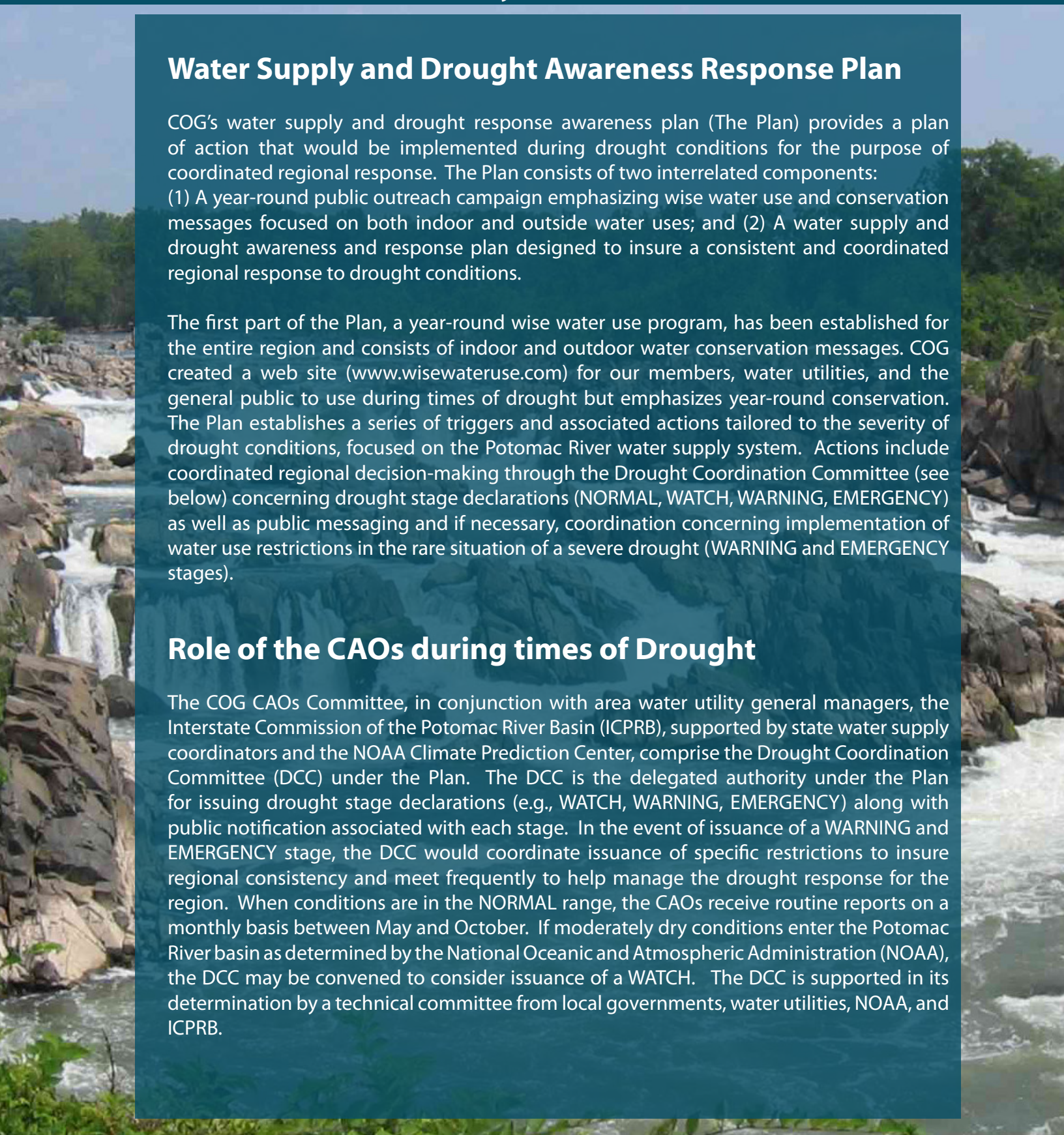
WATER SUPPLY AND DROUGHT AWARENESS RESPONSE PLAN FOR THE COG REGION

A Drought Primer for COG Chief Administrative Officers
May 1, 2014



Water Supply and Drought Awareness Response Plan

COG's water supply and drought response awareness plan (The Plan) provides a plan of action that would be implemented during drought conditions for the purpose of coordinated regional response. The Plan consists of two interrelated components: (1) A year-round public outreach campaign emphasizing wise water use and conservation messages focused on both indoor and outside water uses; and (2) A water supply and drought awareness and response plan designed to insure a consistent and coordinated regional response to drought conditions.

