Proposed Revisions to the Massachusetts Water Conservation Standards

Massachusetts Water Resources Commission

February 8, 2018

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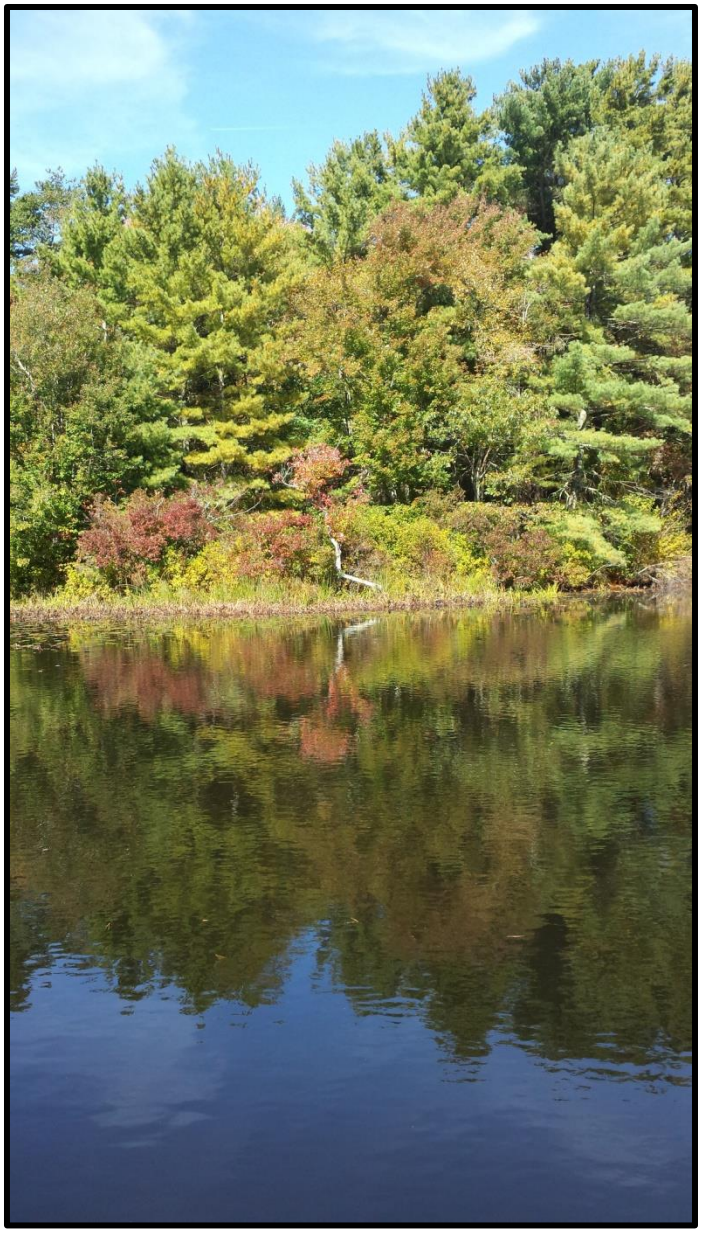
Presentation Overview

- Purpose of the Water Conservation Standards (WCS)
- WCS Timeline
- Revision Process
- Summary of Comments
- Summary of Revisions
- Next Steps

