

KY Division of Water Update

PSC Water Board & Commissioner Training

Frankfort Kentucky
December 14, 2011



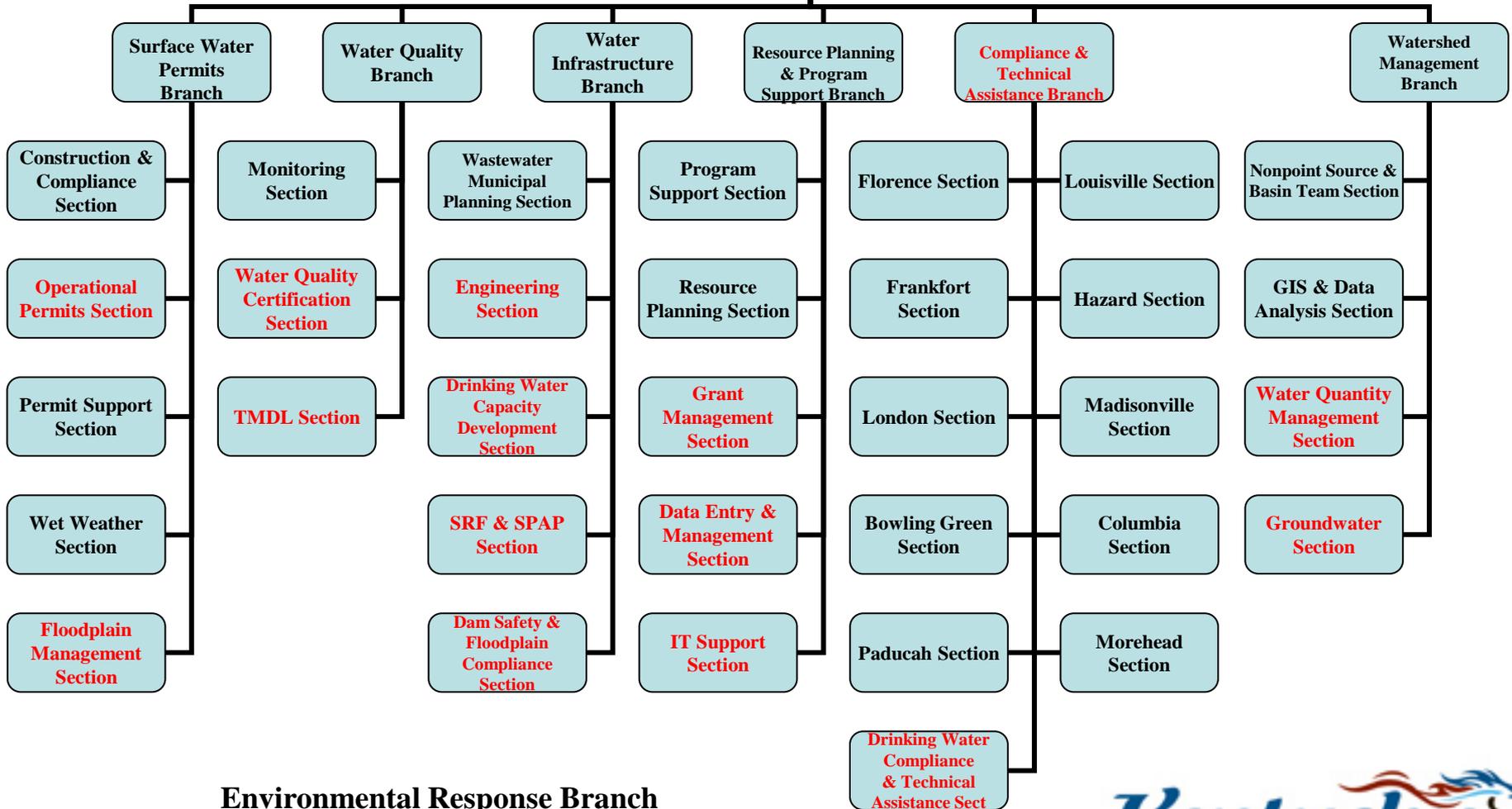
Presentation Summary

- DOW Organization
- Current and Pending Regulations
 - Federal Level
 - State Level
- Other Regulatory Actions with DW Potential Impacts
- Drinking Water News

