

# The Lake Champlain Phosphorus Initiative

**Agricultural Working Group and Agricultural  
Innovations Group Updates**

Environmental Mediation Center  
Matt Strassberg and Julie Hoyt

# LAKE CHAMPLAIN PHOSPHORUS POLLUTION INITIATIVE

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# The Lake Champlain Phosphorus Pollution Initiative

The Environmental Mediation Center is a non-profit, Vermont based organization.

Together with the Consensus Building Institute (CBI), located in Cambridge, Massachusetts, EMC worked with the Vermont Agency of Agriculture and the Department of Environmental Conservation (DEC) on a project designed to:

*Seek input and build consensus among water quality stakeholders on ways to reduce phosphorous pollution and maintain a viable and sustainable agricultural sector that provides additional benefits to the Vermont landscape.*

*While farmers have already taken many actions to reduce phosphorous pollution, all sectors that generate phosphorous pollution will need to continue to work towards meeting water quality standards.*

# Funding and Project Design for LCPI

## Project funding provided by:

- ▶ United States Department of Agriculture Natural Resources Conservation Service
- ▶ U.S. Environmental Protection Agency
- ▶ Green Mountain Coffee Roasters
- ▶ High Meadows Fund

## Stakeholder Engagement began Fall, 2012:

- ❖ Focus Group Outreach within Agricultural Sector
- ❖ Public Meetings
- ❖ Cross Sector Engagement with Environmental Groups and Organizations
- ❖ Formation of the Agricultural Working Group
  - ❖ Interim Recommendations Issued May, 2013
  - ❖ Final Recommendations Issued December, 2013
- ❖ Formation of the Agricultural Innovations Group

# Regulatory Background - TMDL

- ▶ Under the Clean Water Act, the phosphorus issues obligated Vermont and New York to develop Total Maximum Daily Loads (TMDL) - specific plans to reduce phosphorus loading to the lake.
- ▶ This included allocating pollution caps to the sectors contributing to the problem such that the total loading meets water quality standards. Wastewater discharges, stormwater runoff, and agriculture were identified as the leading sources of phosphorus loading.
- ▶ Among EPA's concerns over Vermont's proposal was a lack of assurance in the original plan that the reductions assigned to the nonpoint sources of phosphorus (agriculture and stormwater, primarily) would be achieved.
- ▶ The state's agriculture and environmental agencies were assigned the co-lead role in figuring out how best to improve assurances that the necessary reductions in phosphorus could be achieved.
- ▶ Federal agencies, primarily the United States Department of Agriculture Natural Resources Conservation Service (NRCS), were interested in how existing conservation programs might support these water quality efforts and how creating new incentives or some form of certainty program might augment and integrate state and federal efforts

# Agricultural Sector Outreach Fall, 2012



- ▶ 15 focus group meetings throughout the Lake Champlain region- north and south
- ▶ 400 people
- ▶ LFOs, MFOs, SFOs, crop, livestock, technical advisors, conservation districts, environmental groups, state and federal agency personnel
- ▶ 13 watersheds represented
- ▶ 2 large public meetings, one in Franklin County and one in Addison County

# Focus Group Discussions

- ▶ Participants in the groups provided feedback on what pollution prevention practices were currently in place, which were working, which seemed less effective, what were strengths and weaknesses of federal and state incentives and other programs.
- ▶ What were their ideas for improvements.
- ▶ What resources might be needed.

After each session, comments and ideas were summarized by the facilitators without attribution and circulated back to participants for review. All comments were summarized in a final report that was made available to the state agencies, the U.S. EPA, and the public.

# Refining Feedback and Ideas

- ▶ Using the feedback and ideas generated from the focus group meetings the facilitation team compiled summary lists.
- ▶ Using the lists, the team created two surveys that were distributed online, and at the two large public meetings that took place in December, 2012
- ▶ The full results of the surveys are available online

