To: The VT House Committee on Environment and Energy
From: Jan Jones
Date: March 15, 2023
Subject: H.31 Testimony

Thank you for allowing me to speak today in support of H.31. My name is Jan Jones, and I have lived for in Hubbardton for about 40 years. I'm appealing to you today not as one with specific scientific expertise, but as an ordinary Vermont person with deep love of our natural world, and gratitude for the privilege of living in a state that values stewardship of wild places, especially our publicly "owned" freshwater. Much of my professional life centered around natural science. I've worked as a Park Naturalist at Bomoseen State Park, a nature columnist, an amphibian field research assistant, and for twenty years as a public-school teacher focusing on environmental education. The latter was one of the most rewarding things I ever did because I got to take kids to local ponds and lakes - and when they started dipping nets along the edges, and their faces lit up at what was beneath the surface, I knew I'd set them on Rachel Carson's pathway to wonder. My goal was to help them understand the interconnectivity of all the living & non-living things in a place, and how they work together (the most basic understanding of an ecosystem). My goal was to prod them into continually asking questions, switching lenses, looking at the whole system. Stewardship begins here, at the moment that you begin to love, ponder, and understand the intricacies and fragility of both the visible and secret worlds,

It is here in this littoral zone, the very place where little kids splash and tadpoles wiggle, where salamanders hide amongst the weeds, where ducks and herons probe the muck for invertebrates; in these same edges and quiet coves sought by kayakers and birders – this place is the target for herbicides.

The VT Aquatic Nuisance Control statute tells us that permits may be issued if there is "acceptable risk to the nontarget environment." What is "acceptable" and how is risk determined in the absence of any long-term data? There is no doubt that ProcellaCor (and its predecessors) do a good job of killing milfoil (until it develops resistance), but how can a claim be made that other species will not be harmed when the chemical has been used for only a few years? Have we learned nothing from our experiences with DDT, Agent Orange, RoundUp, and now PFAS present in a vast array of products (including some herbicides and their containers)? The EPA registered all these chemicals and determined THEIR use to have acceptable risk.

I read through the 247 pages of the EPA 2017 Environmental Fate and Ecological Risk Assessment for Florpyrauxifen-benzyl (the active chemical in ProcellaCOR), and I've listed a few things that surprised me:

- "Neither reptiles nor amphibians are tested." EPA p.74
- "Only a few surrogate species for both freshwater fish and birds are used to represent all freshwater fish (2000+) and bird (680+) species in the U.S. For mammals, acute studies are usually limited to Norway rat or the house mouse." EPA p.74
- Benthic invertebrates (the base of aquatic food web prey) displayed chronic toxicity effects in sediment studies at all concentrations. EPA p.11
- "Chronic honeybee studies using florpyrauxifen-benzyl (or transformation products) were not submitted." EPA p..85
  (Just because it isn't a neonicotinoid doesn't mean that it's safe.)

- Their assessment includes **no long-range data** because **there is none** yet. It doesn't address potential interactions, or cascading effects in the ecosystem as a whole, or field studies.

Please think about this. Our DEC relies on EPA toxicity studies that never included amphibians. In just a few weeks, frogs will be chorusing from our lakes and wetlands. Do we really want to risk losing their songs from our soundscape because we're acting on uncertainties? The unprecedented worldwide extinction rate of frogs is due to multiple stressors working simultaneously, pesticide use being one of them.

To assess risk to birds, the EPA only tested bobwhites, mallard ducks, and a finch. What about the piscivorous loons, ospreys, and eagles (the latter two species having returned from the brink after many of them crushed their own babies due to DDT-thinned eggshells)? What about the omnivores whose diets include aquatic plants, snails and other benthic invertebrates in the muck? What about the swallows and other insectivores, who rely on gossamer-winged prey that began life as creeping nymphs underwater? For nearly all bird species, EPA risk is calculated via computer modeling. The north end of Lake Bomoseen is a designated Audubon Important Bird Area utilized by 166 different avian species, some rare, with varied diets and lifestyles. Its marshes are particularly important to waterfowl. Currently a ProcellaCor permit application is being reviewed that includes this area.

Every bit of the tiny life swimming and creeping through the littoral zone is potential food for something else. Even if ProcellaCor or its breakdown components don't tend to bioaccumulate, what about the EPA finding that benthic invertebrates displayed chronic (lifecycle) toxicity effects at all concentrations? What about shrews and star-nosed moles identified as being at risk because their diet is predominantly invertebrates? The EPA risk assessment leaves us with many unanswered questions. Are we really looking deeply at the whole system, including the unique attributes of each setting, before resorting to herbicides?