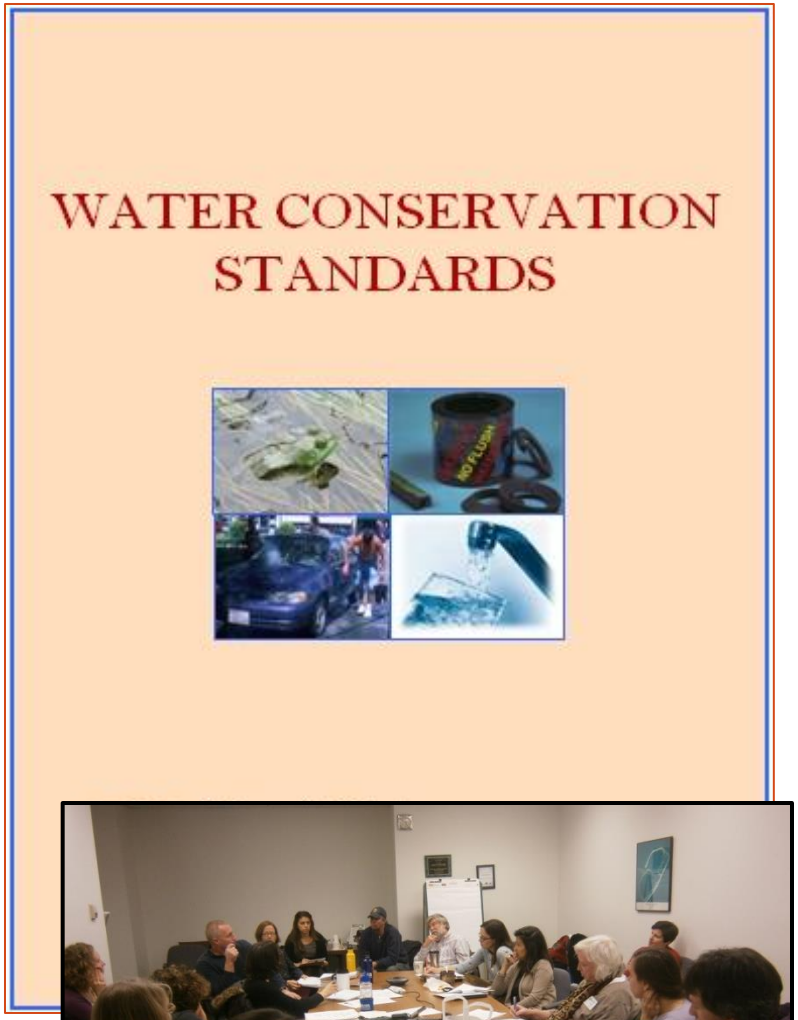


Purpose of the Standards

- Set statewide goals for water conservation & water-use efficiency; provide guidance on effective conservation measures.
- Standards represent best practices; should be adopted by water suppliers, water users, & state agencies in water resources planning & management programs, and in issuing water-use permits or approvals.
- Recommendations indicate trends in water-use efficiency; encouraged where practicable.

WCS Timeline

- 1992, Water Conservation Standards
- 2006, major update
- 2012, minor update
- 2013 – 2015, work on major updates
- 2015, Presentations to WRC and March, April, & May
- 2016-17, Revisions in response to comments; internal review



Revision Process

- Workgroups convened 2013-2014 with stakeholders and content experts
- 12 meetings
- Focus on updates to
  - Metering
  - Water Audits and Leak Detection
  - Residential
  - Outdoor Water Use
  - Pricing
  - Agriculture
- Drafts presented to MA WRC March, April, May 2015

Workgroup Members

- Wayne Castonguay, Ipswich River Watershed Association
- Eileen Commane, Dedham Westwood Water District
- Stephen Estes-Smargiassi, MWRA
- Colleen Heath, CDM Smith
- Christine Millhouse, Attleboro Water Dept
- Matt Mostoller, Acton Water District
- Leah Stanton, Weston and Sampson
- Samantha Woods, North and South Rivers Watershed Association
- Staff from DCR, DEP, DFG, DAR and EEA