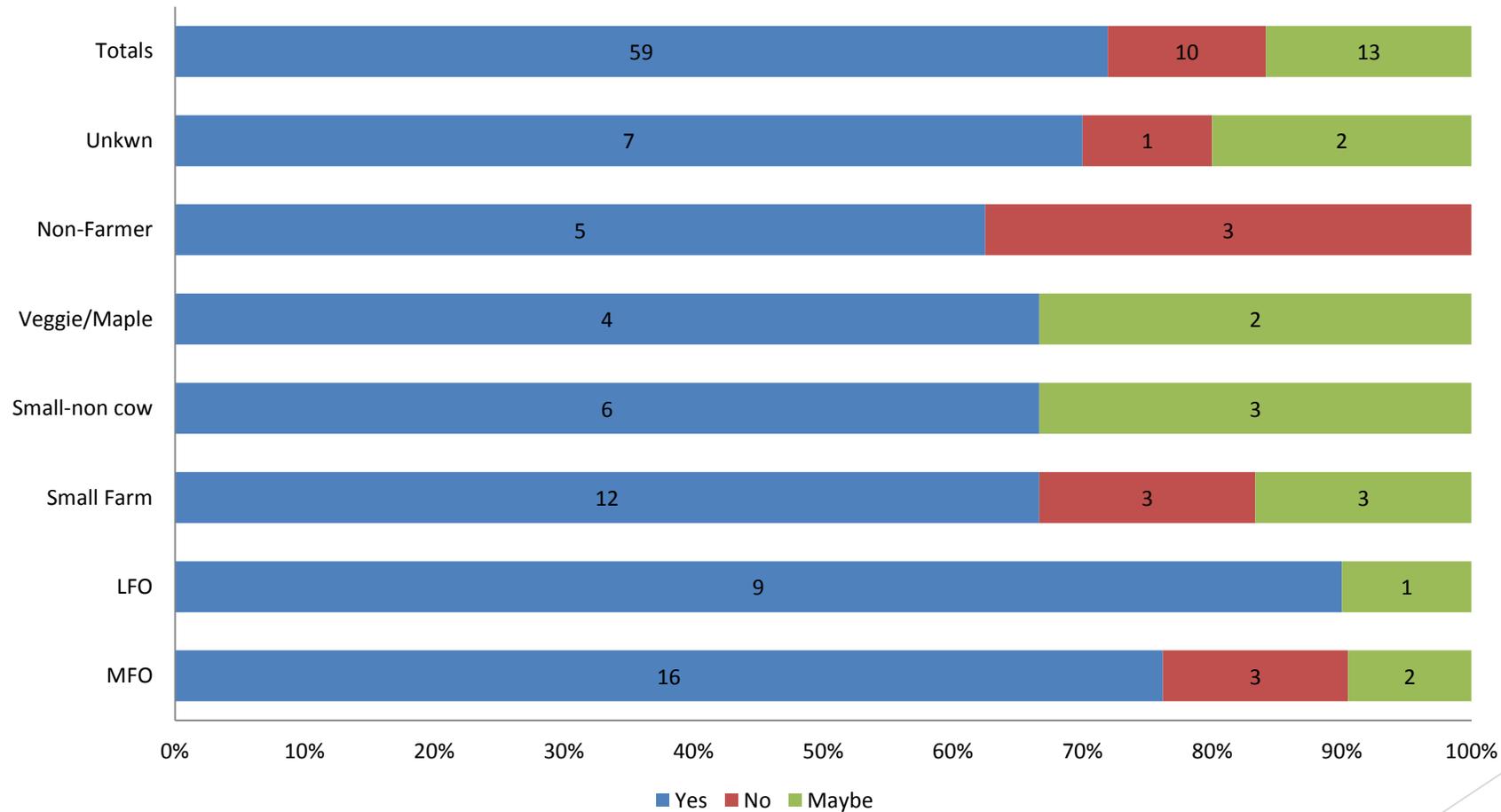
# Public Meeting Surveys

- ▶ 21 MFOs
- ▶ 11 LFOs
- ▶ 19 SFOs
- ▶ 9 Small farm livestock, non-dairy
- ▶ 5 Vegetable/maple growers
- ▶ 16 Non-farmer
- ▶ 15 Unknowns

