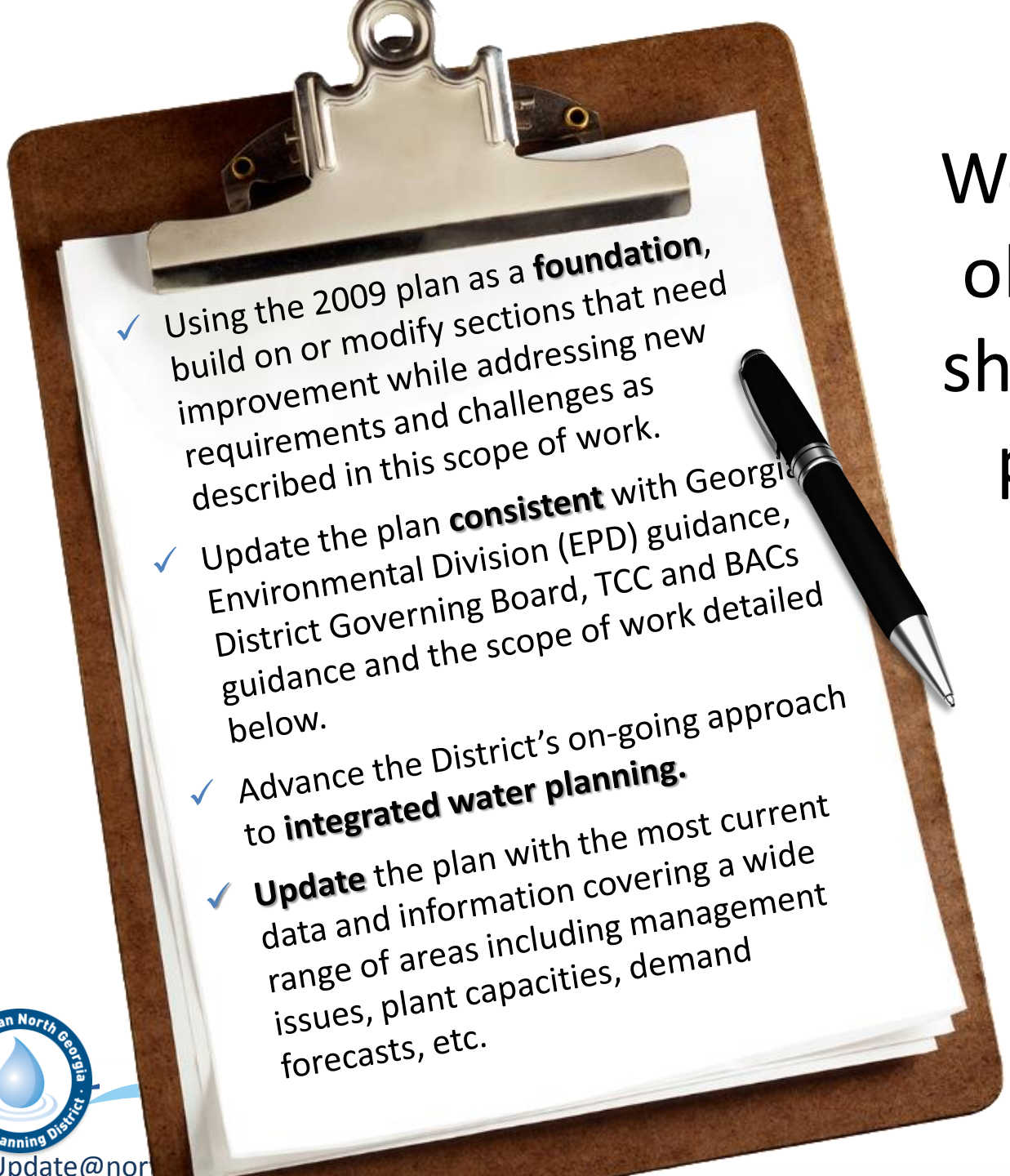
2016 Water Resource Management Plan Update - NPS Edition

Chris Faulkner, Metro Water District
Chrissy Thom, CH2M

October 2015

Overview

- Approach
- Stakeholder feedback
- Strategy Planning
- Watershed conditions
- Implementation highlights
- Questions and discussion



Well developed objectives will shape the 2016 plan update

PlanUpdate@nor

2016 Plan Update . . . Moving to a single Integrated Plan

Stakeholder Involvement at All Steps

Objectives, Goals and Evaluation Criteria

Identify and Screen Potential Implementation Actions

- Water Supply and Conservation
- Wastewater Management
- Watershed Management

Integrated Modeling

Grouped Implementation Actions

Water Supply Conservation

Wastewater Mgmt.

Watershed Mgmt.