Content Experts Chapter 4, Pricing

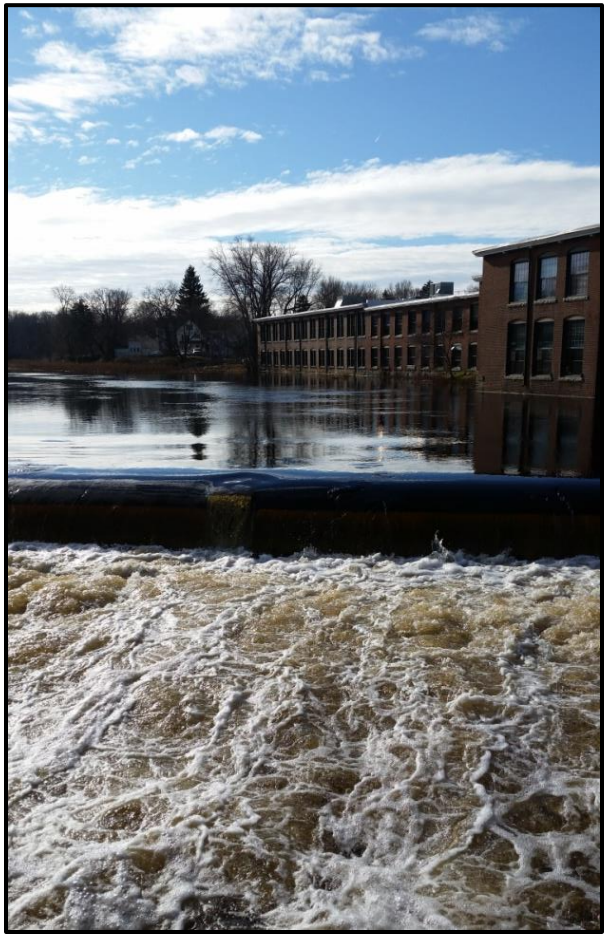
- Alan Cathcart, Concord Water & Sewer
- Eric Hooper, Sharon DPW
- Nancy Hammett, Consultant
- Dr. Rob Johnston, Clark University
- Chris Woodcock, Woodcock Associates

Content Experts Chapter 9, Outdoor

- Rich Bradley, Superscape Landscape
- Dr. J. Scott Ebdon & Mary Owen, UMass

Overall Revision Goals

- Reflect current best management practices in the water industry
- Incorporate updates in technology and national efficiency standards
- Improve readability and user experience
- Address 2015 Comments
- Review in light of 2016 drought



Comments Received

Comments received from these organizations and individuals:

- Massachusetts Water Works Association, April 8, May 22 and June 9, 2015
- Paul Lauenstein (via email to WSCAC, April 22, 2015)
- Ian Cooke (via email), June 8, 2015
- Christopher Woodcock and Kenneth Mirvis, June 15, 2015
- Other informal email communications

Summary of Comments

General

- Stakeholder process appreciated
- Request at least 45 days for public comment
- Request cost-benefit analysis, monetary assistance to those affected
- Should include more quantitative measures

Water Loss Control (Chapter 2)

- New title to reflect more comprehensive approach to water loss control
- Align chapter with latest industry guidance from:
  - International Water Association (IWA)
  - American Water Works Association (AWWA)
  - Environmental Protection Agency, (EPA)
  - Water Research Foundation (WRF)
- Introduction includes:
  - IWA Water Balance
  - EPA Water Loss Control Program steps
  - Summary of real loss intervention strategies

