



Regional Drinking Water: Response to the Elk River Chemical Spill

Presented to the Water Resources Technical Committee

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MWCOG

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Outline

Elk River Chemical Spill

- What happened?
- Immediate response
- Current status

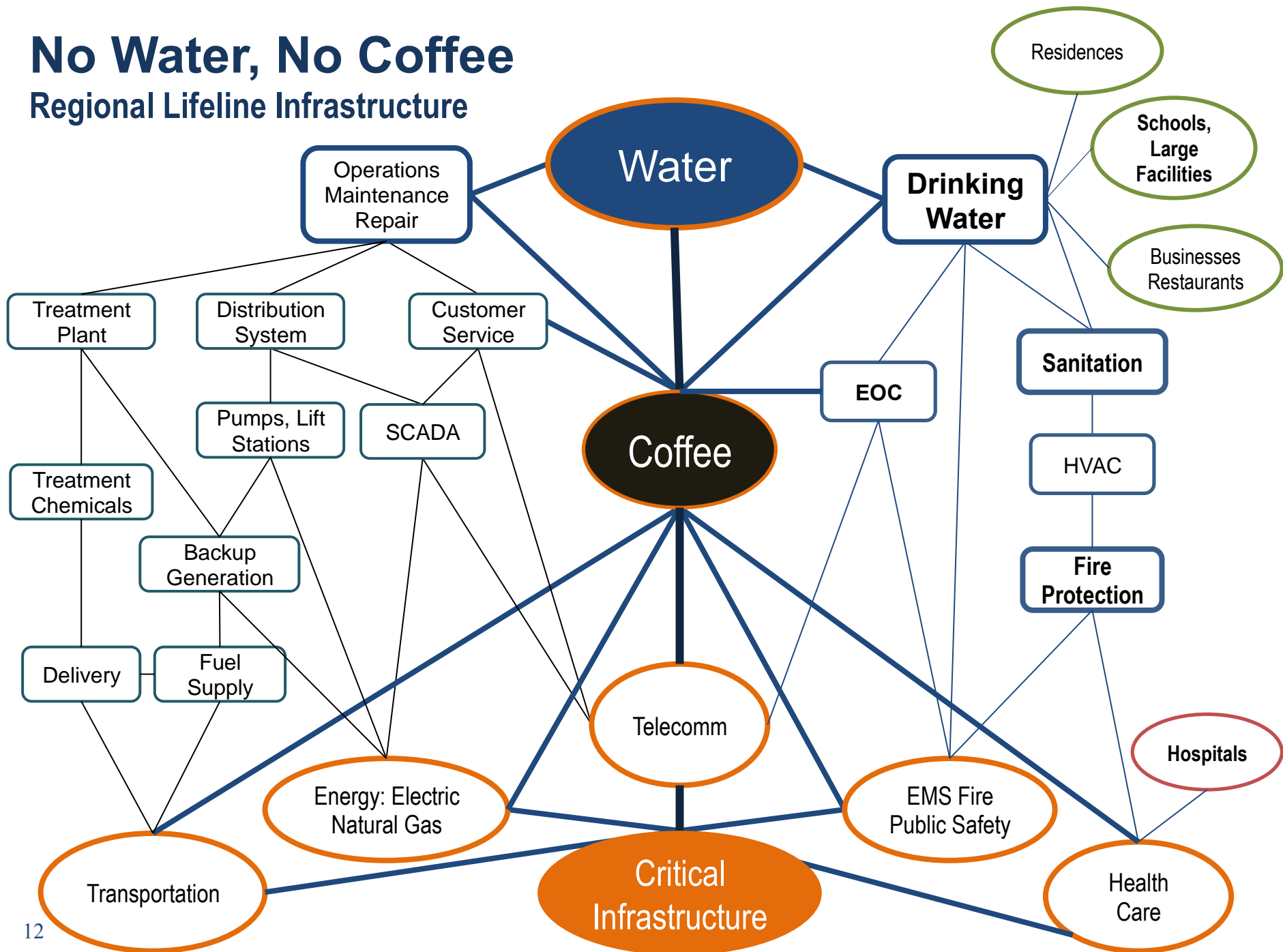
Regional planning & actions

- NCR Water Systems
- Could this happen here?
- How is the region prepared?



