MWRA Drought Status and Planning

Northeast Drought and Climate Outlook Forum
Umass Boston October 11, 2015

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MWRA Service Area

- MWRA provides wholesale water and wastewater services to over 2.5 million customers in 61 communities
- On average, MWRA delivers about 200 million gallons per day to its water customers
- MWRA collects and treats an average of 350 million gallons of wastewater per day, with a peak capacity of 1.2 billion gallons

The Reservoirs – Vast and Crystal Clear

Quabbin Reservoir

- Storage: **412 billion gallons**
- Depth: 150 feet
- Length: 17.9 miles
- Width: 3 miles

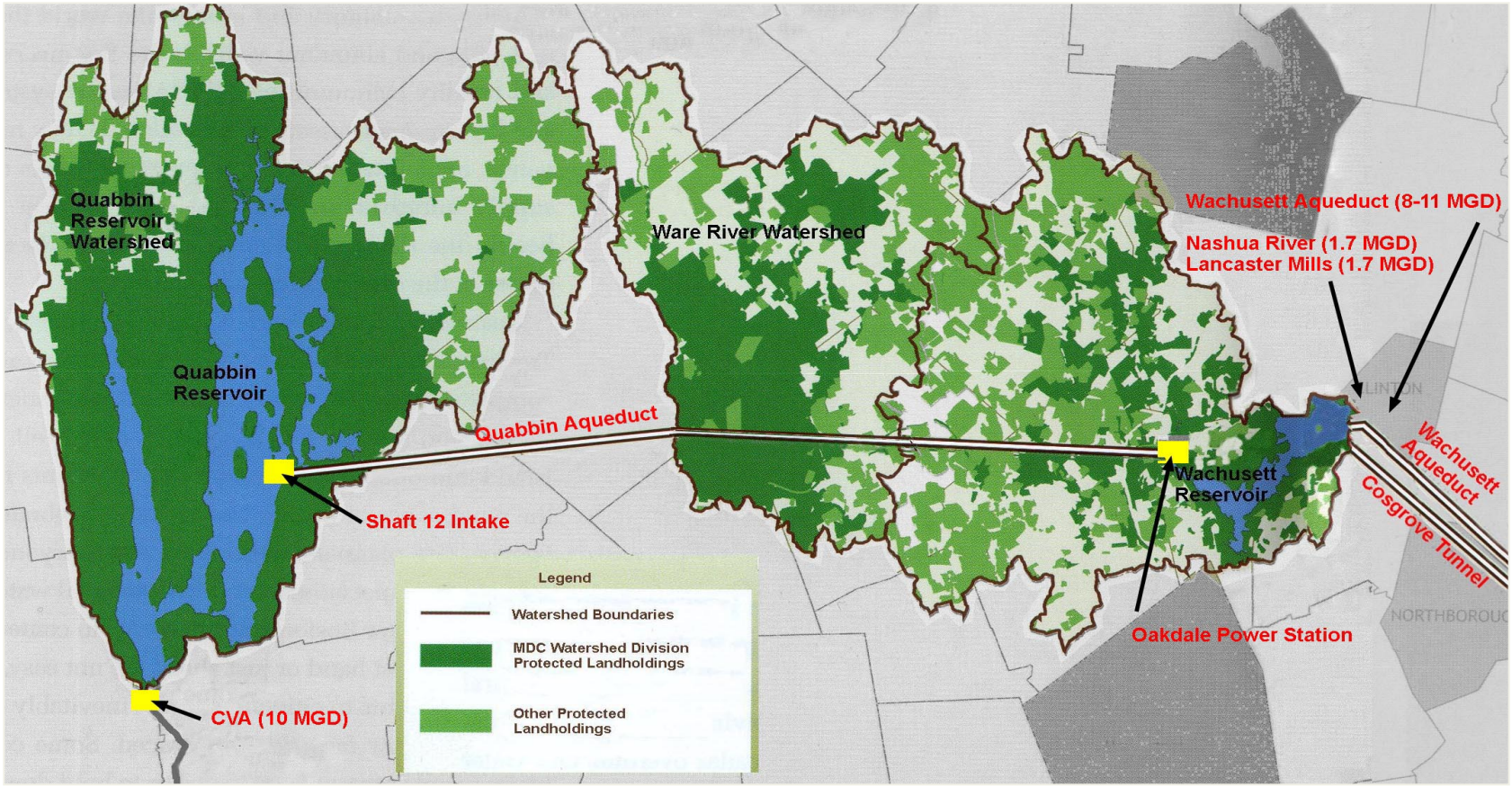
Wachusett Reservoir

- Storage: **65 billion gallons**
- Depth: 129 feet
- Length: 8.5 miles
- Width: 1 mile

