**Aquatic Nuisance Control**
**Individual Permit Application –**
**Response to Comments**

VERMONT DEPARTMENT OF ENVIRONMENTAL CONSERVATION
WATERSHED MANAGEMENT DIVISION
LAKES & PONDS PROGRAM

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| Permittee: Lake St. Catherine Association<br>Co-Permittee: SOLitude Lake Management<br>Permit Number: 4233-ANC-C | Control Activity: Pesticide (Herbicide – SePRO ProcellaCOR® EC)<br>Waterbody: Lake St. Catherine, Poultney & Wells |

The above referenced Aquatic Nuisance Control Individual Permit #4233-ANC-C approves the use of pesticides in Lake St. Catherine, Poultney & Wells.

The Secretary of the Agency of Natural Recourses (Secretary) placed the draft decision on public notice between 10/30/2024 and 12/2/2024, and held a public meeting on 11/20/2024, in accordance with the permit process as identified under 10 V.S.A. Chapter 170. Public comments were received during the notice period. The following is a summary of comments received and the responses to those comments provided by the Secretary and the Watershed Management Division of the Agency of Natural Resources (collectively, the Secretary). Where appropriate, comments have been paraphrased, consolidated, and categorized for clarity. Duplicative comments were combined where appropriate.

**Comment 1:** I fully support the approval of this permit. I remember vividly the huge milfoil bed growing in front of my camp on the lake that was so thick and high (at least 15 feet off the lake bed) that I worried that my young sons would get tangled in it and not be able to extract themselves. It is so nice to see our native plant community flourish in the absence of this noxious, non-native invasive plant, providing an excellent environment for fish and other aquatic organisms.

**Response 1:** The Secretary acknowledges this comment.

**Comment 2:** I highly encourage the Vermont DEC to approve Lake St Catherine's Aquatic Nuisance Control Permit. Milfoil has been a terrible disruptor on our lake in the past. The Lake St Catherine Association (LSCA) has been making great strides in getting this invasive species under control. I have a home located on the end channel and must travel through the little lake to get to the main part of the lake. The Milfoil gets so thick in the little lake, it bogs down the props on my boats, and I must reverse the engine several times to get across the lake. A few weeks after treatment I can enjoy the crossing of the lake. Sometimes kayaking even gets difficult in some Milfoil thick areas. I know the little lake could take decades to recover to its prior use (sailing, water skiing, trolling for Northern Pike, etc.). The LSCA is initiating recovery through the watershed plans, controlling lakeshore erosion via Lake Wise, and educating the lake users and surrounding landowners. As a lake property owner since 1968, I have followed various treatment plans including the Harvesters in the 1970s, Aeration in the recent years, and various herbicide treatments. I believe that the LSCA, with support from the DEC are following the appropriate science-based approach to controlling invasive species.

**Response 2:** The Secretary acknowledges this comment.

**Comment 3:** I fully support the work the LSCA is doing and the finalization of this permit. The lake is pristine once again and it is critical that ProcellaCOR be available as a tool to keep milfoil under control. It is so nice to see our native plant community flourishing once again. Let's keep it that way!

**Response 3:** The Secretary acknowledges this comment.

**Comment 4:** My family has had a camp on Lake St Catherine since 1986. I can remember the horrible problem of milfoil being in the lake when my children were growing up. It would be floating in the water once the boat propellers cut thru it and washed the milfoil up onto the shore. We were constantly gathering it out of the water every day. My children would complain about it while swimming since it floated on top of the water. I remember the days of Hungry Harvey which simply cut the milfoil and allowed it to re-root in the lake. Although this was a temporary measure it actually made the problem worse. Since the use of the chemical treatment the lake has been much improved. I feel the minimal amount used to treat the lake is the best solution. I kayak around the lake daily and see that most of the lake is in great shape. I support the application be accepted and that Lake St Catherine continue with the process they have used in the past to maintain the quality of the water on our lake.

**Response 4:** The Secretary acknowledges this comment.

**Comment 5:** For the past twenty years the DEC has allowed for the use of toxic chemicals in an attempt to eradicate milfoil in Lake St. Cathrine. First, SONAR was used. This chemical killed nearly as many native plants as it did milfoil. Next came Renovate; another chemical that was deemed so toxic that it shouldn't be used, but since there was no other alternative, it was allowed. Today we now have ProcellaCOR; the new and improved chemical that supposedly just kills milfoil. It does not. It should be noted that all three of these toxic chemicals have been created by SEPRO. It's clear that once you go down the road of chemical use there's no turning back. Amazingly, after twenty years the desire to use more chemicals still reigns.

I would like to offer as evidence of the misconception of ProcellaCOR this video produced by the Lake George Association. They are perhaps the only association that's taken the initiative to show what really happens when this chemical is used. Here's the video: https://youtu.be/hUI18w2O5e8

The simple fact is that there are other, more environmentally friendly, methods of managing milfoil than using toxic chemicals that don't appear to work in the long run.

**Response 5:** See response 9, 10, 16, 19, 22, 39, 40, 41, 47, 59, and 108.

**Comment 6:** The Lake St Catherine Association has served us well for decades. This situation is no different. I wholeheartedly support the endeavors of those who labor for a lake they love and wish to protect for themselves and for future generations.

**Response 6:** The Secretary acknowledges this comment.

**Comment 7:** I would like to indicate my ongoing support for the approval of the Aquatic Nuisance Control (ANC) permit to control milfoil in Lake St. Catherine. My family has had a place on the lake for over 100 years, so there are many stories to be told about water quality and "the way things used to be." The introduction and takeover of milfoil in the lake ecosystem has been considered detrimental to our quality of life at the lake. Over my greater than 40 years at the lake, I have seen the impact of ineffective measures such as Hungry Harvey, no matter how fun it was to watch as a kid. The use of the herbicide ProcellaCOR EC treatment has been immensely beneficial in reducing the milfoil population and improving water quality over the years. It has been great to see and get to know many of the native aquatic species that I now spot snorkeling around our bay. I also believe in the fact-based evidence showing that these treatments are safe and effective. These treatments, combined with the DASH team, have made a noticeable difference in water quality in a relatively short time. As a PhD research scientist, I fully support their continued use.

**Response 7:** The Secretary acknowledges this comment.

**Comment 8:** Please STOP letting the LSC Association use chemicals to manage Milfoil in Lake St. Catherine. Poisoning Lake St. Catherine, Wells brook, lower Mettawee River and Lake Champlain for 20 years without a positive result is irresponsible in this day and age. Please DENY permit #4233-ANC-C.

**Response 8:** In accordance with the review standards under 10 V.S.A. § 1455(d), the Secretary **shall** issue a permit for the use of pesticides in waters of the State for the control of nuisance aquatic plant if the Secretary determines that: (1) there is no reasonable non-chemical alternative available; (2) there is acceptable risk to the non-target environment; (3) there is negligible risk to public health; (4) a long-range management plan has been developed which incorporates a schedule of pesticide minimization; and (5) there is a public benefit to be achieved from the application of a pesticide or, in the case of a pond located entirely on a landowner's property, no undue adverse effect upon the public good.

Based on the information considered in review of the application, the Secretary has determined that each of the statutory criteria are met.

**Comment 9:** The report from Solitude says "Coontail is typically not impacted by ProcellaCOR EC treatments except when using rates of 4 or more PDUs per ac-ft. " However, a 2021 report for Lake St. Catherine from Solitude shows a precipitous drop in coontail. Frequency of Occurence for the prior 10 years had been between 54% and 92%. The summer of treatment with ProcellaCOR saw a drop down to 0% occurance, and it bounced back to just 8 percent the year after. In 2023, that number is just 4.8%. I am concerned that the impacts on native plant populations were actually very significant in Lake St. Catherine previously, and that they would further the lasting impact that they already made.

