

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



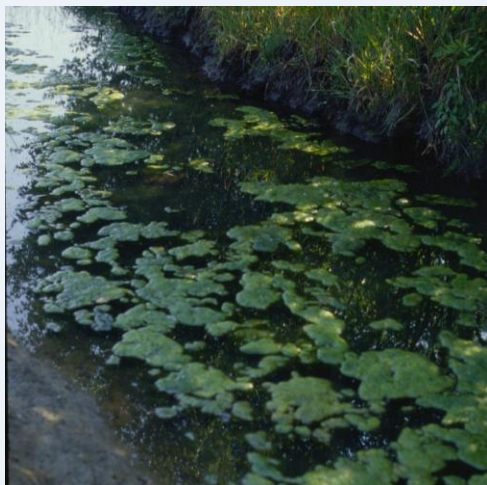
Kari Dolan, Clean Water Initiative Program Manager  
November 6, 2015

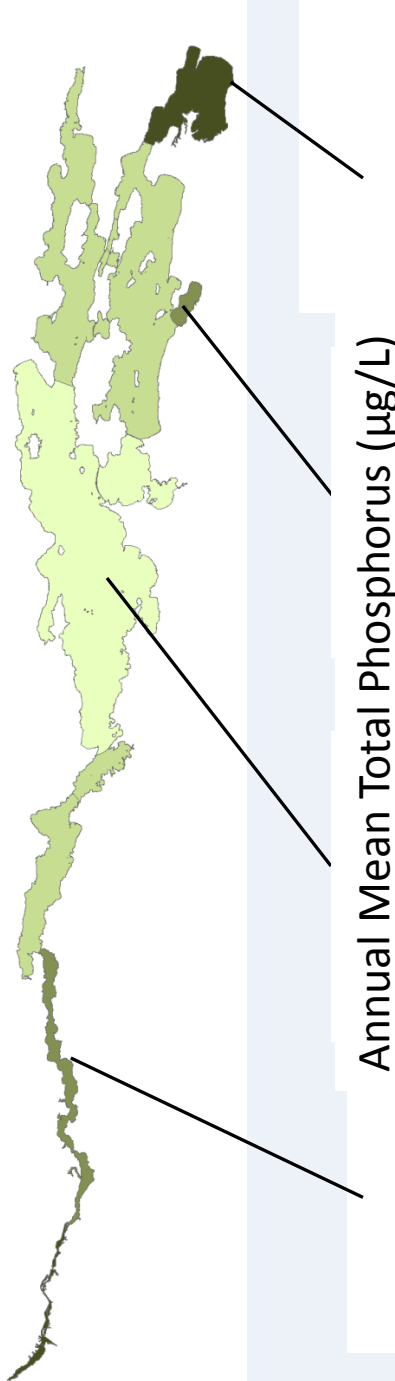




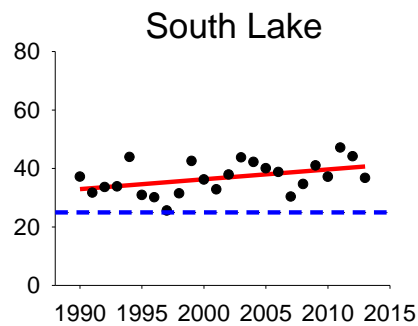
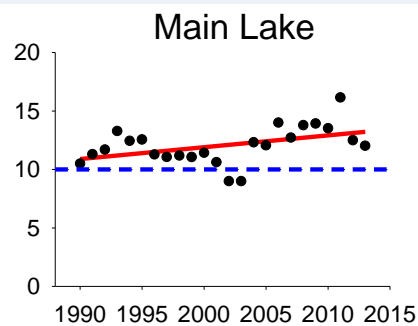
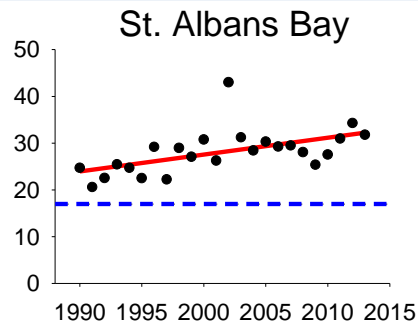
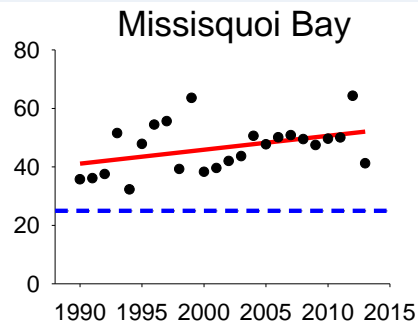
# Problems Facing Our Waters Statewide