The first part of the Plan, a year-round wise water use program, has been established for the entire region and consists of indoor and outdoor water conservation messages. COG created a web site (www.wisewateruse.com) for our members, water utilities, and the general public to use during times of drought but emphasizes year-round conservation. The Plan establishes a series of triggers and associated actions tailored to the severity of drought conditions, focused on the Potomac River water supply system. Actions include coordinated regional decision-making through the Drought Coordination Committee (see below) concerning drought stage declarations (NORMAL, WATCH, WARNING, EMERGENCY) as well as public messaging and if necessary, coordination concerning implementation of water use restrictions in the rare situation of a severe drought (WARNING and EMERGENCY stages).

Role of the CAOs during times of Drought

The COG CAOs Committee, in conjunction with area water utility general managers, the Interstate Commission of the Potomac River Basin (ICPRB), supported by state water supply coordinators and the NOAA Climate Prediction Center, comprise the Drought Coordination Committee (DCC) under the Plan. The DCC is the delegated authority under the Plan for issuing drought stage declarations (e.g., WATCH, WARNING, EMERGENCY) along with public notification associated with each stage. In the event of issuance of a WARNING and EMERGENCY stage, the DCC would coordinate issuance of specific restrictions to insure regional consistency and meet frequently to help manage the drought response for the region. When conditions are in the NORMAL range, the CAOs receive routine reports on a monthly basis between May and October. If moderately dry conditions enter the Potomac River basin as determined by the National Oceanic and Atmospheric Administration (NOAA), the DCC may be convened to consider issuance of a WATCH. The DCC is supported in its determination by a technical committee from local governments, water utilities, NOAA, and ICPRB.

Drought Stages and Reporting

DROUGHT STAGES TRIGGERS AND ACTIONS

The table provides a synopsis of the four stages of the Plan – NORMAL, WATCH, WARNING, and EMERGENCY. The triggers that help guide declarations for each stage are noted, along with specific actions that are implemented once a stage is declared by the Drought Coordination Committee. The Drought Coordination Committee is responsible for declaring a stage, as well as declaring when conditions have returned to normal. It is also important to note that the triggers in the table are defined for the Potomac River water supply system; utilities using other sources of supply have their own criteria for drought stages for their systems. Yet, they are expected to follow the actions associated with the four stages in the Plan in terms of messaging and implementation of any water use restrictions.

Metropolitan Washington Water Supply and Drought Awareness Response Plan: Potomac River System

Adopted June 7, 2000

	Normal	Watch	Warning	Emergency
	Wise Water Use	Voluntary Water Conservation	Voluntary Water Restrictions	Mandatory Water Restrictions
Audience	Entire Metropolitan Washington Region	Entire Metropolitan Washington Region	Customers of Co-op System, associated local governments, media	Customers of Co-op System, associated local governments, media
Trigger	• None – water supply adequate to meet all demands	• NOAA "D1" drought level in Potomac River Basin (adopted on a *provisional 2-year basis and will be re-assessed during this time period)*	• Combined water supply storage at Jennings Randolph and Little Seneca reservoirs drops to 60% of capacity for 5 consecutive days; lifted when combined water storage at reservoirs increases and remains above 60% for a period of 15 days; OR • 5% Probability of not meeting unrestricted water supply demands over next 1 – 2 months	• 50% probability of not being able to meet water supply demands over next month
Actions	• Year round Water Conservation Program emphasizing "**Wise Water Use**" (Attachment B) • Routine reporting - Annual briefing in May - Monthly Water and Drought Outlooks (June-Oct.)	• Meeting of the Drought Coordination Committee • Regional media briefing/media communications; • **Announce voluntary water conservation recommendations** • Detailed water supply and drought status reporting; outline of next steps in plan; • Inform public that Potomac River Co-op Water Supply is adequate to meet unrestricted demands	• Meeting of the Drought Coordination Committee • **Announcement of voluntary water restrictions** (see attachment C-illustrative list) • Regional media briefing on a weekly basis/ongoing media communications	• Meeting of the Drought Coordination Committee • **Announcement of mandatory water restrictions** (see attachment C-illustrative list) • WAD assigns allocations to Potomac River utilities (per Low Flow Allocation Agreement) • Regional press conference on daily basis; ongoing media communications • Water supply reporting on a daily basis

