Announcements:
- If WebEx crashes, this meeting will be rescheduled for next week.
- Note that this meeting is being recorded for later posting.
- Please hold questions till the end to ensure we have time to cover all material.
New Hampshire Drought Management Team (DMT)  
Agenda  
September 3, 2020 – 2:30 PM  
WebEx

Introductions of Presenters and Agenda – Commissioner Scott NHDES

Current Drought conditions and Forecast for New Hampshire, Mary Stampone, UNH – State Climatologist

Drought Impacts

- Rivers and Streams, Ted Diers, Administrator, Watershed Bureau, Water Division, NHDES
- Reservoirs, Jim Gallagher, Administrator, Dam Bureau, Water Division, NHDES
- Groundwater, Shane Csiki, NHGS
- Drinking Water, Brandon Kernen, Administrator, DWGB, Water Division, NHDES
- Agriculture, Commissioner Jasper, NH Dept. of Agriculture
- Forest Fire, TBD

Ongoing Actions

- Messaging: Informing and Public Messaging Jim Martin, Public Information, NHDES
- Messaging: Well Protection Messaging, Abby Fopiano, DWGB, NHDES

Drought Management Team Discussion (input from all DMT participants)

- Recommended responses to any specific impacts
- Recommended public messaging
- Next steps
- Next session; proposed for 1 October 2020
II. Current Drought and Forecast for New Hampshire

**U.S. Drought Monitor**

**New Hampshire**

- "D0" onset 6/9
- "D1" onset 6/23

**Intensities:**
- None
- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

**Table:**

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<th>Week</th>
<th>None</th>
<th>D0-D4</th>
<th>D1-D4</th>
<th>D2-D4</th>
<th>D3-D4</th>
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<td>28.31</td>
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</table>

http://droughtmonitor.unl.edu/
II. Current Drought and Forecast for New Hampshire

**US Drought Monitor**

July 28, 2020
(Released Thursday, July 30, 2020)

- Drought improvement
- Drought persists
- Drought improvement

http://droughtmonitor.unl.edu

**% of Normal Precipitation**

July 2020

- Near to 150% of normal
- 50% - 75% of normal
- Near to 175% of normal

https://hprcc.unl.edu/maps.php?map=ACISClimateMaps
II. Current Drought and Forecast for New Hampshire

US Drought Monitor
September 1, 2020
(Released Thursday, September 3, 2020)

% of Normal Precipitation
August 2020

Drought persists
Drought development
Drought intensification

D0
D1
D2

25% – 50% of normal
50% - 75% of normal
Near normal

http://droughtmonitor.unl.edu
https://hprcc.unl.edu/maps.php?map=ACISClimateMaps
II. Current Drought and Forecast for New Hampshire

Summer season precipitation deficits across southeastern NH 50% of normal.
II. Current Drought and Forecast for New Hampshire

US Drought Monitor
September 1, 2020
(Released Thursday, September 3, 2020)

Current conditions:
• 3-mo precipitation < 75% of normal
• 3-month SPI & PSDI < -1.0

3-Month SPI
6/1/2020 – 8/31/2020

https://hprcc.unl.edu/maps.php?map=ACISClimateMaps
II. Current Drought and Forecast for New Hampshire

US Drought Monitor
September 1, 2020
(Released Thursday, September 3, 2020)

Current conditions:
- 3-mo precipitation < 75% of normal
- 3-month SPI & PSDI < -1.0
- 1-month EDDI > 80% percentile

1-Month EDDI
August 27, 2020

Temperature driven increase in evaporative demand.

https://psl.noaa.gov/
II. Current Drought and Forecast for New Hampshire

US Drought Monitor
September 1, 2020

VegDRI
August 31, 2020

Hydrologic Drought
September 1, 2020

http://droughtmonitor.unl.edu
https://vegdri.unl.edu/Home/StateVegDRI.aspx?NH

Mary Stampone, NH State Climatologist • Department of Geography, University of New Hampshire
II. Current Drought and Forecast for New Hampshire