DOW Organization

Division of Compliance Assistance
 Division of Enforcement

Division of Water ← **Drinking Water Coordinator**



Environmental Response Branch



DOW Mission Statement

- *The mission of the Kentucky Division of Water is to **manage, protect and enhance** the quality of the Commonwealth's water resources for present and future generations through voluntary, regulatory and educational programs.*
- “Safe water for everyone at all times”



Kentucky Department for Environmental Protection



Federal Regulatory Actions



Federal Regulatory Actions

- On track for final regulation:
 - Revised Total Coliform Rule (RTCR): Mid 2012
 - Long-Term Lead and Copper Rule
 - Unregulated Contaminant Monitoring Rule 3 (UCMR 3): Monitoring in 2013-2015
 - Perchlorate
- Considered for regulation or regulatory revision
 - Hexavalent chromium: In UCMR3?
 - Fluoride: Pending DPH action on supplementary fluoridation

Enforcement Response Policy & Targeting Tool

- In 2010 the ERP/ETT replaced the Significant Non-complier (SNC) list
 - Trial period January through September 2010
 - Effective October 2010
- No longer rule-by-rule
- Points assigned for violations
 - Similar to the PN Tiers
 - Acute=10 points, Chronic=5 points, M&R=1 point
 - PWSs with 11 points or more must be Returned to Compliance or under formal enforcement within 6 months
 - 22 PWSs in the ERP process right now
- DBPs are KY's main violations
- DW Enforcement Management Strategy



Federal Drinking Water Strategy

- Regulate contaminants by “groups”
 - Will first evaluate the carcinogenic VOCs
 - Common method, common treatment
 - Proposed rule in 2.5 years with final rule 2 years later
- Will revisit acrylamide and epichlorohydrin
- Improved working relationship with other federal programs (FIFRA, TSCA)
- Renewed focus on small systems
- More open with data (“transparency”)



Version 2.0



Public Water Supply Systems Search Parameters

Water System No.

Water System Name

Principal County Served

Water System Type

Primary Source Water Type

Point of Contact Type

Sample Search Parameters

Sample Class

Sample Collection Date Range
(The Sample Search always produces results for the last 2 years, unless you provide a specific date range.)

[Click Here for the County Map of KENTUCKY](#)



Search Compliance Data (Safe Drinking Water Program)



Beta Release



Geographic Location



EPA Region:

City:

State:

- IL - Illinois
- IN - Indiana
- KS - Kansas
- KY - Kentucky

Use "ctrl" to select multiple options.

County:

In Indian Country

System Characteristics



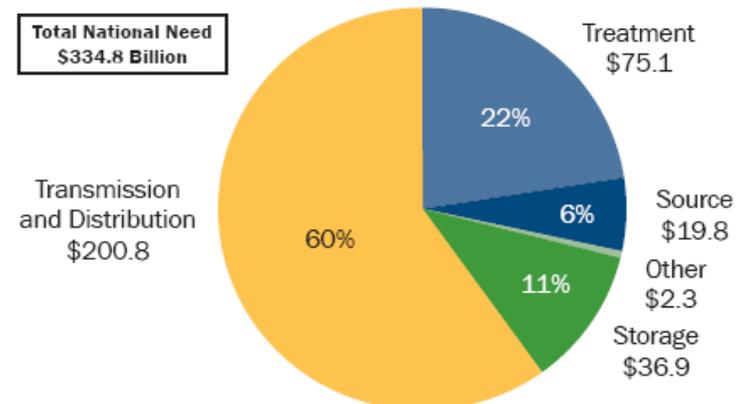
System Name:

PWSTDs:

2011 Drinking Water “Needs” Survey

- The “Needs” survey results will set the SRF amounts for future years
 - \$334.8B for DW infrastructure need in the US (2007 Needs Survey)
- 140 PWSs selected by EPA to participate
 - DOW staff are assisting all selected through site visits
 - KY had 100% response!

