

“STORMWATER, DRINKING WATER, WASTEWATER: BECOMING EQUAL ON THE MESA?”



December 13, 2018

Massachusetts Water Resources Commission

Frederick Civian, MassDEP

Newton Tedder, EPA





WHY LOCAL STORMWATER MANAGEMENT

- Town Protections
 - Flooding, roadways, ponds and streams
- Environmental Protection: MS4 permit
 - more specific requirements than 2003
 - “it’s not just DPW any more”
- The Rise of Stormwater as a Town Program

STORMWATER IMPACTS



- Urban Runoff

STORMWATER IMPACTS



- Charles River Dam Summer Cyanobacteria Algae Bloom

STORMWATER IMPACTS



- Storm Drain in Muddy River Basin

STORMWATER IMPACTS



- Ipswich River Fish Kill

STORMWATER IMPACTS



- Spring 2006 Flood in Lowell

STORMWATER IMPACTS



- Water Quality Impairments across the state



Monadnock

an isolated hill or ridge or erosion-resistant rock



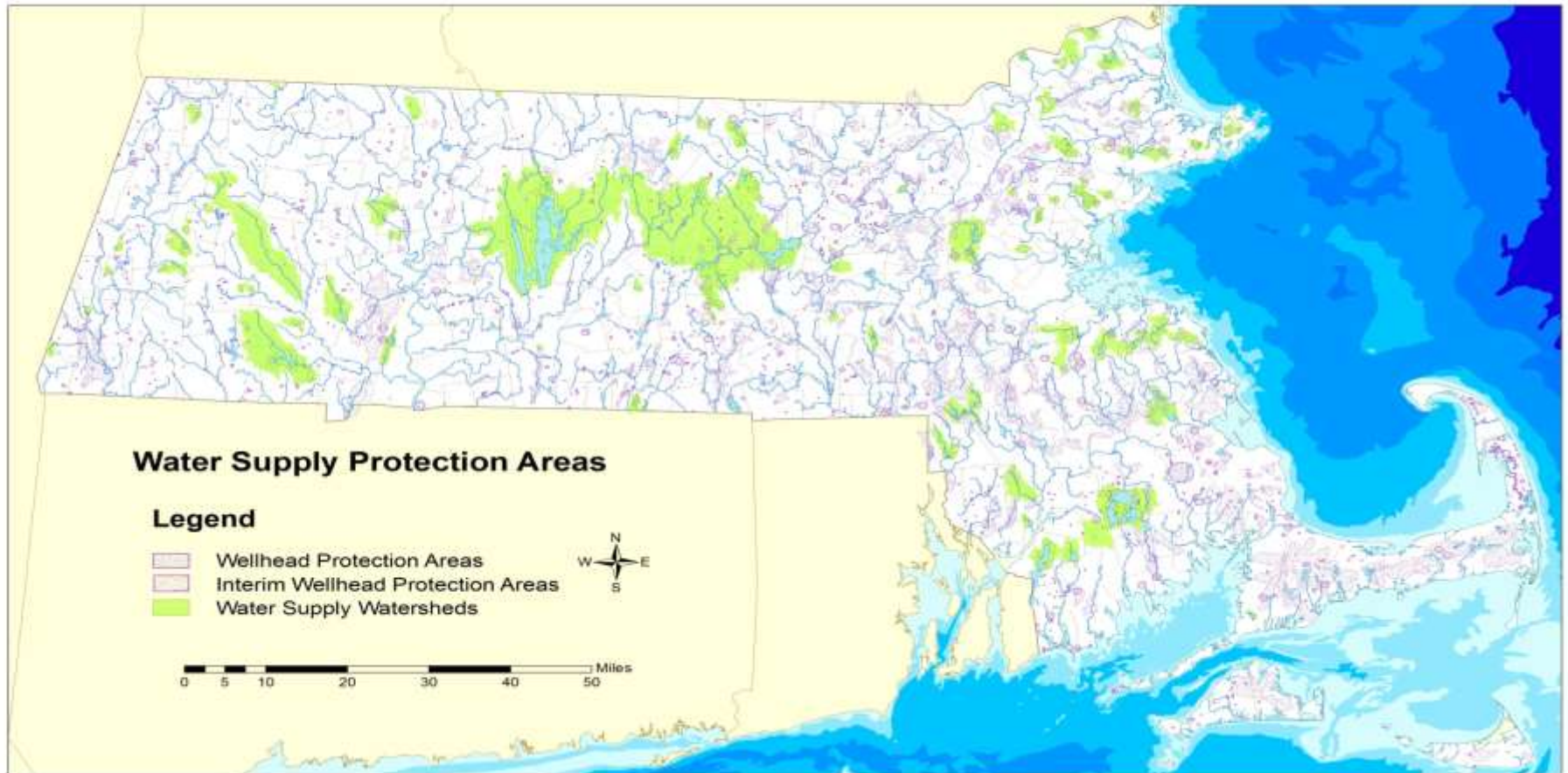




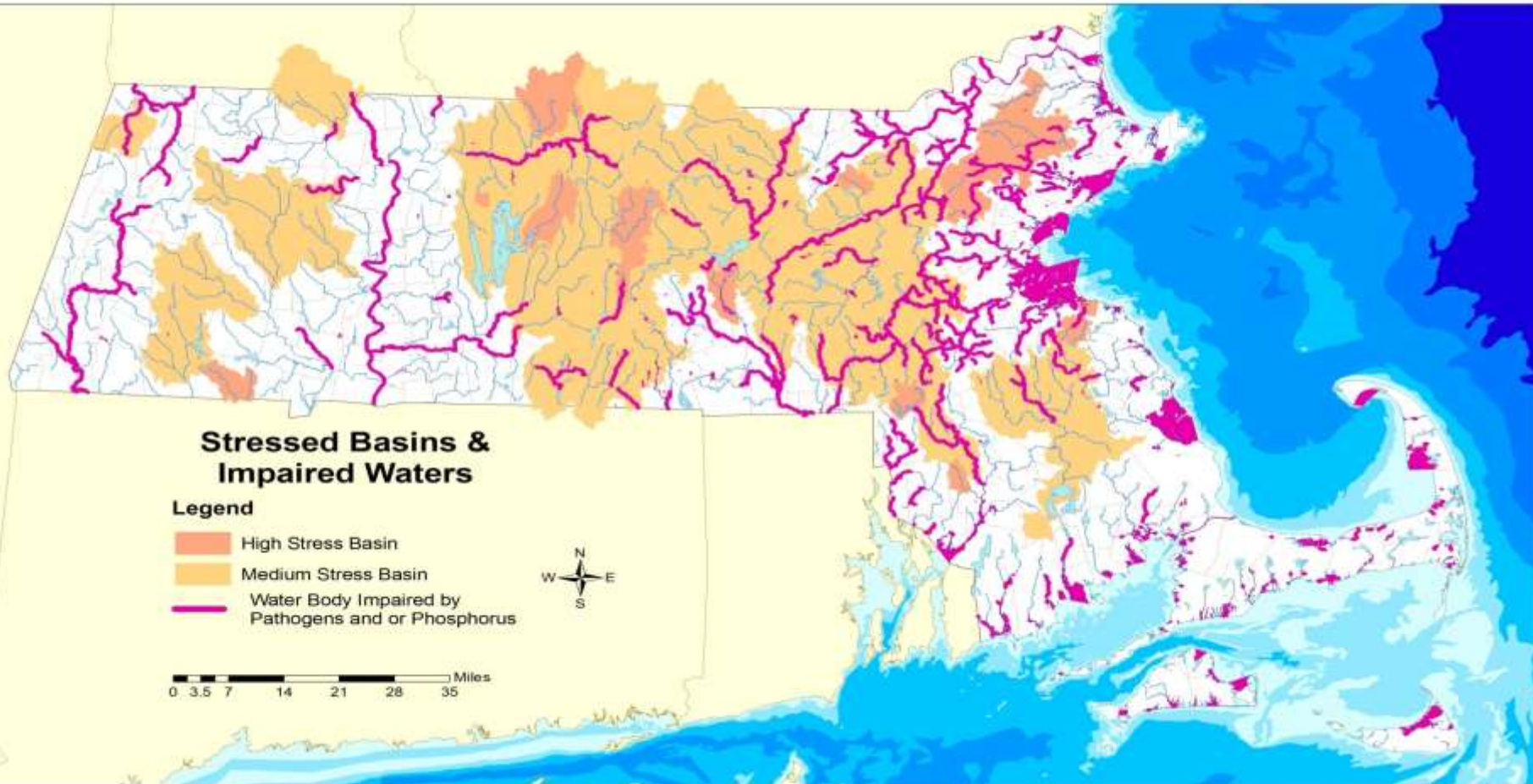
WETLANDS



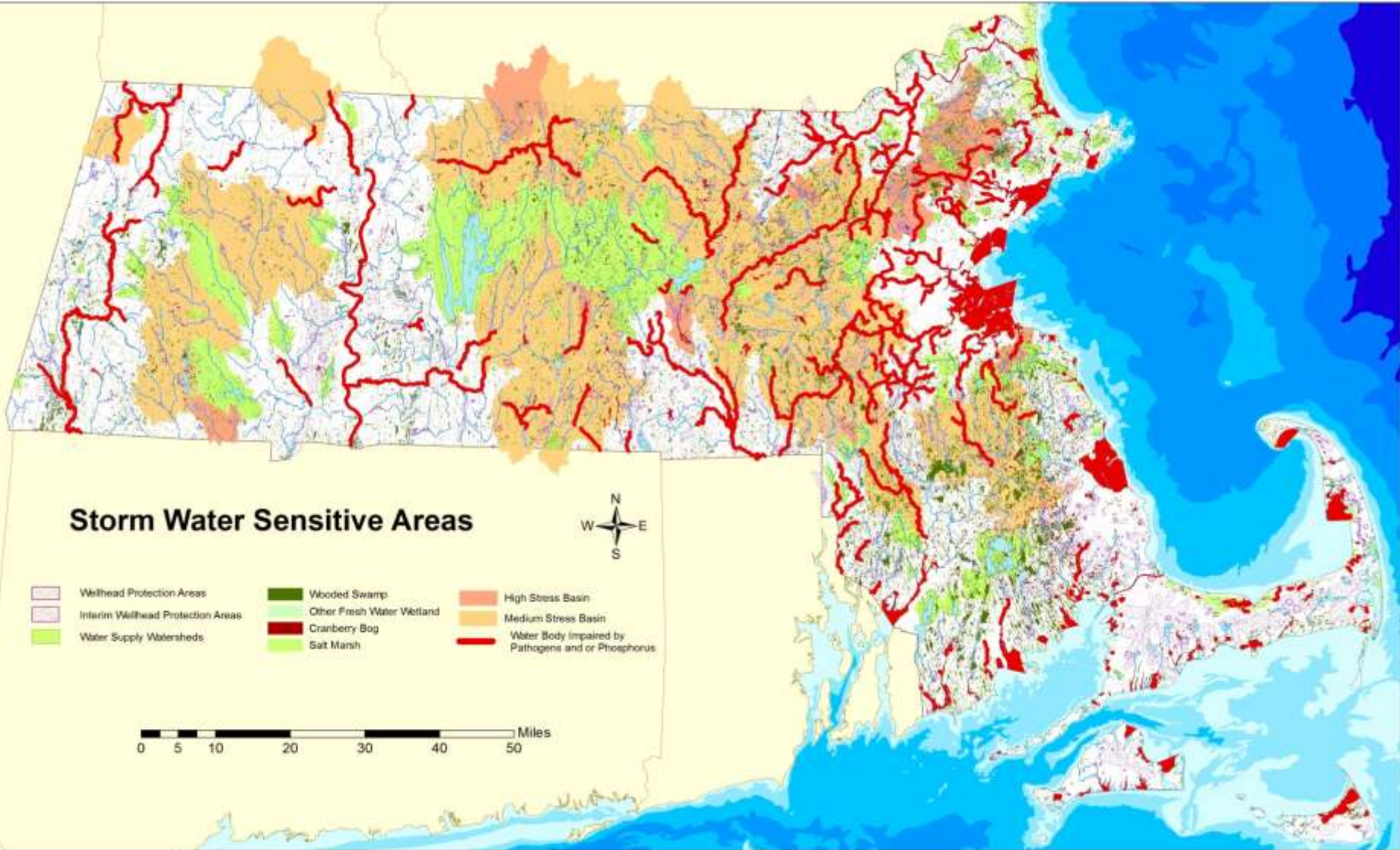
WATER SUPPLY PROTECTION AREAS



STRESSED BASINS AND IMPAIRED WATERS



MASSACHUSETTS SENSITIVE AREAS