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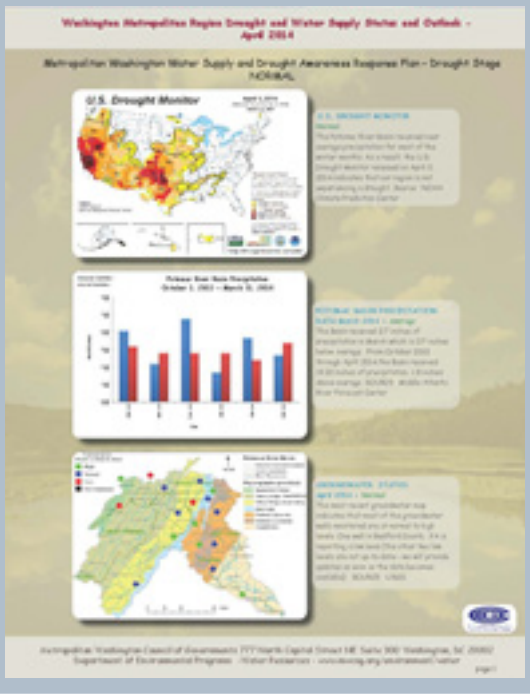
LAST DROUGHT WATCH DECLARED IN 2010

Due to unusually dry conditions, COG's DCC declared a drought 'WATCH" in September 2010. A press release was issued that urged residents and businesses to conserve water and use water wisely. It also emphasized that water supply reservoirs constructed in the early 1980s to provide water during droughts were full but would be utilized if needed.. The WATCH ended when Tropical Storm Lee hit the region.

