



The Metropolitan Washington Water Supply and Drought Awareness Response Plan

Chesapeake Bay and Water Resources Policy Committee
November 15, 2013



by Christine Howard, COG staff

Overview

- ▶ Background and History of Drought Plan
- ▶ Key Features of Plan
- ▶ Brief Discussion of Current Conditions and Water Supply in the COG Region



Great Falls on April 29, 2012

Severe and Extreme Drought

- ▶ Drought is one of the most costly natural disasters affecting the U.S.
- ▶ Since 1980, three of the most expensive natural disasters were droughts.
- ▶ In Texas this year, over 700 public water systems were under mandatory water use restrictions and another 300 issued voluntary restrictions.

1	Hurricane Katrina	2005	\$146.30
2	Drought	1998	\$77.60
3	Drought	2012	\$???.?
4	Hurricane Sandy	2012	\$65.00
5	Drought	1980	\$55.60
6	Hurricane Andrew	1992	\$44.30
7	Flooding	1993	\$33.40
8	Hurricane Ike	2008	\$28.90
9	Hurricane Wilma	2005	\$18.70
10	Hurricane Rita	2005	\$18.70
* http://www.ncdc.noaa.gov/billions			

COG's Water Supply and Drought Plan

- ▶ COG Board created the Water Supply Task Force (WSTF) in the summer of 1999
 - region did not have a common voice about drought conditions – conflicting messages to the public
- ▶ Primary Focus of the WSTF
 - Initial Focus – water supply and current drought conditions
 - Long-Term Goals –develop “common language” for region in the event of another serious drought
- ▶ ***The Metropolitan Washington Water Supply and Drought Awareness Response Plan*** adopted on June 7, 2000 – two main components
 - A year-round plan emphasizing wise water use and conservation; and a water supply and drought awareness and response plan





Components of the Plan – Two Parts

- ▶ 1st Part - Wise Water Use Campaign
 - A Public Outreach Campaign with Indoor and Outdoor Conservation Messages – year-round focus
 - Part of a Regional Outreach Effort – Community Engagement Campaign
 - Regional water conservation advertising and outreach at public events
 - Web site developed with useful tools
 - Landscape guide, seasonal water conservation tips
 - Note that the CEC also focuses on other issues like fats, oils and grease and do not flush



Wayne the Water Drop

2nd Part - Drought Stages and Triggers

Normal

Watch

Warning

Emergency

- Four stages with corresponding triggers and actions
- Designed for customers who use the Potomac River for water supply (*note see maps at the end of PPT*)

Normal

Water supply adequate to meet demands

Year-round wise water use program conducted

Routine reporting
Monthly water supply and drought outlooks
-April-October

Email and Web Site Updates

Watch

Trigger: NOAA "D1" drought level for Potomac River Basin (Drought Monitor)
Drought coordination committee meets
Note: CAO Chair is on this committee

Regional media briefing

Voluntary Water Conservation recommendations issued

Additional media notification at first reservoir release - 75% full reservoirs

Warning

Trigger: Jennings Randolph and Little Seneca combined storage below 60% for 5 consecutive days OR

5% probability of not meeting unrestricted water supply demands over next 1-2 months

Drought Coordination Committee meets

Voluntary water restrictions announced

Regional media briefings begun on weekly basis

Emergency

Trigger: 50% probability of not being able to meet demands over next month

Drought Coordination Committee meets

Mandatory Water Restrictions announced

Regional Press Conference on daily basis

History of Use – Drought Declarations

- ▶ COG the last Drought WATCH - **Sept. 9, 2010**
 - Press Release urged residents and businesses to conserve water – use water wisely
 - Emphasized - water supply reservoirs were full but would be utilized if needed
 - Ended with Tropical Storm Lee
- ▶ Since the Drought Awareness Response Plan was adopted in 2000
 - Declared a drought WATCH in 2002, 2007, 2010
 - Never issued a WARNING or EMERGENCY for the Potomac system