US Drought Monitor
September 1, 2020
(Released Thursday, September 3, 2020)

- ~0.5 inches precipitation forecast through 9/9
- Chance for above normal precipitation through 9/15
- Precipitation outlooks uncertain for one & three months
Drought improvement likely in September:
• Removal likely for "D1" areas
• Improvement, but persists in "D2" area

II. Current Drought and Forecast for New Hampshire

US Drought Monitor
September 1, 2020
(Released Thursday, September 3, 2020)
III. a. Rivers and Streams, Ted Diers, Administrator, Watershed Bureau, Water Division, NHDES

- Stream Conditions – Very low historically, especially in coast/southeast.
Instream Flow Program

- Lamprey River is below critical and rare flows.
- Relief pulse August 17 to 19. Released 15 cfs for 48 hours. Another pulse will happen on Sept. 9-11. Pawtuckaway Lake is down 7 inches since July, 0.6 inches due to pulse.
- Souhegan River is below the Critical flows. The river is close to the lowest flows every measured.
- Users in both rivers are implementing water management plans.
III. b. Drought Impacts, Reservoirs. Jim Gallagher, Administrator, Dams Bureau, Water Division, NHDES

Lake Levels at Selected NH Lakes
September 2, 2020

- Lake Francis - 15.3 feet
- Lake Winnipesaukee - 1.1 feet
- Penacook Lake - 3.3 feet
- Lake Massabesic - 3.6 feet
- Bellamy Reservoir - 2.08 feet
- Harris Pond - 2.75 feet
- Arlington Reservoir - 0.7 feet
III. b. Drought Impacts, Reservoirs. Jim Gallagher, Administrator, Dams Bureau, Water Division, NHDES
Groundwater Level Data in New Hampshire (Percentile Classes)
August 2020

Legend
NHGS Wells
• Low (<10%), Overburden
• Below Normal (10-24%), Overburden
• Normal (25-75%), Overburden
• High, Overburden
• Not Analyzed, Overburden

USGS Wells
• Low (<10%)

US Drought Monitor
• D0 (Abnormally Dry)
• D1 (Moderate Drought)
• D2 (Severe Drought)

County Boundaries

* - Not analyzed - Well has <10 years of record to generate percentile statistics
Drinking Water

- 102 Water systems have mandatory restrictions/45 have voluntary restrictions
- 4 Municipalities have implemented outdoor water use restrictions (3 mandatory/1 voluntary)
- Only a few public water systems have had to develop emergency water sources
- Recent droughts have hardened many water systems
- NHDES has is receiving a limited number of calls regarding drought impacts to residential wells (mainly dug wells)
- Adverse impacts to bedrock wells can lag so we may see more in the near future
III. d. Drought Impacts, Drinking Water, Brandon Kernen, Administrator, DWGB, Water Division, NHDES
III. e. Drought Impacts, Shawn Jasper, Commissioner, NH Department of Agriculture, Markets & Food

Stuart Farm, Stratham. Late July 2020.
Daily Fire Danger

The daily fire danger rating may also be obtained by calling the Division of Forests and Lands wildfire information line (toll free). 1-888-NH-FIRES (888-543-4737).

State of New Hampshire
Forest Protection Bureau
FIRE WEATHER CLASS DAY

Click here to subscribe to the Daily Fire Weather email.

The Forest Protection Bureau posts the Daily Fire Notification classification each weekday morning. The weekend classification, for both Saturday and Sunday, is posted Saturday morning.

You can check current classification at our Twitter account. @NHForestDangers. You do not need to have a Twitter account to access this information.

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Other Resources:
National Weather Service Alerts (fire weather watches/warnings): https://www.weather.gov/alerts

Understanding Fire Danger
Fire Danger is a description of the combination of both constant and variable factors that affect the initiation, spread, and difficulty to control a wildfire within a specific area. There are many systems and models that attempt to provide accurate and reliable predictions of fire danger. Typically, the effects of fuel conditions, topography, and weather conditions are analyzed and integrated into a set of numbers that fire managers can use to meet their needs.