Total Storage: **477 billion gallons**

The Watersheds – 400 square miles of protected lands

- So well protected, the Safe Drinking Water Act requires only disinfection

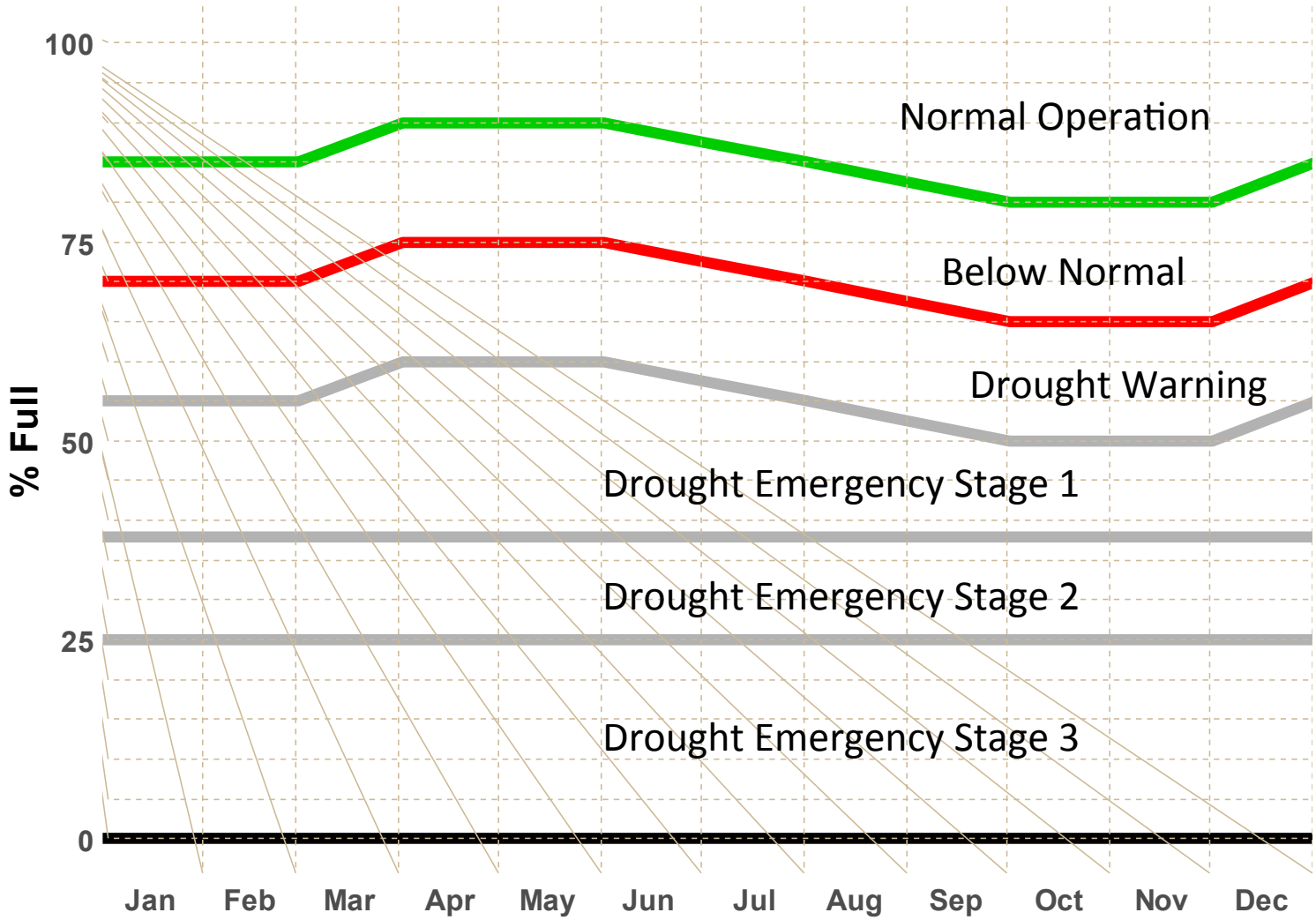


State Plan Monitors Many Criteria – MWRA Only 1

- **Massachusetts Drought Plan Criteria**
  - Crop Moisture Index
  - Standardized Precipitation Index (includes soil moisture)
  - Keetch-Byram Drought Index (Forest Fires)
  - Precipitation
  - Groundwater Levels
  - Streamflows
  - Reservoir Storage