Total 20-Year Need by Project Type (in billions of January 2007 dollars)



Note: Numbers may not total due to rounding.

Lead Reduction Act

- Congress passed new legislation lowering the lead content for solder and adding a “wetted” surface requirement (less than 0.25% lead)
 - Effective in 2014
 - May be incorporated into Long Term LCR revisions
 - NSF and other certifying authorities involved
 - **Does not require that all meters, etc in the system be changed**

State Regulations/Issues Affecting Public Water Systems



Drinking Water Engineering

- 401 KAR 8:100 (Design/Construction) was final on December 31, 2010
 - Clarified the Preliminary Engineering Report
 - Incorporated 2007 10 States Standard
 - New General Design Criteria
 - Incorporated plan applications

Recommended Standards
for
Water Works

2007 Edition

**Policies for the Review and Approval
of Plans and Specifications for Public Water Supplies**



Stage 2 DBP Rule

- Some Schedule 4 systems (<10K) are finishing up monitoring
- Reviewing/approving IDSE Reports
- Concern:
 - Projecting 30-50% initial non-compliance with the majority of non-compliance in the consecutive systems
 - EPA built in 3 years for systems to do what they needed to do to meet the new LRAA compliance—**but DOW is seeing little initiative**
- Operational Evaluation Level (OEL)

LT2 Rule

- Only 3 PWSs in Bin 2 requiring additional 1 log of treatment
 - Again EPA built in 3 years for systems to improve treatment or build infrastructure
 - PWSs should use multiple toolbox options and strive for more than the 1 log additional treatment
- Start source water monitoring again in 2015
 - Will use the higher E.coli trigger of 100 cfu/100 ml for the Schedule 4 systems
 - EPA R4 guidance states at least 5 years between end of initial Crypto monitoring/bin classification and 2nd round of sampling

KYG 64 KPDES Permit

- Effective April 1, 2011 after revising due to comments and with EPA approval
- Must know how your source water is classified (outstanding resource water, high quality water)
- Must now meet total residual chlorine limits
- Must now monitor for total aluminum and/or iron (depending upon coagulant used)
- Must monitor for total phosphate if use a phosphate-based corrosion inhibitor

NOTE: DMRs do not yet have all regulated parameters on them for KYG64



KYG 64 KPDES Permit

- General permit will not apply to
 - Non-conventional types of treatment such as membranes
 - PWSs on outstanding resource waters or in waters impacted by “turbidity”
- Increase in discharge flows will result in an anti-degradation assessment
- Issues with test methods and detection levels
- Best Management Practices are to be developed
- <http://water.ky.gov/permitting/Pages/WastewaterDischarge.aspx>

Regulations Under Consideration

- 401 KAR 8:700 on Bottled Water
 - Removing citations to now non-existent regulations
 - Clarifying monitoring
- Capacity Development/Sustainability
 - Still considering
- Emergency Response Plans
 - May consider

Federal and State Regulations and Issues: Potential to Affect PWSs



Federal Legislation Pending

- CFATS (Chemical Facility Anti-Terrorism Standards)
 - Several versions in Congress in 2011
 - Pass their respective committees but then stall
 - Right now DW and WW not included
 - Gas chlorine, ammonia, sulfur dioxide
 - Vulnerability assessment
 - Requirement of “inherently safe technology” may not now be included

KY Wastewater Laboratory Certification

- CWA does not require labs to be certified for WW discharge analyses
- Issue came to a head in KY with coal labs
- Bill was successfully filed to require WW lab certification for all WW discharges; signed into law on March 18, 2011 (KRS 224.10-670)
 - Will affect **all** labs/personnel that sample and analyze for WW parameters
 - Including WWTPs and WTPs (remember KYG 64??)