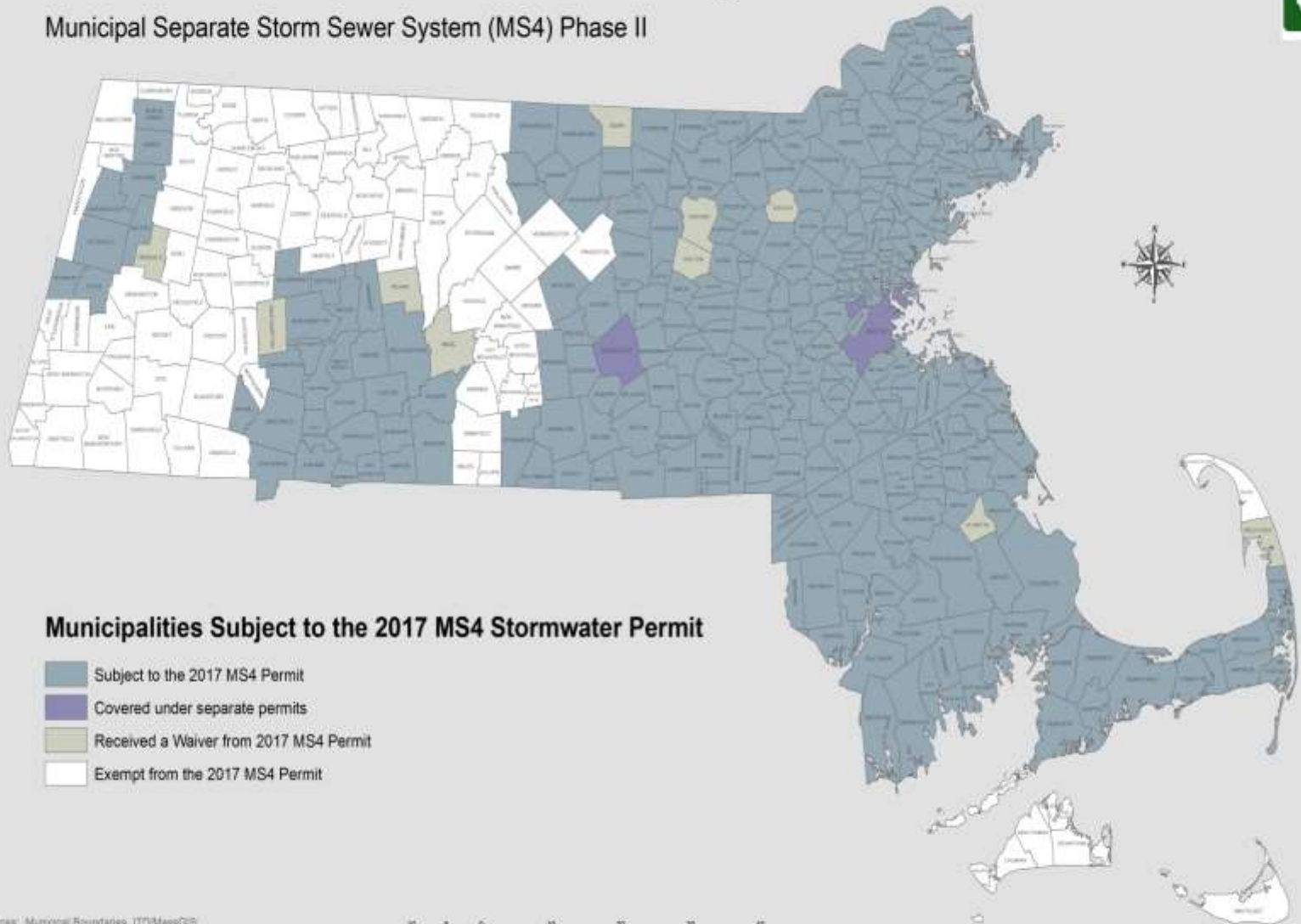


“COMING THEMES” CIRCA 2015

- “Keep it On Site”
 - Managing Impervious Surface
 - 1” rules for new development
- TMDLs – from development to implementation
- Local SW integrating with other programs
 - SWMI and stormwater mitigation
- From stormwater piping to distributed systems
 - Flexible Site Design
 - Pollution Prevention
 - Low Impact Development SWCs
- Wrapped into EPA Draft MS4 permit

Massachusetts Stormwater Management

Municipal Separate Storm Sewer System (MS4) Phase II