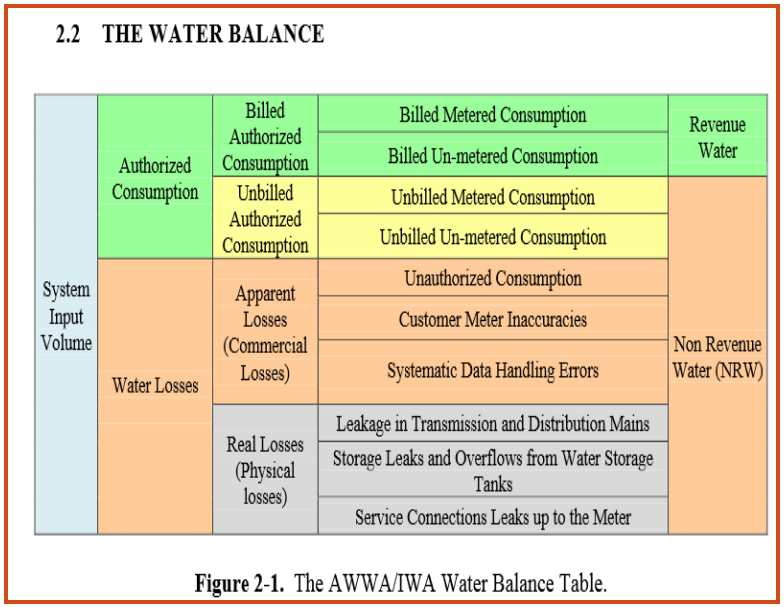


Figure 2-1. The AWWA/IWA Water Balance Table.

Water Loss Control (Chapter 2)

- Standards reworked to emphasize importance of:
  - Implementing comprehensive water loss control program
  - performing AWWA M36 Water Audit
  - performing leak detection as part of a program
- New recommendations added for:
  - water loss control programs
  - pressure management
  - service leakage
  - automated leak detection

Plate 5 – Leak on customer service connection

Summary of Comments

Chapter 2 – Water Loss Control

- Support for majority of proposed changes
- Clarify CEMU definition
- Eliminate 10% UAW standard
- Include comprehensive audit as a recommendation

Metering (Chapter 3)

- Updated to incorporate new AWWA guidance & input from Working Group

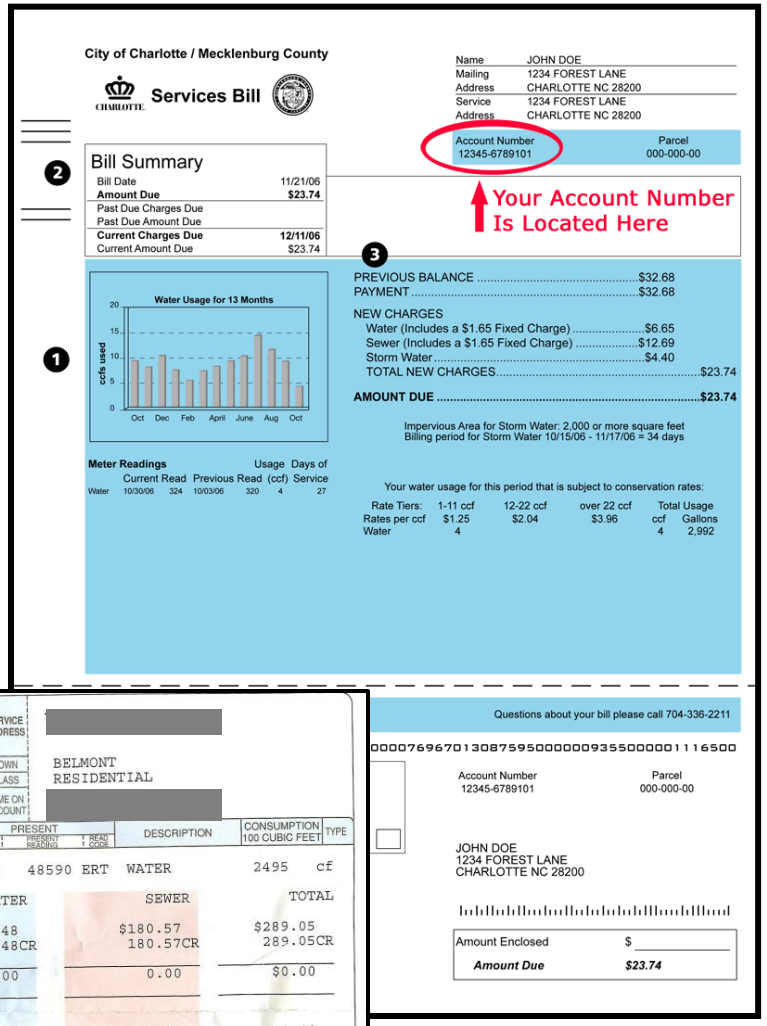
Updates to Standards:

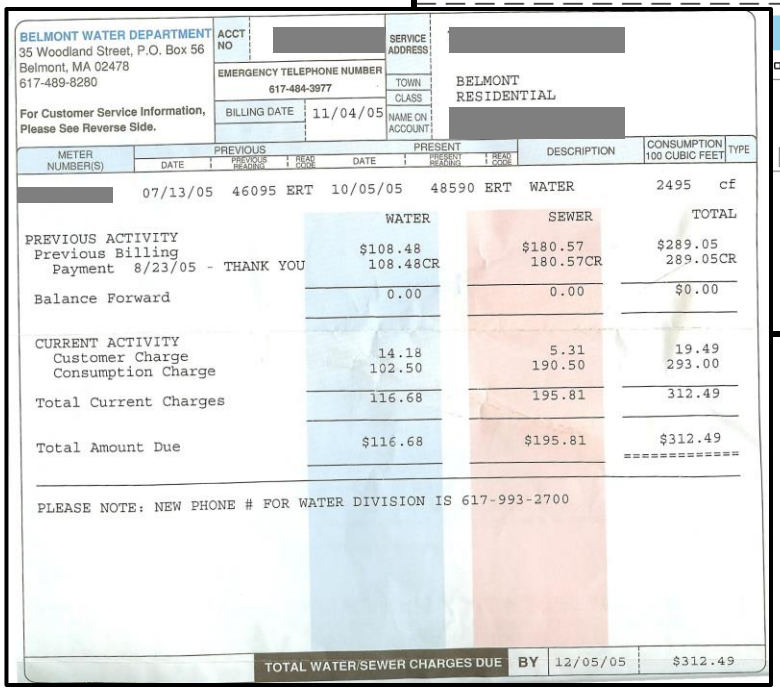
- New standard for metering water sources
- New standard requiring annual calibration of source, raw, treatment, & finished master meters
- Combined two standards to clarify calibration requirements for other meters, including large customer meters
- Minor edits to meter/repair replacement policy, meter sizing, and billing frequency

Metering (Chapter 3)

Recommendations, updates:

- New: bill monthly (or at a minimum, bi-monthly)
- Expanded remote reading recommendation includes advanced metering (e.g., AMR & AMI)





Summary of Comments

Chapter 3 – Metering

- Support for proposed changes
- Change language throughout from “smart-metering” to “advanced metering technology”

Pricing (Chapter 4)

- Updated to emphasize balancing competing goals of water supply budgeting & rate setting.
- Focus on sending strong water conservation price signals while achieving necessary cost recovery, stable revenue streams, & affordability.
- Standards include minor updates for clarity.
- Recommendations augmented to provide new guidance on:
  - innovative conservation-oriented rate structures
  - long-term planning & budgeting
  - pricing tools to improve equity and affordability of customer costs & utility revenue stability
  - billing practices & positive messaging that support conservation price signals
  - robust public engagement practices
- Lists tools to help suppliers meet standards & implement recommendations.

Summary of Comments

Chapter 4 - Pricing

- "Use Price Signals to Reduce Inefficient and Nonessential Use"
  - YES as Standard- cites conservation rates as AWWA best practice
  - NO as Standard- Rate setting very individual, not a good permit compliance measure, difficult to evaluate/enforce
- Clarify "budget-based rates", "meaningful" spread for block rates
- Concerns about fixed charges
- Enterprise Fund should be a standard

Residential Water Use (Chap. 5, Appendixes D & E)

