Water Resources Planning Committee

Maine Department of Agriculture, Conservation, and Forestry

April 7, 2022
Agenda

1. Introductions
2. Review of WRPC mandate and organization
3. Discussion of bills in the Maine Legislature
4. Updates from the Maine Geological Survey
5. Updates from the Maine Cooperative Snow Survey

5-MINUTE BREAK

6. Pop-up presentations
7. Future meeting topics
8. Public comment period
STATE OF MAINE

IN THE YEAR OF OUR LORD
TWO THOUSAND NINETEEN

H.P. 162 - L.D. 199

An Act To Create the Water Resources Planning Committee

Be it enacted by the People of the State of Maine as follows:

Sec. 1. 5 MRSA Pt. 15-C is enacted to read:

PART 15-C
WATER RESOURCES PLANNING COMMITTEE
CHAPTER 357
WATER RESOURCES PLANNING COMMITTEE

§6401. Water Resources Planning Committee

1. Water Resources Planning Committee. The Water Resources Planning Committee, as established in section 12004-L, subsection 68-C and referred to in this subsection as "the committee," is established in the Department of Agriculture, Conservation and Forestry.
Summary of WRPC Goals

Plan for the **sustainable use of water resources**. The committee shall focus on:

1. Collecting and reviewing information regarding **water withdrawal activities**;
2. Coordinating state **water resources information**; and
3. Identifying **watersheds at risk** by refining the most recent analysis of watersheds at risk performed by the ... Maine Geological Survey, including:
   
   a) Conducting appropriate water resources investigations in watersheds at risk;
   
   b) Considering projected increased water use by population, agricultural irrigation, commercial users, industrial users and other users;
   
   c) Considering seasonal use;
   
   d) Considering potential effects of climate change;
   
   e) Considering the effects of anticipated future water quality classification changes on the availability of water for withdrawal;
   
   f) In establishing priorities for further investigations, seeking input from the user community, from towns dealing with multimunicipal aquifers and from towns with significant local aquifers; and
   
   g) Developing guidelines for consistency in further investigations.
Summary of WRPC Goals

Review state policy with regard to:

1. Conservation of water resources;
2. Development of regional sources and solutions to water use issues;
3. Incentives for stewardship of water resources; and
4. Effects of surface water quality improvements on water withdrawal opportunities.

The committee shall provide guidance to municipalities and water districts and develop and disseminate educational materials on water resources and the regulatory regime.
A. The committee's membership must include, at a minimum:

(1) Personnel from:
   (a) The Department of Agriculture, Conservation and Forestry, Bureau of Resource Information and Land Use Planning, Division of Geology, Natural Areas and Coastal Resources, Maine Geological Survey;
   (b) The Department of Agriculture, Conservation and Forestry, Maine Agricultural Water Management Board;
   (c) The Public Utilities Commission;
   (d) The Department of Environmental Protection;
   (e) The Maine Land Use Planning Commission; and
   (f) The drinking water program of the Department of Health and Human Services; and

(2) Members of the public with expertise in:
   (a) Agriculture;
   (b) Public water utilities;
   (c) Water bottling and the sale of bottled water;
   (d) The use of water by private domestic well owners;
   (e) The environment and conservation;
   (f) The use of water by commercial entities;
   (g) Water conservation education; and
   (h) Stormwater management or wastewater management. [PL 2019, c. 67, §1 (NEW).]
Bills in the Maine Legislature

Second Session of the 130th Maine Legislature
-A couple bills carried over from last session, plus new PFAS legislation.

• LD 1569, “Resolve, Establishing the Commission To Study the Role of Water as a Resource in the State of Maine”

• LD 1911, “An Act To Prevent the Further Contamination of the Soils and Waters of the State with So-called Forever Chemicals”

• LD 2013, “An Act Relating to Perfluoroalkyl and Polyfluoroalkyl Substances Contamination in the State”
LD 1569

“Resolve, Establishing the Commission To Study the Role of Water as a Resource in the State of Maine” (Taxation)

• Originally an excise tax on bottled water
• Amended last session to create a commission to study water resources and extraction taxes
• Passed by the House, carried over by the Senate to this session
• No other action
LD 1911

“An Act To Prevent the Further Contamination of the Soils and Waters of the State with So-called Forever Chemicals”
(Environment and Natural Resources)

