H.579

Introduced by Representative Sheldon of Middlebury

Referred to Committee on

Date:

Subject: Conservation and development; water quality; alum application

Statement of purpose of bill as introduced: This bill proposes to prohibit a person from discharging alum into a water of the State without first obtaining a permit from the Secretary of Natural Resources. The bill also would require the Secretary to adopt by rule permit criteria for the use of alum in lakes, ponds, and other waterbodies in the State.

An act relating to establishing criteria for the application of alum to Vermont waters

It is hereby enacted by the General Assembly of the State of Vermont:

Sec. 1. FINDINGS

The General Assembly finds that:

(1) Some Vermont lakes and ponds have experienced persistent cyanobacteria blooms in recent years that typically start in early summer and last into the fall. These blooms impair recreation and may contain toxins that can harm individuals, pets, and wildlife.

(2) Cyanobacteria blooms are often driven by high phosphorus concentrations, and some waterbodies, including Lake Champlain, have been listed by the Department of Environmental Conservation as "impaired" by phosphorus. For impaired waterbodies subject to an established Total Maximum Daily Load (TMDL) for phosphorus, the Agency of Natural Resources (ANR) has worked with partners to reduce nonpoint sources of phosphorus in the watershed.

(3) Despite phosphorus reduction efforts, residual or legacy phosphorus may persist in a waterbody and continue to contribute to cyanobacteria blooms.

(4) Applying alum to a waterbody or treating the waterbody with alum can limit or temporarily eliminate cyanobacteria blooms as the alum binds to phosphorus and immobilizes it in the lake sediment, thereby preventing the phosphorus from contributing as fuel to the cyanobacteria blooms.

(5) While effective in reducing blooms and lowering water turbidity, alum treatment can harm aquatic invertebrates, fish, plants, and other aquatic biota. Vermont has established a State water quality standard for aluminum because of these harmful effects.

(6) The beneficial results of alum treatment are temporary if the sources of phosphorus, particularly nutrient runoff from farm fields, wastewater, and developed lands, are not reduced to near zero prior to the application of the alum.

(7) If the discharge of phosphorus is not curbed prior to application, the alum treatment will need to be repeated every few years, in a cycle that has not been well studied and may continue to harm lake water quality and aquatic biota.

Sec. 2. 10 V.S.A. § 1285 is added to read:

§ 1285. PERMITTING STANDARDS FOR APPLICATION OF ALUM; RULEMAKING

(a) As used in this section:

(1) "Alum" means a class of hydrated double sulfate salts of aluminum that includes aluminum sulfate, sodium aluminate, potassium aluminum sulfate, or other aluminum compounds that are deposited in water for the purpose of the aluminum particles binding to phosphorus particles to prevent the phosphorus from contributing to cyanobacteria blooms.

(2) "Applicant" means the entity applying for the alum treatment permit.

(3) "Cyanobacteria" means photosynthetic bacteria that are naturally found in freshwater, including Lake Champlain and other Vermont waters.

(4) "Cyanobacteria bloom" or "harmful algal bloom" means a dense growth of cyanobacteria in freshwater or brackish water that results in discolored water or scums and may produce toxins that can harm individuals, animals, or the environment.

(b) No person shall discharge alum into a water of the State without first obtaining a permit from the Secretary in accordance with section 1263 of this title, the Vermont Water Quality Standards, and the Vermont Water Pollution Control Permit Regulations. An applicant for an alum discharge permit is limited to the municipality or municipalities in which the waterbody proposed for treatment is located.

(c) On or before December 1, 2026, the Secretary shall adopt by rule permit criteria for the use of alum in lakes, ponds, and other waterbodies in the State for the treatment of cyanobacteria and to limit cyanobacteria blooms. The rule shall require the applicant to do the following before a permit can be granted:

(1) demonstrate a direct injury from the loss of water quality and the cyanobacteria blooms in the waterbody, such as health impacts or reduced value of property adjacent to the waterbody;

(2) present an analysis of alternative approaches other than the use of alum to reduce or eliminate the cyanobacteria blooms and, when appropriate, show that alternative approaches were implemented but did not result in measurable water quality improvements;

(3) establish a notification process to adequately inform the public prior to and after the alum treatment;

(4) require the reduction or elimination of phosphorus loading from external sources to the waterbody proposed for alum treatment and that these limits on external phosphorus loads will be maintained post-treatment;

(5) comply with the Vermont Water Quality Standards to protect designated uses and manage the concentration levels of aluminum so as not to exceed acute or chronic numeric criteria set for aquatic life, including meeting the criteria set for acceptable chronic toxicity to freshwater aquatic biota, such as native plants, macroinvertebrates, mollusks, and fish, residing in the waterbody proposed for alum treatment;

(6) monitor impacts to aquatic biota, turbidity, and water quality, including levels of pH, hardness, temperature, total phosphorus, sediment phosphorus, dissolved aluminum, dissolved oxygen, and other factors as determined by the Secretary, both pre- and post-treatment with alum, which can be performed by a subcontracted third party if needed; and

(7) assume the costs of the treatment and the pre- and post-treatment monitoring processes.

Sec. 3. IMPLEMENTATION

The Secretary of Natural Resources shall not issue a permit under 10 V.S.A. § 1285 for the application of alum to a lake or pond until the rulemaking required under 10 V.S.A. § 1285(c) is complete.

Sec. 4. EFFECTIVE DATE

This act shall take effect on passage.