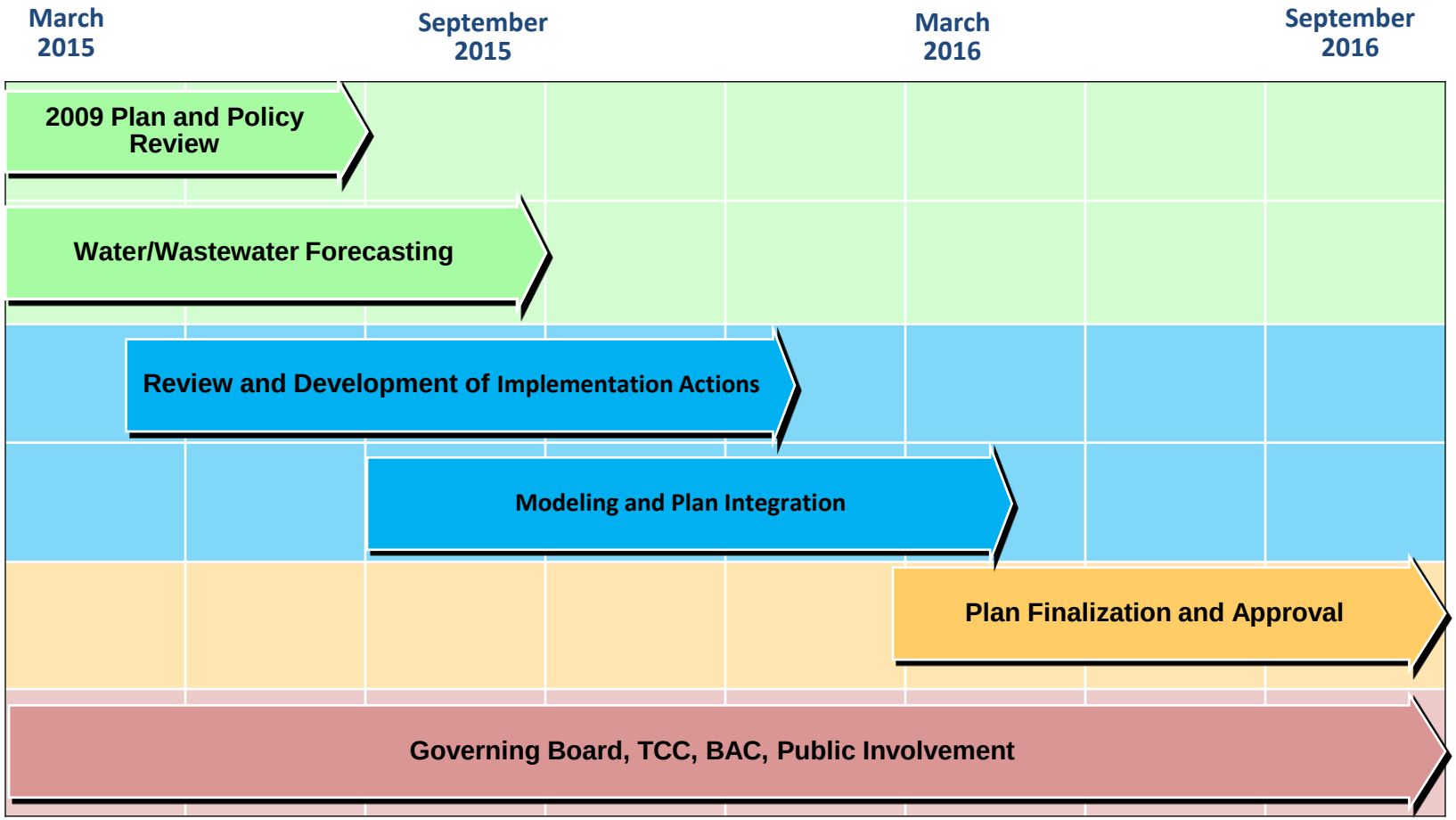
Successfully Integrated Plan

PlanUpdate@northgeorgiawater.com

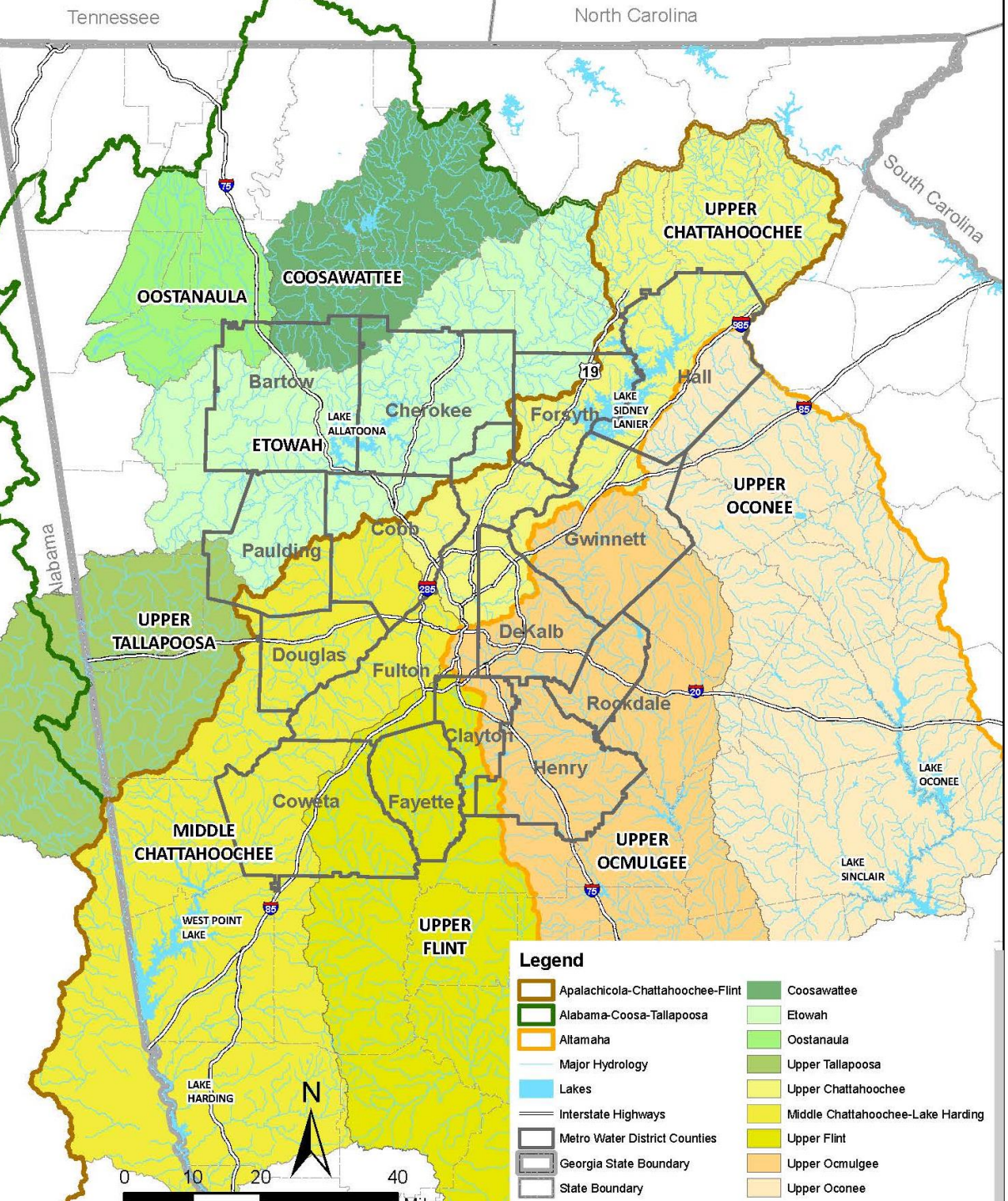
Stakeholders

- Governing Board established for the management of the business and affairs of the District
- Technical Coordinating Committees (TCC) comprised primarily of water, wastewater and watershed management officials