• Carried over from last session, then amended in committee
• Allows the DEP to require PFAS testing of wastewater discharges
• Outlaws spreading/sale of municipal or industrial wastewater sludge
• Landfill fees?
LD 2013

“An Act Relating to Perfluoroalkyl and Polyfluoroalkyl Substances Contamination in the State”
(Agriculture, Conservation, and Forestry)

• Establishes a $100 million fund and advisory committee within DACF to address PFAS contamination on agricultural land:
  • Health monitoring
  • Transferring contaminated land
  • Additional research and education
  • Long-term monitoring of contaminated sites, with central data repository
Updates from the Maine Geological Survey

Water Use Data
• Domestic water withdrawal data and population estimates

Maine Cooperative Snow Survey
• Flood and drought risks for this spring and summer
Domestic water use and population estimates

- Funded through USGS Water Use Data and Research (WUDR) Program

Goals:
- Improve the collection of public utility data from the PUC
- Improve estimates of population served by public water versus those who are self-supplied
- Develop per-capita water use rates
Public Utility Data

Worked with staff at the PUC to:

- Improve the annual report forms
- Batch download of filed reports
- New database tool to import and store data at MGS:
  - Total withdrawals
  - Residential volumes
  - Customer counts
  - Source information
  - etc.
Population served estimates

Inputs:
• 131 utility service areas (green and blue)
Population served estimates

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- 131 utility service areas (green lines)
- Dasymetric population grid (modified from EPA using up-to-date Census data)
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• Census block groups with ACS demographic data (blue lines)
Population served estimates

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- 131 utility service areas (green lines)
- Dasymetric population grid (modified from EPA using up-to-date Census data)
- Census block groups with ACS demographic data (blue lines)
- Intersection areas were weighted and summed
Population served estimates

Inputs:

- 131 utility service areas (green lines)
- Dasymetric population grid (modified from EPA using up-to-date Census data)
- Census block groups with ACS demographic data (blue lines)
- Intersection areas were weighted and summed

→ total population and weighted demographics for each utility
Comparing our estimates to utility estimates

- Utilities estimate population by multiplying connections by a standard coefficient (x2.5)
240 unmapped community water systems

• Small municipal systems with populations < 10,000
• Privately owned systems (institutional living, mobile home parks, etc.)

Used a regression analysis to estimate population using:
• Number of connections
• Demographic ACS data (average household size, percent seasonal, etc.)
Self-supplied population

• Dasymetric population grid set to zero inside the utility service areas

• Values reduced uniformly in each Census area to account for people served by unmapped systems

→ 30-meter grid of the self-supplied population
Table 5. Population served by public water and population that is self-supplied in 2018, summarized by county. Total population is from the US Census county population estimate for 2018.

<table>
<thead>
<tr>
<th>county</th>
<th>total population</th>
<th>self-supplied population</th>
<th>population served by public water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Androscoggin</td>
<td>107,914</td>
<td>40,116</td>
<td>67,798</td>
</tr>
<tr>
<td>Aroostook</td>
<td>67,318</td>
<td>38,987</td>
<td>28,331</td>
</tr>
<tr>
<td>Cumberland</td>
<td>293,673</td>
<td>90,124</td>
<td>203,549</td>
</tr>
<tr>
<td>Franklin</td>
<td>29,915</td>
<td>17,479</td>
<td>12,436</td>
</tr>
<tr>
<td>Hancock</td>
<td>54,734</td>
<td>42,750</td>
<td>11,984</td>
</tr>
<tr>
<td>Kennebec</td>
<td>122,044</td>
<td>69,655</td>
<td>52,389</td>
</tr>
<tr>
<td>Knox</td>
<td>39,717</td>
<td>20,478</td>
<td>19,239</td>
</tr>
<tr>
<td>Lincoln</td>
<td>34,399</td>
<td>25,729</td>
<td>8,670</td>
</tr>
<tr>
<td>Oxford</td>
<td>57,754</td>
<td>39,679</td>
<td>18,075</td>
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<tr>
<td>Penobscot</td>
<td>151,817</td>
<td>77,387</td>
<td>74,430</td>
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<tr>
<td>Piscataquis</td>
<td>16,746</td>
<td>9,620</td>
<td>7,126</td>
</tr>
<tr>
<td>Sagadahoc</td>
<td>35,690</td>
<td>19,677</td>
<td>16,013</td>
</tr>
<tr>
<td>Somerset</td>
<td>50,489</td>
<td>30,548</td>
<td>19,941</td>
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<tr>
<td>Waldo</td>
<td>39,657</td>
<td>32,213</td>
<td>7,444</td>
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<tr>
<td>Washington</td>
<td>31,321</td>
<td>22,907</td>
<td>8,414</td>
</tr>
<tr>
<td>York</td>
<td>205,869</td>
<td>89,422</td>
<td>116,447</td>
</tr>
<tr>
<td><strong>Maine</strong></td>
<td><strong>1,339,057</strong></td>
<td><strong>666,772</strong></td>
<td><strong>672,285</strong></td>
</tr>
</tbody>
</table>
Per-capita water use

