Drought Management Task Force Update

05.09.17

John Gregoire
Quabbin Status as of May 5, 2017

- Current Elevation: 522.51 ft
- Current Volume: 355,425 MG (86.2%)
- At current capacity Quabbin can supply the system’s current demand* for 4.9 years

* Calculated using an average daily demand of 200 MGD
Quabbin Reservoir Levels relative to Drought Stages

Quabbin Reservoir Levels
With Drought Emergency Planning Stages

- Below Normal
- Below ~55% Drought Emergency Stage 1
- Below 38% Drought Emergency Stage 2
- Below 25% Drought Emergency Stage 3
- Warning

Percent Full
Jan-00 Jan-02 Jan-04 Jan-06 Jan-08 Jan-10 Jan-12 Jan-14 Jan-16

Current % Capacity
Quabbin Reservoir levels have been modeled for the next 12 months (May 2017 – April 2018) given varying yield conditions, and an annual demand of 220 mgd (includes a 10 mgd increase from current annual demand levels). It should be noted that April 2017 was the 58th driest April in the 68 year history of Quabbin yields. The monthly yield for April 2017 was 17,729.6 MG.

Table 1 below shows the ending drought status for the time period being simulated.

Table 1: Quabbin Reservoir Status with Varying Reservoir Yield Scenarios
Looking Forward from May 1, 2017

<table>
<thead>
<tr>
<th>Median Yield</th>
<th>1-Month</th>
<th>3-Months</th>
<th>6-Months</th>
<th>12-Months</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Below Normal</td>
<td>Normal</td>
<td>Normal</td>
<td>Normal</td>
</tr>
<tr>
<td>Dry (75th Percentile)</td>
<td>Below Normal</td>
<td>Normal*</td>
<td>Normal</td>
<td>Below Normal</td>
</tr>
<tr>
<td>Driest (of Record)</td>
<td>Below Normal</td>
<td>Below Normal</td>
<td>Below Normal</td>
<td>Drought Warning</td>
</tr>
</tbody>
</table>

*Reservoir level is at 85.77% full at the end of the 3 month simulation which is Normal Condition but close to Below Normal (<85%)

Evaluating a 24-month scenario using the driest conditions, Quabbin Reservoir would end in the Drought Warning Stage Level.
Presently above normal band due to operational and maintenance issues.

Drawdown for construction project