- Basin Advisory Councils shall advise the District in the development and implementation of policy and the content of plans

Plan Update Schedule

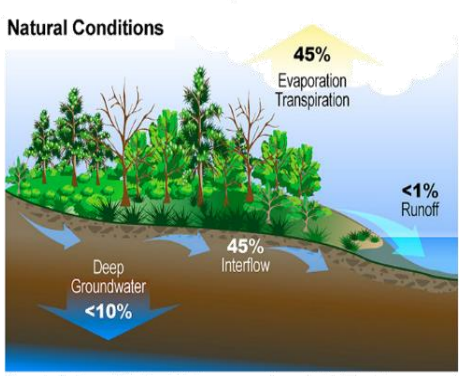


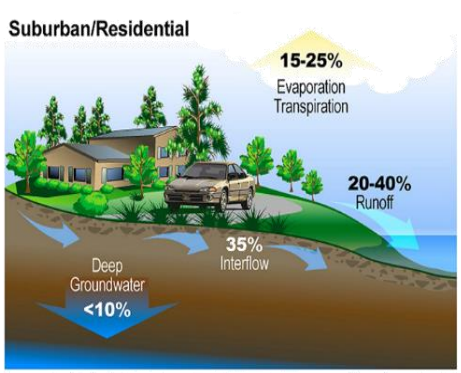
Metro Water District Watersheds



Why Do We Need More NPS Management?