No Water, No Coffee

Regional Lifeline Infrastructure

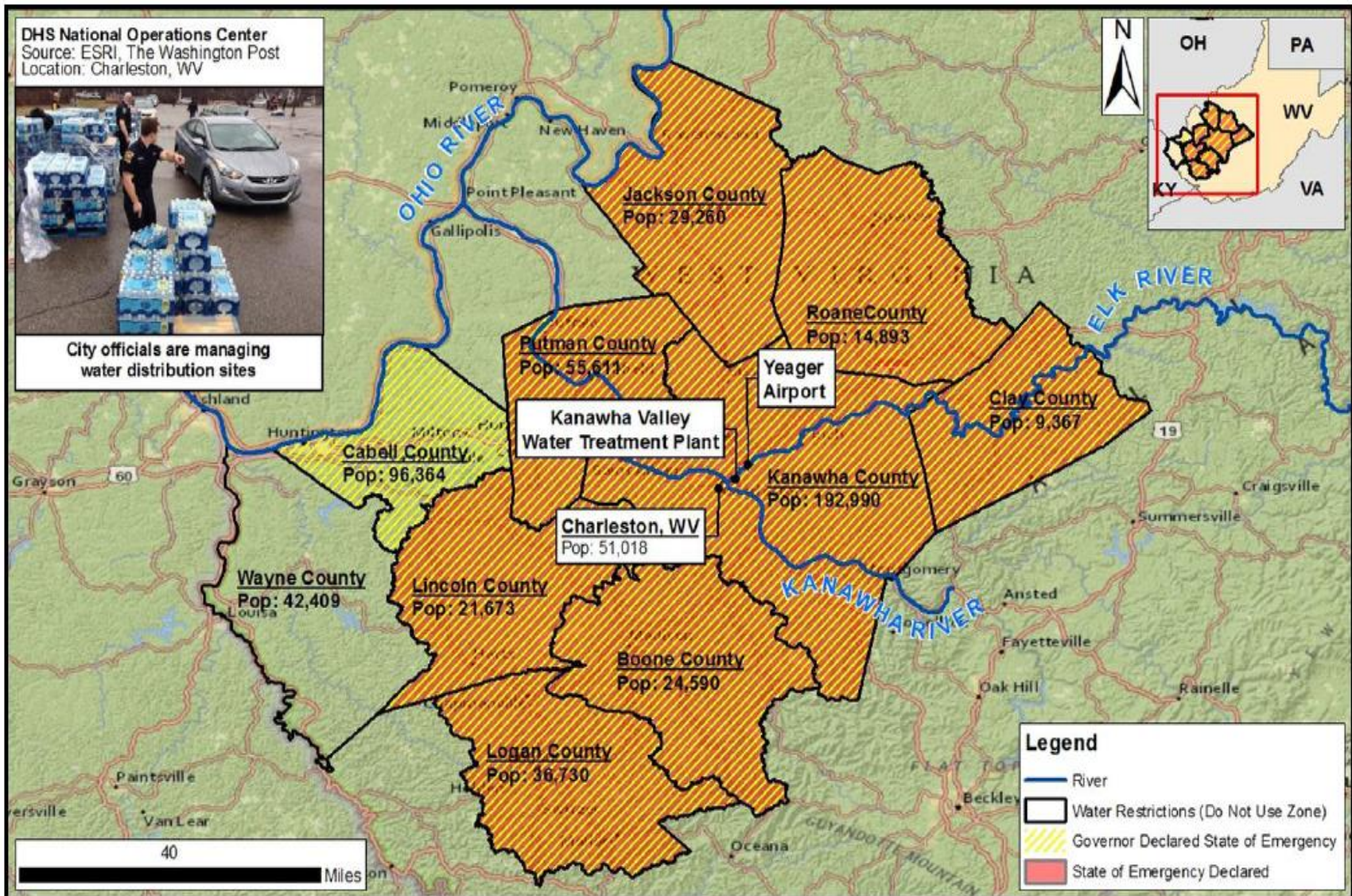


What Happened?