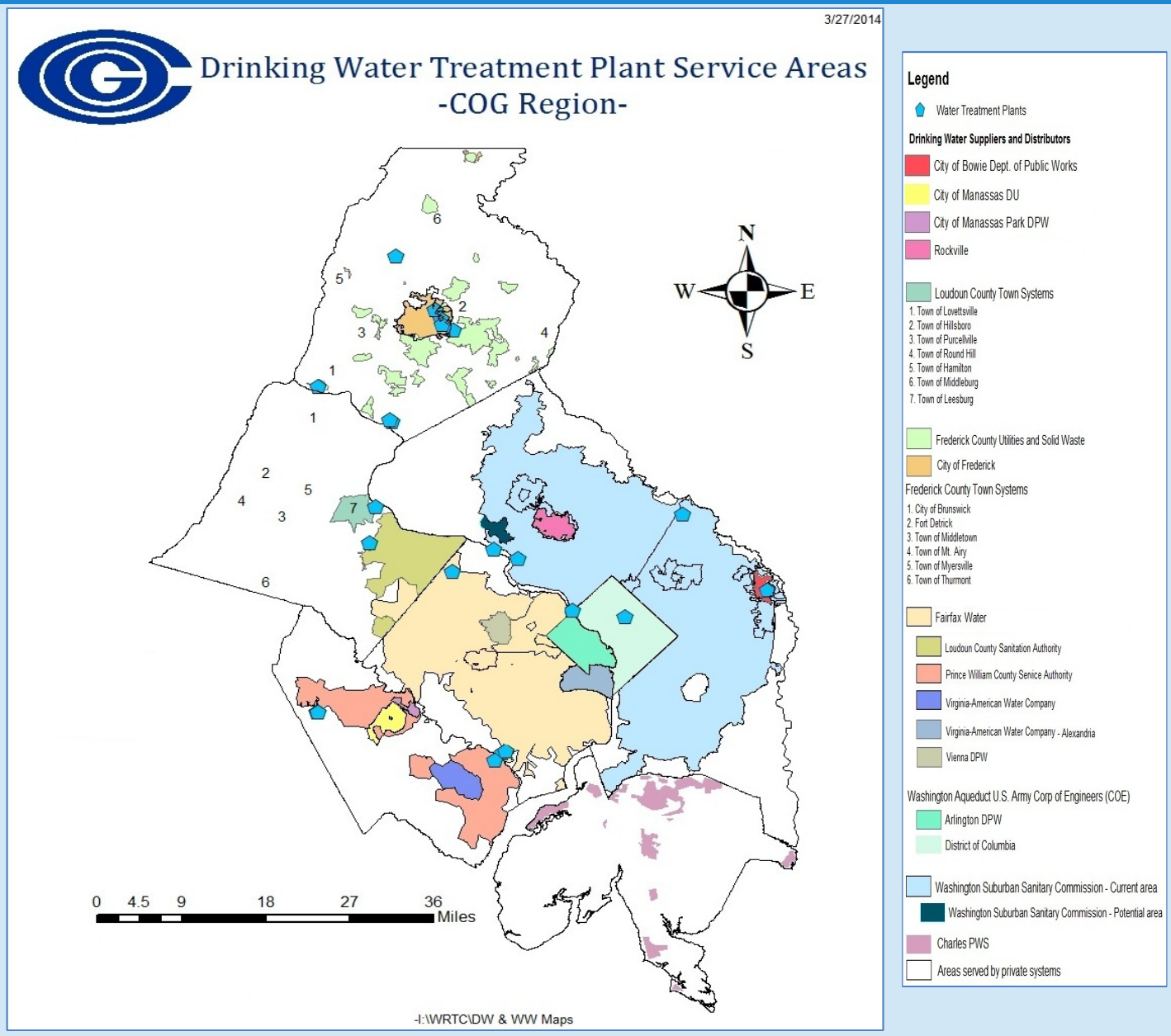
COG's Water Supply and Drought Report



COG issues monthly reports during the drought monitoring season (typically from May—October) unless conditions deteriorate and additional reporting is needed. The report is a snapshot of current water supply and drought monitoring conditions in the Potomac River Basin along with an outlook for the next several months, including:

- The current U.S. Drought Monitor issued by NOAA
- Precipitation data
- Groundwater levels
- Seasonal drought outlooks—prediction tools issued by NOAA
- Streamflow data for Little Falls and Point of Rocks
- Current regional water supply status

Water Supply in the COG Region



The Washington metropolitan region gets nearly 75% of its drinking water from the free flowing Potomac River. Additional sources of water include the Patuxent and Occoquan reservoirs, as well as a number of additional small surface and ground water sources. During periods of low flow in the Potomac River, the Jennings Randolph Reservoir in West Virginia and the Little Seneca Reservoir in Montgomery County may be utilized to augment Potomac River flow to insure sufficient drinking water supply.

Three major water supply agencies furnish about 95% of the metropolitan region's water. These are the Washington Aqueduct of the U.S. Army Corps of Engineers (WAD), Fairfax Water (FW) and the Washington Suburban Sanitary Commission (WSSC). Other agencies in our region supply the remaining 5% of the water. Some parts of the region are supplied by utilities that purchase water wholesale from one or more of the three large water utilities mentioned above.

During times of drought, natural flows on the Potomac may not always be sufficient to meet water supply needs while still maintaining a minimum flow in the river for sustaining aquatic resources. In such cases, a cooperative entity staffed by the Interstate Commission on the Potomac River Basin coordinates the management of the water system as a whole. This group is known as the Section for Cooperative Water Supply Operations on the Potomac (CO-OP), and is formally associated with the three major supply agencies by the Water Supply Coordination Agreement of 1982.