- For the 15-County District:
  - 1516 miles of streams are impaired
  - Only 4 miles are NOT listed due to NPS pollution
- Changing Land-uses
  - Loss of undisturbed areas
  - Increase in impervious cover
- More opportunities

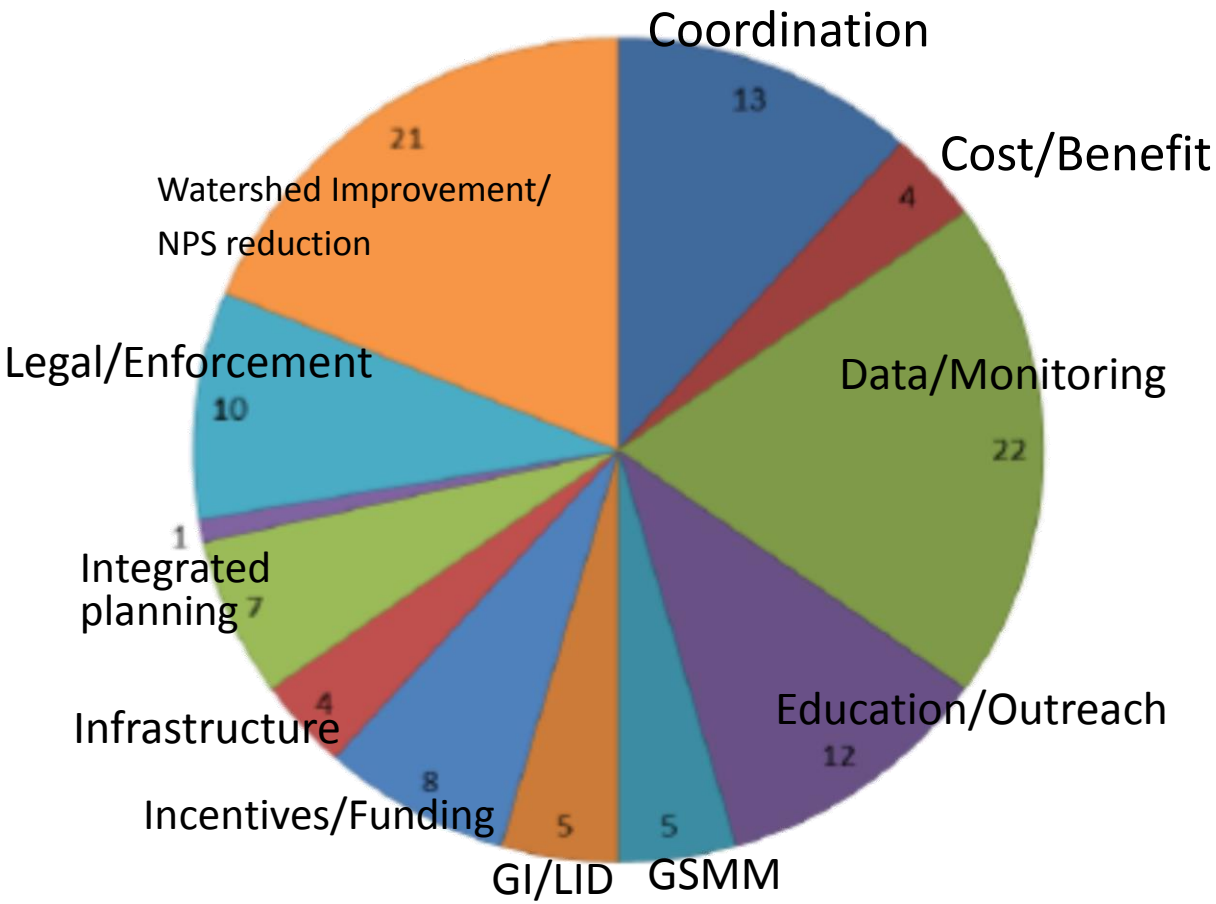




Current Watershed Management Activities

- Policy & Ordinance Based
  - Post-Construction Stormwater
  - Stream Buffers
  - Greenspace Planning & Protection
- Action Based
  - Watershed Improvement Projects
  - Long-term Monitoring
  - Clean Water Campaign

In the 2014 Goals and Objectives Exercise, 112 Watershed TCC Comments Received



PlanUpdate@northgeorgiawater.com

Watershed Conditions

- Land Use
  - Overall, developed lands increased by 6 % between 1999 and 2010, larger shifts were seen in the Oconee and Coosa basins
  - In 2010, Effective Impervious Area (EIA) within HUC-12 watersheds ranged between an average of 1 to 11% in each major river basin
- Streams
  - De-listings completed for fecal coliform, DO, temperature, toxicity and pH
  - Over 50% of the assessed streams listed for fecal coliform
  - Over 115 miles of new listings for impaired biota (fish)
  - Limited new listings for lead, copper, legacy industrial pollutants such as Alpha-BHC and Beta-BHC, byproducts of Lidane
- Lakes
  - Lake Lanier– Portions either not supporting (16%) or pending assessment (13%) due to not meeting *chlorophyll a* criteria
  - Lake Allatoona - 31% assessment pending for *chlorophyll a* at for the Little River Embayment and the Etowah River Arms (Cherokee County)
  - Lake Acworth - upper / mid lake not supporting its designated use of Fishing due to fecal coliform from urban runoff / urban effects