January 9, 2014

- 11,000 gallons of 4-methylcyclohexane methanol (MCHM) leaked into the Elk River near Charleston, WV.
- West Virginia American Water (WVAW) issued a “Do Not Use” Notice at 6 p.m.
- Over 300,000 people in nine counties are affected.
- CDC begins developing a MCHM safety level. It is not regulated and has very limited health and safety data.





The spill occurred in the source water for the largest and most complex water system in the state.



Immediate Response

January 10, 2014

- President Obama issues an Emergency Declaration.
- National Guard Civil Support Teams (CST) deployed.
- National Guard begins bottled water delivery from Maryland FEMA facility.
- Counties EMAs immediately stand-up water distribution centers



January 9-13, 2014

Public and private sector labs rapidly developed methods to monitor MCHM.

The D.C. National Guard CST unit lead the laboratory response.

CDC recommends 1.0 ppm MCHM as acceptable level

Estimated 0.1 ppm odor threshold.

Interagency testing teams established

Distribution system flushing started

Zones with hospitals had priority

January 10 - 22, 2014

Schools closed

- Reopened with bottled water
- Taste & odor complaints continue to intermittently close schools



State of Emergency

- Jan. 18 "Do Not Use" notice is lifted
- Jan. 31 FEMA ends federal declaration
- Feb. 28 Gov. Tomblin ends WV declaration



County & City Roles and Responsibilities

EMS & Public Safety

Water and supply distribution

Recycling

Bottles & palettes

Vulnerable Populations

Daycares

County Health Dept.

- Inspections, testing
- Patient monitoring

Estimated Costs

Business losses

\$61 million (Feb. 13)

\$19 million/day

State

\$3 million: excludes schools and county EMS (Feb. 3)

– \$300,000 bottled water

\$730,000 household tests, WV TAP Pilot Study

Hospital

\$ 2 million (Feb.19)

County Health Dept.

\$750,000 for 1 yr. study (Feb. 21)

Volunteer Organizations (Feb 13)

\$666,500 donations, services





Legend


 Water Treatment Plants

Drinking Water Suppliers and Distributors


 City of Bowie Dept. of Public Works

 City of Manassas DU

 City of Manassas Park DPW

 City of Fairfax

 Rockville

 Town of Leesburg

1. Town of Lovettsville


2. Town of Hillsboro


3. Town of Purcellville

4. Town of Round Hill


5. Town of Hamilton


6. Town of Middleburg

 Fairfax County Water Authority

 Fairfax County Water Authority
(Small Wholesale)

 Loudoun County Sanitation Authority

 Prince William County Service Authority

 Virginia-American Water Company

 Virginia-American Water Company - Alexandria

 Vienna DPW

 Falls Church


Washington Aqueduct U.S. Army Corp of Engineers (COE)