- **MWRA Drought Plan Trigger**
  - Quabbin Reservoir Storage Volume

MWRA's Drought Management Plan Seasonal Triggers



MWRA Drought Management Stages

Stage	Target Water Use Reduction
Normal Operation Below Normal Drought Warning	0 Previous year's use (Voluntary) 5% (Primarily Voluntary)
Drought Emergency Stage 1 Stage 2 Stage 3	(Mandatory Restrictions) 10% 15% 30%

Worcester's Quinapoxet Reservoir – 11 Percent Full

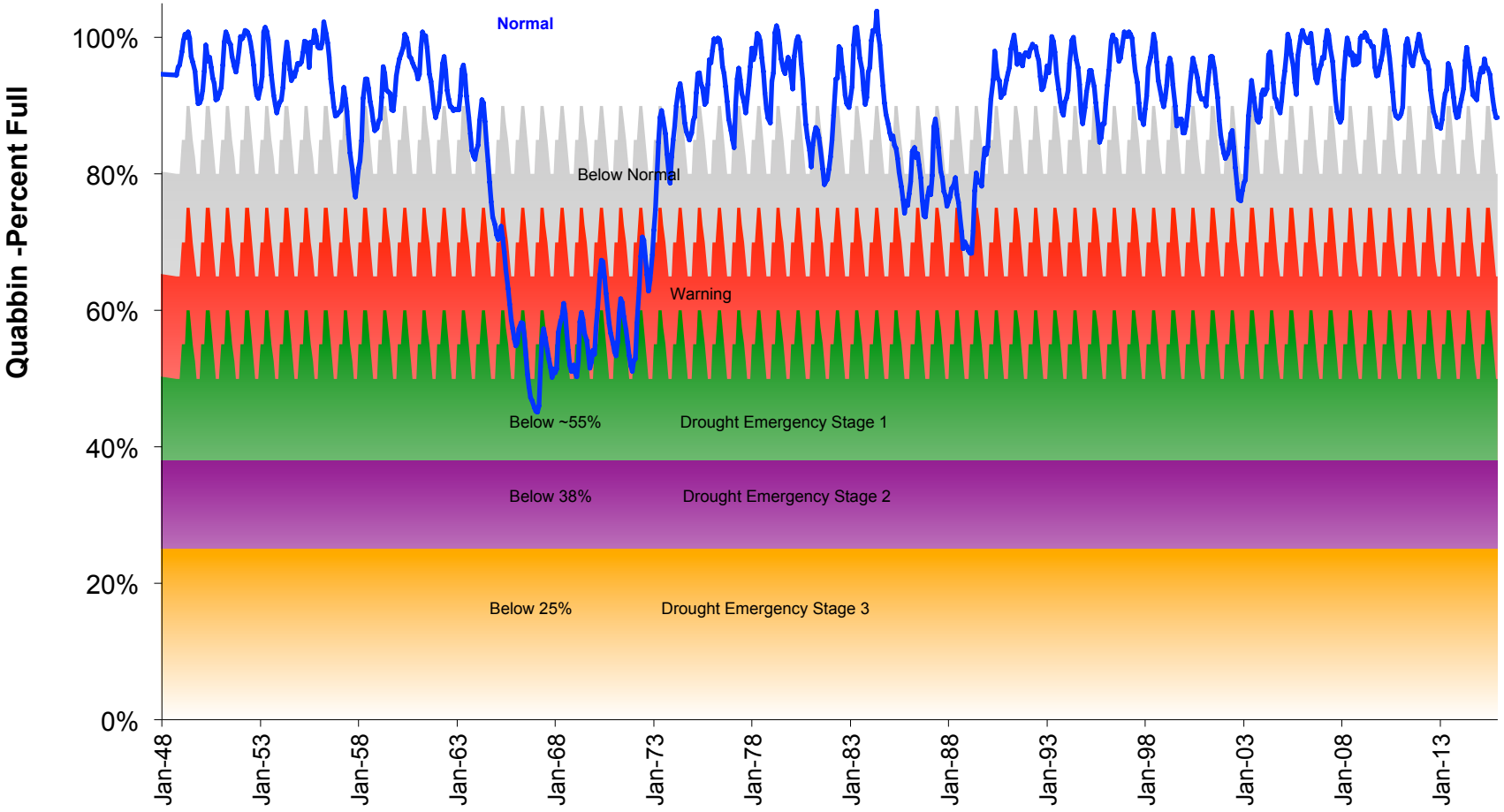
Quabbin Reservoir – 82.2 Percent Full
398 Billion Gallons in Quabbin and Wachusett Reservoirs