	Functional Categories to Address Management Issues									
Management Issues	Legal Authority	Watershed Planning	Land Development	Asset Management	Pollution Prevention	Watershed Conditions Assessment	Education and Public Awareness	Resource-specific Measures	Integration with Water Supply/Wastewater	
Source water watershed protection	X	X	X	X	X	X	X	X	X	
Nonpoint source pollution management	X	X	X	X	X	X	X	X	X	
Potential nonpoint source / water quality effects from animal production facilities (poultry) and grazing operations						X		X		
Managing stormwater effects (flow, sedimentation) associated with new development and redevelopment	X	X	X	X	X	X	X			
Managing stormwater effects with existing development (constructed prior to current GSMM design standards)		X		X	X	X	X	X		
Biota TMDLs	X	X	X		X	X	X	X		
Bacteria TMDLs	X	X	X	X	X	X	X	X	X	
Use of decentralized systems (e.g. septic tanks)		X								
Nutrient Loads to Lake Lanier (Chlorphyll-a concentrations) - TMDL	X	X	X		X	X	X	X	X	
Drought effects on baseflows and habitat availability		X					X	X	X	
Limited resources and cost of maintaining and repairing SW infratrastructure	X	X		X				X		

Watershed Management: 2009 Plan Review

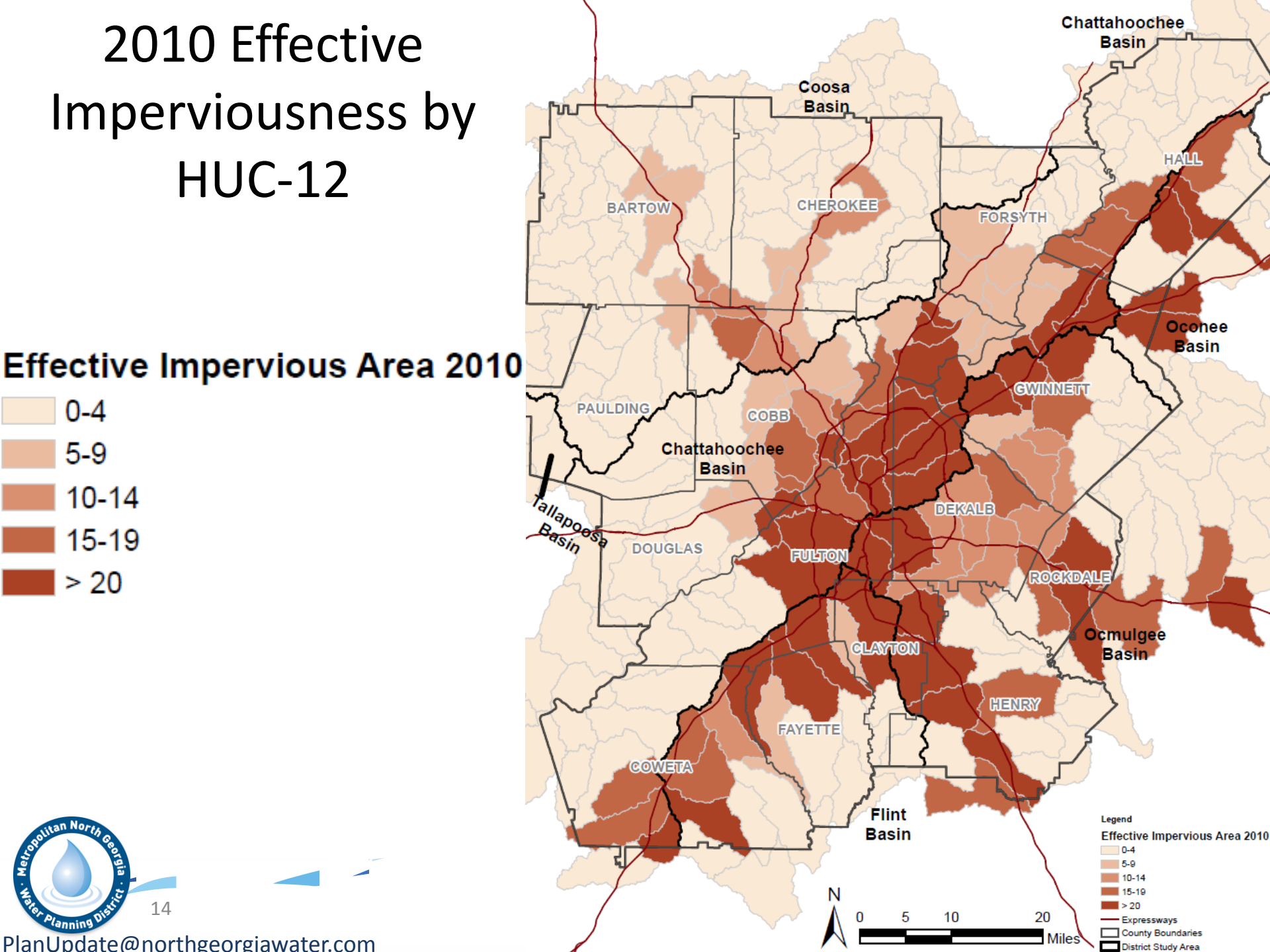
Implementation Successes

- Protective ordinances more widely adopted and enforced
- Georgia Stormwater Management Manual widely used
- Long-term monitoring implemented
- Watershed improvement projects and planning initiated
- Public education more widely implemented
- Dedicated funding sources developed