Data Sources: Municipal Boundaries, ITD/MassGIS,
MS4 Permit Status, MassDEP Bureau of Water Resources



G:\boc\dep\projects\Wv17\ms4_MS4_PermitStatus.mxd May, 2017

STORMWATER TMDLS FOR MASSACHUSETTS

- Bacteria and Pathogen TMDLs
- Charles River Phosphorus TMDLs
- Lake and Pond Phosphorus TMDLs
- Cape Cod Nitrogen TMDLs
- Assabet River Phosphorus TMDLs
- Long Island Sound Nitrogen TMDL
- Phosphorus and Metals TMDLs for Rhode Island Waters





CHANGING APPROACH TO STORMWATER MANAGEMENT

Traditional

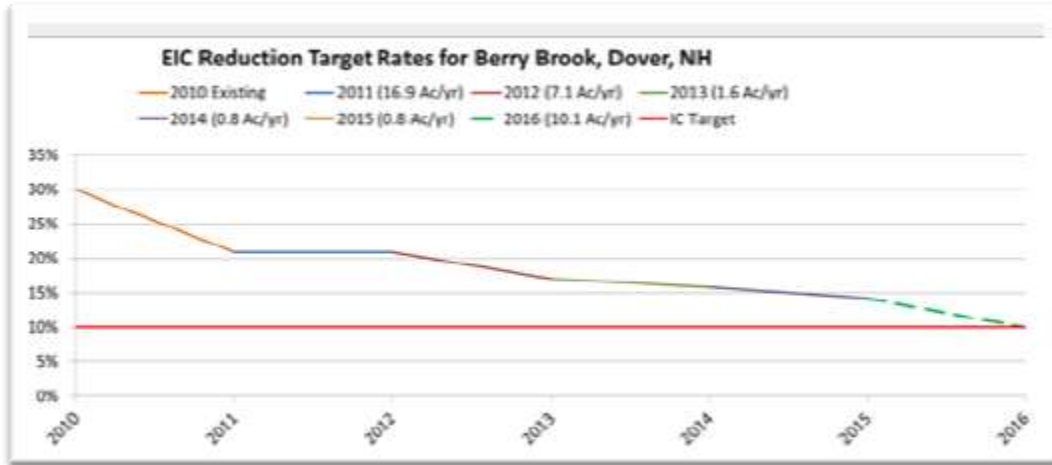
- Develop a watershed management plan
- Optimize placement of SWCs for maximum gain – Traditional water quality volume sizing (1 inch)
- Implement
- Model
- Outreach and education on project results
- Report

Innovative

- implement no-regrets stormwater improvements opportunistically as infrastructure is routinely upgraded
- “undersized” SWCs (as little as 10% of the traditional water quality volume)
- This is a behavioral change toward developing long-term comprehensive and affordable Stormwater management strategies for achieving water resource goals.