Can the applicant share why this happened in 2020, and what is different now? Literature at that same time noted the same treatment thresholds and sensitivities to Coontail.

Thank you.

**Response 9:** Negative impacts on beneficial native aquatic plants are anticipated to be minimal to none (i.e., an acceptable risk) while it's anticipated that there will be an overall benefit for the native aquatic plant community. To evaluate this determination using data collected in Vermont, DEC's Lakes and Ponds Program conducted a pre- and post-treatment statistical analysis of the aquatic plant survey data from Vermont waterbodies treated with ProcellaCOR, which is available on our ANC webpage. In summary, the analysis showed that after a ProcellaCOR treatment, there was a statistically significant decrease of the lake-wide frequency of occurrence for Eurasian watermilfoil (target aquatic invasive species) and coontail (non-targeted native species) as well as there being a statistically significant increase of the lake-wide frequency of occurrence for the beneficial native species Illinois pondweed and American eelgrass. The impact on coontail was anticipated as that is a species that is listed as being controlled on the ProcellaCOR product label. However, this impact has been determined to be an acceptable risk for several reasons:

(1) The product label identifies that higher treatment concentrations may be required to control coontail, meaning that treatment concentrations can be reduced in areas where a treatment may overlap with a coontail population;

(2) treatment areas can be delineated to avoid known locations of coontail populations; and

(3) while there was an observed decline in the frequency of occurrence for coontail post-treatment, coontail populations continue to persist and have not been extirpated from a waterbody.

Regarding the statistically significant increase in several beneficial native aquatic plant species and the remainder of native aquatic plant species having no observable impact, this is viewed as a positive impact on the overall biological integrity of native aquatic plant community. These results demonstrate that targeted Eurasian watermilfoil control projects are not resulting in the suppression of all aquatic plant species lake wide,

that native plant species can reestablish in areas once dominated by Eurasian watermilfoil, and that the benefits of the structural habitat provided by aquatic plants remain.

Specifically in Lake St. Catherine, native aquatic plants controlled by ProcellaCOR EC as identified on the product label have been recorded as being present. This includes watershield, *Brasenia schreberi*, last observed in 2022 with a <1% frequency of occurrence within Lake St. Catherine at moderate densities in the channel between the main basin and Little Pond; and coontail, *Ceratophyllum demersum*, last observed in 2023 with a 4.8% frequency of occurrence for the 197 survey points within Lake St. Catherine at various densities throughout the lake. Control of *Brasenia schreberi* can be achieved from a treatment concentration of 4 Prescription Dose Units (PDU). Protection of *Brasenia schreberi* can occur using a 2 PDU or less range, although impacts may be observed at that concentration that last a few weeks before plants start to recover. The product label identifies *Ceratophyllum demersum* as being less sensitive to ProcellaCOR EC and that a higher application rate may be required to control it. *Ceratophyllum demersum* will most likely only be impacted at a treatment concentration of greater than 4 PDU.

It is not anticipated that the nontarget aquatic plants and animals within Lake St. Catherine, the waters downstream of Lake St. Catherine, or the wetlands will be adversely impacted by applying ProcellaCOR EC in accordance with this permit and the Approved Application. The current treatment application rate is proposed to be up to 3 PDUs, which is within the application rate for targeting Eurasian watermilfoil as identified in the ProcellaCOR EC specimen label (Table 5).

For aquatic plant species that are known to be controlled by ProcellaCOR EC, aquatic plant species closely related to species controlled by ProcellaCOR EC, or for species that may be sensitive to ProcellaCOR EC, proposed treatments will need to be designed to avoid potential impacts to known locations of those populations. The native non-target species that may be negatively impacted by a ProcellaCOR EC treatment that are in Lake St. Catherine (*Brasenia schreberi, Ceratophyllum demersum, Ceratophyllum echinatum, Myriophyllum farwellii, Myriophyllum sibiricum, Myriophyllum tenellum, Myriophyllum verticillatum, Nuphar variegata*, and *Nymphaea odorata*) are often located within wetlands or wetland buffers. *Brasenia schreberi* is sensitive to ProcellaCOR EC at 2 PDUs and the project will need to be designed to avoid this potential impact. As *Ceratophyllum demersum* is found in low densities around the lake and is listed as being controlled by ProcellaCOR EC, the project will need to be designed to avoid the species as to reduce potential negative impacts of the species.

For the aquatic animal that may be impacted by ProcellaCOR EC, proposed treatments will need to be designed to avoid potential impacts to known locations of those populations. For each treatment, a pre-treatment quantitative aquatic plant survey will be completed during the year prior to a proposed treatment. A pre-treatment qualitative aquatic plant survey will be completed during the year, and prior to, the proposed treatment, for Eurasian watermilfoil and the non-target native species that are controlled or sensitive to ProcellaCOR EC within the proposed treatment location(s). The Secretary will assess those surveys to ensure the acceptable risk to the non-target environment finding can continue to be met. The permittee is required to submit an annual request for proposed treatment locations and may not conduct the treatment until receiving approval from the Secretary. To ensure compliance with this permit and to assess any unforeseen or unanticipated adverse impacts on the non-target environment, the findings made in this permit to authorize the use of ProcellaCOR EC may be reviewed annually upon receiving the annual request.

Based on aquatic plant survey data dating back to 2001, the Secretary performed an analysis of aquatic plant species richness (SR) and frequency of occurrence (FOC) in Lake St. Catherine. This analysis showed an overall increase in native aquatic plant SR (Figure 1) and FOC, which coincides with the Secretary's finding from 2022 when performing a Statewide analysis of aquatic plant populations in ProcellaCOR EC treated lakes. While Coontail may be negatively impacted by the use of ProcellaCOR EC, the overall aquatic plant community continues to improve in Lake St. Catherine thus the Secretary has found that this is an acceptable risk to the non-target environment.