- Highlights EPA's Water Sense program (2006), esp. higher efficiency standards for water-using fixtures & appliances
- Standard 2 rewritten & divided into two parts:
  - New Standard 1: directed to the public; states residential per capita standard simply & clearly for all water users.
  - Standard 2: directed to communities; states 65 rgpcd standard as a performance standard for communities & water suppliers.
- Recommendations consolidated & reorganized by audience
- Lawn & landscape recs moved to Chap. 9, Outdoor Water Use
- Appendixes D & E: updated content to reflect more recent data & studies

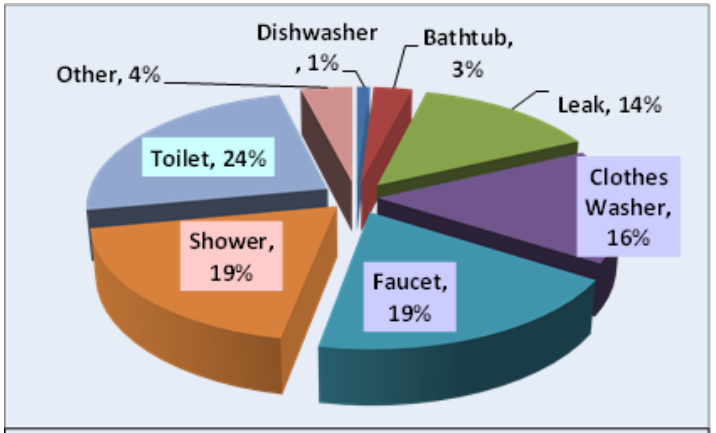


Figure 5-1. Daily household indoor water use (%) (737 homes, nationwide)

Data based on Residential End Uses of Water, Version 2. (DeOreo et al. 2016)

look for WaterSense Meets EPA Criteria

Summary of Comments

Chapter 5 – Residential Water Use

- Support for majority of proposed changes
- State should lead on "facilitate leak repair", not utilities
- Use caution on reuse - protect public health
- Strongly concur that WRC work on updating State Plumbing Code to encourage greater efficiency

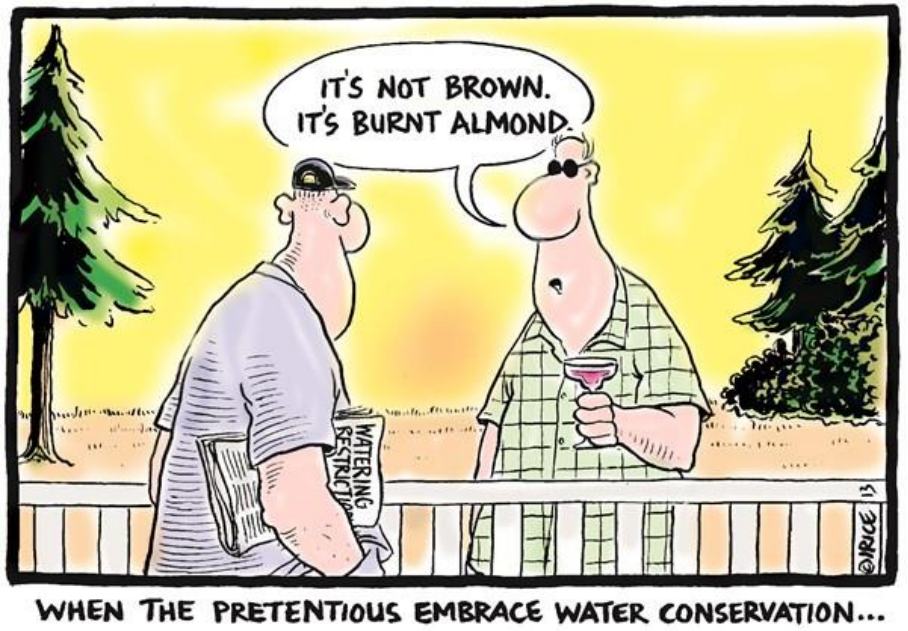
Outdoor Water Use

(formerly Lawn & Landscape: Chap. 9 & Appendixes I, J, & K)

