

THE MASSACHUSETTS WATER RESOURCES COMMISSION

2021 ANNUAL REPORT

The Commonwealth of Massachusetts

Charles D. Baker, Governor | Kathleen A. Theoharides, Secretary, Executive Office of Energy and Environmental Affairs

MEET THE WATER RESOURCES COMMISSION

THE COMMISSION'S ROLE AND STRUCTURE

The Water Resources Commission (Commission or WRC) was established in 1956 by the Massachusetts Legislature and is responsible for developing, coordinating, and overseeing the Commonwealth's water policy and planning activities to ensure that Massachusetts will have plentiful water to support health, safety, economic development, and ecological vitality for generations to come.

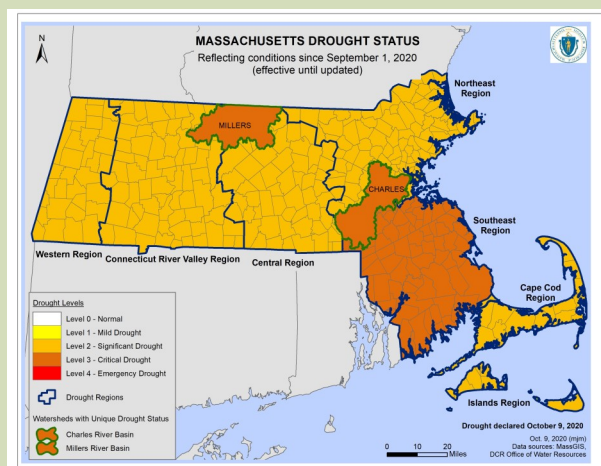
The eleven-seat Commission includes five public members and appointees from six state agencies.

The Commission's Executive Director, based at the Executive Office of Energy and Environmental Affairs (EEA), and its technical staff, based at the Department of Conservation and Recreation's (DCR) Office of Water Resources, work with state and federal agencies and members of the public to support the Commission's work.

RESPONSIBILITIES OF THE COMMISSION

The responsibilities of the Commission, highlighted below and described in this report, establish the scientific and policy foundation for the sustainability of Massachusetts' water resources.

- Establish statewide Water Conservation Standards and policies to encourage efficient use of water
- Administer the Interbasin Transfer Act
- Cooperate with the United States Geological Survey (USGS) and manage the statewide precipitation network to provide real-time water data for monitoring and research
- Approve the Massachusetts Drought Management Plan, monitor hydrologic conditions, and advise the state Drought Management Task Force during drought
- Provide water needs forecasts for communities' long-range planning and permits
- Develop and provide a forum for public input, coordination, and diverse viewpoints on current and long-term water policies and issues at monthly meetings



PROGRAM DESCRIPTIONS AND FY2021 WORK

TRACKING HYDROLOGIC CONDITIONS AND ADVISING ON DROUGHT

WRC staff monitors and analyzes hydrologic conditions monthly and produces a report covering precipitation trends, streamflows, groundwater levels, lakes and impoundments levels, and other hydrologic data. Staff uses these data to monitor for droughts, inform the WRC at its monthly meetings, and, as needed, advise the state's Drought Management Task Force (DMTF).

Of the hydrologic monitoring networks, staff manages the precipitation network, which provides data from 50 active stations in Massachusetts and has been in operation since 1956. Other networks are operated cooperatively with the U.S. Geological Survey (USGS).



Wenham Lake,
2020 Drought

In FY2021, the DMTF continued to meet in response to the drought that started in May 2020. At the height of the drought in September, a combination of low precipitation and a record warm summer resulted in a Level 3 drought in the Southeast region and Charles River and Millers River watersheds. All other regions reached a Level 2 drought. The rapid onset and later rapid intensification of the drought was similar to the flash drought characteristics seen in the 2016 drought. By December, all regions were declared normal. However, remaining deficits in groundwater combined with above-normal temperatures at the start of 2021 resulted in renewed drought declarations from February to beyond the end of FY2021 in June.

WRC staff continued to work with the Northeast Regional Climate Center at Cornell University to develop a **Drought Dashboard** – a web-based tool to provide data and maps of drought indices, hydrologic conditions, and drought monitoring. This tool will enhance data processing capabilities and analyses for Drought Management Task Force meetings.

THE USGS COOPERATIVE PROGRAM

The U.S. Geological Survey and the state have had a cooperative, hydrologic monitoring partnership since 1904. The program currently maintains and provides data from the following stations: 58 real-time streamflow, 66 manual and 42 automated groundwater, 5 precipitation, 3 tidal, and one soil moisture. State staff from MassDEP and DCR and Steve Mabey, the state geologist, and his students from UMass Amherst perform the monthly manual measurements at groundwater wells.

In FY2021, staff applied for and was awarded a National Groundwater Monitoring Network (NGWMN) grant to upgrade the 32 remaining manually measured wells in the Climate Response Network to real-time measurement and data provision and to update the NGWMN well characteristics database. Work will begin in FY2022.



Flooding in Scituate, February 2021 (CZM Storm Reporter)

FLOOD HAZARD MANAGEMENT PROGRAM

Executive Order 149 designated the Commission as the state coordinating agency to implement the National Flood Insurance Program (NFIP). Through the Commission's Flood Hazard Management Program (FHMP), staff provides technical assistance to NFIP communities on a wide range of matters, including floodplain management best practices, flood-resistant standards for construction, floodplain mapping issues, flood insurance questions, and mitigation options to reduce flood losses.