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Annual Mean Total Phosphorus ( $\mu\text{g/L}$ )



— Trend line  
 - - - Water quality standard

## Lessons learned from the past 20 years

Phosphorus levels in the lake are above the allowable standards.

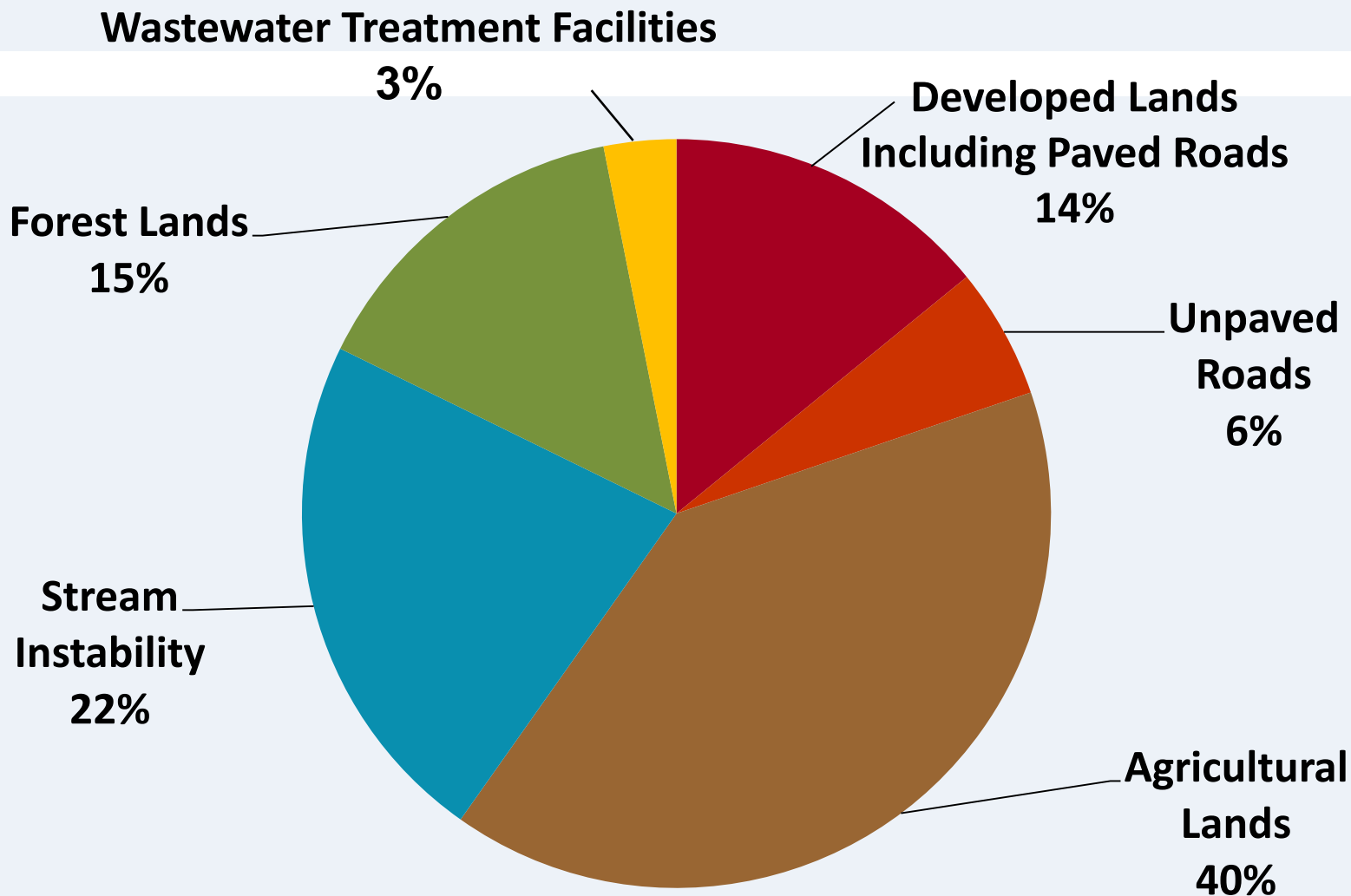
Vermont has taken many important actions, especially in the last 10 years.