National Fire Danger Rating System (NDFRS)
Many Federal and State agencies use the National Fire Danger Rating System (NDFRS) to input data and receive information used to determine the fire danger in their area. Based on the fire danger, managers may impose restrictions on closures to public lands, plan for pre-position staff and equipment to fight new fires, and decide whether to suppress or allow fires to burn under prescribed conditions.

Since 1974, fire danger ratings have been used to describe danger levels in public information releases and fire prevention signs:

Low (Green) - fire starts are unlikely. Weather and fuel conditions will lead to slow fire spread, low intensity and relatively easy control with light mop-up. Controlled burns can usually be executed with reasonable safety.

Moderate (Blue) - some wildfires may be expected. Expect moderate flame length and rate of spread. Control is usually not difficult, and light to moderate mop-up can be expected. Although controlled burning can be done without creating a hazard, routine caution should be taken.

High (Yellow) - wildfires are likely. Fires in heavy, continuous fuel such as mature grassland, weed beds and forest litter, will be difficult to control under windy conditions. Control through direct attack may be difficult but possible and mop-up will be required. Outdoor burning should be restricted to early morning and late evening hours.

Very High (Orange) - fires start easily from all causes and may spread faster than suppression resources can travel. Farre lengths will be long with high intensity, making control very difficult. Both suppression and mop up will require an extended and very thorough effort. Outdoor burning is not recommended.

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IV. Ongoing Actions, Informing and Public Messaging

Jim Martin Public Information Officer, NHDES

1. Maintain Drought Management Webpage
2. Weekly email updates to Community Water Systems and Municipalities
3. Maintain a list of water systems with restrictions on NHDES Drought Management webpage
4. Issue press releases, proactive media relations as well as respond to media relations
5. Frequent social media posts on Facebook, Twitter and Instagram. Encourage all members of the DMT to repost or retweet posts.

Aug 28
According to the U.S. Drought Monitor, over 90% of the state is experiencing drought, which is up from 70% last week. This week, severe drought designation further expanded into the western third of Hillsborough County. #nhdrought
IV. Ongoing Actions, Well Protection Messaging
Abby Fopiano, Water Well Program, NHDES

1. Increased number of replacement well/well deepening in drought years
2. Drop in groundwater levels is a response to drought conditions (withdrawals > recharge). Expect a delay in impacts to residential wells.
3. As droughts occur and remedial actions are taken, residential wells become resilient.
4. DES initiative to develop a well warning system to help inform/protect the public

<table>
<thead>
<tr>
<th>Drought Severity</th>
<th>Impact on Residential Wells</th>
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</thead>
<tbody>
<tr>
<td>Abnormally Dry</td>
<td>Wells Advisory</td>
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<tr>
<td>Moderate Drought</td>
<td>Wells Watch</td>
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<td>Extreme Drought</td>
<td>Wells Warning</td>
</tr>
<tr>
<td>Exceptional Drought</td>
<td>Wells Warning</td>
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Conservation Methods Recommended
- Dug wells begin to dry.
- Bedrock begins to experience change in water quality or loss of recovery.
- Many dug wells dry.
- Bedrock wells lose yield, 2-4 week wait list for installation of new wells.
- Municipalities begin to enforce non-essential use restrictions.
- Bulk water deliveries to home and neighbors share wells.
- Majority of dug wells are dry.
- Bedrock wells experience no recovery. 4-6 week wait list for installation of new wells.
- Municipalities ban all non-essential use.
- Widespread water trucked into auxiliary tanks on regular basis.
- Limited experience in Exceptional Drought
V. Drought Management Team Discussion
(input from all Drought Management Team participants)

a. Recommended responses to any specific impacts
b. Recommended public messaging
c. Next steps
d. Next session; proposed for 1 October 2020