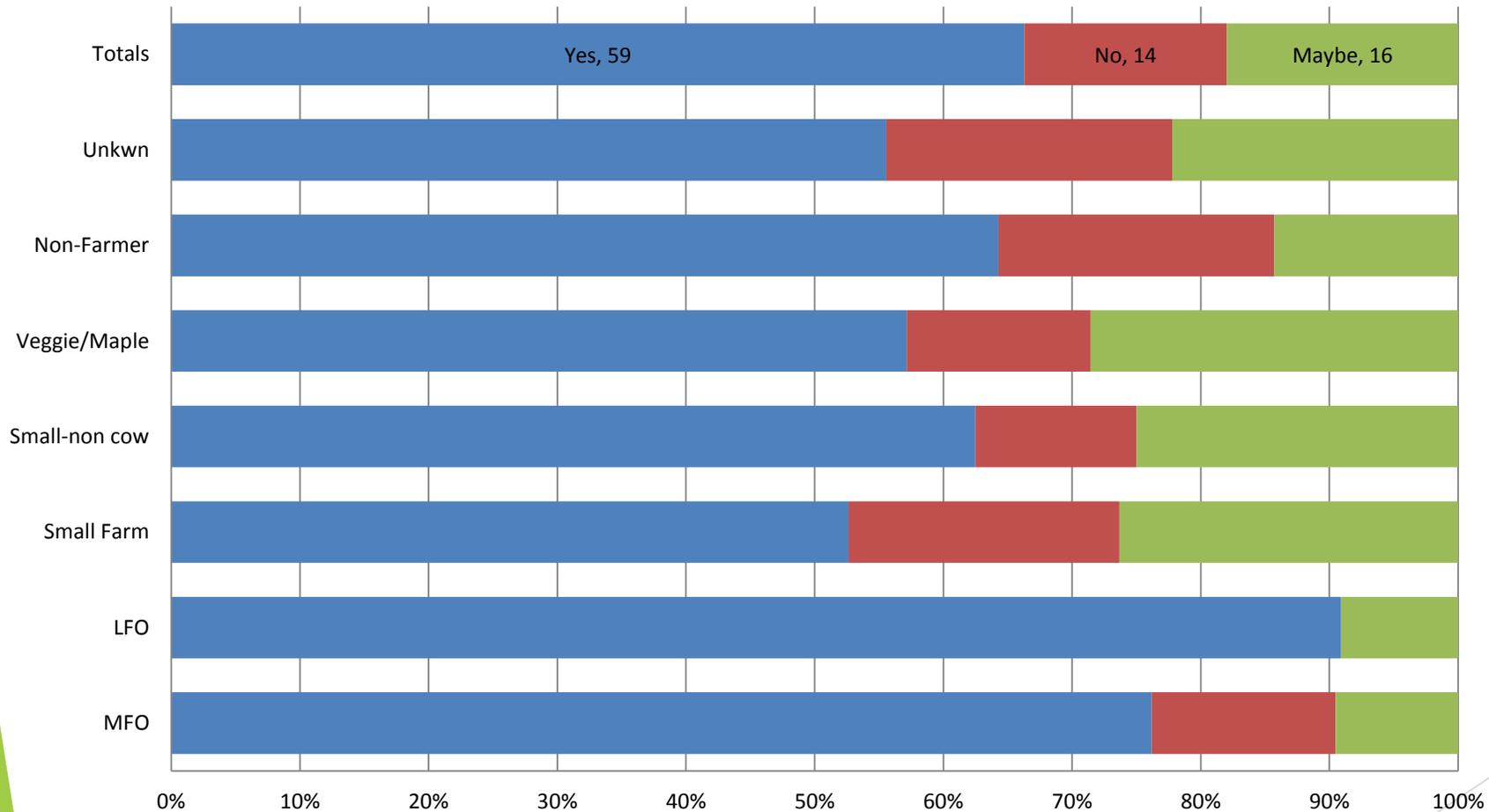
## *Watersheds Most Often Identified:*

- ▶ Otter Creek
- ▶ Missisquoi
- ▶ Lake Champlain

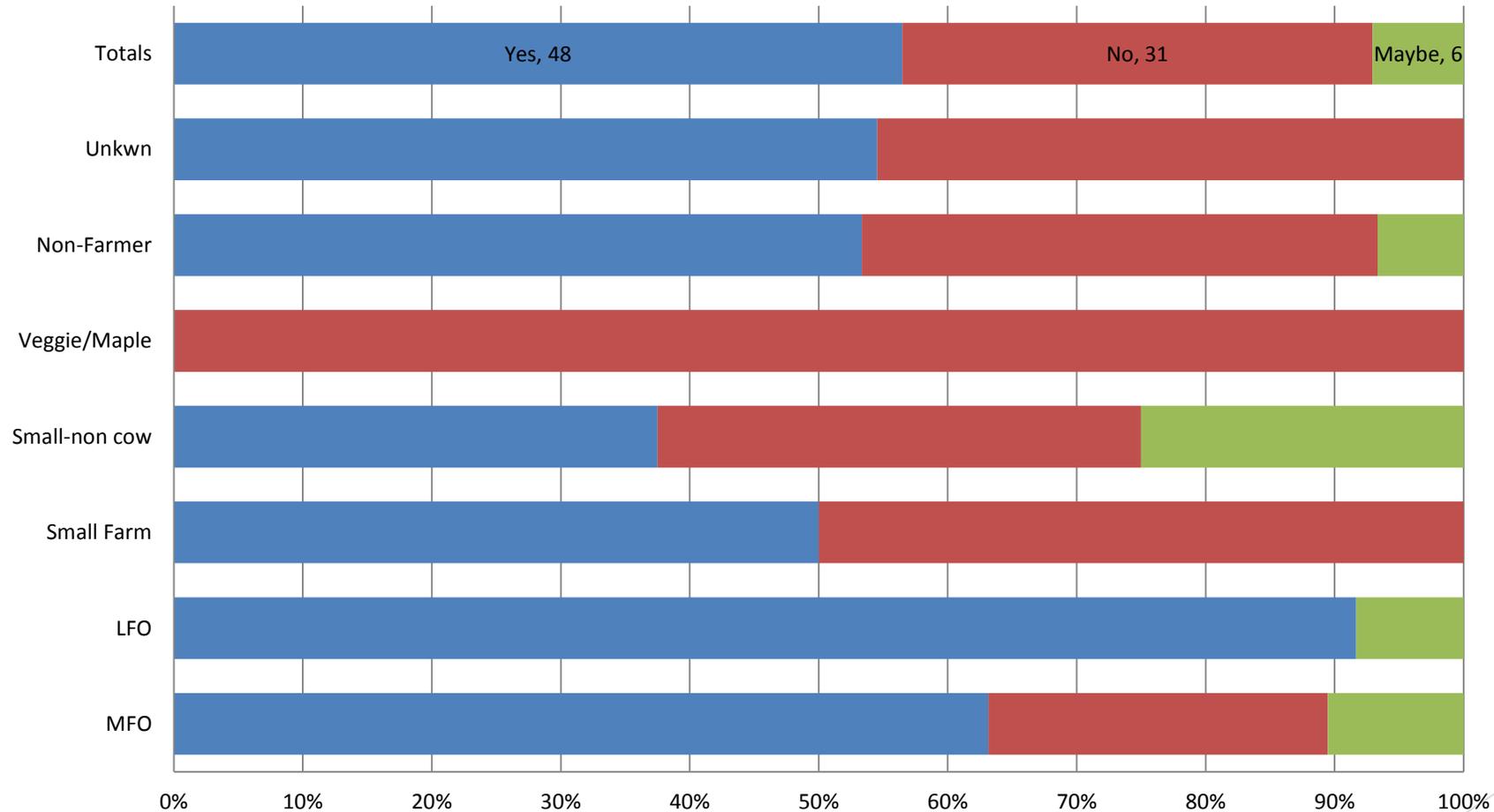
# Would you provide annual report to state on farm characteristics?



# Should farms attend mandatory annual water quality classes?



# Should farms have same buffer width and erosion standards?



# What non-traditional incentives would encourage implementation?

4. What non traditional incentives would encourage you to implement additional practices above those already required?									
	MFO	LFO	Small Farm	Small-non cow	Veggie/Maple	Non-Farmer	Unkwn	Totals	
Elevated Cost Share Rates	13	4	4	5	4	4	4	38	
Prioritization for funding in ranking above baseline	3	5	2	2	1	2	4	19	
Public Recognition for achieving higher standards	5	5	4	3	1	4	8	30	
Protection from state on future water quality efforts	4	5	3	1	1	3	4	21	
Forgiveness from EPA Inspections	6	2	2	1		3	2	16	
Ackn. that practice implem. by one gov't entity good for all	6	4	6	4	2	2	3	27	
Credit for practices already implemented on your farm	6	5	3	3	2	1	6	26	

# The Agricultural Working Group

- ▶ Secretary Ross and Commissioner Mears appointed the members of the AWG.
- ▶ Twenty-four (24) members of the agricultural community were selected to form a more intensive Agricultural Working Group (AWG). Members were geographically diverse and included dairy farmers, large and small, organic and conventional, livestock farmers, crop farmers and agricultural service providers.