- New title, broadened focus
- Emphasis:
  - Minimize need for watering by following established **water-smart principles**
- Water-Use Restriction Bylaw Standard
  - Apply to private wells *where warranted*
  - Clarifies applicability-Municipal Governments and Water Districts
- Two new standards added:
  - #2, addressing efficiency of irrigation systems
  - #3, addressing actions during drought conditions

Outdoor Water Use

- Recommendations consolidated & reorganized
- New recommendations:
  - #1, planning landscapes to reduce watering needs
  - #2 – 5, other outdoor uses of water besides landscape watering
  - #7 and #10, municipal government actions
- Added case study highlighting a success story



Summary of Comments

Chapter 9 – Outdoor Water Use

- Support for majority of proposed changes
- Agree that "fully enforcing" be removed from standard

Agricultural Water Use - Chapter 8

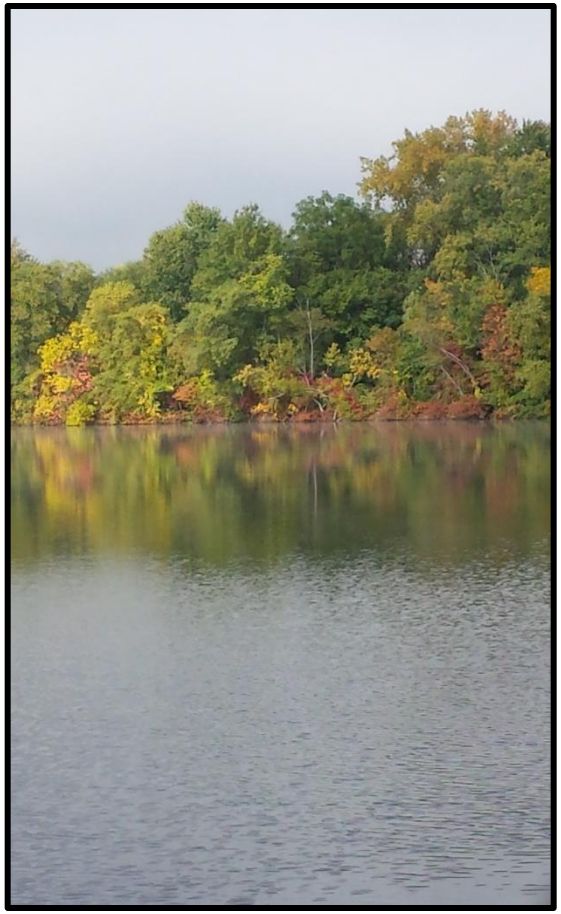
- Standards: One new standard was added to address soil health management.
- Recommendations, some new ones added; old recommendations reworked to advance and encourage:
  - #1, maintaining industry-specific best management practices
  - #2, developing and implementing a conservation plan
  - #3, use of micro-irrigation as a supplement
  - #4, uniform application of water from sprinkler systems
  - #5, periodically evaluating irrigation system efficiency
  - #6, maintaining adequate soil moisture
  - #7, adding organic matter to soil
  - #8, covering production soils throughout the year

Chapters 1, 6, 7 & 10

- **Chapter 1**: minor updates to reference recent drought & reflect current sources of planning guidance, including state-developed guidance
  - Added information on new resources for innovative water banking & water-neutral community growth
- **Chapter 6**: no additional changes
- **Chapter 7**: minor edits clarifying existing language
- **Chapter 10**: minor updates & improvements for clarity; eliminated recommendation to establish a State Water Conservation Coordinator at EEA

Next Steps

- 45-day comment period
- Continued discussion at March WRC meeting
- Accepting written comments
- Anticipated vote at April WRC meeting



Thank You For Your Input!

Send Comment Letters to:

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Questions?
Comments?