Great Falls – Sept. 2010

COG's Monthly Drought Reports

- ▶ Issue Monthly from April - October
 - Reports and Summarizes
 - The U.S. Drought Monitor produced by NOAA
 - Precipitation Data for the Potomac River Basin
 - Groundwater levels
 - Seasonal Drought Outlooks
 - Streamflow levels at Point of Rocks and Little Falls
 - Probability of Reservoir Releases
 - Status of Regional Water Supply

Washington Metropolitan Region Drought - October 2013

U.S. Drought Monitor
 Shows drought severity across the United States as of September 29, 2013. The Potomac River Basin is highlighted in red, indicating severe drought.

Potomac River Basin Precipitation
 Bar chart showing precipitation (inches) from October 1, 2012, to September 29, 2013. The chart shows a significant deficit in precipitation over the period.

U.S. Seasonal Drought Outlook
 Map showing the probability of a drought occurring between now and December 31, 2013. The Potomac River Basin is in a high-risk area (red).

RESERVOIR STATUS October 2013
 There is less than 1 to 3 percent conditional probability that regional Potomac flow will drop below 600- to 700-million gallons per day (MGD) at Little Falls through December 31 of this year. If these flow levels, water supply releases from Jennings Randolph and Little Seneca Reservoirs September occur. Releases occur when predicted flow is less than demand plus a required flow-by. Demand ranges from 400 to 700 MGD during the summer months and the minimum flow-by at Little Falls is 100 MGD.

THREE MONTH PRECIPITATION OUTLOOK
 The Climate Prediction Center of the National Weather Service produces three month precipitation forecasts for the United States. According to the October through December outlook, our region has an equal chance of above, below, or normal precipitation. SOURCE: NOAA Climate Prediction Center.

SEASONAL DROUGHT OUTLOOK
 September 2013
 The seasonal drought outlook released on September 19, 2013 indicates that our region should not experience a drought between now and December 31, 2013. SOURCE: NOAA Climate Prediction Center.

USGS 0164550 POTOMAC RIVER NEAR WASH DC LITTLE FALLS PUMP STA
 Line graph showing streamflow (cfs) from October 1, 2012, to September 29, 2013. The flow is consistently below the 100 MGD threshold.

Washington Metropolitan Region Drought and Water Supply Status and Outlook - October 2013