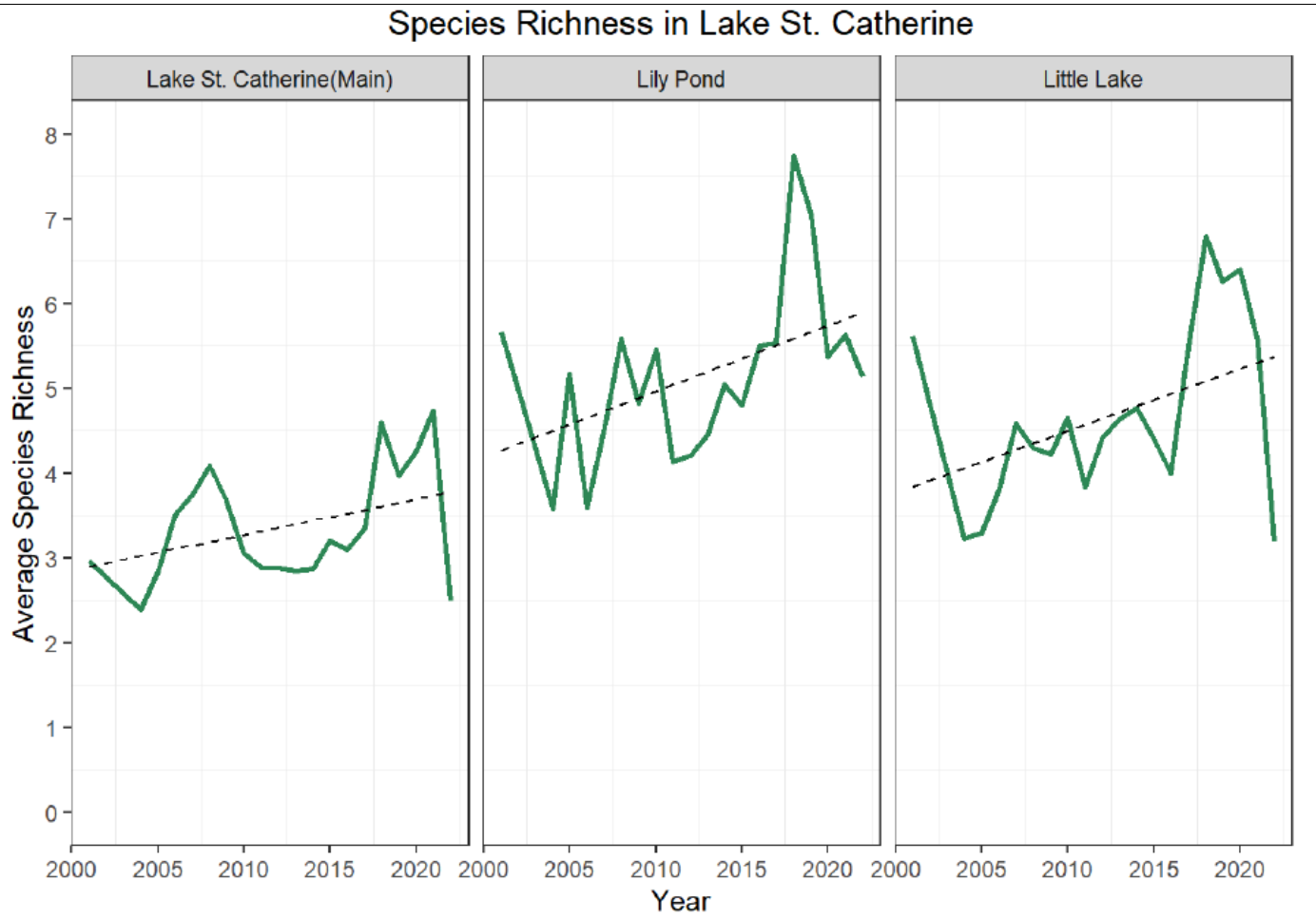


*Figure 1: Graph showing average aquatic vegetation species richness in Lake St. Catherine's basins from 2001-2023. The trend lines included show a positive trend from 2001-2023 in each basin*

**Comment 10:** Please do not put chemicals in the water. Let nature take its course naturally. Milfoil is a natural aquatic plant and provides shade and habitat for many aquatic invertebrates and other creatures. The chemicals you propose to put in the water cause cancer in people. Your proposed chemicals disrupt the natural ecosystem. Just because you have found a chemical to kill milfoil doesn't mean you should use it. This program is far to expensive and will never completely eradicate the milfoil. The cost should be spent on other biological or manual treatment methods. Chemicals are not the answer for healthy natural environments. The proposed chemicals end up in fish that people eat - in high concentrations - and give people ill-health and often cancer. This program has been proven to not be effective in achieving objectives and needs to stop. It is a waste of money, time, and resources.

**Response 10:** Eurasian watermilfoil is listed as an invasive species by the US Department of Agriculture and listed as a nonindigenous aquatic species by the US Geological Survey. This species is considered to have significant impacts on waterbodies. Eurasian watermilfoil competes aggressively to displace and reduce the diversity of native aquatic plants. It elongates from shoots initiated in the fall, beginning spring growth earlier than other aquatic plants. Tolerant of low water temperatures, it quickly grows to the surface, forming dense canopies that overtop and shade the surrounding vegetation (Madsen et al. 1991). Canopy formation and light reduction are significant factors in the decline of native plant abundance and diversity observed when Eurasian watermilfoil invades healthy plant communities (Smith and Barko 1990; Madsen 1994).

Eurasian watermilfoil has less value as a food source for waterfowl than the native plants it replaces (Aiken et al. 1979). And although fish may initially experience a favorable edge effect, the characteristics of Eurasian watermilfoil's overabundant growth negate any short-term benefits it may provide fish in healthy waters. At

high densities, its foliage supports a lower abundance and diversity of invertebrates, organisms that serve as fish food (Keast 1984). Dense cover allows high survival rates of young fish; however, larger predator fish lose foraging space and are less efficient at obtaining their prey (Lillie and Budd 1992; Engel 1995).. The growth and senescence of thick vegetation degrades water quality and depletes dissolved oxygen levels (Engel 1995). Typical dense beds restrict swimming, fishing, and boating, clog water intakes and result in decaying mats that foul lakeside beaches.

In Vermont, the Vermont Agency of Agriculture, Food, and Markets designates Eurasian watermilfoil as a Class B Noxious Weed under the Noxious Weeds Quarantine Rule. Eurasian watermilfoil was first found in Vermont in 1962 and is now in over 100 waterbodies, proving to be the State's most abundant aquatic invasive species.

The purpose of the control activity is to use ProcellaCOR EC as a part of an ongoing integrated pest management plan to manage an established population of an aquatic invasive species (Eurasian watermilfoil) to improve the public good uses of Lake St. Catherine. Eurasian watermilfoil has spread throughout Lake St. Catherine, is well-established, and eradication is a highly unlikely outcome from control efforts. Eurasian watermilfoil is and will continue to be a part of the aquatic environment of Lake St. Catherine for the foreseeable future.

Sources:

US Department of Agriculture. https://www.invasivespeciesinfo.gov/aquatic/plants/eurasian-watermilfoil

Us Geological Survey (review this website for the literature cited above). https://nas.er.usgs.gov/queries/factsheet.aspx?SpeciesID=237

Vermont Agency of Agriculture, Food, and Markets. https://agriculture.vermont.gov/public-health-agricultural-resource-management-division/plant-health-and-pest-management/plant-2

Madsen, J.D., J.W. Sutherland, J.A. Bloomfield, L.W. Eichler, and C.W. Boylen. 1991. The decline of native vegetation under dense Eurasian watermilfoil canopies. J. Aquatic Plant Management 29:94-99.

Smith, C.G., and J.W. Barko. 1990. Ecology of Eurasian watermilfoil. Journal of Aquatic Plant Management 28:55-64.

Madsen, J.D. 1994. Invasions and declines of submersed macrophytes in Lake George and other Adirondack lakes. Lake and Reservoir Management 10(1):19-23.

Aiken, S.G., P.R. Newroth and I. Wile. 1979. The biology of Canadian weeds. 34. Myriophyllum spicatum L. Canadian Journal of Plant Science 59:201-215.

Keast, A. 1984. The introduced aquatic macrophyte, Myriophyllum spicatum, as habitat for fish and their macroinvertebrate prey. Can. J. Zool. 62:1289-1303.

Lillie, R.A., and J. Budd. 1992. Habitat architecture of Myriophyllum spicatum L. as an index to habitat quality for fish and macroinvertebrates. Journal of Freshwater Ecology 7(2):113-125.

Engel, S. 1995. Eurasian watermilfoil as a fishery management tool. Fisheries 20(3):20-27.

Also, see responses 9, 19, 22, 39, 40, 47, 59, and 108.

**Comment 11:** I grew up spending my summers on Lake St. Catherine. Before the introduction of milfoil in the 1970's, the lake was crystal clear, and the lake was wonderful for recreational use. Fishing was excellent and supported by a thriving native plant community. In the absence of ProcellaCor spot treatments the milfoil in the lake will no doubt rapidly return to the horrendous conditions of the 1990's and early 2000's. That would be a disaster for those who enjoy this wonderful lake for swimming, boating and other types of recreation. And in my experience over a period of more than 50 years on the lake native plants provide a much better

environment for fish than dense milfoil beds. My family and I enthusiastically support the final approval of this permit.