BERRY BROOK- DOVER, NH

DATA FROM UNH STORMWATER CENTER



Costs per disconnected acre of IC			
	PA	NY	NH
Actual	\$250,000.00	\$320,000.00	\$30,000.00



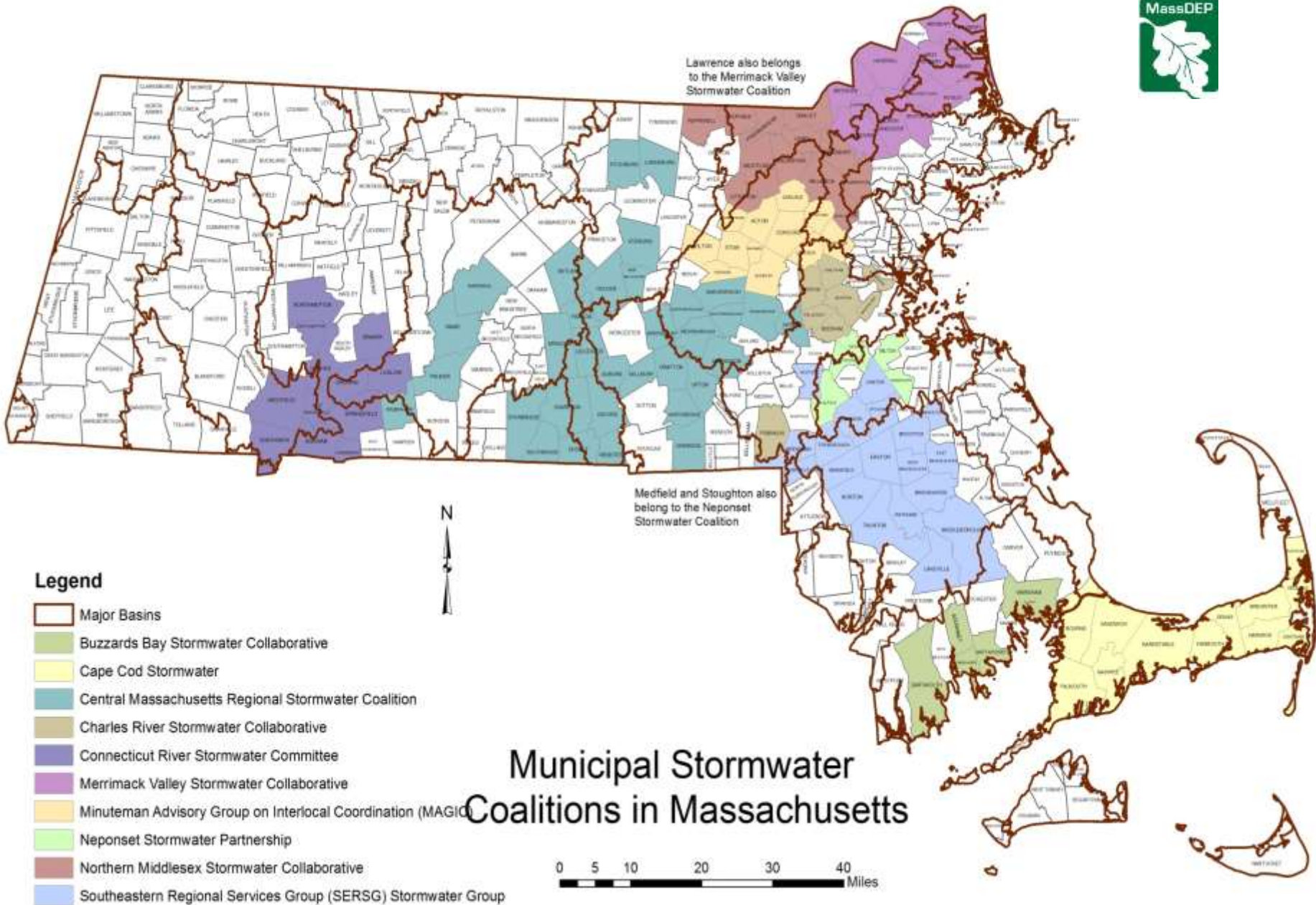
Berry Brook BMPS
 0 0.0450 0.09 0.18 0.27 0.36 Miles