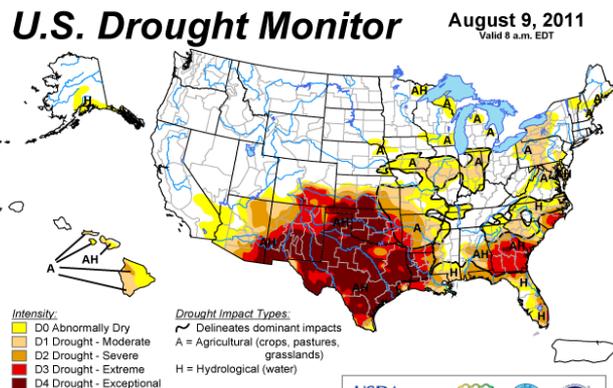
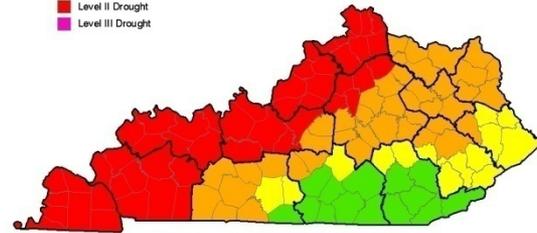
Drinking Water Lab Certification

- Federal EPA has moved the Crypto lab certification from the federal level down to the states
 - KY has 1 of 9 state-certified Crypto lab auditors
- May open 401 KAR 8:040 to be consistent with any general lab certification requirements from the WW lab regulation
- Looking to implement on-line analyzer calibration and standards

State Drought Mitigation Plan

- Final on December 31, 2009
- First used in the late summer/early fall of 2010 and again in summer 2011
- Clarifies the roles of the agencies and organizations involved in tracking and evaluating droughts

Drought Conditions Developing
Drought Action Levels
No Drought Action Level
Level I Drought
Level II Drought
Level III Drought



Intensity:
D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional

Drought Impact Types:
~ Delineates dominant impacts
A = Agricultural (crops, pastures, grasslands)
H = Hydrological (water)

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.



Released Thursday, August 11, 2011

Author: Laura Edwards, Western Regional Climate Center

<http://drought.unl.edu/dm>

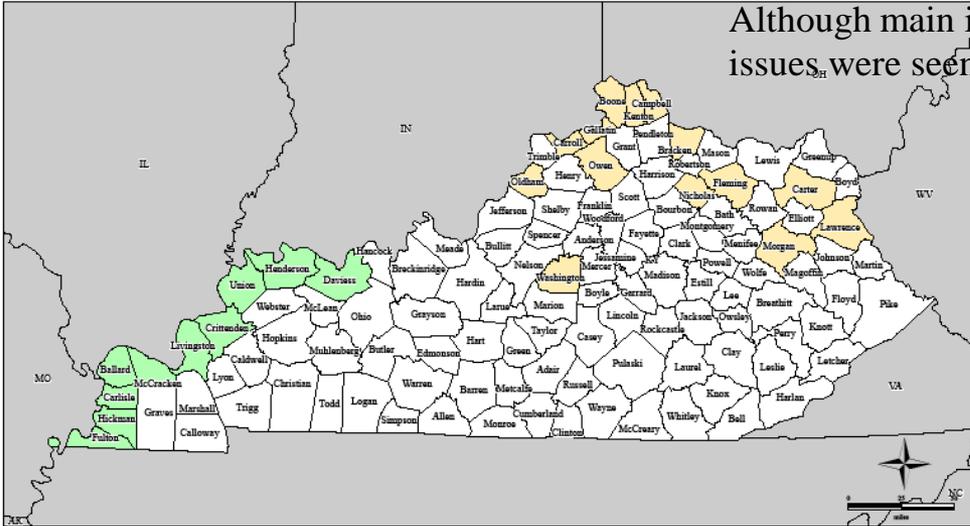
Kentucky
UNBRIDLED SPIRIT

Spring 2011 Flooding...