**Response 11:** The Secretary acknowledges this comment.

**Comment 12:** I fully support the approval of this permit. Milfoil was a huge problem in front of our house and for the lake. We cannot go back.

**Response 12:** The Secretary acknowledges this comment.

**Comment 13:** Good day. I have a 45 year old relationship with lake st Catherine and can remember how bad the millfoil was. So much so that many of the bays were unusable due to being choked with Millfoil. Today the lake is healthy with lots of native vegetation and loads of fish. It's important to maintain the lake to ensure all can enjoy.

**Response 13:** The Secretary acknowledges this comment.

**Comment 14:** I support the continued treatment of milfoil in the lake. If milfoil growth continues the lake becomes unusable for swimmers and boaters.

**Response 14:** The Secretary acknowledges this comment.

**Comment 15:** I support the continued treatment of milfoil on the lake. Prior to the treatments, the lake was overwhelmed by the non-native invasive weeds to the point that it hindered swimming and boating on the lake.

**Response 15:** The Secretary acknowledges this comment.

**Comment 16:** Please STOP letting the LSC Association use chemicals to manage Milfoil in Lake St. Catherine. Poisoning public waters:Lake St. Catherine, Wells brook, lower Mettawee River and Lake Champlain for 20 years without a positive result is irresponsible, should be illegall and should be stopped!. Vermontfishingtrips.com has guided anglers on LSC for 32 years and can bear witness to a decline in the fisheries. I also strongly advise clients to not eat fish out of Lake St.Catherine because there is no way that pesticide flows out of the lake like they claim. Please do the right thing and DENY permit #4233-ANC-C.

**Response 16:** Under 10 V.S.A. § 1455, the Vermont State Legislature establishes a legal framework for the control of aquatic nuisance species, which includes permitting for the use of pesticides within waters of the State. Pursuant to 10 V.S.A. § 1455, the Secretary of the Vermont Agency of Natural Resources is tasked with overseeing the permitting process and delegated this responsibility to the Lakes and Ponds Program within the Department of Environmental Conservation. Upon receipt, applications undergo review by State technical experts under the Internal Review Procedures for Proposed Aquatic Nuisance Control Projects, including review by the Vermont Fish and Wildlife Department, the Vermont Department of Environmental Conservation, and the Vermont Department of Health.

The Vermont Fish and Wildlife Department has determined that the fishery within Lake St. Catherine has not been damaged as a result of Eurasian watermilfoil management, but has changed. Eurasian watermilfoil management in Lake St. Catherine has occurred over the past twenty years and has been accompanied by a shift from largemouth bass to smallmouth bass in the lake, according to a Vermont Fish and Wildlife Bass Inventory and Management Report – District 2 covering the period from July 1, 2020 to June 30, 2021. Vermont Fish and Wildlife fisheries biologists have stated that over 20 years of sampling data indicate that smallmouth

bass populations have increased while largemouth bass have declined. In most lakes, when these shifts in species occur, it is related to the availability of suitable habitat, with largemouth bass requiring more complex vegetated habitats than smallmouth bass. It is therefore reasonable to conclude that Eurasian watermilfoil management is at least partially responsible for this shift, although there may be other factors at play as well. Also, it should be noted that the dataset used in the aforementioned Fish and Wildlife Bass Inventory and Management Report – District 2 does not include information about bass populations before 1988. Therefore, it is not known if largemouth bass populations today are any different to those in the lake before the Eurasian watermilfoil infestations began in the early 1970s.

Based on this review, the Secretary has found that there is an acceptable risk to the non-target environment.

Also, see responses 9, 22, and 39.

**Comment 17:** Why are you going to continue to use the toxic chemical called Procellacor in the lake without testing? Especially after Lake George Association used the same chemical for the 1st time this passed July in only 7acres & 2 months later found it was still in the water & in the soil...
You treated 34.55 acres this year, WHY?
Furthermore you folks say it dissipates after 24hrs & can resume normal lake activities...but you will provide bottled drinking water for folks the 1st 24hrs if requested.
This is a major concern. You need more testing. You need to give lake st catherine a break.

**Response 17:** Condition 8.A of the permit requires water samples to be collected and tested for ProcellaCOR 48 hours after each treatment. The SePRO ProcellaCOR® EC Safety Data Sheet states that the half-life for ProcellaCOR active ingredient is 111 days through hydrolysis at pH 7. However, when ProcellaCOR is applied to a waterbody, the primary breakdown of the compound is through photolysis and plant uptake. ProcellaCOR is typically applied at 4-6 parts per billion (ppb) to treat Eurasian watermilfoil. Most treated waterbodies have pH between 6-8 and breakdown timing remains consistent. In the absence of sunlight and plant uptake, hydrolysis would be the major driver of breakdown and would be a slower mechanism. If determined necessary, the Secretary may require additional monitoring. However, additional monitoring has not been determined to be necessary at this time as ProcellaCOR rapidly degrades in the environment. Using a minimum concentration detection limit of 1 part per billion (ppb), nearly 100% of post treatment sampling from ProcellaCOR treatments conducted in Vermont found that ProcellaCOR is undetectable in the water 48 hours after treatment.

See responses 19, 22, 39, 41 and 121.

**Comment 18:** Please explain to why you're not allowed to cut a tree branch with in 250ft of the lake waters edge that is clearly dead or eventually going to cause a problem --- loss of power, cause damage to ones property or neighboring property, etc...But you folks feel it's safe to put these toxic chemicals directly into the vt lake waters.
PLEASE ADVISE THE PEOPLE ON THIS ISSUE. ISN'T IT USUALLY SAFETY FIRST?

**Response 18:** See responses 16, 19, 22, and 39.

**Comment 19:** Any info on long term effect on the many children that use the lake?

**Response 19:** The Secretary acknowledges that there is negligible risk to public health by the use of ProcellaCOR EC on Lake St. Catherine. As a part of reviewing this application, the Secretary asked the Vermont Department of Health (Health) to review this application and to determine whether the project poses a negligible risk to public health. Health examined the herbicide, ProcellaCOR EC, and the potential level of concern for public health that may be associated with exposure to water that has been treated with the herbicide. Health reviewed the 2024

permit applications for the use of ProcellaCOR EC at Lake St. Catherine, as well as all prior ProcellaCOR EC applications in Vermont. Health provided the Secretary the following on May 24, 2024:

"The EPA label for ProcellaCOR does not include any restrictions on use of the treated water for domestic (including drinking and cooking) or recreational use. The proposed treatments at Lake St. Catherine would result in a maximum florpyrauxifen-benzyl concentration of 9.7 ppb, or ~5 PDUs. The EPA label allows use of up to 25 PDUs, which corresponds to roughly 50 ppb. While EPA identified no adverse impacts in animals across the required toxicology studies, Health selected a point of departure of 300 mg/kg/day and derived a chronic oral reference dose of 3 mg/kg/day. Use of this chronic oral reference dose in Health's standard drinking water equations, assuming daily exposure to a 0-1 year old, gives a drinking water health advisory of 3,429 ppb. The drinking water health advisory for florpyrauxifen-benzyl is over 590 times higher than the highest proposed concentration in the treated areas, and over 60 times higher than the highest use amount allowed on the EPA label.

The proposed treatment of Lake St. Catherine with ProcellaCOR is expected to result in negligible risk to public health. Public notification of property owners and residents of the treated water body area as well as commercial camps and parents whose children are attending camps which use the treated water body and/or waters within one contiguous watermile of the treated water body should occur 30 days prior to application. Water body access areas as well as any nearby campgrounds should be posted for public awareness."

Based on this review, Health and the Secretary have found that the proposed use of ProcellaCOR EC in Lake St. Catherine poses a negligible risk to public health.