The AWG was tasked with:

- ▶ Refining the ideas developed by the focus groups;
- ▶ Developing recommendations for the TMDLs;
- ▶ Considering how best to use incentives from state and federal programs.

The AWG met seven times between February 2013 and August 2013.



Minutes of all AWG meetings  
are available online

# FINAL REPORT OF THE Agricultural Working Group



**A PARTNERSHIP OF**  
VT Agency of Agriculture,  
VT Dept of Environmental Conservation,  
USDA Natural Resources Conservation Service  
and the Agricultural Community.

Facilitated by The Environmental Mediation Center (EMC)  
and the Consensus Building Institute (CBI)

# Broad Recommendations

- ▶ Additional resources are needed for the Agency of Agriculture for:
  - ▶ Education, technical assistance, and enforcement necessary for improved water quality.
  - ▶ A more robust enforcement program was seen as critical to successful implementation of improved water quality measures.
- ▶ All farms subject to the Accepted Agricultural Practices (AAP) should certify that they are in compliance with the AAPs.
- ▶ A more robust baseline of requirements to be met by farms that also allows farmers the option to develop “smart” tailored plans that allow for deviation from the mandatory across-the-board requirement in order to improve on-the-ground benefits for both water quality and agricultural operations.

# Farm Compliance with Regulations

## ▶ Key Findings

- ▶ Increased resources for education and technical assistance are essential to improving compliance with AAPs and other regulatory programs.
- ▶ Many farmers are not aware of the requirements of the AAPs or are only aware of a few high profile requirements such as the winter spreading ban.
- ▶ The Agency has insufficient resources to inspect and enforce the current regulatory framework.

## ▶ Recommendations

- ▶ The Agency of Agriculture should undertake a broad outreach effort on AAPs including web-based and written materials of the most important requirements.
- ▶ The Agency shall prioritize inspections on impaired watersheds and critical source areas.
- ▶ The Agency needs additional resources, especially if the regulations require increased enforcement and inspections.
- ▶ Custom applicators shall have mandatory training to ensure compliance with AAPs and NMPs.
- ▶ Mandatory education for farmers on AAPs shall be required.

# Farm Certification

## ▶ Key Findings

- ▶ The state does not have a complete inventory of the range of farms that engage in practices that may enhance or harm water quality.
- ▶ While Accepted Agricultural Practices (AAPs) have been in place for many years, there is no current widespread means, other than inspection of permitted medium to large farms, to ensure that farms are meeting these basic AAPs.

## ▶ Recommendations

- ▶ Farms subjected to the AAPs shall be required to provide an annual certification of compliance with the AAPs to the Agency.
- ▶ Farms already submitting annual plans, reports, etc. (MFOs and LFOs) may use that documentation as proof of annual certification.
- ▶ The certification will enable the Agency to identify and prioritize the need for and location of water quality initiatives and increase compliance with AAPs as well as provide targeted educational and technical assistance.
- ▶ Additional funding to the Agency and other entities is necessary for education, technical assistance, and inspections.
- ▶ Efforts directed at improving water quality will not produce positive results without additional resources.

# Livestock Exclusion from Surface Water

## ▶ Key Findings

- ▶ Fencing to exclude livestock maintains riparian habitats and reduces stream bank erosion, reducing sedimentation and soil phosphorus in waterways. It also prevents livestock from excreting into water.
- ▶ Livestock exclusion is an effective BMP to reduce nutrient inputs to surface water where a water quality impact exists from trampling of stream banks within a stream corridor.
- ▶ Other BMPs may be far more effective in reducing nutrient inputs to waterways than livestock exclusion.
- ▶ Appropriate and well managed or intensive grazing in some riparian areas can actually restore, not degrade, stream banks and waterways.
- ▶ Livestock in waterways is visibly detectable and of public concern, however the actual environmental impact of such conditions may vary significantly.
- ▶ The estimated cost of permanently fencing off livestock from all of Vermont's waterways ranges from \$33 million for temporary fencing to \$72 million for high tensile fencing with trees planted in the buffer zone. This does not include maintenance costs and those are not adequately covered in existing incentive programs.
- ▶ Livestock exclusion fencing will affect recreation access and use (hunting, hiking, fishing, and snowmobiling), and wildlife. Some recreationalists may cut or damage fencing in an effort to gain access.

