The Vermont Clean Water Initiative: Act 64, Lake Champlain Phosphorus TMDL and Vermont’s Clean Water Goals

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Problems Facing Our Waters Statewide
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.
Phosphorus Pollution Sources, Lake Champlain

Wastewater Treatment Facilities

- Developed Lands Including Paved Roads: 14%
- Unpaved Roads: 6%
- Agricultural Lands: 40%
- Stream Instability: 22%
- Forest Lands: 15%
- Developed Lands Including Paved Roads: 14%
- Unpaved Roads: 6%
- Agricultural Lands: 40%
- Stream Instability: 22%
- Forest Lands: 15%
- Wastewater Treatment Facilities: 3%

EPA, 2013
Expected Outcomes from the TMDL

Base Load
631 Metric Tons/year

- Agriculture: 261 MT/yr (41%)
- Forest: 101 MT/yr (16%)
- Developed: 114 MT/yr (18%)
- Stream bank: 130 MT/yr (21%)
- WWTF: 25 MT/yr (4%)

Vermont Reduction
Required=213 mt/yr (34%)

- Agriculture: 123 MT/yr (30%)
- Forest: 77 MT/yr (18%)
- Developed: 90 MT/yr (22%)
- Stream bank: 73 MT/yr (18%)
- WWTF: 32 MT/yr (8%)
- MOS: 21 MT/yr (5%)

TMDL Loading Capacity and Allocations
418 Metric Tons/yr
The amount of pollution the lake can receive and still meet water quality standards. Determined by data and modeling. Will be expressed at the lake segment level (e.g., Main Lake; St. Albans Bay).

**TMDL** = **WLA** + **LA** + **MOS**

- **WLA** (Wasteload Allocation): (“Point Sources”) Achieved by federally required permits or other regulations.
  
  **Examples**
  - Wastewater discharges
  - Concentrated Animal Feeding Operations (CAFOs)
  - Construction stormwater
  - Municipal Separate Storm Sewer Systems (MS4s)
  - Combined Sewer Overflow (CSOs)
  - State and local roads
  - Developed land stormwater

- **LA** (Load Allocation): (“Nonpoint sources”) Achieved by regulatory or non-regulatory methods. Requires “reasonable assurances.”
  
  **Examples**
  - Agricultural runoff
  - River channel instability
  - Forest runoff

- **MOS** (Margin of Safety) Accounts for uncertainty.

Aggregated into “Developed Land” WLA
The Vermont Clean Water Act (Act 64, 2015) and the Vermont Phase 1 Lake Champlain Phosphorus TMDL Implementation Plan

- Agricultural Water Quality Management
- Impervious Surface Stormwater Management
- Road-related Stormwater Management
- River Corridor Protection and Restoration
- Forest Management
- Increased Fees & New Positions
- Clean Water Fund
Stormwater Management Requirements – Existing Impervious Surfaces

• Addresses discharges of stormwater from impervious surface of 3 or more acres that were:
  – Unpermitted or
  – Permitted prior to 2002 stormwater manual.

• Requires ANR to adopt a general permit by Jan. 2018

• Requires ANR to develop a schedule to require:
  – Permit coverage in the Champlain Basin no later than 2023
  – Permit coverage in the rest of the State no later than 2028
Stormwater Management - Roads

• New general permit to be issued by Dec, 2017

• Elements of the General Permit:
  – A schedule for each municipality to:
    • Inventory roads
    • Prioritize projects
    • Implement needed fixes
  – Criteria and technical standards for implementation

• “TS4” permit for State Roads
Partnering with Municipalities: Educational, Technical, and Financial Assistance

Key factors in identifying and prioritizing projects:
• The area of concern is near a stream or other surface water
• Sediment from the road is reaching surface water
• Degree of impact (function of topography, road condition, and length of ditch runs)
Agricultural Water Quality

- Accepted Agricultural Practices (AAPs), to be referred to as “required agricultural practices (RAPs), are to be revised by July 1, 2016
- “Small farms” are to be defined by July 2016
- Small farms are to be certified for RAP compliance annually after 2017
Revisions to RAPs:

• Reduces the “tolerable soil loss” from field erosion
• Increases restrictions on manure stacking near water
• Increases nutrient management planning on ALL farms, including small farms
Revisions to RAPs (continued):

• Increases vegetative buffer standard for:
  – Surface waters – 25 feet
  – Ditches – 10 feet

• Require standards for:
  – Livestock exclusion from waterways
  – Soil conservation such as cover cropping in critical areas
  – Tile drainage by January, 2018
Agricultural Water Quality (continued)

- Eliminates requirement that AAFM pay for water quality BMPs on farms
- Enhances the AAFM’s authority to bring enforcement actions against persons that violate RAPs and other WQ protections, including
  - Emergency orders
  - Ability to remove land from the Use Value Appraisal program;
- Requires farmers to receive training on agricultural water quality practices
- Requires training and certification of commercial manure applicators
Act 64 and Phase 1 Implementation Plan
Act 64 directs DEC to:

• Update the Implementation Plan within 3 months of TMDL issuance
• Include natural resources restoration actions to achieve the State’s obligations under the Phase 1 Plan
• Hold a 30-day public comment period before issuance of the Plan update
• Establish a method of tracking to account for activities
• Increase coordination between regional planning commissions and DEC basin plans
• Report on the execution of the Plan
### Vermont Clean Water Initiative Funding

<table>
<thead>
<tr>
<th>Revenue Source</th>
<th>FY15</th>
<th>FY16 Budget</th>
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</thead>
<tbody>
<tr>
<td>Various AAFM fees</td>
<td>N/A</td>
<td>$621,000</td>
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<tr>
<td>Capital Bill – Agriculture Best Management Practices (BMPs) Program (statewide)</td>
<td>$1M</td>
<td>$1.4M</td>
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<tr>
<td>Capital Bill – Ecosystem Restoration Grants (statewide)</td>
<td>$2.57M</td>
<td>$3.75M</td>
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<tr>
<td>Capital Bill – State Revolving Fund (SRF) Match (statewide)</td>
<td>~$1.3M</td>
<td>~$1.3M</td>
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<tr>
<td>Transportation Bill – Municipal Mitigation Grants (includes Better Roads Grants, statewide)</td>
<td>$440,000</td>
<td>$650,000</td>
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<tr>
<td>DEC Clean Water Permit Fees (statewide)</td>
<td>~$1M</td>
<td>~$2.3M</td>
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<td>NEW: Clean Water Fund</td>
<td>$0</td>
<td>$5.3M</td>
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<tr>
<td>VTrans Stormwater Compliance</td>
<td>~$2.1M</td>
<td>~$2.1M</td>
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</table>
Clean Water Investment & Performance Report

- Financial Outcomes
- Social Outcomes
- Performance Outcomes
- Environmental Outcomes

DEC Database

- Agriculture
- Forests
- Lakes
- Rivers
- Roads
- Wetlands
- Stormwater
- Waste water
Questions?

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