Quab Cam at www.mwra.com

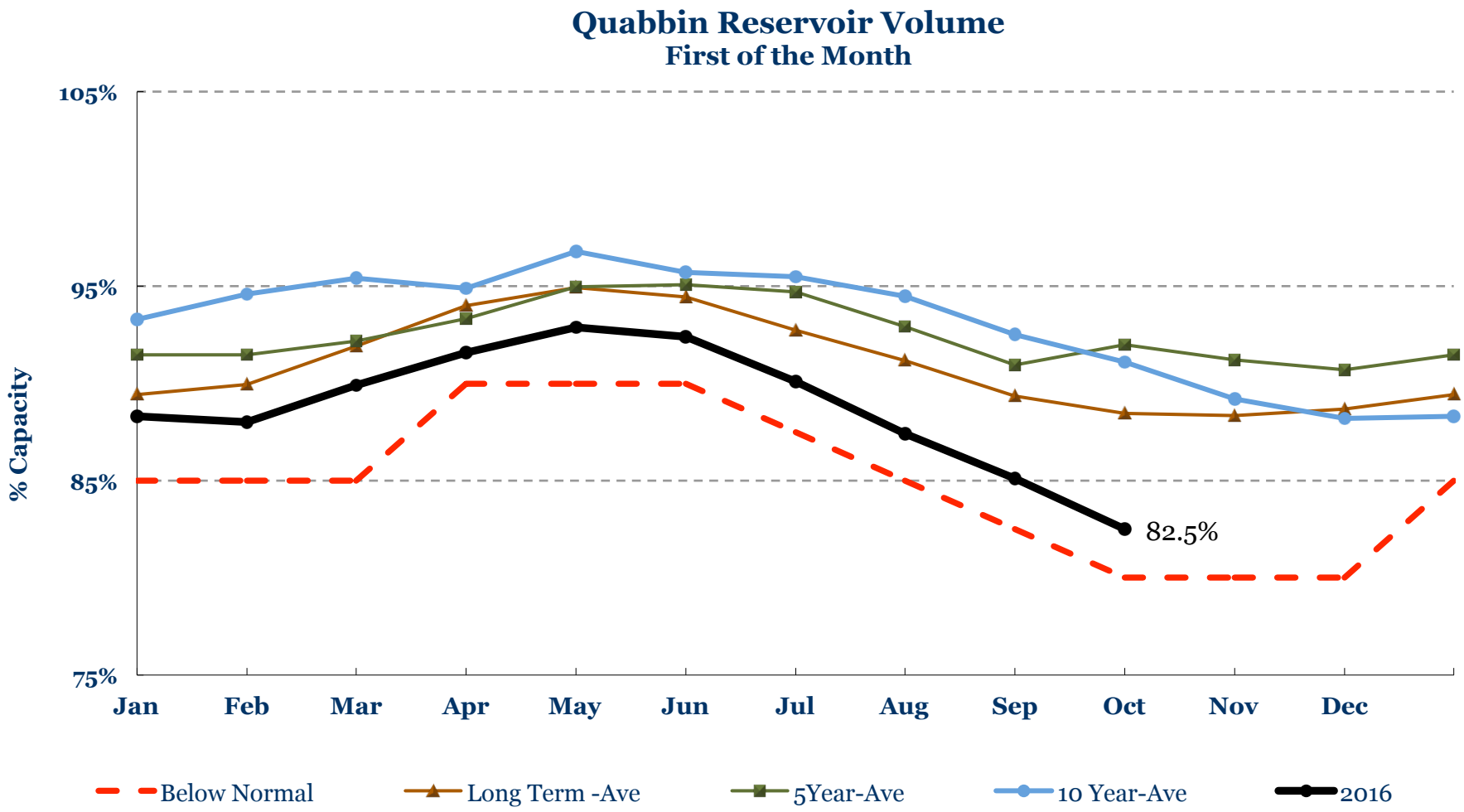
MWRA Has a Multi-Year Reservoir

System	System Storage (BGal)	Drainage Area (Sq miles)	Safe Yield (mgd)	Storage/Safe Yield (Yrs)
Cambridge, MA	4.4	24	24.6	0.5
MWRA	477	390	300	**4.4**
New York City	548	1956	1290	1.2
Springfield, MA	22.8	48.5	79	0.8

