Lake Champlain
Total Maximum Daily Loads (TMDLs)
Accountability Framework Report

Kari Dolan, Manager, DEC Clean Water Initiative Program
Mike Middleman, Agency of Agriculture, Food & Markets
March 29, 2018
Vermont’s Waters are Critical Community Assets
Land Uses Can Harm Lake Champlain
Why We Need Clean Water

• Use and enjoyment of Vermonters
  — Drinking water
  — Swimming
  — Fishing

• Support tourism, at annual spending of $2.5 billion
  — Lake Champlain a key attraction for visitors
  — Second home-owners in towns bordering the Lake spend $150 million annually
  — Overnight visitors in Champlain Valley spend over $300 million annually
  — Day visitors spend $30 million annually

• Maintain property values

• Integral to the Vermont brand
  — Our environmental is our economy
Lake Champlain Statistics

- 8,234 square mile watershed
  - 56% (VT); 37% (NY); 7% (Quebec)
  - Drains nearly half the land area of Vermont
- 120 miles long
- Surface area of 435 square miles
- Maximum depth of 400 feet
- 6th largest (natural) lake in the US
- Drinking water source for 200,000 people
- Residents:
  - 571,000 in total; 390,000 in Vermont
  - More than 100,000 dairy cows
Lessons learned from the past 20 years

Phosphorus levels in the lake are above the allowable standards.

Vermont has taken many important actions, especially in the last 10 years.

Cleaning up the lake ecosystem is complex and recovery will take time.

We need to do a lot more.
Vermont Phosphorus Sources to Lake Champlain 2001-2010 Base Loads

- Agricultural Lands: 41%
- Forest Lands: 16%
- River Instability: 21%
- Developed Lands Including Paved Roads: 13%
- Unpaved Roads: 5%
- Wastewater Treatment Facilities: 4%
34% phosphorus reduction over 20 years.
State releases draft proposal for restoring Lake Champlain

State passes Act 64 to support TMDL implementation & tracking

EPA releases draft TMDL

EPA issues final TMDL

State releases draft Ph I Plan

State releases final Plan

Tracking & Reporting Implementation:
- Annual Investment Reports
- Accountability Framework

6 public meetings

4 public meetings on strategies

3 public meetings

State releases draft TMDL

EPA issues final TMDL

State releases draft Ph I Plan

State releases final Plan

Tracking & Reporting Implementation:
- Annual Investment Reports
- Accountability Framework

Jan. 2017

June 2015

June 2016

Aug. 2016

Sept. 2016


13 additional public meetings statewide on strategies
Phosphorus TMDLs for Vermont Segments of Lake Champlain

June 17, 2016

U.S. Environmental Protection Agency
Region 1, New England
Boston, MA

http://dec.vermont.gov/watershed/cwi/restoring/champlain
The Vermont Clean Water Act (Act 64, 2015) supports State clean water priorities including implementation of the Lake Champlain TMDL

- Agricultural Water Quality Management
- Impervious Surface Stormwater Management
- Road-related Stormwater Management
- Clean Water Fund
The Vermont Lake Champlain Phosphorus Phase 1 Implementation Plan

- Incorporates Act 64 elements
- Includes Natural Resource Restoration and Management (rivers, wetlands, forests)
- Describes Tactical Basin Plans as “Phase 2” to support implementation of actions at the watershed scale
- Supports the new “Vermont Clean Water Initiative”

### Phase I Plan Program Areas

<table>
<thead>
<tr>
<th>Program Areas</th>
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<tbody>
<tr>
<td>Agricultural Programs</td>
</tr>
<tr>
<td>Stormwater Management</td>
</tr>
<tr>
<td>Rivers Management</td>
</tr>
<tr>
<td>Wetlands Management</td>
</tr>
<tr>
<td>Lakes Management</td>
</tr>
<tr>
<td>Forest Management</td>
</tr>
</tbody>
</table>
“All In” Approach

- Forestry
- Wastewater Treatment
- River Channels
- Developed Land ≥ 3 acres
- Roads
- Agriculture
Achieving Results: TMDL Accountability Framework

• Purpose: Provide transparent way to gauge Vermont’s progress in making water quality improvements
• Modeled after other states’ TMDL initiatives
• Establishes a backstop
• Includes:
  – Enforceable milestones
  – Evaluation of Progress in Implementing basin plans
  – Federally imposed consequences for failure to:
    • Take action on milestones, or
    • Failure to achieve pollutant reduction targets
Achieving Results:
TMDL Accountability Framework

- Spurs a transparent and comprehensive tracking of the state’s progress;
- Creates accountability for pollutant reductions by sector
- Guards against overly generous assumptions that pollutant reductions will occur over time
Phosphorus TMDLs for Vermont Segments of Lake Champlain

June 17, 2016

U.S. Environmental Protection Agency
Region 1, New England
Boston, MA
Accountability Framework:
Two Milestone Periods
Period #1: 2015-17

• Intended to ensure that commitments made in VT’s Phase I Plan are carried out
• Primary focus on major milestones related to putting major programs and permits in place
• Secondary focus on implementation and enforcement of programs already in place
Accountability Framework, Milestone Period #1, Year 1:

- Focused on actions completed by Dec. 2016
- Interim report card by first quarter, 2017

http://dec.vermont.gov/watershed/cwi/restoring/champlain
Accountability Framework, Milestone Period #1, Year 2:
• Focused on actions completed by Dec. 2017
• Interim report card by first quarter, 2017

• State submitted Report in March, 2018
• Final Report Card due in April, 2018
### Milestone Period #1, Year 1
Due By December 2016