FEMA-1976-DR, Kentucky
Disaster Declaration as of 05/04/2011

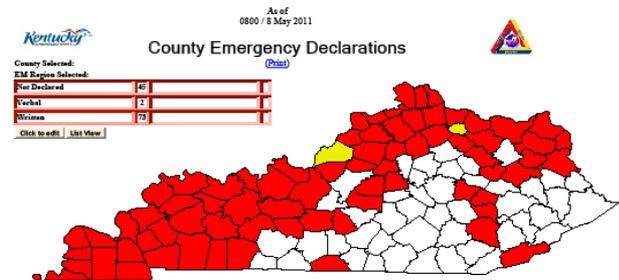
Record breaking rain and flood levels (rivaling 1937)

Although main impacts were on the lower Ohio River and Mississippi River, issues were seen on eastern and central KY Corps reservoirs



Kentucky County Emergency Declarations

<https://weboc1.it-services.louisville.edu/eoc7/boards/board.aspx?table...>



Location Map

Legend

- No Designation
- Public Assistance
- Public Assistance (Category B)

FEMA
ITS Mapping & Analysis Center
Washington, DC
65/5/11 - 10:31 AM EDT
Source: Disaster Federal Registry Notes
05/04/2011

MapID 9e0529e33cb0504112217hgrpd

Minor Drinking Water Impacts

- Well fields/intakes flooded
- Distribution breaks
- Limited power outages

Moderate Wastewater Impacts:

- Overflows and bypasses
- Limited flooding

FEMA/Corps of Engineer effort to assess costs—began May 11 for Presidential declared counties



5/9/2011 4:03 PM

...and December 2011 Flooding

National Weather Service Eastern Region Headquarters MMEFS Viewer - Main - Windows Internet Explorer

http://www.erh.noaa.gov/mmefv/index_test.php?lat=38.06&lon=-85.34&zoom=8&RFCOverlay=0&Refresh=0&Model=GEFS

Division of Water Welcome | EPA.gov | Free Hotmail | Suggested Sites | Web Slice Gallery

National Weather Service Eastern Region Headquarters

Rivers & Lakes
 AHPS
 Interactive Weather Information
 Network
 Marine Weather
 Aviation Weather
 Climate
 Regional National
 More...
 National Centers
 Hurricane Center
 Climate Prediction
 Hydrometeorological Prediction Center
 Storm Prediction
 Ocean Prediction
 NOAA Weather Radio
 Weather Safety
 Storm Ready
 Hurricane Awareness
 Tropical Cyclone/Inland Flooding
 ER Headquarters
 Mission Statement
 Divisions
 General Information
 Communication
 ID Transition
 ER Rainfall
 Frequency Atlas
 La Plata Service
 Assessment
 Contact Us
 FAQ - Frequently Asked Questions
 erhwebmaster@noaa.gov

USA.gov

Local Analysis

National Weather Service Weather Forecast Office
 Louisville, KY

Home | Site Map | News | Organization | Search for: | NWS | All NOAA

Local forecast by "City, ST" or Zip Code
 City, ST Zip

Local forecast by "City, ST" or Zip Code

Current Hazards
 Watches/Warnings
 Outlooks
 Submit Report
 Current Conditions
 Observations
 Radar
 Satellite
 Snow Cover
 Snowfall Analysis
 Precip Analysis
 Forecasts
 Forecast Discussion
 Local Area
 Activity Planner
 Aviation Weather
 Fire Weather
 Marine Weather
 Severe Weather
 Winter Weather
 Hurricane Center
 Hydrology
 Rivers & Lakes
 Climate
 Local
 National
 Drought
 More...
 Weather Safety
 Preparedness

Precipitation Map | Download Shapefiles | About this Page | Other Useful Information | Survey & Feedback

Display: Last Day (24hrs) | Map | Terrain | Satellite | Hybrid

Inches: 20, 18, 16, 14, 12, 10, 8, 6, 4, 2, 0, 0.25, 0.50, 0.75, 1.00, 1.25, 1.50, 1.75, 2.00, 2.25, 2.50, 2.75, 3.00, 3.25, 3.50, 3.75, 4.00, 4.25, 4.50, 4.75, 5.00, 5.25, 5.50, 5.75, 6.00, 6.25, 6.50, 6.75, 7.00, 7.25, 7.50, 7.75, 8.00, 8.25, 8.50, 8.75, 9.00, 9.25, 9.50, 9.75, 10.00

Go To Location: Enter Location | Go

Overlays:
 States
 Counties
 River Basins
 River Forecast Center Boundaries
 Road/Town Overlay

