

Honorable Carolyn Partridge, Chair, and Members of the Committee
Vermont House Committee on Agriculture and Forestry
State House
Montpelier, Vermont

Dear Carolyn:

Thank you for the invite to provide information to your committee on work that has been done over the last several months to address ways to bring economic sustainability with environmental stewardship to the Vermont dairy sector.

In March of this last year, a report from a diverse group of 22 (see page 12 Vermont Dairy & Water Quality Collaborative Members) was submitted called the Vermont Dairy and Water Quality Collaborative Action Plan. I have attached a copy, and you also will find the recommendations that the group made after very in-depth discussions and information on the topics (page 7, Recommendations: A Detailed Description). It was the most significant comprehensive work, I believe, on the topics that has been done for some time.

In my brief time this morning, I want to focus however on work of the soil and nutrients working group findings, found on page 15 of the report. I also want to draw your attention to Recommendation No. 5, found on page 9 of the report, Restructure Regulations. During the process, we had the opportunity to hear of approaches to nutrient management on farms to address better water quality that are being used in other parts of the region and world. For example:

- We also suggest adopting a system similar to that used in the Netherlands that assures meeting targets for whole farm nutrient balances by establishing a phosphorus and nitrogen accounting system for farms. Such a system would require that phosphorus and nitrogen inputs and outputs be in balance (as measured at the farm gate) to the degree required to meet water quality goals over a specified time period, with an allowance for temporary fluctuations.

The Dutch system requires farms to use certified procedures to account for all nutrient inputs (animal manure, compost and sludge, fertilizers, animal feed, and animals) and all outputs (animal products including sold animals, animal manure, and sold crops at farm level). The required farm nutrient balance plans serve both as a land management tool and a regulatory tool. The Dutch program of technical assistance and farmer-to-farmer coaching helped many farmers achieved a 50% reduction in excess phosphorus within the first two years.

- We also talked to officials and others that were working on controlling N in Lake Taupo in New Zealand. See Page 25 of Report, Basin-Wide Phosphorous Market. As the paper indicates, the Lake Taupo policy became operative in 2011

and has since been functioning as the only known case of a farmer to farmer cap and trade for nutrients in the world.

- Attached also is a paper, NNY Research Advancing Dairies' Whole Farm Nutrient Efficiency. This paper discusses work by Dr. Quirine Ketterings of Cornell, director of the Nutrient Management Spear Program/ Dr. Kettering's has been working with a group of Northern Vermont dairy farmers in using a whole-farm nutrient mass balance software tool to identify opportunities to improve their firmwide use of N, P, and K and to evaluate opportunities to reach an optimum balance.

I do want the committee to know that the full report, Dairy and Water Quality Collaborative Action Plan was provided to both Secretary Julie Moore of ANR and Secretary Tebbetts of Agriculture. Staff of both their agencies were members of the study group.

I also have talked to Vicky Drew, State USDA NRCS Conservationist for Vermont. NRCS has funded a project in Vermont through Extension to develop a P mass balance, which is due to be completed by June of this year. Vicky tells me that once NRCS gets the final report, NRCS hopes to move forward with establishing a new interim standard for P mass balance in Vermont.

We are aware that farmers as well as the agencies and others have been working over a long period of time to address ways to achieve better water quality and soil health. As the dairy and water quality action plan indicates, tools exist to help farmers achieve OPTIMUM nutrient balance with the ultimate goal to be economically viable and environmentally sustainable.

- The crisis in dairy and the crisis in water quality are intertwined: we must address both or improvement will not emerge for either.
- We are past the point of tinkering - system change is required. As a starting point: (1) With regard to WQ we must shift to on-farm nutrient balance and outcomes-based incentives and regulation, because focusing on prescriptions does not induce practical solutions and will not achieve our WQ aspirations. (2) With regard to the dairy economy, we must create a dairy-in-transition R&D and economic development entity, similar to the Southern Maryland model that is successfully transitioning tobacco farms.
- Everyone in Vermont must "own" the dairy-and-water-quality crises: we must stop the finger pointing and realize that Vermont's culture, economy future requires us to all take responsibility.
- To that end, we are forming a coalition of Vermont's environmental NGOs and farmer-leaders to find common ground. We need the intelligence and the power of such a coalition to identify and advance the system change Vermont needs.