<table>
<thead>
<tr>
<th>Agriculture</th>
<th>✔</th>
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<tbody>
<tr>
<td>-Required Agricultural Practices revision adopted</td>
<td>✔</td>
</tr>
<tr>
<td>-Small Farm Operation certification program rule adopted</td>
<td>✔</td>
</tr>
<tr>
<td>-Livestock exclusion incentive program in place</td>
<td>✔</td>
</tr>
<tr>
<td>-Develop matrix and small farm template for nutrient management planning</td>
<td>✔</td>
</tr>
<tr>
<td>-Develop Environmental Stewardship Incentive Program in priority watersheds</td>
<td>✔</td>
</tr>
<tr>
<td>-Mandate certification of custom manure applicators</td>
<td>✔</td>
</tr>
<tr>
<td>-Develop requirements for farmer training programs</td>
<td>✔</td>
</tr>
<tr>
<td>-Revise the ANR/AAFM Memorandum of Understanding for the Agricultural Nonpoint Source Program</td>
<td>✔</td>
</tr>
</tbody>
</table>
# Milestone Period #1, Year 1
Due By December 2016

## Stormwater

<table>
<thead>
<tr>
<th>Task</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Issue Final TS4 Permit for State Highway System</td>
<td>✔</td>
</tr>
<tr>
<td>Adopt Final Vermont Stormwater Management Manual</td>
<td>✔</td>
</tr>
<tr>
<td>Forestry AMP revision completed</td>
<td>✔</td>
</tr>
</tbody>
</table>

## Natural Resources

<table>
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<tbody>
<tr>
<td>Forestry AMP revision completed</td>
<td>✔</td>
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</table>

NOTE: Updated AMPs effective 10/2016; Undergoing second revision to address permanent bridges on intermittent streams

## Funding

<table>
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<th>Task</th>
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<tbody>
<tr>
<td>Legislature establishes Clean Water Improvement Fund</td>
<td>✔</td>
</tr>
<tr>
<td>Updated Report to EPA with spending plan capacity</td>
<td>✔</td>
</tr>
</tbody>
</table>

NOTE: Next spending plan capacity report due on 12/2021
Milestone Period #1, Year 1
Due By December 2016

<table>
<thead>
<tr>
<th>Combined Sewer Overflows</th>
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<tbody>
<tr>
<td>- Issue new CSO Rule, replacing 1990 CSO Control Policy</td>
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<thead>
<tr>
<th>Tracking &amp; Reporting</th>
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<tbody>
<tr>
<td>- Develop comprehensive TMDL Implementation Tracking &amp; Reporting System</td>
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## Agriculture

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</tr>
</thead>
<tbody>
<tr>
<td>- Nutrient Management Plan (NMP) milestones completed</td>
<td>✔️</td>
</tr>
<tr>
<td>- Targeted funding for agricultural Best Management Practices and NMP implementation provided in Missisquoi Bay, St. Albans Bay, South Lake</td>
<td>On-going</td>
</tr>
<tr>
<td>- Report to Legislature on Recommendations for Tile Drains</td>
<td>✔️</td>
</tr>
<tr>
<td>- Propose amendments to RAQPs to include requirements for reducing nutrient contributions from subsurface tile drainage</td>
<td>✔️</td>
</tr>
<tr>
<td>- Complete education, outreach &amp; compliance activities with farms in the Missisquoi Bay watershed</td>
<td>✔️</td>
</tr>
<tr>
<td>- Commence notification of affected farms about the Assessment and Plan process as detailed in the February 3, 2016 Decision</td>
<td>✔️</td>
</tr>
</tbody>
</table>
# Milestone Period #1, Year 2
Due By December 2017

## Stormwater

<table>
<thead>
<tr>
<th>Task</th>
<th>Status</th>
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</thead>
<tbody>
<tr>
<td>Issue Final Municipal Roads General Permit</td>
<td>✔️</td>
</tr>
<tr>
<td>Issue Final Developed Lands General Permit</td>
<td>On-going</td>
</tr>
</tbody>
</table>

**NOTE:** DEC expects to begin rule-making in April, 2018

- Revise MS4 permit to require existing regulated municipalities to control discharges consistent with TMDL

**NOTE:** ANR released draft permit in 2/2018; New Target Completion Date: 4/13/2018

## Tactical Basin Plans

<table>
<thead>
<tr>
<th>Plan</th>
<th>Status</th>
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<tbody>
<tr>
<td>Tactical Basin Plans completed for Poultney, Mettawee &amp; Lower Lake Champlain</td>
<td>✔️</td>
</tr>
</tbody>
</table>
## Milestone Period #1, Year 2
Due By December 2017

### Water Quality Standards

- Update the Vermont Water Quality Standards to allow for upward reclassification of designated uses to a new, more protective class

### Funding

- Establish long-term revenue source to support water quality improvement via the Clean Water Fund

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<thead>
<tr>
<th>NOTE: CWF’s revenue source was extended to 7/1/2027; VT directed an additional $48 million above baseline spending for FY2018-2019; State continues to pursue options</th>
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<table>
<thead>
<tr>
<th>Funding</th>
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<tbody>
<tr>
<td>On-going</td>
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</table>
Accountability Framework Period #2: Post 2017

• Watershed specific
• Keyed to Implementation Table in five year Phase II plans
• Mid-point check-in at 2.5 years
• Major evaluation and determination as next five year plan developed
• Consequences could be tailored for watershed or applied broadly if systemic problems
Champlain TMDL Accountability Framework Report:

http://dec.vermont.gov/watershed/cwi/restoring/champlain

Vermont Clean Water Initiative cleanwater.vermont.gov/

Kari Dolan: kari.dolan@state.vt.us, 802-490-6113
Mike Middleman: Michael.middleman@Vermont.gov, 802-505-5190