Detailed analysis of billing data from 13 districts of Maine Water Company (blue):

- Found seasonal patterns of use
- No significant demographic correlations (when using our population estimates)

For all 131 mapped districts (green and blue):

<table>
<thead>
<tr>
<th>usage type</th>
<th>residential usage</th>
<th>total utility withdrawal</th>
</tr>
</thead>
<tbody>
<tr>
<td>year</td>
<td>2015 2017 2018</td>
<td>2015 2017 2018</td>
</tr>
<tr>
<td>n</td>
<td>54 55 46</td>
<td>106 104 73</td>
</tr>
<tr>
<td>mean</td>
<td>48.7 50.1 49.1</td>
<td>126 133 134</td>
</tr>
<tr>
<td>median</td>
<td>47.7 47.5 46.3</td>
<td>117 115 114</td>
</tr>
</tbody>
</table>
Table 10. Best estimates of 2018 annual residential water use by self-supplied households, residential water delivered via community water systems, and total system withdrawal volumes for community water systems, in thousand gallons, by county.

<table>
<thead>
<tr>
<th>county</th>
<th>self-supplied residential water use</th>
<th>community water systems</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>residential water use</td>
<td>total system withdrawals</td>
<td></td>
</tr>
<tr>
<td>Androscoggin</td>
<td>718,290</td>
<td>1,122,394</td>
<td>3,129,180</td>
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</tr>
<tr>
<td>Aroostook</td>
<td>698,081</td>
<td>424,620</td>
<td>1,572,925</td>
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</tr>
<tr>
<td>Cumberland</td>
<td>1,613,703</td>
<td>4,030,477</td>
<td>9,333,287</td>
<td></td>
</tr>
<tr>
<td>Franklin</td>
<td>312,975</td>
<td>217,546</td>
<td>589,180</td>
<td></td>
</tr>
<tr>
<td>Hancock</td>
<td>765,455</td>
<td>242,864</td>
<td>927,264</td>
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<tr>
<td>Kennebec</td>
<td>1,247,202</td>
<td>1,034,815</td>
<td>2,491,682</td>
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<td>Knox</td>
<td>366,662</td>
<td>314,993</td>
<td>1,156,866</td>
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<tr>
<td>Lincoln</td>
<td>460,686</td>
<td>153,955</td>
<td>330,282</td>
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<tr>
<td>Oxford</td>
<td>710,458</td>
<td>385,435</td>
<td>824,838</td>
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<tr>
<td>Penobscot</td>
<td>1,385,640</td>
<td>1,251,968</td>
<td>3,138,002</td>
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<tr>
<td>Piscataquis</td>
<td>172,253</td>
<td>110,308</td>
<td>307,664</td>
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<tr>
<td>Sagadahoc</td>
<td>352,329</td>
<td>214,720</td>
<td>601,000</td>
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<td>Somerset</td>
<td>546,975</td>
<td>301,648</td>
<td>699,566</td>
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<td>Waldo</td>
<td>576,788</td>
<td>133,643</td>
<td>394,116</td>
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<td>Washington</td>
<td>410,166</td>
<td>155,857</td>
<td>487,904</td>
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<td>York</td>
<td>1,601,130</td>
<td>2,623,702</td>
<td>5,061,864</td>
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<tr>
<td>Maine</td>
<td>11,938,795</td>
<td>12,718,944</td>
<td>31,045,619</td>
<td></td>
</tr>
</tbody>
</table>
2022 Survey schedule

• First week of January  (Jan 2-5)
• First week of February  (Jan 30-Feb 2)
• First week of March  (Feb 27-March 2)
• and each week thereafter.
7-day average streamflow

Groundwater Watch