**Comment 20:** Dumping toxic chemicals into a lake without the proper testing is a major concern. There are laws that protect the lake, including not allowing a tree branch to be trimmed 250 ft from the water, but you are approving dumping chemicals into the lake to remove weeds?

Something does not add up!!

**Response 20:** See responses 16, 19, 22, and 39.

**Comment 21:** I have lived in wells for 41 years. I do not agree with the chemicals going into our lake. It has hurt many species of fish. I have seen the decline of perch and smelt in the lake. Please find another way besides chemicals.

**Response 21:** See responses 16, 22, and 39.

**Comment 22:** With everything we are now learning about forever chemicals and how they have polluted/destroyed our farm lands. With everything we've discovered about the effects of using chemicals in our food storage containers and cook ware. At one time they were deemed safe and effective, and we didn't know until it was too late that they were not.
How are we using a chemical with unknown long term effects, and with unknown added chemicals in bodies of water? Many people use the lake for recreation and food, there are many homes around the lake. Clearly it has affected the fish already, what will be the long term effects on the children that swim in the lake all summer? What will the effects be on the other animals that call the lake their home that get their food source from the lake, a food source that will either be destroyed or contaminated. There is no guarantee it is safe, just the words it "should have low risk"
We as a society are removing chemicals from every other aspect of life why are we continuing to use it here? There are other ways that do not require the use of herbicides!

**Response 22:** ProcellaCOR toxicity studies have been conducted on Early Life Stage (ELS) of Fathead Minnow (33-day chronic studies) and Juvenile Rainbow Trout. Life cycle studies were conducted with the crustacean *Daphnia*

*magna* and Invertebrate larvae studies were conducted with *Chironomus*. Life cycle studies measured endpoints such as growth rate / weight, and reproduction success as measured by brood size. Freshwater mussels, snails and amphipods were also part of the toxicity studies reviewed for this product.

The application concentration of <10 ppb, is well below any acute or chronic effect concentration measured in these toxicity studies. The product does not bioaccumulate in fish or freshwater clams due to rapid metabolism and chemical depuration. The product is not persistent, bioaccumulative or toxic (PBT), the low product concentrations in the surface water will not be long lasting as it dissipates quickly with rapid photolysis (< 1day).

Based on review of available ecotoxicity studies and the chemical and toxicological profile of the product, the potential for acute risk to fish, invertebrates, amphibians is expected to be low. Chronic toxicity of concern would be short lived due to rapid degradation in the environment, and rapid dilution from spot application use pattern. Thus, the Secretary has determined there is an acceptable risk to the non-target environment.

Sources:
USEPA, 2017. Florpyrauxifen-benzyl Environmental Fate and Ecological Risk Assessment for the Section 3 New Chemical Registration. https://www.regulations.gov/document?D=EPA-HQ-OPP-2016-0560-0011

Supplemental Environmental Impact Statement for State of Washington Aquatic Plant and Algae Management. 2017. https://fortress.wa.gov/ecy/publications/documents/1710020.pdf

USEPA Docket on ProcellaCOR: https://www.regulations.gov/docket?D=EPA-HQ-OPP-2016-0560

Also, see responses 19 and 39.

**Comment 23:** I have concerns about putting these chemicals into the Lake. I use the lake for swimming and fishing in winter and summer months. I find it very concerning that these chemicals are introduced into the water that we swim and harvest meals from. The signs after the chemical is introduced should be enough for anyone to not want that in this lake. On top of that I have personally seen the fish population decline from the great fishery that it once was. The lake is not owned by the part time residence that want weeds away form their dock, they shouldn't get majority vote in controlling nature. This lake is enjoyed by many more than the homes on the shore. It's about time we give this lake the respect it deserves.

**Response 23:** See response 10, 16, and 19.

**Comment 24:** The Department of Environmental Conservation, whether it's ANR, lakes and ponds there is no proactive management, holistic, sustainable, proactive activity happening at the state level. It's the lake associations that come to the state and ask for approval. And it's never starting at the state level. So that's the reason we don't have a holistic approach. We don't have a sustainable approach. We don't have a State department that's looking into management practices that are effective around the world. We have a state reacting to applications. They're being submitted by lake associations or homeowners, and that's not a way to holistically, sustainably manage water bodies in the state of Vermont.

It's really ridiculous that it it's come to this. There's no law in the state of Vermont that says there has to be a lake association for every lake. These lake associations exist out of a void. There was a void that needed to be filled and as we fill that void, you know you have lay people doing the best they can to figure out how to manage these water bodies.

I don't agree with everything that is being used. I'm totally against herbicides, but what I am for is managing this water body the right way so that the public is safe, that the fisheries are safe, that the food is not disturbed and that we end up with a healthy ecosystem and it's being done around the world. It's being done around this country and the state should proactively do something about that and not react to applications.

As for the application, you have to arrive at those findings and I don't think with all the comments made tonight and going to the science because I'd spend a ton of time in science, the science on the fact sheet of the chemical itself has enough evidence there for you not to be able to arrive at all of those findings?

**Response 24:** As per statute (10 V.S.A. § 1455(a)), any person, including a private landowner, municipality, or organization, can apply for an aquatic nuisance control permit in Vermont. The Vermont Department of Environmental Conservation (DEC) does not apply for or carry out permitted ANC Individual Permit projects. Projects are applied for and carried out by permittees (e.g., municipalities, lake associations, shoreline property owners), not DEC, in accordance with ANC permit conditions. All Individual Permit projects, once approved, are implemented by the permittees. DEC's role is to review the permit applications against the defined statutory criteria set forth in 10 V.S.A. § 1455, issue permits when the applications demonstrate compliance with the statutory criteria, and oversee the permittee's compliance with permit conditions. In short, DEC is the regulatory authority, not the applicant, project proponent, or project implementer.

For this application, the Secretary received an application for the use of pesticides in Lake St. Catherine submitted by the Lake St. Catherine Association on 3/20/2024. This application was reviewed under 10 V.S.A. § 1455 and found to meet the five statutory criteria in order for the Secretary to issue a permit.

Also, see responses 9, 16, 19, 22, 39, 40, 47, 108, 120, and 121.

**Comment 25:** I have been coming to the lake for nearly 46 years and I do not understand the rationale for adding chemicals to the lake. The evasive species which you speculate are in the lake is false. We must remember that this is a lake with an ecosystem and not a large swimming pool for the wealthy residence who vacation here for a few weeks a year. Since chemicals have been introduced into the lake, we are seeing the devastation it creates on the natural species that live within the ecosystem. The fish are being burned and scarred not to mention the open wounds being found on them. If it is harming and destroying the fish then what it is doing to the people who swim and utilize the lake for recreational purposes. There has to be another way and the introduction of chemicals may seem like the easiest solution, but the resulting consequences can be devastating and dangerous. We do not know what the overall impact of these chemicals will be until years down the road. Our safety and the safety of the environment in the lake should not depend on the introduction of harmful and toxic chemicals being placed into our waters.

**Response 25:** Vermont Fish and Wildlife has reviewed photos taken by anglers of sores on caught fish and preliminarily determined that this is what's commonly known as "Red Sore Disease". According to the Kentucky Department of Fish and Wildlife Services, "Red sore disease is one of the most common disease problems encountered in freshwater game fish, including those in farm ponds. Red sore disease is characterized by reddish ulcers or sores on the fish's body and is generally the result of infection by two different organisms, *Aeromonas hydrophila*, a bacterium, and *Heteropolaria* sp. (formerly *Epistylis*), a protozoan. *Ichthyophthirius* (or "ich") is probably the most familiar protozoan infecting fish because of its frequency in aquarium fish. Ich will appear as small white pimples on the skin. When fish are stressed, severe infestations may lead to mortality. Other common protozoans include *Trichodina* and *Costia*."