Opportunities for Refinement and Integration

- Asset management program
- Data transparency; District-wide environmental trend analysis
- Innovative funding options/support
- Enforcement of existing ordinances
- Inter-jurisdictional coordination
- Green infrastructure development framework, support baseflows
- Stream corridor restoration/linear BMPs/regional SW detention ponds

2010 Effective Imperviousness by HUC-12



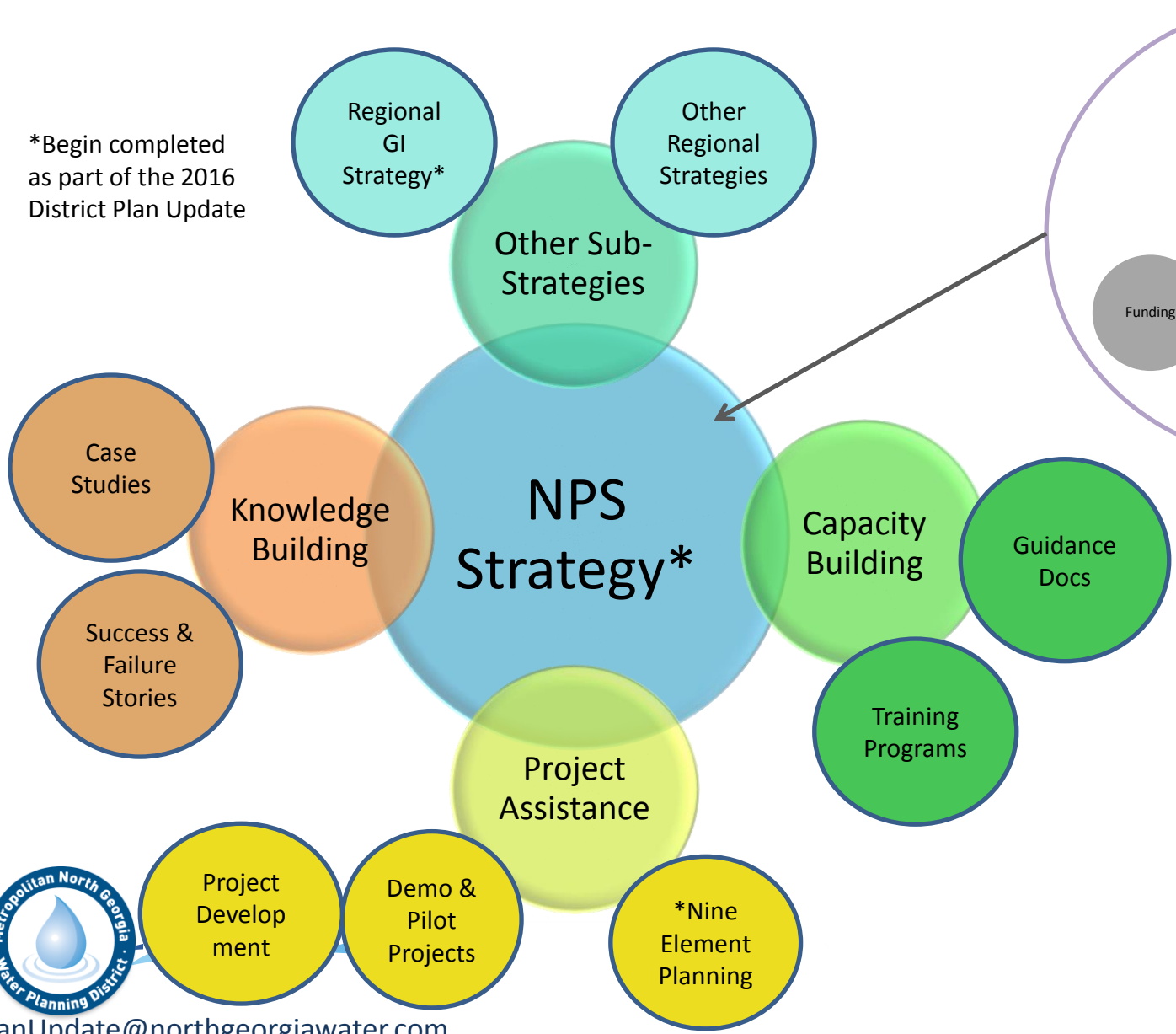
PlanUpdate@northgeorgiawater.com

Watershed Improvement Projects

City of McDonough	Big Springs Park Bio-Retention and Streambank Restoration, and the Oak Park Subdivision Streambank Restoration.
City of Johns Creek	Retrofit of Shakerag Park Pond.
City of Dallas, Georgia	Battlefield Trail & Trailhead Project: The City has acquired 170 acres that includes wetlands that will be protected as greenspace as part of a Civil War Battlefield Park.
City of Fayetteville	The City adopted an ordinance establishing a special watershed district to increase development standards concerning onsite storage requirements for any future development in an effort to decrease any negative impacts to the watershed from future growth.
City of Sandy Springs	Abernathy Burdette Underground Detention Facility - completed 2013
	March Creek BMP (319h grant partial funding) - current
Alpharetta	Webb Bridge Park - Stream Restoration
	Webb Bridge Park - Drainage Improvement - Bioretention
	Wills Park - Drainage Study
	Foe Killer Creek -WIP
City of Decatur	Ebster Park Regional Stormwater Management Facility
	Downtown Decatur Storm Sewer Improvement Project
City of Villa Rica	City of Villa Rica CDBG water and stormwater improvements
City of Buford	The City evaluated one flood management project rated as Stream I.D. RC-258-S LOR3. This site was included in the City's SWMP and is located within the Richland Creek Watershed. The evaluation documented severely eroded banks and sediment buildup along the inside of the stream banks.
City of Canton	Heritage Park
	Boling Park
City of Atlanta, Georgia	McDaniel Branch Stream Restoration and Constructed Wetlands