Precipitation Opacity: 0 60

Image Last Updated: 12/06/2011 16:48 UTC
 Image Valid 12/04/2011 18:00 UTC to 12/05/2011 16:00 UTC

Available Precipitation Images:

Internet | Protected Mode: Off



Nutrient Reduction

- Renewed focus on reducing the amount of nitrogen and phosphorus entering US waters
 - Nutrients can adversely affect DW sources
 - Taste and odors
 - DBPs
 - Potentially toxins
 - Related to quality and quantity
 - For drinking water systems??
 - Phosphate corrosion inhibitors
 - Free ammonia associated with chloramine disinfection
- Increasing NO₃ levels in groundwater

Grand Lake
St. Mary's
(Ohio)



Coal and Other Energy Issues

- Coal issues are just now moving into the KY drinking water perspective
- 37 counties in KY (31%) have active DOW permits related to coal mining
 - Discharges impacting water quality of receiving streams
 - Potential ecological impacts as well as a potential decrease in the source water quality for drinking water plants
- Hydrofracturing for methane extraction

“Green” Initiatives

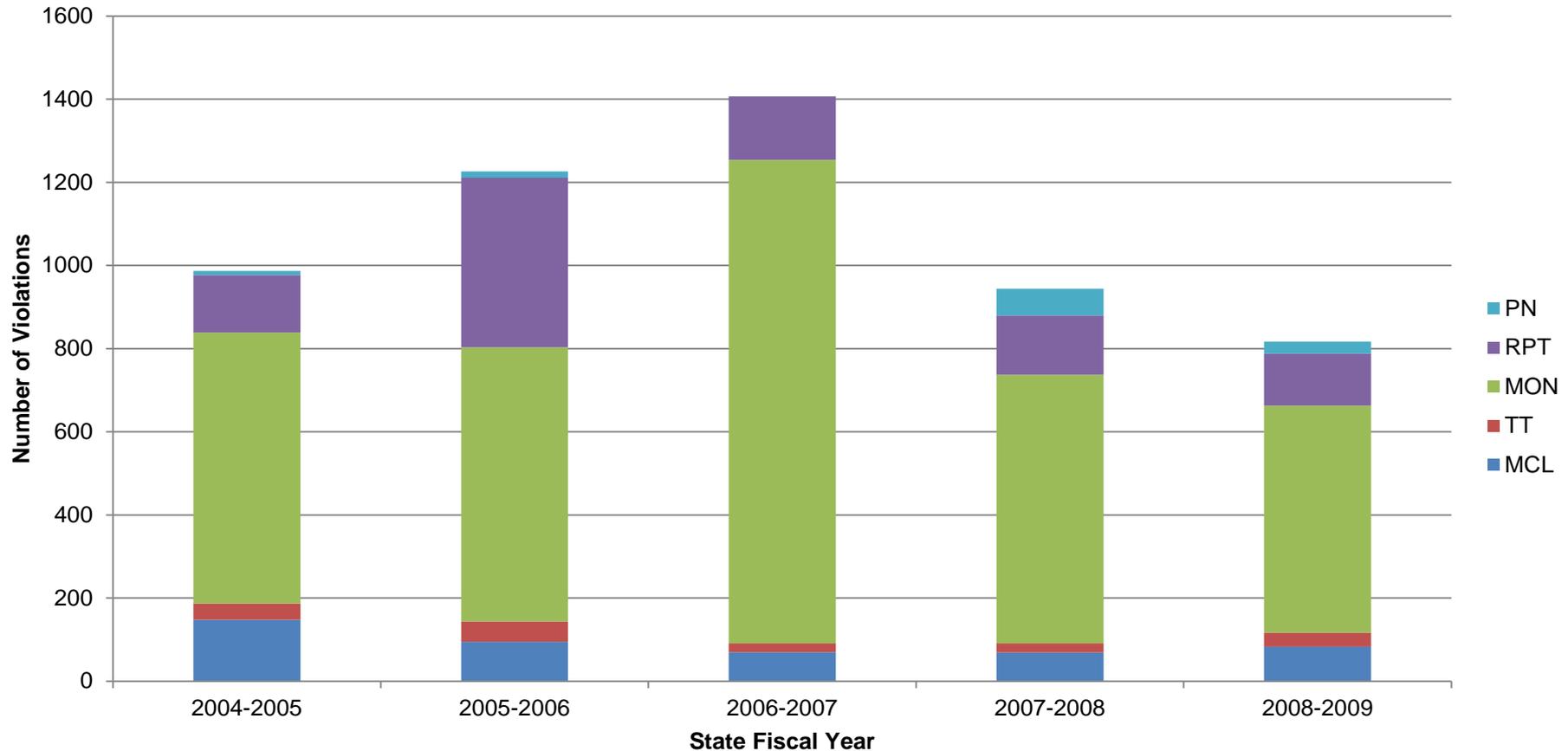
- Good
 - Energy efficient pumps/motors
 - Electrical usage/demand
- Not so Good
 - Filter backwash recycling
 - WTPs running fewer hours
- Unusual
 - Building-by-building roof/rainwater capture systems for potable use