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

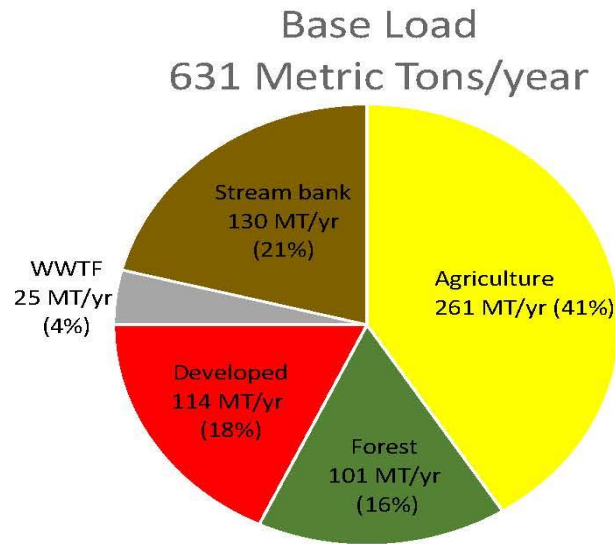
We need to do a lot more.

# Phosphorus Pollution Sources, Lake Champlain

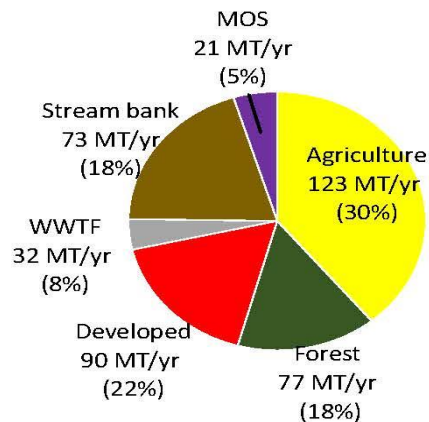
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# Expected Outcomes from the TMDL



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



TMDL Loading Capacity and Allocations  
418 Metric Tons/yr



$$\text{TMDL} = \text{WLA} + \text{LA} + \text{MOS}$$

Total Maximum Daily Load  
(Total Loading Capacity)

Wasteload Allocation  
("Point Sources")

Load Allocation  
("Nonpoint sources")

Margin of Safety

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).

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

Achieved by regulatory or non-regulatory methods. Requires "reasonable assurances."

#### Examples

- Agricultural runoff
- River channel instability
- Forest runoff

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

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- 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

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- 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:
  - Retrofits in the Champlain Basin no later than 2023
  - Retrofits in the rest of the State no later than 2028



# Stormwater Management - Roads

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- 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, 2006
- “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

Reduce erosion rates in half





## 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)

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- 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:

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- 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