Vermont Fish and Wildlife has not performed specific testing on these fish.

Source: Kentucky Department of Fish and Wildlife Services https://fw.ky.gov/Fish/Pages/Farm-Pond-Management-Troubleshooting.aspx

Also, see responses 10, 16, 19, 22, 39, and 87.

**Comment 26:** Have lived on LSC for 30 years. For 20 years I saw milfoil manifest and grow to choke the lake. The milfoil mitigation plan has been extraordinarily successful returning the lake to its earlier pristine and natural state. Highly recommend and support its continuance.

**Response 26:** The Secretary acknowledges this comment.

**Comment 27:** I believe these chemicals are causing damage to our fishery and hard facts are being kept from the public. I've spoke with state biologists who don't agree with it but are silent in fear of losing there job! Listen to the scientists not the chemical companies!

**Response 27:** Under the Internal Review Procedures for Proposed Aquatic Nuisance Control Projects, scientists from the Department of Environmental Conservation, Fish & Wildlife Department, and Department of Health technically review an Aquatic Nuisance Control application through the lens of their technical expertise. Upon completion of this internal review procedure, it was determined that all statutory review criteria for this project have been met, and as such, a permit shall be issued.

See response 16, 22, 39, and 87.

**Comment 28:** My family has been part of Lake St. Catherine since the early 1900's and I have personally been part of Lake life since the early 1950's. Over that time many changes have occurred in the Lake environment leading to detrimental effects on water quality (especially storm runoff from forest denuding and subsequent transport of fertilizers and pollutants into the Lake), crowding out of native aquatic flora and fauna by invasions of non-native species (some of which may have been deliberately introduced—ie, alewifes), serious shoreline erosion from extreme wake producing water craft, and other consequences of increased Lake population and recreation activities. A particularly devastating change occurred in the 70's with the explosion of the Eurasian milfoil invasion. At its worst, we could no longer swim any appreciable distance without getting entangled in milfoil presenting serious risk, boats (even non-motorized craft) were fouled, and most importantly, native plants and animals were crowded out of their natural habitat.

Efforts have been and continue to be made to counteract many of these negative effects with the Lake St. Catherine Association and the Mettowee Natural Resources Conservation District leading the way. Their efforts in property owner education, outreach, and support (Lakewise program), their support for reducing stormwater runoff and soil conservation (Watershed management), "Stop the Spread" campaigns and boat inspections, VIP paddler training (identification of invasive species), DASH (Diver Assisted Suction Harvesting of individual milfoil plants), and mechanical harvesting until that technique was proven to be more harmful than helping. These efforts are bearing fruit—we have eagles, osprey, loons, beavers, even perhaps, otters which weren't prevalent 50 years ago. All are evidence of improving Lake conditions but these activities alone are not sufficient for the preservation and continuing health of our Lake.

I strongly support the Lake St. Catherine Association's application for the use of ProcellaCOR in select spot-treatment locations in the waters of Lake St. Catherine. There is a large, peer-reviewed body of evidence supporting the specificity, the safety and the efficacy of this herbicide and it has been successfully used across the US and in Europe. It is even approved for use in rice fields which produce food for human consumption. All of this evidence has been cited by the US Environmental Protection Agency, the LSCA, the States of Vermont, New York, Massachusetts, Montana, Wisconsin (to name a few), as well as many other local supporting Lake associations. As a PhD chemist I understand the degradation processes and subsequent break-down products, along with the scientific protocols and evidence supporting the safe use of this herbicide in Lake St. Catherine. The precautions for use of ProcellaCOR are normal and ordinary for any non-hazardous chemical—keep out of your eyes, wash after use, don't eat/drink the substance, etc. The active ingredient is quickly and readily broken down (short duration in the environment) and the degradation products are deemed non-hazardous as well. The evidence is solid and defensible and stands in contrast to "evidence" such as was quoted by the Lake George Association of "significantly reduced large mouthed bass populations in Lake St. Catherine, VT (personal conversation with local outfitter)", emphasis my own. Such claims are specious at best and dishonest fear mongering at worst. If such "evidence" is given credence, then I must submit my own "evidence"—we've been

irrigating with Lake water and using milfoil detris as mulch along our lakefront for years (even immediately after herbicide treatments) with no deleterious effects; in fact, the plants are thriving.

With all due respect, I sincerely hope that science and fact-based evidence prevail and that the application of ProcellaCOR in Lake St. Catherine is approved.

**Response 28:** The Secretary acknowledges this comment.

**Comment 29:** The Lake Bomoseen Association fully supports Lake St. Catherines (renewal) application to use ProcellaCOR EC as one of its tools to control milfoil on Lake St. Catherine. The LSC program to manage AIS is exemplary, and their work with the ANR, DEC and Fish and Wildlife agencies is a great example-to all lake associations-of how the statutes direct us all working toward lake health in a spirit of science-based procedure and cooperation.

**Response 29:** The Secretary acknowledges this comment.

**Comment 30:** I am not for the new pesticides for the lake

**Response 30:** Since 2019, Lake St. Catherine has been treated with ProcellaCOR five times.

Also, see responses 10, 40, 41, and 119.

**Comment 31:** Have the studies on the chemicals in the lake shown to be an adequate way of resolving weed control and what are the side effects on the fish population and health as well as the general population that catches and eats those fish?

**Response 31:** See responses 9, 16, 19, 22, and 39.

**Comment 32:** Please do not poison the beautiful lake! Thank you

**Response 32:** The Secretary acknowledges this comment.

**Comment 33:** I have been coming to Lake St. Catherine for over 20 years. The lake ecosystem seems to be thriving. We have had the honor of a nesting pair of loons this past summer, as well as nesting eagles for the past few summers. I think this certainly has to do with the lake itself and the control of the invasive milfoil species. Not to mention that it also helps keep the lake beautiful and great for swimming, boating, fishing, and many other water activities.

**Response 33:** The Secretary acknowledges this comment.

**Comment 34:** Keep up the great work. I support the efforts of the association to keep Lake St Catherine free of milfoil.

**Response 34:** The Secretary acknowledges this comment.

**Comment 35:** This treatment has been very effective for many years now and I fully support the continued use of it!

**Response 35:** The Secretary acknowledges this comment.

**Comment 36:** I'd like to comment on the aquatic nuisance control application for the lake St. Catherine Association. I support the continuation of controlling the invasive species at lake St. Catherine. As a frequent visitor to the region and a current home owner I have seen a positive impact to the lake and region. The lake is in superb condition and is the clearest I've seen it in 35 years. The wildlife seems to be thriving as the lake just saw its first successful mating pair of loons. The eagles, other birds, turtles, muskrats, and fish all are seen in greater numbers each year. The lake brings in guests and visitors and allows for recreation in the area helping the local businesses as well. I feel strongly that continuing to maintain the lake will continue to support the area in all respects.

**Response 36:** The Secretary acknowledges this comment.

**Comment 37:** I have a house on lake st catherine located at 1015 ferncliff rd. I am in favor of using the Procellacor herbicide to control the milfoil in the lake.

**Response 37:** The Secretary acknowledges this comment.

**Comment 38:** You do not know what you do not know!!! STOP THIS AT ALL COSTS! I moved to FL to fish & enjoy the outdoors 15 yrs ago. The State started spraying aquatic vegetation under the guise of "controlling invasives". They soon expanded it from Okeechobee to ever lake, stream, river & ditch. The results have been devastating to all bodies of water! The State said it would only kill invasive. NOT TRUE! It's like roundup. It kills ALL VEGETATION & the life within. Then flows down stream to the estuaries & ocean - no seagrass. No more aquatic life. The entire food chain is decimated. It will absolutely destroy your lake & end all fishing, duck hunting, natural wildlife within the bodies of water.