Drinking Water News

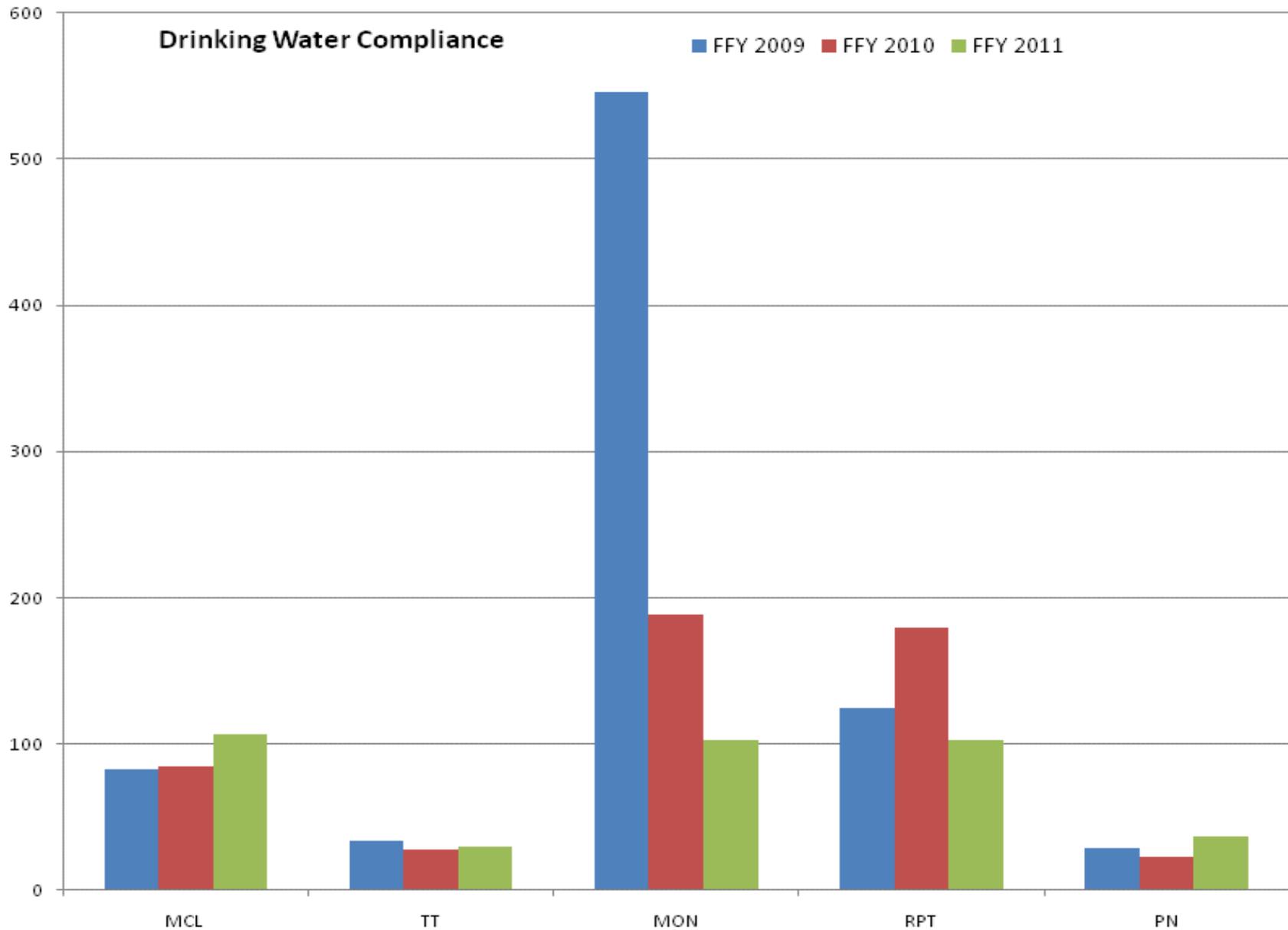


Drinking Water Compliance

KY SDWA VIOLATION TYPE AND NUMBER BY STATE FISCAL YEAR

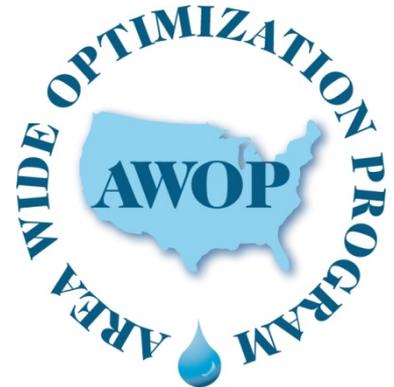


Drinking Water Compliance FFY 2009 - 2011



2010 AWOP

- Microbial/turbidity AWOP
 - 39 PWS are “Totally Optimized Plants” serving 1,114,994 people (roughly 25% of the state population)
 - 2 AWOP Champion Awards were given out at the KWWOA conference opening session
 - Wood Creek Water District
 - Logan-Todd Regional Water Commission
 - Working on disinfection by-product optimization



Capacity Development

- Focusing on managerial and financial tools and education for PWSs
 - Taking the message “up a level” to water system management and decision makers
- Working on a project with KIA to develop a process for “mining” the Sanitary Surveys to compile pertinent T/M/F information on PWSs
- Water loss and cost-to-produce water
 - DOW working with AWWA Water Loss Committee
- “Plan or be planned for”



The Future of SDWIS

- The current SDWIS database is out-dated and too expensive for EPA to maintain
 - Will do just 1 more upgrade before no longer supporting the program
- SDWIS Central as an interim move
- SDWIS “Next Gen” will move the database to the “cloud” environment
 - Main servers, etc. maintained off-site by EPA
 - Improves data transparency
 - Issue with state-developed data entry tools



DOW Outreach

- Drinking Water Advisory Committee (DWAC)