	Southeast Atlanta Green Infrastructure Initiative
	Adair Park Rain Garden
	Awarded 319(h) Grant for Boone Boulevard Green Street
	Developing a Nancy Creek Watershed Improvement Plan

DRAFT District NPS Approach

*Begin completed as part of the 2016 District Plan Update



Example Stakeholders
- Agri-Business Council
- ACCG
- Coop Extension
- Developers
- Federal Agencies
- GA Forestry Assoc.
- GA Poultry Fed
- GMA
- Industrial Groups
- Local Governments
- NGO's
- State Agencies
- Utilities

Metro Water District will follow three steps to develop a GI Strategy

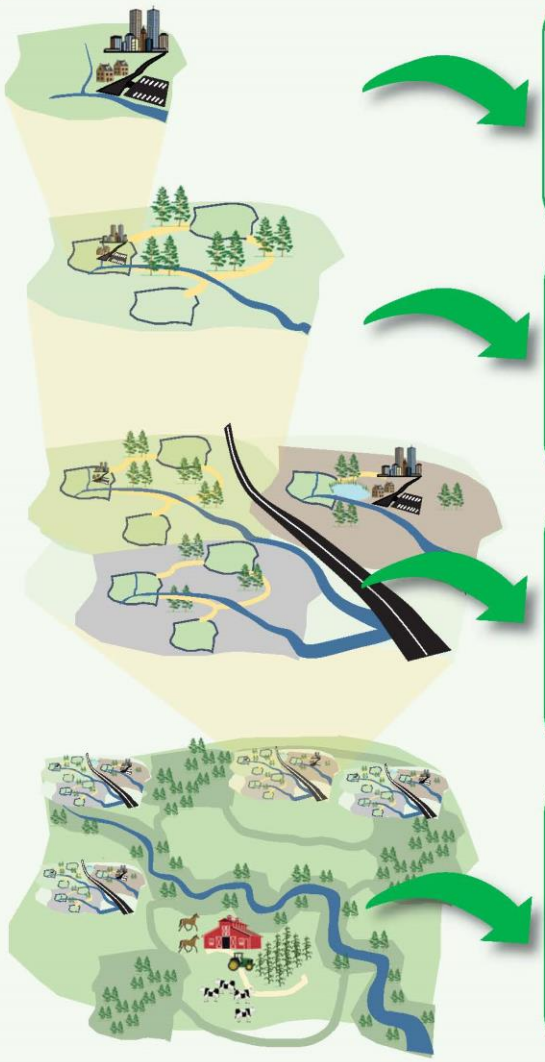
- **Define Green Infrastructure.** Clarify the definition and scales of green infrastructure within the region.
- **Communicate with Key Stakeholders.** Collaborate with key stakeholders to gain understanding and refine the actions that will make up the Green Infrastructure Strategy.
- **Prioritize and Refine Short and Long-term Actions.** Develop short and long-term actions for the Metro Water District to promote a strong system of green infrastructure in the region.

ARC Defines Green Infrastructure at Four Scales

A green infrastructure approach can be applied across multiple scales that engage different stakeholders. It is important to distinguish between these scales in order to identify and foster the cross-connections and communications that are necessary to build on each element and create something that is larger, more interconnected, and as a result, stronger and more sustainable.

When green is incorporated into infrastructure planning and implementation in a holistic manner, benefits come together for a healthy community, including:

- water quality
- air quality
- flood risk reduction
- property value improvement
- economic growth
- public health benefits
- recreation
- community revitalization
- quality of life improvement
- urban heat island reduction
- urban agriculture opportunities



1. Site. At the site scale, green infrastructure features, typically a combination of vegetation and engineered system manage site stormwater.