Research Lake Chickamauga in Chattanooga TN! The TVA sprayed in the 80's and it killed the fishing & wildlife there as it too killed all the chain of life! Birds, amphibians, turtles, otters, fish were drastically diminished or gone for over 15 yrs! Google spraying FL lakes & see the pictures, videos & commentary! The dying aquatic vegetation dies & turns to muck & settles on the bottom. Legacy chemicals sit on the bottom and smother out the sun stopping all life within! Turbidity stirs up a brown muck & creates brown stinky water! You will not want to swim in it. You'll see chemical burns on the wildlife that endured for a time until you'll find all life forms floating & decaying. DO NOT DO THIS! There are many other ways to mechanically control vegetation around docks! I have protested! Gone to the state capital & meetings to vote against these activities. I've called, written & shown up for years to protest against it. The chemical companies & lobbies are making BANK selling & applying chemicals to our waters! It's criminal!!! STOP ALL KILLING OF NATURAL LIFE. I'm not an activist. I'm an avid outdoorsman. I have since moved out of FL after 15 yrs of continuous spraying of every lake, streak, river & ditch. It is absolutely devastating to the bodies of water we all love. It will diminish tourism. Use of bodies of water. Fishing. Hunting. Birdwatching. The ability to see otters frolic. Do not allow any chemicals be strewn into any body of water!!! HEAR ME!

**Response 38:** See response 9, 16, 19, 22, 25, and 39

**Comment 39:** If you truly care about the wildlife in and around your lake you will NOT add chemicals to it to control weed growth. I grew up in NJ in a lake community and watched them negatively affect the fish population with chemical dumps in and around the times of year when the bass were spawning. You have beautiful bodies of water in Vermont, don't ruin them by adding chemicals to them. How you would feel is someone wanted to spray chemicals over your house?

**Response 39:** A 2022 Aquatic Toxicity Review performed by the Agency of Natural Resources states, "Aquatic Nuisance Control Permit (ANCP) applications propose use of the aquatic herbicide product ProcellaCOR EC with the active ingredient florpyrauxifen-benzyl, to help control the growth and spread of the aquatic nuisance plant

Eurasian watermilfoil. ProcellaCOR EC received its full aquatic registration from EPA in February 2018 (EPA Registration #67690-80) and is registered for use in Vermont.

ProcellaCOR EC was granted Reduced Risk status by EPA under the Pesticide Registration Improvement Act (PRIA) because of its promising environmental and toxicological profiles in comparison to currently registered herbicides utilized for treatment of invasive watermilfoils, and other noxious plant species.

This memorandum provides a review of the proposed use of ProcellaCOR EC and the potential impact on non-target aquatic animals. The 2017 EPA Environmental Fate and Ecological Risk Assessment for florpyrauxifen-benzyl was the primary source of data reviewed. Florpyrauxifen-benzyl is practically non-toxic on an acute basis to bees, reptiles, fish, birds and mammals. Toxicity to fish and aquatic organisms was not observed, in most cases, at the highest levels tested.

Application rates of 3 - 5 Prescription Dose Units (PDUs) / per acre-foot will result in a maximum florpyrauxifen-benzyl concentration of 9.65 ppb /acre foot (range 5.79 – 9.65 ppb/acre foot). These application rates are less than 20 percent of the maximum allowable application rate, which allows use of up to 25 PDUs per acre-foot, which corresponds to approximately 50 ppb. ProcellaCOR EC exhibits low water solubility (~15 ppb), and in laboratory aquatic ecotoxicity studies, the highest concentration that could be dissolved in the test water was approximately 40-60 ppb. When applied directly to aquatic sites, ProcellaCOR EC is expected to dissipate quickly, with rapid photolysis (<1day) and aerobic aquatic metabolism (4-6 days) as the major routes of degradation. ProcellaCOR EC is also degraded by sunlight.

Review of ecotoxicity studies based on maximum label rate of 50 ppb, indicates parent compound and degradates show toxicity levels are well above the application rates used in aquatic environments. Therefore, the potential for acute risk to fish, invertebrates, amphibians, birds and mammals is expected to be low. Chronic toxicity of concern would be short lived due to rapid degradation in the environment, and rapid dilution from spot application use pattern.

For aquatic animals, only the parent compound was considered the stressor of concern. Available toxicity data shows that the degradates of ProcellaCOR EC are less toxic to aquatic animals than the parent compound. Acute ecotoxicity testing using various ProcellaCOR EC metabolites indicated lethal concentration (LC50) values uniformly greater than 1,000 ppb, indicating a minimal potential for acute toxicity from metabolites.

ProcellaCOR EC was not acutely toxic up to its functional limit of solubility (40 ppb) in tests on freshwater invertebrates and freshwater fish, including rainbow trout, fathead minnow and common carp. It was not chronically toxic to freshwater fish up to limit of functional solubility. The freshwater fish studies served as surrogate for aquatic-phase amphibians. Chronic toxicity to freshwater invertebrates was accomplished with 21-day chronic test performed on Daphnia magna, the most sensitive endpoint from testing was a No Observable Adverse Effect Concentration (NOAEC) of 38.5 ppb.

Toxicity testing with juvenile rainbow trout indicated no toxicity at limit of solubility application rate (40 ppb). If fish were to occupy a plant-infested littoral zone that was treated by ProcellaCOR EC, no toxic exposure would be expected to occur, as toxicity thresholds would not be exceeded. Bioaccumulation data in fish showed low bioconcentration factors and rapid depuration, suggesting extensive metabolism, and limited risk to predatory birds and mammals that may consume fish. Metabolism data for mammals also demonstrates extensive metabolism, indicating bioaccumulation is unlikely. ProcellaCOR EC is also short lived in aquatic metabolism systems (2-6 days), which further limits its potential for bioaccumulation in the environment. Acute and chronic effects on birds were studied in bobwhite quail and mallard duck, results indicated ProcellaCOR EC is practically non-toxic, with effect concentrations magnitudes of order greater than application rates.

No data gaps have been identified for the basic environmental profile of ProcellaCOR EC, including environmental fate, product chemistry, toxicology and ecotoxicology, and field studies required by EPA for pesticide registration. Based on this review, the potential for acute and chronic risks to fish, aquatic invertebrates, amphibians and other aquatic animals is considered low. Any potential chronic toxicity of concern would be short lived due to dissipation in the environment. Acute and chronic risks are further limited

by the functional solubility of the product. These findings support the conclusion that the proposed use of ProcellaCOR EC under ANCP applications at application rates of 3 – 5 PDUs / per acre-foot pose an acceptable risk to the non-target aquatic biota and environment."

Based on this finding, the Secretary has determined there is an acceptable risk to the non-target environment.

Source:

Vermont Department of Environmental Conservation, Aquatic Nuisance Control Permit, ProcellaCOR EC Aquatic Toxicity Review, https://dec.vermont.gov/sites/dec/files/wsm/lakes/ANC/docs/ProcellaCor%20Aquatic%20Toxicity%20Review%20_03162022.pdf.

**Comment 40:** Using Procellacor herbicide is not a good long term management for EWM in Lake S. Catherine. I am not in favour of exposing the watershed to chemical management. It's a waste of resources and harmful to the environment.