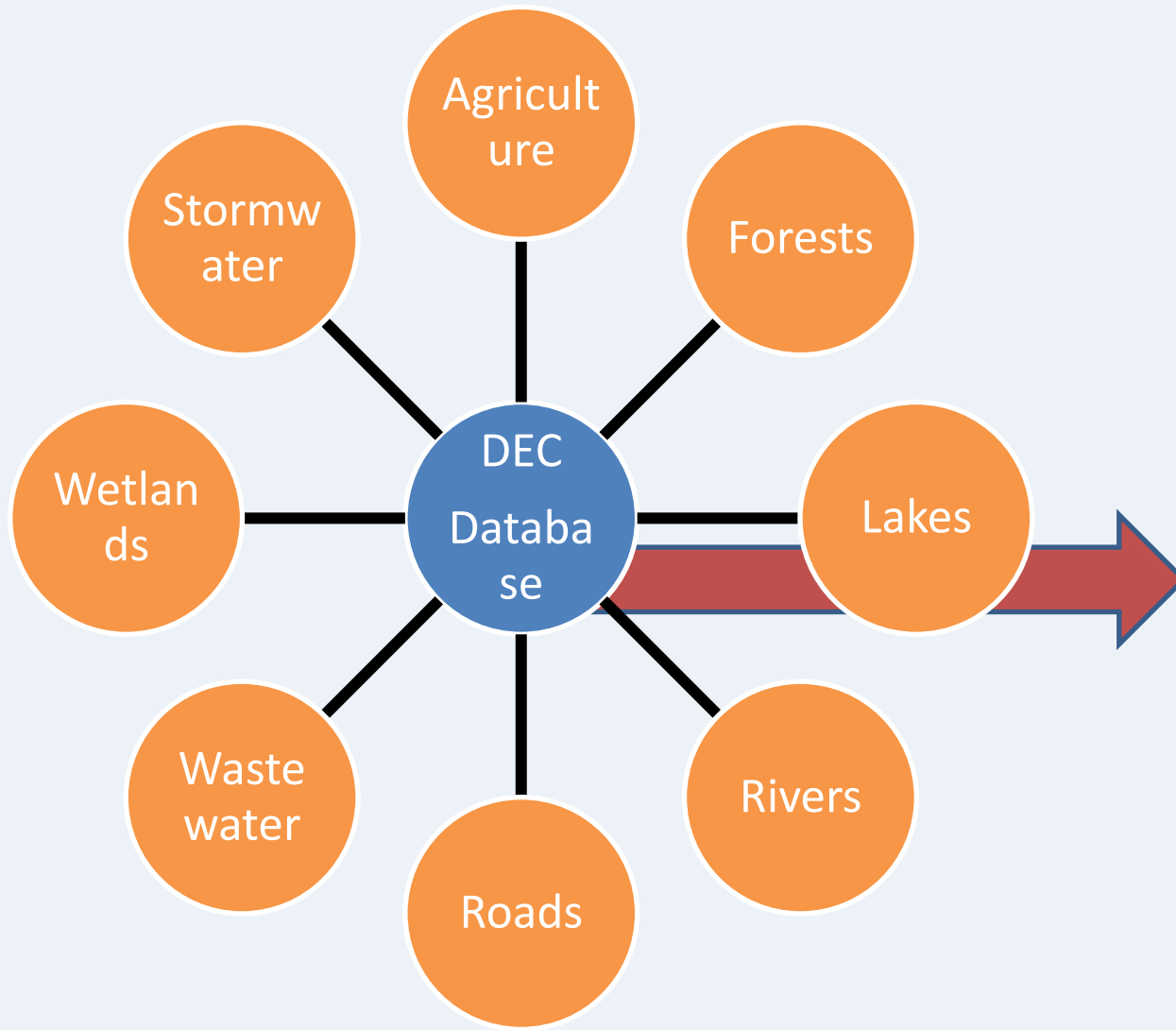
# Vermont Clean Water Initiative Funding



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



# Clean Water Investment & Performance Report




Financial  
Outcomes

Social  
Outcomes

Performance  
Outcomes

Environmental  
Outcomes

# Questions?

An aerial photograph of a rural landscape. In the foreground, there's a small farm with a white barn and a silo, surrounded by green fields and a road. Beyond the farm, there are large, flat, brownish fields, possibly recently plowed or harvested. The middle ground is dominated by a large, calm lake with several small islands and peninsulas. The background shows more distant land and a hazy horizon under a blue sky with some clouds.

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