2. Local. At the local scale, local communities or private entities manage local stormwater across multiple sites or within a watershed.

3. Regional. At the regional scale, green infrastructure is managed within a multi-jurisdictional region such as the Metro Water District, where broader-based planning across jurisdictions and critical conservation areas can be identified.

4. Megaregional. At the megaregional scale, state and national park systems, large reservoirs, and other features are managed and can provide a base for expansion of green infrastructure such as protected floodways and river corridors or trails.

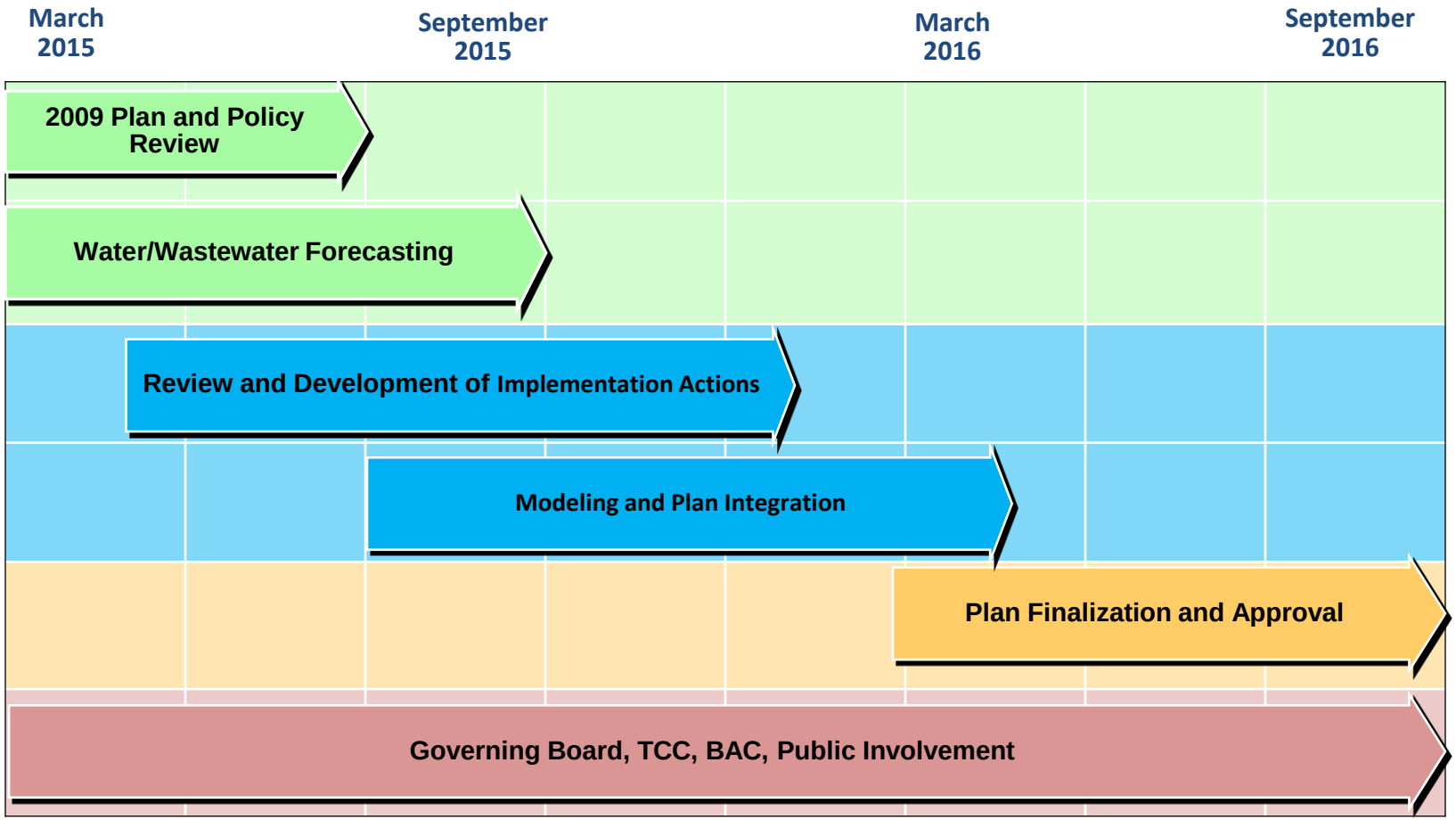
A green infrastructure approach should build at multiple watershed sclaes, where every opportunity to cross-connect between different scales is evaulated to strengthen the long-term green approach.

ch2m

Key NPS Updates

- Recognize and track the implementation success
- Align guidance with MS4 and wastewater discharge permits
  - Stormwater management programs
  - Long-term monitoring
  - Post-construction stormwater controls
- Discuss opportunities for technical assistance
- Focus on long-term strategies
- Facilitate sub-committees to focus on key issues
  - TMDL, long-term monitoring trend analysis

Plan Update Schedule



Questions and Discussion