 Arlington DPW

 District of Columbia


 Washington Suburban Sanitary Commission - Current area

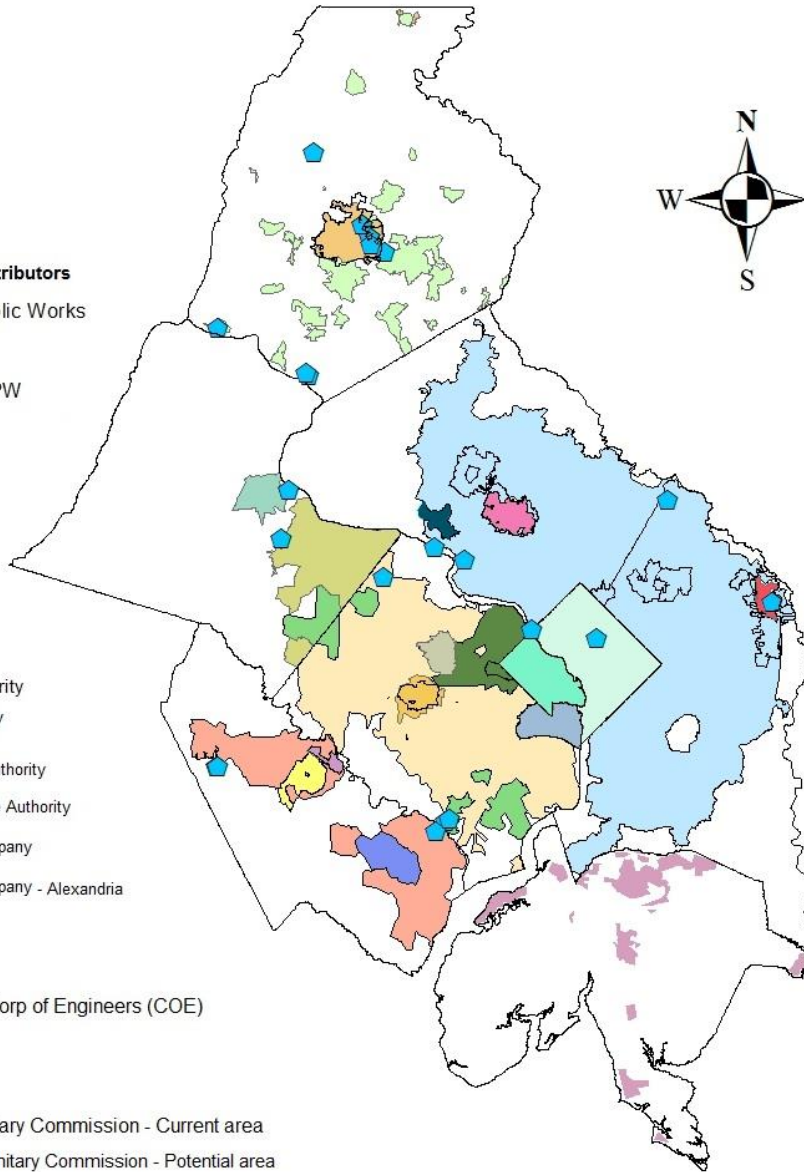
 Washington Suburban Sanitary Commission - Potential area

