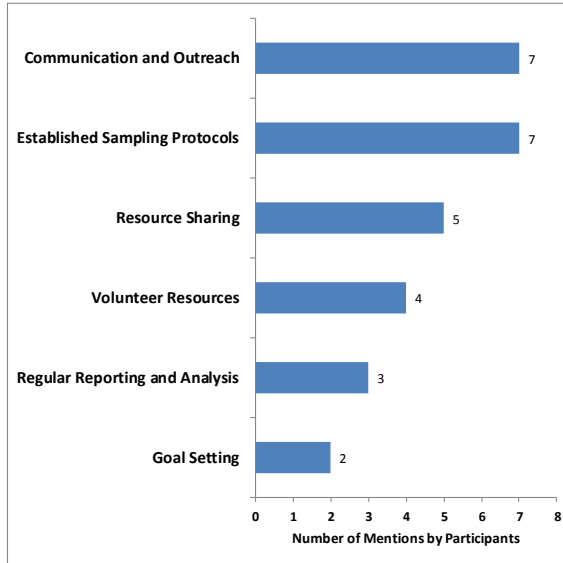
Responses from Each Category

Total	Summary
2	Annual Reports
1	If Data are Used, DEP Cites Source
1	Compliance Programs -Regular Reporting
1	Modeling to Predict Water Quality
1	Enforcement Action
6	Required Reporting
2	Outreach
1	Education
3	Public Outreach & Education
2	Collaborations
1	CUAHSI
3	Partnerships
2	Postal Mail
1	Phone
3	Offline (Mail and Phone) Notification
1	National Database (e.g., WQX)
1	Access and Excel Databases
1	Ice/Ecosheds USGS-Northeast
1	Internal-LIMS
4	Shared Databases
1	Online Posting
4	Online Reports and Data
2	Online Mapping and Notification
3	Email Alerts and E. News
10	Online Notification
1	States
1	Watersheds

What Works?

Overall Responses

Total	Summary
7	Communication and Outreach
7	Established Sampling Protocols
5	Resource Sharing
4	Volunteer Resources
3	Regular Reporting and Analysis
2	Goal Setting



Responses from Each Category

Total	Summary
2	Equipment and Lab Support/Resource Sharing
3	Resource Partnerships
5	Resource Sharing
1	Public Outreach
1	Communicate Results Thoughtfully
1	Engagement
1	Negative vs. Positive Stories
1	Know Your Audience
1	Use of Web, Social Media [Transparency](ET)
1	Effective Communication
7	Communication and Outreach
1	Volunteer Local Outreach
1	Volunteer Plan of Action
2	Stable Pool of Volunteers
4	Volunteer Resources
1	Knowledge of Ambient Conditions
1	Simplify Scope, Set Realistic Goals
2	Goal Setting
1	Bacteria Source Tracking
1	IDEXX \$Colilert- Fast, Reliable for E. Coli
1	Clean Sampling for Metals (EPA 200.8)
1	Storm Sampling
1	Templates and Clear Direction Documentation
1	Checklists, Guidebooks
1	QAPPs/ SOPs
7	Established Sampling Protocols
1	Report
1	Report Context-What's Still Red?
1	Interactive Maps
3	Regular Reporting and Analysis