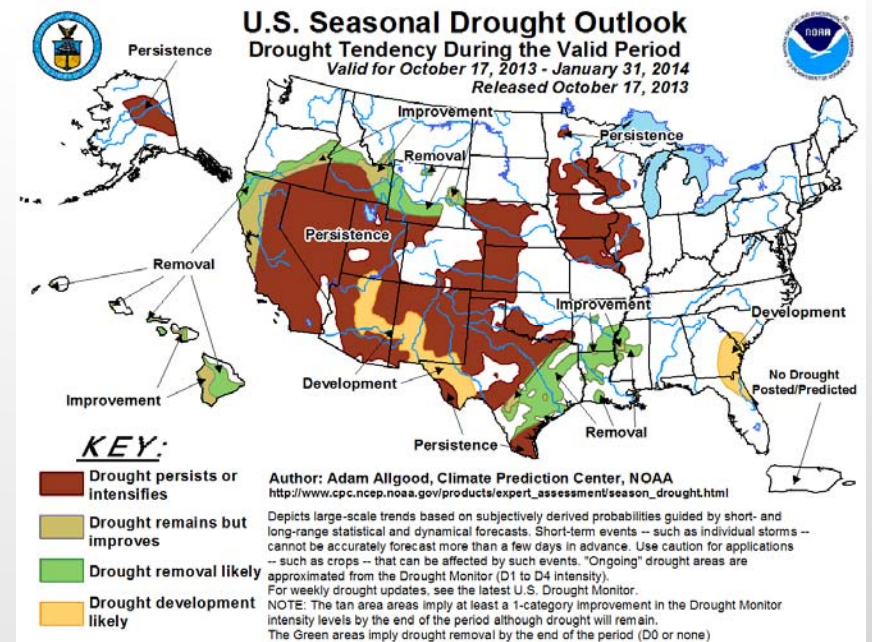
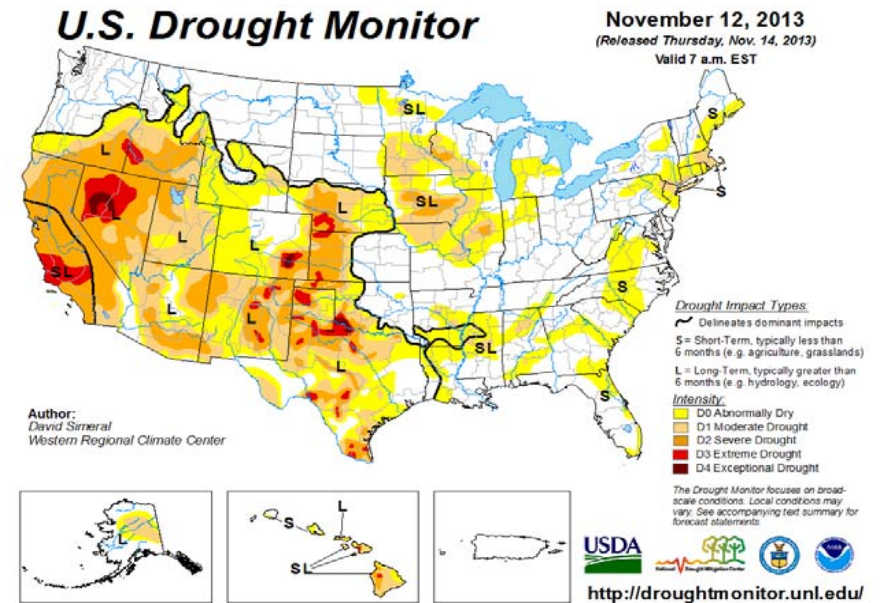
WATER UTILITY WATER SUPPLY AND DROUGHT STATUS - October 2013
 COG conducts monthly surveys to assess water supply and drought status in the Metropolitan Washington region. All utilities, wholesale customers, and state agencies are under a "Normal" status except for the City of Fairfax (they are at a warning stage, see below) and VADQ3 (the northern Virginia region is in a watch for flow and groundwater). Please let us know if this information needs to be updated now or throughout the month by contacting Christine Howard at choward@mcog.org.

Utility Name	Drought Status			
	Normal	Watch	Warning	Emergency
Potomac River CO-OP System Water Supply Agencies				
Fairfax Water				
Washington Aqueduct				
Washington Suburban Sanitary Commission				
Potomac River CO-OP Water Wholesale / Distribution Agencies				
Loudoun Water				
Arlington County DFW				
DC Water				
City of Falls Church				
VA American Water (City of Alexandria and Dale City)				
Town of Herndon Department of Public Works				
Town of Vienna Public Works Department				
Other Water Supply Agencies				
Town of Middlestown, MD				
City of Bowie, MD				
Town of Brunswick, MD				
City of Frederick, MD				
Frederick County, MD				
Town of Mt. Airy, MD				
Town of Poolesville, MD				
City of Rockville, MD				
Town of Walkersville, MD				
Town of Myerstown, MD				
Charles County, MD				
City of Fairfax, VA - Warning - Stage 2 - Low level of Reservoir Creek Reservoir				
Town of Harrison, VA				
Town of Hillsboro, VA				
Town of Lovettsville, VA				
City of Manassas, VA				
Town of Middleburg, VA				
Town of Purcellville, VA				
Town of Round Hill, VA				
Town of Leesburg, VA				
State Agencies				
Virginia - Department of Environmental Quality (VADEQ) - Northern VA Region - Watch for Groundwater and Flow				
Maryland - Department of the Environment (MDE)				