The three major supply agencies have paid for water storage held in reservoirs in the Potomac Basin, which can augment water supply during low flow conditions so that the region's water supply demands are met while also meeting the Potomac River environmental flow-by requirements. Jennings Randolph Reservoir in the upper reaches of the Potomac River Basin stores 13 billion gallons of water that may be allocated to water supplyaugmentation. Water released from Jennings Randolph travels for 7-9 days during periods of significant drought before reaching the Washington metropolitan region. Located in Montgomery County, Little Seneca Reservoir has 4 billion gallons of storage, which can quickly augment flow in stretches of the Potomac where the intakes for the major supply agencies are located.

Frequently Asked Question about Regional Water Supply

What prompted the development of the Plan?

In 1999, the COG Board of Directors established a "Task Force on Water Supply Issues" during one of the most severe periods of drought in the 20th century The Task Force was established to find a way to improve communication and coordination among local and state governments, water supply utilities, the media and general public in the event of another serious drought in the future. The Plan was developed as a result. The Task Force included a year-round program promoting wise water use as an integral part of the new regional plan.

What is the CO-OP?

The Section for Cooperative Water Supply Operations of the Interstate Commission on the Potomac River Basin (CO-OP) began in the early 1960s and has helped maintain adequate water supply for the region's growing population. The CO-OP was created to coordinate water supply operations of the three independent water suppliers (Fairfax Water, Washington Aqueduct, WSSC) in the Washington, D.C. area during times of drought. During times of low Potomac River flows the CO-OP may post monitoring updates on current available water resources. In drought years, the CO-OP coordinates releases from regional reservoirs to ensure that water supply needs are met, along with maintaining Potomac River environmental flow-by.

What are the minimum environmental flow requirements for the Potomac River?

As water withdrawals from the Potomac River began to increase to meet the needs of the watershed's growing populations, concerns were raised about the potential consequences of such withdrawals on the Potomac River ecosystem. In 1981, the Potomac River Environmental Flow-by study was created to establish a minimum flow needed to protect its aquatic resources. The Potomac River minimum low-flow or flow-by requirement at Little Falls is 100 million gallons per day (mgd) and 300 mgd at Great Falls. To ensure that flows do not drop below these protective levels, natural flows in the river are augmented with water releases from several impoundments in the basin, as needed.

How many reservoirs are coordinated by the CO-OP and how much water can they hold? (bg—billion gallons)

Jennings Randolph – 13.4 bg (back up reservoir)
Little Seneca – 3.9 bg (back up reservoir)
Occoquan – 8.0 bg (daily use)
Patuxent – 10.2 bg (daily use)

NOTE: Loudoun County has approved of the use of Luck Stone's quarry located north of the W&OD Trail and east of Goose Creek for Water Banking. It is anticipated that approximately 1 billion gallons of water will be able to be stored in this quarry alone once mining operations are complete in the 2017-2020 timeframe. Fairfax Water is developing a plan to create a water supply reservoir at Lorton's Vulcan Quarry.

Can you tell me about the major water utilities in our area?

The Washington Aqueduct serves the District of Columbia via the DC Water, as well as portions of northern Virginia - Arlington County, part of Fairfax County and the Town of Vienna. WSSC serves Montgomery and Prince George's counties in Maryland, and provides a limited amount of water to Howard and Charles counties. Water is also provided on an emergency basis to the City of Rockville and very limited amounts to DC Water. Fairfax Water provides water to nearly 2 million people in the Northern Virginia communities of Fairfax, Loudoun, Prince William and Alexandria

Have we ever issued a Warning or Emergency? If so, when?

Since the regional plan was adopted, the region has declared a WATCH three times. It has not been necessary to declare a WARNING or EMERGENCY for the Potomac River system. However, in 2002, the combined reservoir storage in Jennings Randolph and Little Seneca briefly dropped to levels approaching the WARNING trigger, but due to sufficient rainfall it was not necessary to implement this stage of the plan. Since 2000, several smaller systems have briefly declared WARNING or EMERGENCY stages due to limited rainfall and less resilient water supply systems.

For additional resources please visit COG"s water supply and drought website at:

http://www.mwcog.org/environment/water/watersupply.asp