And here are more questions:

- Are the complex relationships between phosphorus (P), milfoil (EWM), and blue-green algae blooms fully understood? EWM takes up P as it grows. Where does that P go if large swaths of EWM are killed and left in the lake? Excess P in lake sediments is a known cause of toxic algal blooms. By leaving P from killed EWM in the lake rather than removing it via mechanical weed management, could we be tipping that balance?
- Isn't it time to reevaluate EWM's place after 40 years in Vermont; to conduct our own studies of how it functions in individual ecosystems (food, habitat structure, water chemistry); time to re-evaluate whether we could be demonizing a valuable resource? My CSA farmer told me he would love to know how he could get some harvested milfoil for soil augmentation. This will be impossible for him if Lake Bomoseen gets an herbicide permit.
    - The ProcellaCor EC label clearly states, "To minimize potential exposure in compost, do not allow livestock to drink treated water. Do not compost any plant material from treated areas." Thus, farmers cannot use harvested EWM or use treated water for irrigation.

- An argument for killing EWM claims that it crowds out native plants. Yet based on the raw data from SOLitude Lake Management's 2021 Submersed Aquatic Plant Survey of Lake Bomoseen's littoral zone:
    - At 87% of the points, EWM was found growing with at least one other native species.
    - At 50% of the points, a native plant had greater density than EWM
    - EWM was found exclusively at only 2% of the points.
    - At 7% of the points, only other vegetation was found, no EWM.
    - At 4% of the points, no plants were found.
    - EWM was rated as "dense" (hard to lift the rake into the boat at only 9% of the points.
    - At 34% of the points, the amount of milfoil found was "a trace" (fingerful on a rake).

  After 40 years of growth in the Lake Bomoseen, doesn't this suggest that we should revisit our assumptions that EWM will crowd out native species and take over waterbodies if not aggressively managed (killed)? Lake Bomoseen could be an ideal study site. Most of the studies on EWM are old and incomplete.
- Have all non-chemical EWM options been tried and publicly documented using a systematic, data-driven approach so that we, as "citizen scientists" could build on those experiences? I hear things like, "Weevils? We tried them. It didn't work." Or "Harvesting just spread the milfoil." But where is the documentation to systematically analyze why?

And finally, a few thoughts on equity.

The current permitting procedure allows anyone to initiate an application to treat any number of acres of a lake with herbicide, pay $500, and open the DEC gate – the permit application gets reviewed utilizing agency resources and expertise for months without any input, alternative ideas, or opportunity to ask questions on the part of other public stakeholders. Meanwhile, if another person (or group) wants to treat ZERO acres of the same lake with chemicals, managing it instead as an herbicide-free "control" environment, they cannot pay to open the gate and be part of a conversation. Herbicide applications are often initiated quietly by people with privilege and knowledge of how the system works, most often by paid homeowner members of Lake Associations, while the general public remains unaware until it's too late. The public comment window is the only time to oppose an herbicide plan. Being "invited" to comment at the end of a process is certainly not the same as being at the table from the beginning. Permits like the pending Bomoseen request have been granted to treat at least ten lakes in VT to date, often despite such objections. This needs to change.

We've been told that "aquatic nuisances are undesirable or excessive substances that interfere with recreational potential." Whose recreation? Are kayaks not as important as big motorboats? Anglers not as important as skiers? Why should big boats that use the open water also control the edges? Is that equitable? I feel safer paddling when the weeds cut their speeds; and both the weeds and slower speeds coming into docks lessen erosion.

We've been told that decisions to issue herbicide permits are based on "benefit to or no undue adverse effect upon the public good." Who determines the "public" that receives the "benefit"? Are we not all stakeholders who should have equal say in what's good for our lake? Do ecotourism and quiet sports have a place in the economic picture? What about those thousands

of us who believe that a “nuisance” should never trigger actions that gamble with the future, and pesticides are meant only for emergencies?

I am speaking today on behalf of a diverse group of thousands of people coming from many perspectives – fishermen, public health professionals, chemists, birders, kayakers, botanists, swimmers, parents, teachers, homeowners who drink the water, naturalists, organic farmers, biologists, business owners, guides – people who have so many questions but feel left out of the process. Most of our concerns won’t be answered by Rulemaking because Rulemaking must answer to an outdated statute. While I still trust Vermont legislators to protect our natural communities, my confidence has been shaken by this experience. I had believed that DEC actions were always based on both long-range and current studies, site-specific data collection, deep understanding of ecology, and equity in terms of human stakeholders. The realization that even here in my beloved state, many of the decisions are based on chemical company promises and EPA claims has made me very worried about our future. “Practically non-toxic” (in the words of the EPA) just isn’t good enough when it comes to putting stuff in our precious fresh water. We DO need more studies; we DO NOT have the information we need. So, in this limbo of uncertainty, let’s follow the precautionary principle and take a break.

Please pass H.31 because our leaders need time away from business-as-usual to generate new ideas about how to best work together for our environment. Pass H.31 because Vermonters believe in equity, Clean Water, healthy ecosystems, environmental legacy, pristine places for recreation and solace for all people, young and old.

I am speaking today on behalf of the children dipping nets now and in the future. Please pass H.31 so those nets will always come up squirming with frogs and dragonfly nymphs.

Respectfully.
Jan Jones
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