Metropolitan Washington Council of Governments 777 North Capital Street NE, Suite 300 Washington, DC 20002
 Department of Environmental Programs - Water Resources - www.mcog.org/environment/water

Current Conditions

- ▶ **Most Recent Drought Monitor**
 - Normal/ no signs of drought
 - **Precipitation and Streamflow Levels**
 - Below normal – precipitation below by 2.0 inches
- **Groundwater Levels**
 - Normal across the region
- **Seasonal Drought Outlook**
 - Through January 2014 – no drought predicted



Drought Workshop and Next Steps for Plan

- Held a successful Drought Monitoring Workshop this past spring
 - Attendees included:
 - water utility general managers and staff
 - representatives from USGS, NOAA, and ICPRB
 - local and state drought planners
 - Developed common understanding of the Plan
 - Reviewed ICPRB roles and the CO-OP, state plans
 - Discussed the drought **Watch** trigger
- Outcome – Next Steps
 - Revisit Drought Watch Trigger of **NOAA 'D1'**
 - Revisit communication aspects of the Plan
 - Review water conservation messages
 - Time frame for updates – spring 2014

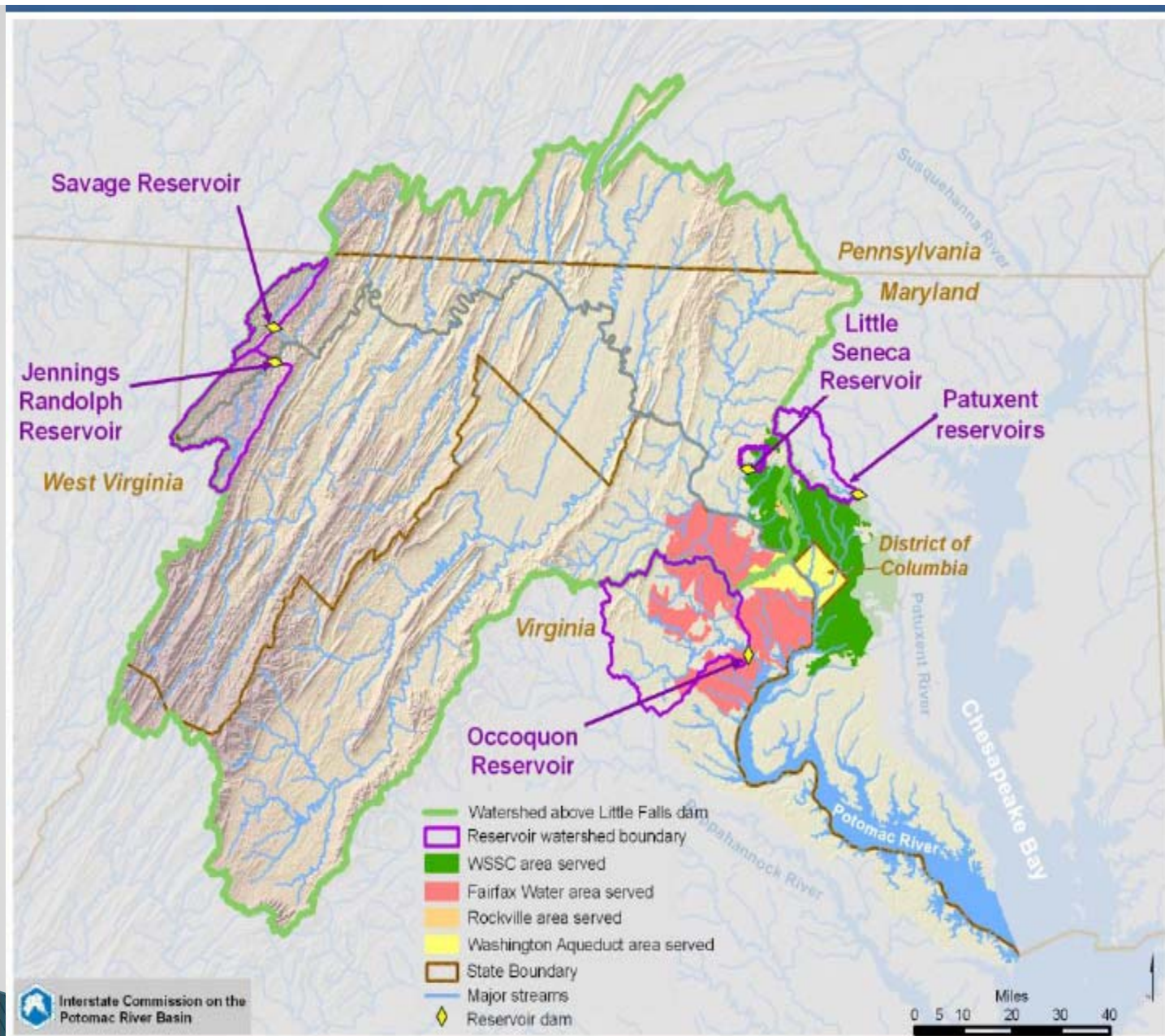


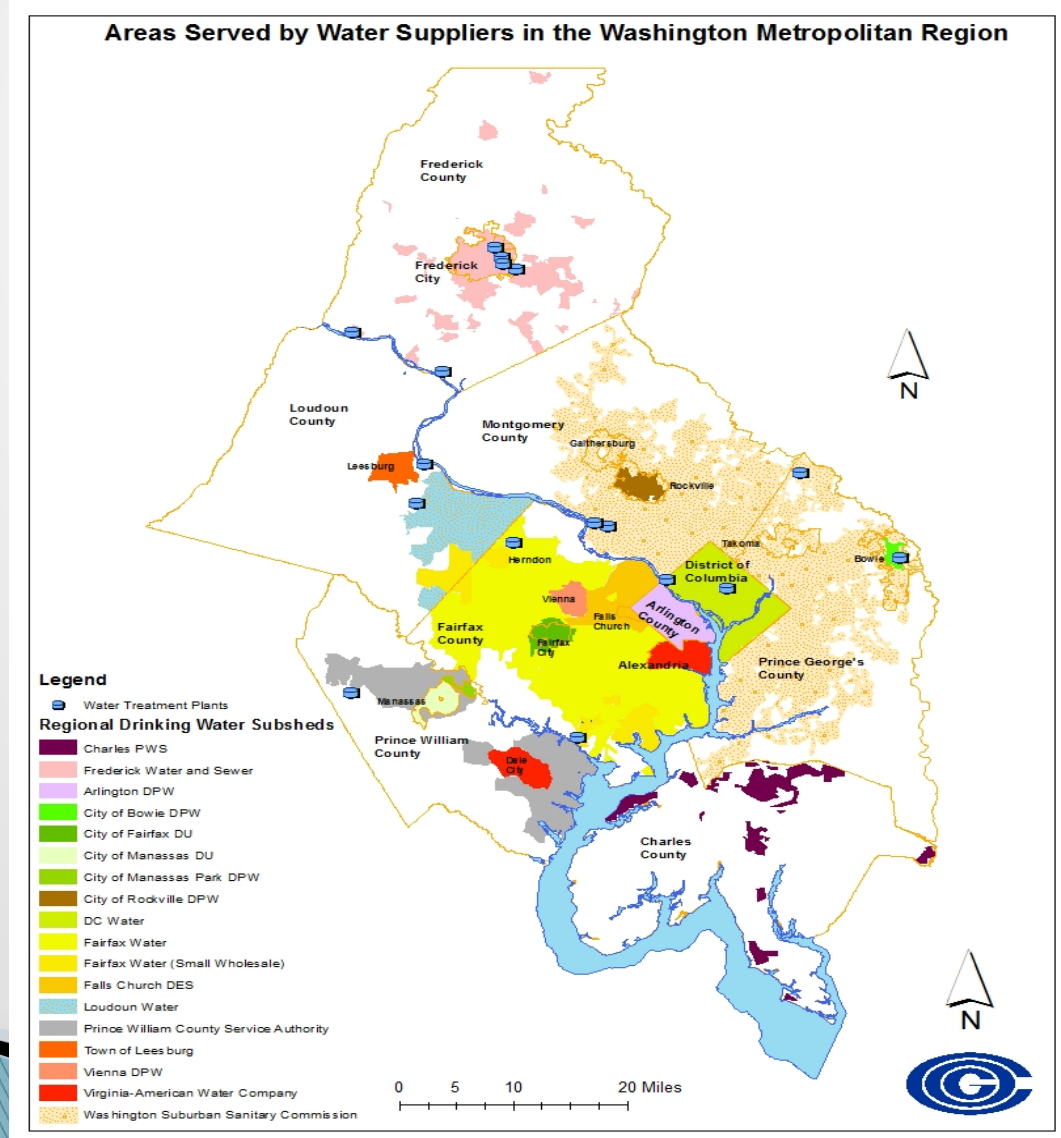
Figure 2: Map of the Potomac River basin, showing WMA water supply system resources and areas served by the WMA water suppliers.