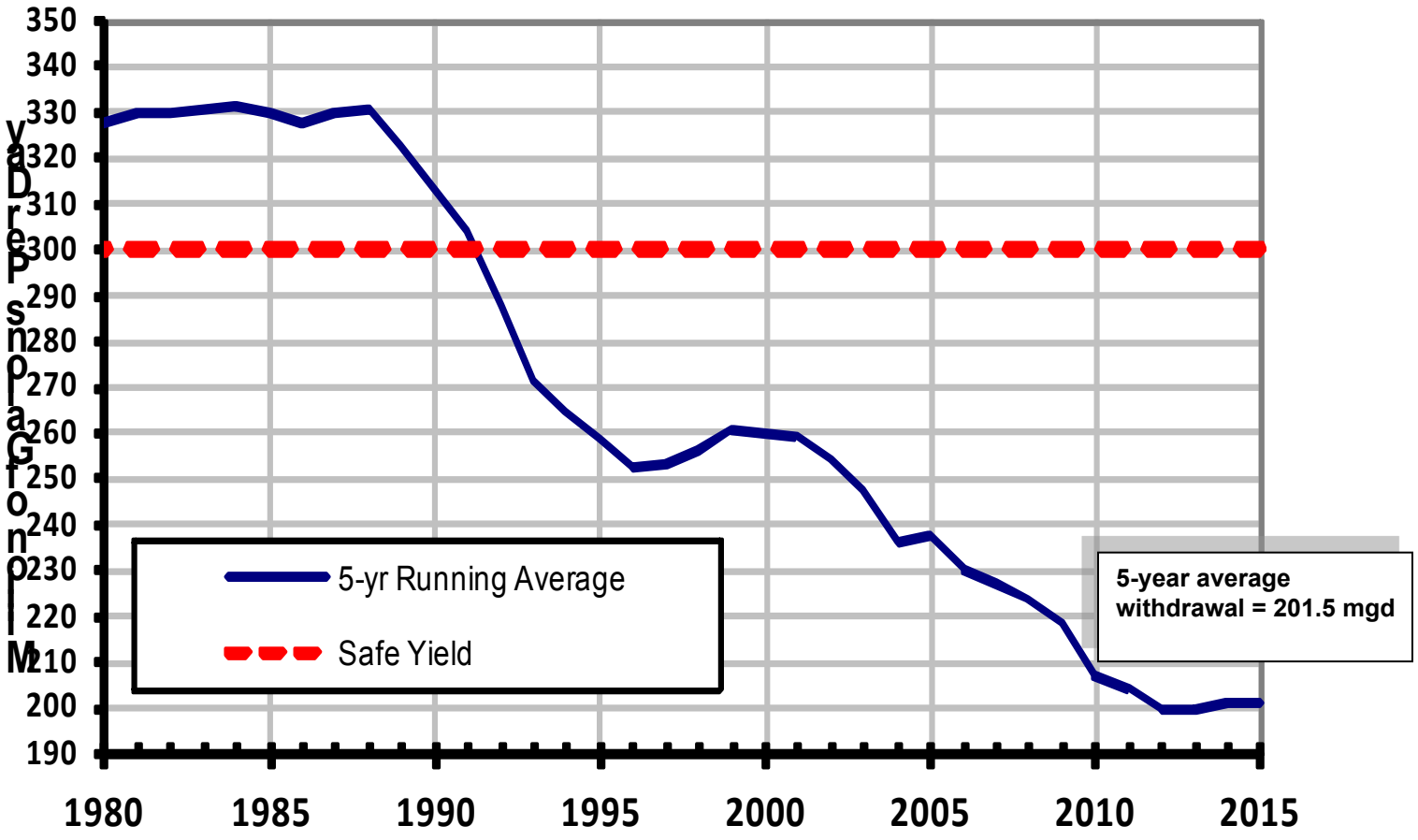
Quabbin's Longer-Term Track



Current Conditions



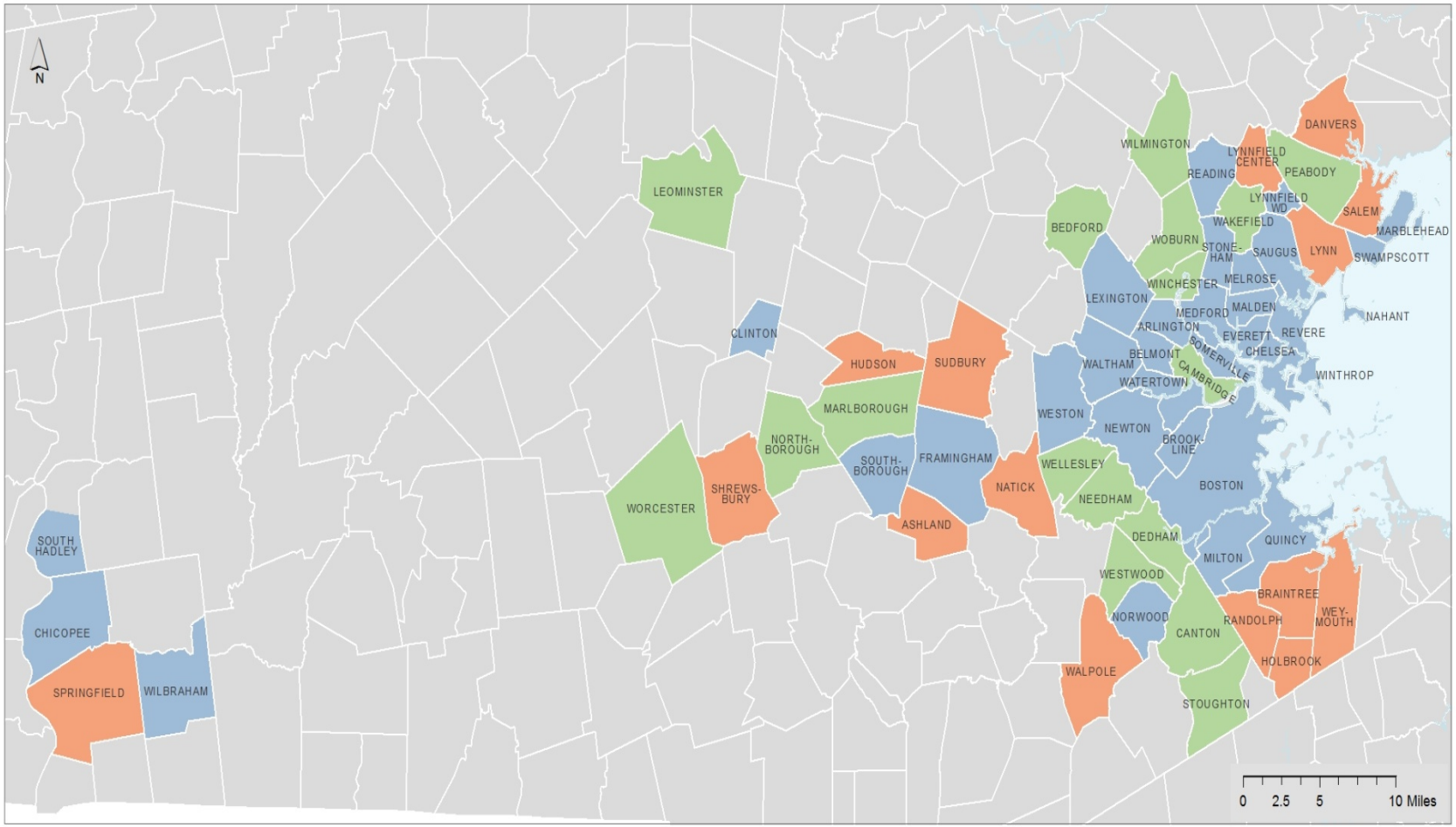
MWRA's Success With Demand Reduction



Status Looking Forward from October 1, 2016

	1-Month	3-Months	6-Months	12-Months
Median Yield	Normal	Normal	Normal	Normal
Dry (75th Percentile)	Normal	Normal	Below Normal	Normal
Driest (of Record)	Normal	Below Normal	Below Normal	Below Normal

Who Can We Help?