 - State agencies, professional organizations, technical providers, water systems
 - Subcommittees for Capacity Development, Regulations, Compliance, Engineering
- Inter-agency relationships
 - Division of Plumbing: Cross-connections, potable water
 - Department of Public Health: Fluoride, potable water, emergency response, MHPs, restaurants
 - PSC: Inspections, water loss, engineering
 - AG's Office: Rates/regulatory impacts
 - Parks: Pending discussion on storage tank maintenance issues

PWS Staffing

- Despite the numbers, there is a shortage of certified operators in KY
- To address the issue, KY added “alternative staffing plan” language to 401 KAR 8:030
 - DOW willing to work with systems to staff plants and obtain certification for their operators
 - Systems must have a plan of action
 - 9 PWSs with approved alternate staffing with 1 pending
 - Contact Julie Roney for more information

What's On My Plate (Desk)...

- Budget issues (state and federal)
- More regulatory development
 - Capacity development
 - Submetering
- New definition for “semi-public” water systems
- Home-based processors/microprocessors
- Integrating the CWA into the SDWA and vice versa
- Continued inter-agency cooperation
- Wastewater lab certification
- Impacts of coal on public water systems
- EPA R4 Priority Review



Questions?? Comments??

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<http://water.ky.gov>

<http://water.epa.gov/drink>