 Frederick County Utilities and Solid Waste

 City of Frederick

 Charles PWS

 Areas not served by public utility

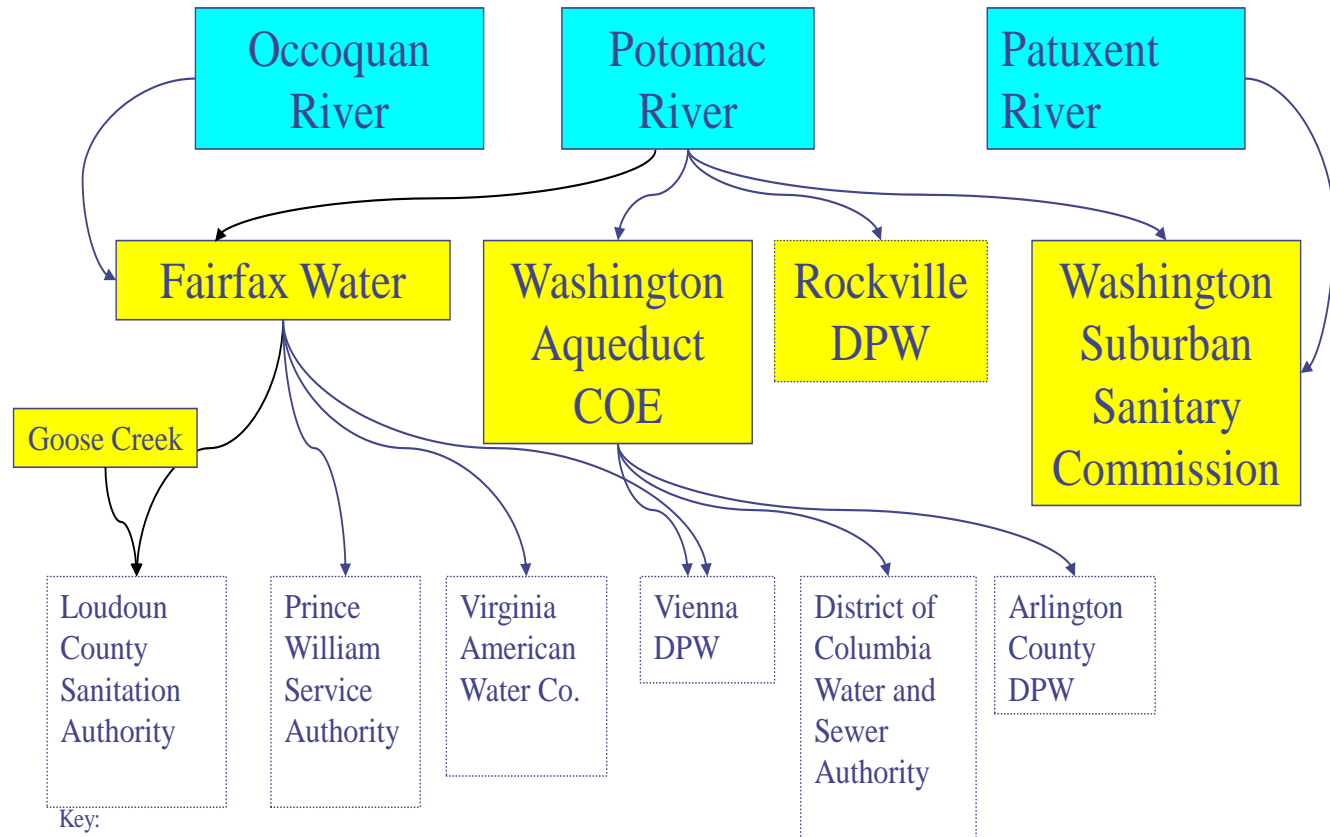


0 4.5 9 18 27 36 Miles

4.5 Million people in our region rely on the Potomac River for drinking water.



Schematic of NCR Water Supply System

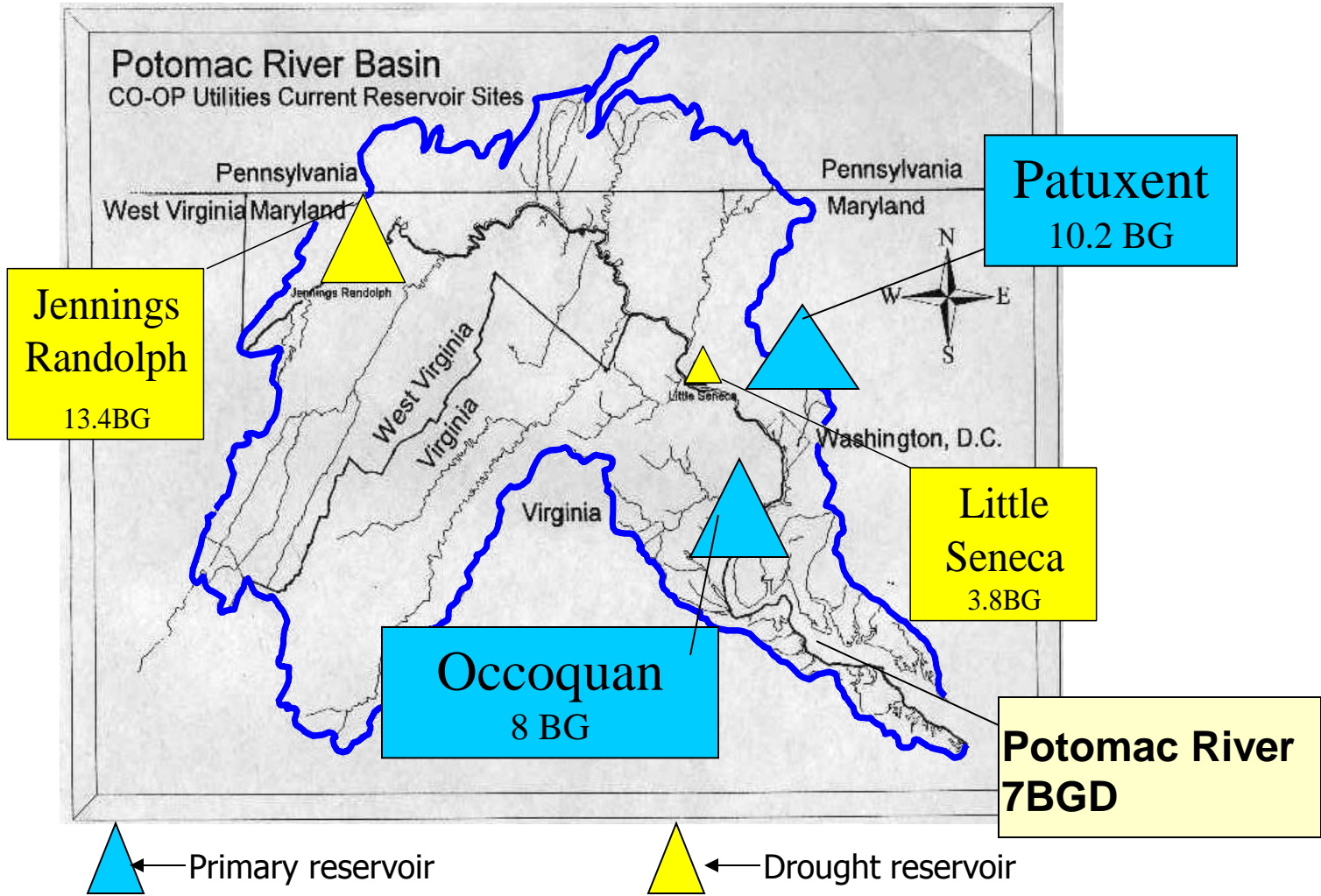


Key:
Major Source
CO-OP utility
Wholesale or independent utility

NCR - Major Water Supply Sources

The NCR uses about 500 million gallons per day (mgd)

Annual avg. Potomac River flow is 7000 mgd



Regional water utilities met Jan. 6 to plan around water outages based on the WSSC July, 2014 event. The Elk river spill occurred Jan. 9.

COG responded by:

- Developing regional messages and talking points
- Daily updates distributed to Water Security Group and CEC

But was there more for the region?

Why did COG send a team to WV?

Significance to the NCR water sector and the region as a whole

Team objectives:

- First hand observation
- Technical, monitoring, sampling
- Jurisdiction/agency coordination & communication



Could this happen in the NCR?



- Colonial Pipeline
- Transportation spills
- Combined animal feeding operations (CAFOs)
- Coal ash
- Upstream sewage spills
- Unknown contaminants

Source Water Assessments:

- Less industrial activity
- Threats predominantly far upstream

How is the region prepared?

Regional Drinking Water Monitoring Network

(COG, Water Utilities, ICPRB)

West Virginia to water utility intakes

Reservoirs

Distribution system

Sampling, testing, response

Exercises & training

Source water assessments

Water supply storage



How would we respond?

- WSEP
- Water system labs
- Chromatography, mobile labs
- Close intakes
- RICCS
- NCR WARN: Mutual AID





WV Lessons

Agency roles & responsibilities

Communication & Coordination

Water & supply distribution

Monitoring & sampling

Source Water Protection

Plan for unknown events, uncertain health effects

MWCOG Actions

- EMS & Water System roundtable
- Review water system & related ESF ERPs
- Regional water messaging
- Health Sector meeting
- Mutual aid expansion
- Evaluate monitoring
- Water messaging and communication tools
- Contaminant Warning Protocol implementation
- Update WSEP & CAO Primer



Questions?