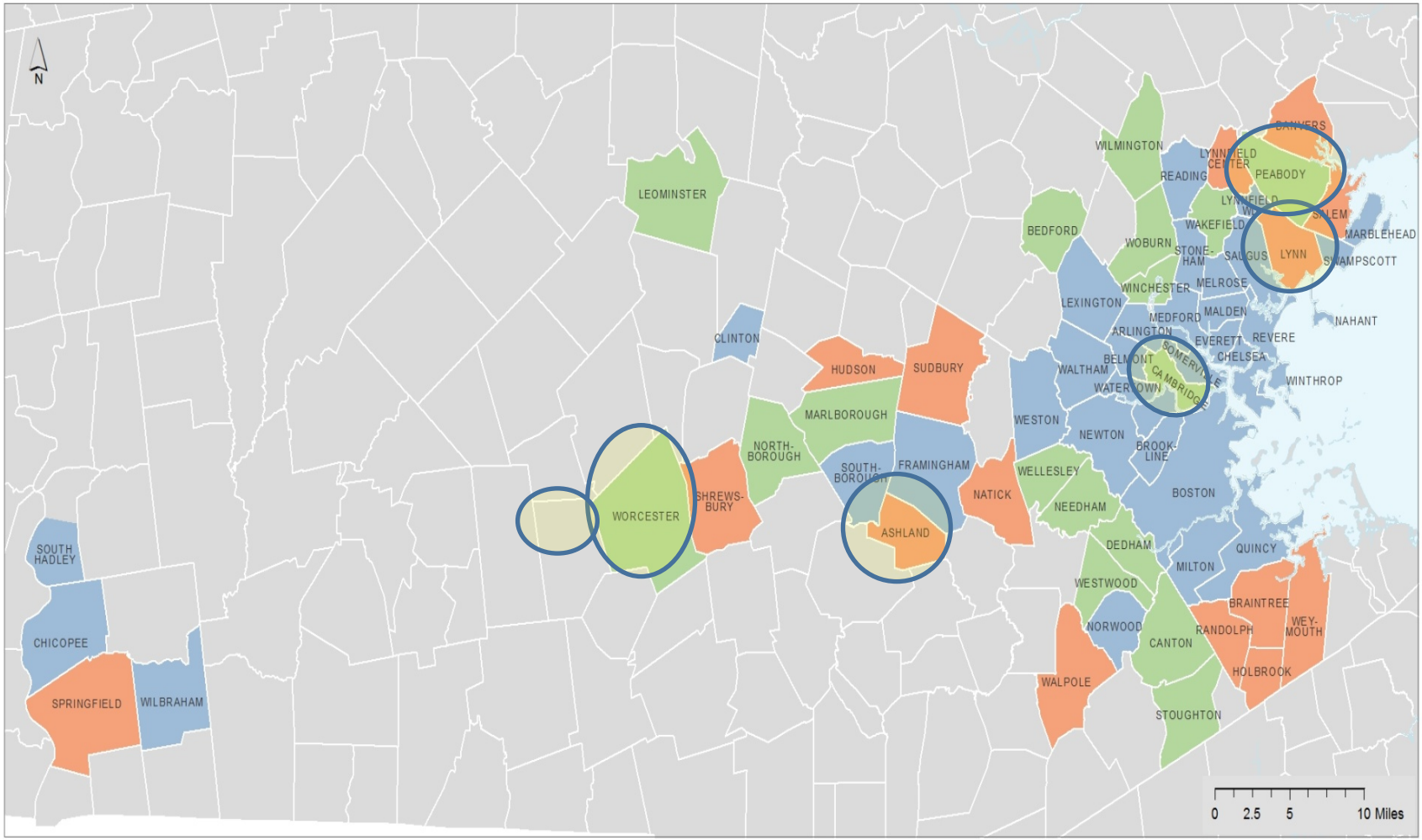


MWRA Fully Supplied Communities

MWRA Partially Supplied Communities

Potential for Assistance

Communities Activating or Close to Activating Emergency Connections



MWRA Fully Supplied Communities

MWRA Partially Supplied Communities

Potential for Assistance

- **Quabbin in Normal Operating Range.**

- **Even if drought extends several years:**
  - **Can supply all fully and partially supplied communities**
  - **Able to provide assistance to neighboring communities**

- **Asking our customers to use water wisely and efficiently.**

Questions or Comments?

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