# Livestock Exclusion from Surface Water

## ► Recommendations

- Amend the Definition of Livestock in the AAPs.
- Clarify the Definition of Waterways of Concern to target critical bodies of water.
- The current livestock exclusion policy in the AAPS should be amended so that:

1. Livestock exclusion from waterways of concern shall be required and apply if any of the following conditions exists on any livestock operation of any size, unless a waiver is provided: a. Where an eroding bank exists on waterways of concern; and b. Where adequate vegetative cover is not maintained, except at defined crossings.

2. Livestock exclusion shall be required in all production areas from all surface waters.

3. Reinforced stream crossings shall be required where appropriate.

4. Provide education to livestock owners about the resource concerns, program opportunities and technical assistance.

5. There needs to be a process to receive a waiver where appropriate and each application for a waiver will be reviewed on a case-by-case basis by the Agency.

6. BMPs for this action should not be prioritized over other BMPs because livestock exclusion may not be the most significant or important contributor to nutrient water impact. Livestock owners should be encouraged to apply for EQIP or CREP prior to being considered eligible for state funding in order to maximize use of federal dollars for the state

# Buffers

## ▶ Key Findings

- ▶ Vegetated buffers help reduce sedimentation and therefore decrease inputs of phosphorus into water.
- ▶ Vegetated buffers take up land that would otherwise be farmable for row and other annual crops, potentially reducing yield and production value on that land.
- ▶ Buffers play an important role in management of nutrients moving off farms and are important regardless of size of farm or operation.
- ▶ Buffers widths should take into account soil type, slope, and distance to surface water.

## ▶ Recommendations

- ▶ All farms regardless of size where nutrients are applied shall maintain a perennial buffer of a minimum of 25 feet unless they have an approved NMP based on NRCS standards and their requirements for buffers (but no less than 10 feet

# Erosion to T

## ▶ Key Findings

- ▶ T is the maximum amount of soil loss in tons per acre per year that can be tolerated and still permit a high level of crop productivity to be sustained economically for the long-term.
- ▶ T was designed to create a metric for a tolerable amount of soil loss. Although managing erosion is essential part of improving water quality, the T criteria was not specifically designed as a water quality parameter.
- ▶ Management of gully erosion presents challenges to farms and should be addressed.

## ▶ Recommendations

- ▶ The current AAP regulation requires limiting soil loss to 2T. The AAP regulation should be reduced to T.
- ▶ The AWG also recommends exploring over the longer-term alternative metrics other than T that could be better suited to directly addressing water quality

# Winter Spreading Ban

## ▶ Key Findings

- ▶ The current winter spreading ban should be modified. Current weather patterns have resulted in stronger rainfall events and less predictable weather that require greater flexibility for farmers to spread manure in a manner that minimizes impacts to water quality.
- ▶ Under the current ban, farmers need to spread manure just before the winter ban begins to ensure storage room for winter manure, and as soon as possible afterwards to empty storage. Unpredictable weather conditions during these times of the year can result in increased run-off.
- ▶ There are environmentally sound strategies for site-specific winter spreading that could allow for safe spreading during the winter, and alleviate the negative impacts of fall and spring spreading.
- ▶ Nutrient management plans (NMP) should serve as a tool to develop environmentally sound strategies for winter spreading tailored to the specific conditions of an individual farm.

# Winter Spreading Ban

## ► Recommendations

- Modify the current winter spreading ban.
- The existing dates of the winter spreading ban should remain unchanged for farmers who are following the current regulatory program. Please note that AAPs should be aligned with NRCS nutrient management standards for winter spreading.
- A farmer who has no history of violations of AAPs, MFO or LFO regulations, and has a NMP that was developed by a certified planner, and includes environmentally sound strategies for winter spreading tailored to the specific conditions of the farm, as approved by VAAFM may have the option of site-specific winter spreading. The AWG makes very specific recommendations on the criteria for deviation from the ban. Please refer to the actual document for the details.
- Custom Applicators including all employees and sub-contractors shall be certified by attending a class on the current regulatory programs concerning water quality.

# Nutrient Management Plans

## ▶ Key Findings

- ▶ Nutrient management planning can result in reduced phosphorus loading; maximizing soil health, reducing erosion, and efficient use of inputs for growing crops.
- ▶ Effective on farm nutrient management planning can provide greater flexibility to such actions as buffer distances, winter spreading dates, and other factors noted elsewhere in this document, as well as access to numerous state and federal cost share programs.
- ▶ Adherence to the NRCS 590 standard for NMPs is necessary for eligibility in state and federal cost-share programs for NMP development.

