

FRIENDS OF NORTHERN LAKE CHAMPLAIN

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STEPS TO CLEANING UP LAKE CHAMPLAIN

The Choiniere Farm

April 17, 2010

Lake Champlain is a magnificent economic, social and natural resource, yet parts of the lake are plagued with pollution coming from urban/suburban land and from agricultural land. What actions will clean it up?

These photos provide an example. The aerial photo is the Choiniere farm in Highgate, Vermont in the 1980's. As was common for that era, the cows have eroded the steep bank between the barn and the Rock River, shown in the bottom of the photo.

With every rainfall more sediment and more nutrients were washed off the hillside and into the river. The cows were allowed in the river, where they made "direct deposits" to the waterway. Manure from the barnyard and from around the barn washed into the roadside ditch or directly into the river. Eventually most of these sediments and nutrients wound up in Lake Champlain.

Over the years Guy and Henry Choiniere have made many improvements and have greatly reduced the pollution coming from their farm. Their actions offer an example of the improvements that are being made on many farms throughout the Champlain Valley.

Steps taken by the Choinieres serve to improve water quality, soil quality, animal comfort, farm cleanliness, nutrient management and farm profitability. Technical and funding supports have come from the US and Vermont Departments of Agriculture, US Fish and Wildlife, Vt. Agency of Natural Resources, and local non-profit organizations. These are some of their projects:

- Fence cows out of the streams, and install watering systems in the pastures.
- Plant 4,000 trees on the farm, along the river and side-streams, to stabilize the banks and shade the river. Missisquoi River Basin Association provided volunteer labor.
- Use roof gutters and other practices around the barn to keep clean water clean, and to separate clean water from dirty water.
- Direct dirty barnyard water into the manure pit.
- Build a "covered barnyard" and construct cattle lanes- to keep cows clean and to reduce the amount of dirty water.
- Next, making improvements in the fields---
- Work with a crop specialist to develop a nutrient management plan, providing manure and nutrient recommendations. Following this plan leads to improvements in water and soil quality, and a more economical use of nutrients.

- Establish a crop rotation for corn and hay that improves water and soil quality and reduces the need for fertilizer.
- Use manure injection, which reduces loss of nitrogen to the atmosphere. Nitrogen is a costly nutrient necessary for plant growth.
- Use covercrops to reduce erosion off of corn land in the winter/spring and to build better soil health, with support from Friends of Northern Lake Champlain.
- The Choinieres have made numerous other smaller changes in the farm structures and in their practices.

The results are visible in the photo taken in 2009, located at the end of this article. That photo shows river banks that are completely vegetated, a graveled cattle lane in the foreground and the big white covered barnyard in the background. The barnyard production areas do not allow dirty water to enter the river. The changes in field practices are just as important, though not visible here.

Guy and Henry Choiniere have invested much time, energy and money to make huge improvements in water quality on their farm, with other benefits being improved soil quality, increased animal comfort and better farm profitability.

So where is the magic bullet that cleans up Lake Champlain? There isn't one. Cleaning up Lake Champlain will require a multitude of actions by farmers, businesses, state government, municipalities and every citizen.

We all contribute to the pollution of Vermont's waters, none of us can point fingers. And we all need to take action, as the Choinieres have. Talking about the problems doesn't solve them -- implementation projects and direct action are what will make the changes in water quality that will restore Lake Champlain, so that it is swimmable in all parts of the Lake, all summer long.

Friends of Northern Lake Champlain is a non-profit organization that works with farmers, businesses, citizens and government in the efforts to clean up Lake Champlain.

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