Highlights of the FHMP in FY2021 include:

- 22 community assistance visits and 15 training events
- Nearly 690 general technical assistance contacts to help Massachusetts' 341 NFIP communities
- Implementation of an updated MA Model Floodplain Bylaw to assist NFIP communities with federal compliance
- Engagement in the roll-out of FEMA's new Risk Rating 2.0 methodology for rating flood insurance policies across the nation
- Coordination with state, national, federal and local partners to monitor and review floodplain development, mitigation projects, and local and regional resiliency efforts
- Coordination with other DCR leaders on agency-wide climate adaptation measures.

PL566 Small Watershed Protection Program

This program continues to oversee the operation, maintenance, and repair of state-owned PL566 flood control lands across the Commonwealth.

THE INTERBASIN TRANSFER ACT (ITA)

The ITA protects Massachusetts' vital water resources and the communities that rely on them by requiring WRC review of proposals to transfer water or wastewater between river basins. It ensures:

- Hydrology and environmental resources in the donor basin are protected
- The receiving basin is using water as efficiently as possible
- The process is transparent and promotes robust public input

In FY2021, the Commission voted to approve the following projects:

- The Town of North Reading's Application to Increase the Present Rate of Interbasin Transfer of Water from the Town of Andover, and
- The Town of Burlington's Application for Approval of an Action to Increase the Present Rate of Interbasin Transfer of Water from the MWRA System.

Additionally in FY2021, staff:

- Presented on proposed updates to the Interbasin Transfer Act Performance Standards for water rates and billing, and
- Monitored continued compliance with conditions for previously approved ITA projects.



Browns Brook, showing effects of 2020 drought and recovery between 9/15/20 and 12/1/20.

Photos: Kate Bentsen, DER

WATER NEEDS FORECASTS

Commission staff works with public water suppliers to develop 15- to 20-year water needs forecasts, using a methodology approved by the Commission. The forecasts are used by suppliers in applying for Water Management Act (WMA) permits and in long-range planning.

In FY2021, WRC staff consulted with MassDEP and ten public water suppliers in eight river basins (Blackstone, Buzzards Bay, Concord, Ipswich, Merrimack, Nashua, Parker, and Westfield basins) to review, revise, or prepare new water needs forecasts.

WATER CONSERVATION STANDARDS

The Commission established the Massachusetts Water Conservation Standards (WCS) in 1992, setting statewide goals for water-use efficiency and providing guidance for effective conservation.

In FY2021, staff launched the water conservation toolkit. The website targets a wide range of water users, including residents, businesses, water suppliers, planners and other municipal officials, institutions, agricultural entities, and educators. Branded “Conserve MA Water” (www.mass.gov/conservemawater), the website features Massachusetts-specific guidance on actions users can take to reduce their water use. It features tools and outreach material that can be easily downloaded and shared.



Additionally, staff presented to the Commission and members and the public key components of the best management practices guide: *Collecting, Managing, and Analyzing Water Use Data*. This guide was developed by WRC staff, Tighe and Bond, and Amy Vickers and Associates, with funding and technical assistance from the Division of Ecological Restoration, in FY2019-20, to support the Water Conservation Standards.

OVERSIGHT OF STATE WATER PROGRAMS

By statute, the Commission reviews certain water regulations promulgated by the Department of Environmental Protection (DEP), and other water resource-related programs, providing a forum for public comment.

In FY2021, the Commission heard a presentation and discussion on proposed regulatory changes to the Massachusetts Surface Water Quality Standards (314 CMR 4.00).

WEBLINKS

Interbasin Transfer Act: www.mass.gov/interbasin-transfer-act

Water Data Tracking: www.mass.gov/info-details/water-data-tracking

Drought: <https://www.mass.gov/drought-monitoring>

Flood Hazard Management Program: www.mass.gov/guides/floodplain-management

Water Needs Forecasts: www.mass.gov/doc/water-needs-forecast-policy-and-methodology/download

Water Conservation Standards: www.mass.gov/service-details/details-on-the-2018-massachusetts-water-conservation-standards

Massachusetts Water Conservation Toolkit: mass.gov/conservemawater

USGS: www.mass.gov/cooperative-water-resource-planning-program

KEY CONTACTS

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COMMISSION MEMBERS AND KEY CONTACTS

AGENCY MEMBERS:

Executive Office of Energy and Environmental Affairs

Chair & Member -

Kathleen Theoharides, Secretary

Designee - Vandana Rao,

Commission Executive Director

Department of Housing and Community Development

Member - Jennifer Maddox, Undersecretary

Designee - Linda Balzotti

Department of Conservation and Recreation

Member - Jim Montgomery, Commissioner

Designee - Anne Carroll

Department of Environmental Protection

Member - Martin Suuberg, Commissioner

Designee - Kathleen Baskin

Department of Agricultural Resources

Member - John Lebeaux, Commissioner

Designee - Hotze Wijnja

Department of Fish and Game

Member - Ronald Amidon, Commissioner

Designee - Todd Richards

Office of Coastal Zone Management (non-voting member)

Member - Lisa Berry Engler, Director

Designee - Todd Callaghan

PUBLIC MEMBERS:

Thomas Cambareri, Centerville, MA

Marcela Molina, Boston, MA

Vincent J. Ragucci III, North Reading, MA

Kenneth Weismantel, Hopkinton, MA

Samantha Woods, Norwell, MA



Photo by Anne Carroll