Washington Aqueduct, serving the District of Columbia via the D.C. Water and Sewer Authority (DC Water), as well as portions of northern Virginia - Arlington County, the City of Falls Church, and the Town of Vienna.

Washington Suburban Sanitary Commission (WSSC), serving Montgomery and Prince George's counties in Maryland, and provides a limited amount of water to Howard and Charles counties, and water on an emergency basis to the City of Rockville and DC Water.

Fairfax Water, serving most of Fairfax County, Virginia, and the following wholesale customers in Virginia: Dulles International Airport, Fort Belvoir, Town of Herndon, Loudoun Water, Prince William County Service Authority, and the Virginia American Water Company (serving the City of Alexandria and Dale City).

Water Supply in the Region



Water Supply in the Region

▶ Potomac ¹CO-OP System

Three major water suppliers in the CO-OP provide 90%+ of region's treated water

- ²Fairfax Water - provides water to Fairfax County, Loudoun Water, Prince William County Service Authority, Vienna DPW, Virginia-American Water Company
- Washington Aqueduct Division - provides water to Arlington Department of Public Works, DC Water, Falls Church Department of Environmental Services
- Washington Suburban Sanitary Commission- provides water to most of Prince George's and Montgomery County
- Additional water supply sources in Potomac River System
 - Patuxent Reservoir, Occoquan Reservoir
 - Backup storage – Jennings Randolph Reservoir, Little Seneca Reservoir

Jurisdictions with their own water supply sources

- Bowie- groundwater
- ²Fairfax City
- Loudoun County Towns
 - Leesburg, Purcellville, Hamilton, Hillsboro, Lovettsville, Middleburg, Round Hill
- Manassas
 - Also supplies water to part of Prince William County
- Poolesville – groundwater
- Rockville – Potomac
- Charles County – groundwater, Potomac

¹ The CO-OP System is coordinated by the Interstate Commission on the Potomac River Basin under 1982 Agreement
Loudoun Water is in the process of constructing its own water treatment plant and coordinating with the CO-OP

² Fairfax Water is expected to incorporate the City of Falls Church and City of Fairfax service areas in 2014

Resources for Additional Information

- ▶ Christine Howard, COG Staff: choward@mwcog.org ,
202.962.3366
- ▶ COG's Drought and Water Supply:
http://www.mwcog.org/environment/water/watersupply/current_conditions.asp
- ▶ ICPRB's Drinking Water and CO-OP:
<http://www.potomacriver.org/drinking-water/water-supply?id=180>