Legend
New BMPs
 BB_Watershed
 2015 1-foot Orthophotography

MS4 TOWN CHALLENGES: IT'S NOT JUST DPW ANYMORE



- Multiple Town divisions
 - Planning Board . . . and ZBA and Con Comm and BOH . . .
 - new federal post-construction stormwater rules
 - evaluation of local parking and street design
 - Schools (and other Town buildings)
 - O&M procedures
 - evaluate use, storage disposal of possible pollutants
 - waste management and sweeping procedures
 - Parks and Recreation
 - O&M for landscaping, lawn maintenance
 - Erosion control; setbacks from streams and ponds
 - Maintenance Garages, DPW yards, transfer stations
 - “SWPPP” – pollution prevention plan for each facility/location
- Dynamic/Changing System
 - Uncertainty – environmental/legal/fiscal
 - Individual/group behaviors





MA TOWNS WITH STORMWATER ENTERPRISE FUNDS

○ Fund Fully Implemented: Fees Being Collected

- Chicopee - 1998
- Reading - 2006
- Newton - 2006
- Fall River - 2008
- Westfield - 2010
- Northampton – 2014
- Milton - 2016
- Longmeadow - 2017
- Millis - 2018
- Braintree - 2018
- Chelmsford – 2018

○ Fund Established; No Fees Collected Yet

- Gloucester - 2009
- Ayer - 2011
- Dracut - 2017
- Pepperell – 2018
- Ashland – 2018

DEP STORMWATER PROGRAMS UPDATE



- MA Wetlands Protection Act
 - “Urbanized Area” vs. “wetlands jurisdictional area”
 - MA Stormwater Handbook
 - 2019: wetlands Technical Advisory Committee

- MassDEP grants

- MassDEP Technical Assistance
 - “any time/ anywhere to assist with stormwater”

- SWMI and stormwater mitigation



DECEMBER 2018

MS4 UPDATE

- MS4 Permit for Towns
 - Took effect July 1, 2018
 - NOIs submitted by October 1
 - Written Storm Water Management Program due June 30, 2019
- MS4 for DOT – “TS4”
 - Anticipated 2019
- MassDEP Stormwater Handbook Update
 - Slated for 2019
 - And a DOT Handbook, too

RESOURCES FOR THE MASSACHUSETTS MS4 PERMIT



○ Info About the Permit

- <https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit>
- First Year Requirements Summary
- 2010 Census and Designated MS4s
- New Stormwater Tools Webpage
 - Stormwater Management Program Resources - <https://www.epa.gov/npdes-permits/stormwater-tools-new-england>
- Latest Edition of Stormwater News
 - StormwaterNewsMA@epa.gov

○ Think Blue Massachusetts

- <https://www.thinkbluemassachusetts.org/>



STORMWATER CONTACTS

- MA Stormwater Coordinator
 - Frederick.Civian@state.ma.us
- EPA MS4 Permit
 - Newton.Tedder@epa.gov
- Link to the MS4 Permit
 - <https://www.epa.gov/npdes-permits/massachusetts-small-ms4-general-permit>

- <https://www.kingcounty.gov/services/environment/water-and-land/stormwater/videos/what-is-stormwater.aspx>
- <https://www.thinkbluemassachusetts.org/>



CURRENT STORMWATER REGULATIONS IN MASSACHUSETTS

- Federal Regulations
 - Construction General Permit
 - Multi Sector General Permit
 - Municipal Separate Storm Sewer System
- State Regulations
 - Massachusetts Stormwater Standards
- Local Bylaws

