



CHAMPLAIN WATER DISTRICT

Dedicated to Quality Water & Service



First In The Nation ~ Excellence In Water Treatment, Partnership For Safe Water

To: Vermont Legislative Contacts

From: Jim Fay, General Manager – Champlain Water District

Date: April 19, 2019

Subject: Information on Drinking Water Treatment Residuals (DWTRs)

Champlain Water District (CWD) is a municipally chartered regional organization supplying drinking water and fire protection to twelve (12) municipal water systems in Chittenden County. CWD's "First in the Nation" Excellence in Drinking Water Treatment process results in a safe drinking water treatment residual (DWTR) that, after using Vermont's cold winters to produce a natural freeze-dried product, has tremendous potential to improve management of phosphorus and protect water quality. DWTRs absorb and immobilize phosphorus from agricultural runoff, urban stormwater, and wastewater, thus preventing excess phosphorus from reaching Lake Champlain. The use of DWTRs can help Vermont achieve water quality goals required in the recent Total Maximum Daily Load (TMDL) for Lake Champlain, and help agriculture by creating more balanced nutrient management plans, and reducing the need for farmers to purchase additional nitrogen based fertilizers. The attached information is from a workshop that CWD recently hosted with Stone Environmental, Friends of Northern Lake Champlain, and Ice.Nine Environmental Consulting showing the research into the many promising aspects of this very useful, natural product.

CWD requests that DWTRs continue to be supported for the value they can provide toward meeting the new phosphorus TMDL, and utilized as a key tool for reducing phosphorus in agricultural, stormwater, and wastewater applications. David Dean on the House side was historically a proponent of using DWTRs for this purpose given CWD's past research and published papers. DWTRs are **NOT** wastewater biosolids or sludge and must not be regulated as such. DWTRs are the polar opposite of wastewater biosolids. Please contact me (Cell - 373-4142/Email – jim.fay@champlainwater.org) for additional information or testimony should discussions affecting this useful DWTR media develop.

Thank you for your considering our comments.

Champlain Water District Fact Sheet

The Potential of Drinking Water Treatment Residuals for Phosphorus Management

- Lake Champlain is polluted by excessive phosphorus (P) loads from agricultural and urban sources; efforts to restore water quality depend on reducing P inputs to the Lake.
- In some parts of the Lake Champlain Basin, the needed P reductions will be difficult to achieve unless we use all the tools available.
- The Champlain Water District (CWD) produces 300 cubic yards of alum-based “freeze/dried” drinking water treatment residuals (DWTRs) from treating Lake Champlain water to supply drinking water for 75,000 people in Chittenden County.
- CWD’s DWTRs consist of zooplankton, diatoms, and other naturally occurring Lake Champlain ecosystem particulate matter that are removed by filtration at the drinking water treatment facility using aluminum sulfate (alum) as the coagulant. CWD’s dual water source intakes are located one half mile off shore at a depth of 75’ in the northern channel of Shelburne Bay.
- Currently CWD residuals are transported to a neighboring composting facility; other utilities send their DWTRs to wastewater treatment plants or landfills.
- CWD believes that its engineered “freeze/dried” DWTRs needs to be put to a more beneficial use to help control P in the Lake Champlain Basin and elsewhere at essentially no cost.
- Research across the U.S. and in Vermont has shown that alum based DWTRs can immobilize significant amount of P and prevent its release into waterways.
- DWTRs can perform this function when added to manure, incorporated into soils, and when used as a retention media to directly treat polluted runoff from agricultural and developed lands.
- Use of CWD DWTRs to capture P is environmentally safe; as long as soil pH and application rates are managed properly.
- Research demonstrates that immobilization of P by DWTRs is very long-lasting;
- Use of DWTRs from CWD can make significant contributions to meeting TMDL goals for P in both agricultural and urban stormwater settings.