# Nutrient Management Plans

## ▶ Recommendations

- ▶ The Agency & the U.S.D.A. should expand farmer education programs about nutrient management planning
- ▶ The Agency should develop a screening tool that aids farmers and their service providers to streamline what farms need NMPs and specifics to be included in a farm's NMP. The screening tool should look at specific farm topography, adjacency to waterways, intensity of livestock use, and other factors, and not by the scale nor size of the farm in and of itself.
- ▶ The screening tool would have at least two purposes.
  - ▶ Identify farms needing nutrient management plans; and
  - ▶ To serve as at least one the basis for the farm certification recommendation

# Whole Farm Certification

## ▶ Key Findings

- ▶ Farms and farmers should be rewarded for outstanding water quality improvement efforts, innovation, and best practices.
- ▶ Whole farm water quality conservation planning is the gold standard for today and over time, should become accepted and regular practice across most farms in the future.
- ▶ As part of a whole farm incentives program, regulatory certainty could supplement financial, technical assistance, and other kinds of incentives.

# Whole Farm Certification

## ► Recommendations

- The Agency, NRCS and DEC, should develop the detailed outlines of a new incentives program to encourage whole farm water quality conservation planning and implementation.
- The goals of the program should include:
  1. Financial, reputational, and other incentives to outstanding actors;
  2. Adoption of whole farm water quality conservation planning over time; and
  3. Reward and advance best practice and innovation in on-farm practices that improve water quality.

The program shouldn't take monetary, technical and educational resources away from existing programs that address on-going problems and actions necessary for farms to meet water quality rules and regulations.

The program could include elements of regulatory certainty that the agricultural community may value more as the regulatory baseline of required water quality practices to be implemented in order to reduce pollution in Lake Champlain becomes clear.

# Agricultural Innovations Group

- ▶ Covering the same period of time, cross-sector dialogue regarding the phosphorus pollution initiative was ongoing with members of the environmental community.
- ▶ The Agricultural Innovations Group was formed to continue and strengthen this dialogue by providing members of the agricultural community and the environmental community to meet and work together.
- ▶ Members are comprised of a few members from the Agricultural Working Group and members of the environmental community.
- ▶ Goal of the work is to look at innovative long-term solutions
- ▶ Complementary to AWG

# Work of the AgInG

▶ The group has met five times, with a sixth meeting coming up shortly.

▶ Issues Addressed Include:

Water Quality Certification Program

Increasing Pasture Based Livestock Farming

Reducing Import of Grain Crops

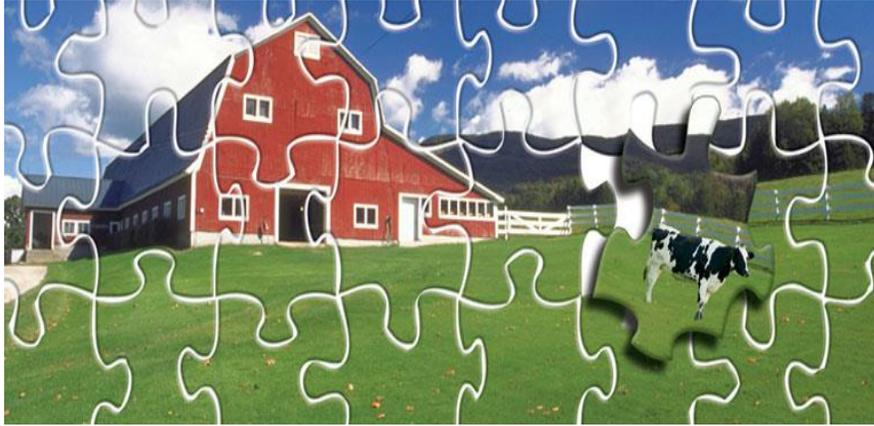
Water Quality Safeguards in Conservation Easements

# Future Work

- ▶ Upcoming meetings will focus on:
  - Energy
  - Enforcement and Compliance
  - Phosphorus Tax?



# Environmental Mediation Center



Matt Strassberg, Executive Director

Julie Hoyt, Associate Director

177 Paddy Hill Rd.

Moretown, VT 05660

(802) 583-1100

[www.emcenter.org](http://www.emcenter.org)