**Response 40:** The purpose of the control activity is to use ProcellaCOR EC as a part of an ongoing integrated pest management plan to manage an established population of an aquatic invasive species (Eurasian watermilfoil) to improve the public good uses of Lake St. Catherine. The Secretary reviewed potential alternative approaches for addressing a well-established lake-wide population of Eurasian watermilfoil when determining whether the permit should be issued. This review included making baseline assumptions of the proposed control activity, the scope of the project (i.e., long-term lake-wide Eurasian watermilfoil management), as well as identifying ecological and water quality characteristics for this waterbody in the attempt to outline what could reasonably be achieved when pursuing a control activity. While non-chemical alternatives may be available, those methods are not reasonable in this situation due to the size or density of the Eurasian watermilfoil population or the potential non-target impacts associated with conducting a non-chemical control activity. To achieve the purpose of the control activity, it was determined that there are no reasonable non-chemical alternatives available to manage this aquatic invasive species population in Lake St. Catherine.

Also, see response 9, 22, and 39.

**Comment 41:** Chemical treatments do far more harm than good and promote the growth of poisonous Cyanobacteria. Lakes are far healthier when left alone with aquatic vegetation to provide a natural filter for excess nutrients.

**Response 41:** The ecological integrity of the waterbody, which is the culmination of how the biological, chemical, and physical integrity of the waterbody interact, is considered a part of the non-target environment. It is assumed that a control activity for Eurasian watermilfoil will have an impact on the ecological integrity of the waterbody as the non-target environment cannot be avoided completely. The Secretary has found that there is an acceptable risk to the non-target environment pursuant to the criteria set forth in 10 V.S.A. § 1455.

The presence of aquatic vegetation is required for fish and wildlife habitat. Generally, Eurasian watermilfoil has been identified as providing poor fish and wildlife habitat compared with native aquatic vegetation. The removal of Eurasian watermilfoil promotes native plant biodiversity, which improves the biological integrity of the lake over time. However, Eurasian watermilfoil may provide beneficial structural habitat in the absence of other aquatic vegetation. As a measure to reduce potential non-target impacts on the ecological integrity of Lake Iroquois, no more than 40% of the littoral zone may be targeted by aquatic plant management activities annually.

In addition, Lake St. Catherine is currently dominated by aquatic plants within the littoral zone as opposed to being dominated by algal species. Aquatic plants utilize the available nutrients in this waterbody, thereby limiting the available nutrients for algal species. To maintain this current aquatic plant dominated clear water steady

state, and to prevent algal species from becoming dominant and potentially impacting the water resource and the public that utilizes that resource, no more than 40% of the littoral zone may be targeted by aquatic plant management activities.

It is anticipated that limiting the percent of littoral zone that may be targeted annually will reduce impacts on the ecological integrity of Lake St. Catherine and thereby reduce the potential for aquatic plant management activities to cause a cyanobacteria bloom to occur. However, it should be noted that cyanobacteria are native species and blooms can occur naturally.

**Comment 42:** I would greatly like to see more research done on any herbicides added to any Vermont watershed. We're still learning the affects of herbicides that entered the watersheds decades ago, to our detriment.

**Response 42:** See responses 19, 22, 39, 87, and 121.

**Comment 43:** Herbicides can affect fish in a number of ways, including:

Physiological changes

Herbicides can impact the physiological functions of fish tissues, including the immune, reproductive, respiratory, nervous, and gastrointestinal systems.

Behavioral changes

Herbicides can alter fish behavior, including foraging, escaping predators, and courtship. These changes can compromise the survival of fish species and communities.

Habitat destruction

Herbicides can destroy fish habitats or reduce the amount of dissolved oxygen in the water.

Gene expression

Herbicides can alter gene expression and the transmission of nerve impulses.

Herbicides can be used by farmers and homeowners to prevent weeds from competing with crops for water. However, they can also remain in the soil and be washed into nearby streams, rivers, and canals. Repeated application of herbicides can increase the risk of runoff into lakes and ponds.

Also by killing off the weeds with herbicides in the lakes and ponds it can and HAS made fishing worse!! It destroys the habitat where insects such as scud, weevil, midges and many more invertebrates which are a natural food source to baitfish and panfish, therefore affecting how much forage is in the body of water for larger target game fish such as Bass, pike, Muskie and other large "trophy" fish.

Keep herbicides out of Vermont waters!!

**Response 43:** See responses 9, 10, 16, 22, 25, and 39.

**Comment 44:** The fishery seems to have crashed since herbicide treatments started.

**Response 44:** See response 16.

**Comment 45:** Putting herbicides and pesticides in the water kills fish, kills the things the fish eat, and shelter in. For a state that cares so much about nature it's amazing to me that this would even be considered. And what

do those kinds of chemicals do to people that eat the fish.
Everyone that has fished the lakes that this has happened to has seen chemical burns on fish.

**Response 45:** See responses 9, 16, 22, 25, and 39.

**Comment 46:** I vehemently disagree with any continued use of chemicals to remove aquatic vegetation from Lake St Catherine, or any other lake for that matter. Aquatic vegetation is extremely important for any body of water as it provides greatly needed cover for bait fish to survive and thrive, allowing other fish species to have a sufficient food source and improve the biodiversity of the lake. Beyond that, the aquatic vegetation also naturally filters the lake to provide clearer cleaner water for swimming purposes. I strongly encourage that the state and/or town deny this permit and look to using divers to physically remove any invasive aquatic vegetation if needed rather than using chemicals to treat impacted areas. Divers physically removing the vegetation has absolutely no negative impact to the rest of the water quality in any manner. It is far more important to prioritize the natural health of a body of water than it is to remove aquatic vegetation simply because a few lake front home owners cannot swim along the shoreline of their homes. Actions should be measured against the betterment of the body of water for everyone, not just a select few people. Thank you for taking the time to consider my feedback.

**Response 47:** Diver Assisted Suction Harvesting (DASH) and Mechanical Harvesting are both utilized on Lake St. Catherine as non-chemical control methods to manage Eurasian watermilfoil. The use of DASH is part of the Lake St. Catherine Associations non-chemical control program found in the approved application.

DASH has the potential to have immediate and long-term negative impacts on the non-target environment. Immediate impacts include increased turbidity caused by the disturbance of lakebed sediments, the creation of aquatic plant fragments that increase the potential for spreading aquatic plant species (Eurasian watermilfoil in particular), and the loss of aquatic habitat and non-target native aquatic organisms. These immediate impacts pose a greater risk to the non-target environment during the spring spawning period (pre-July 1$^{st}$) in that DASH may directly interfere with the eggs, nests, or reproductive behavior of wildlife as well as smother eggs or aquatic invertebrates from resettling lakebed sediments. Potential long-term negative impacts to the non-target environment from DASH include alteration to the physical underwater habitat within the control location and the loss of native species.

Mechanical harvesting temporarily reduces aquatic plant populations within the upper water column. This alters aquatic habitat within the harvested area by converting high-density aquatic plant communities with associated juvenile fish and macroinvertebrate communities to open water aquatic communities with adult fish, free-floating phytoplankton, and limited aquatic plants in the upper part of the water column. Mechanical harvesting of nuisance submersed aquatic plants is predominantly a non-selective process. This results in the removal of native and non-native aquatic plant species, fish, macroinvertebrates, attached periphyton, reptiles, and amphibians within the targeted aquatic plant material. Mechanical harvesting can cause aquatic plants to fragment, which is the predominant method in which Eurasian watermilfoil spreads. Fragments of aquatic plants that are not collected by the mechanical harvester can contribute to the spread of aquatic plant species.

Also, see responses 9, 10, 40, 41, 59, and 81.

**Comment 48:** These treatments don't work like the homeowners want them too. Once the milfoil is killed off the lack of filtration will spread all pollens and other sediments throughout the body of water. Usually results in stained water, and bad habitat for the fish and wildlife. Seen this on more than one body of water.

**Response 49:** See responses 9, 16, 22, 39, and 41.

**Comment 50:** Thanks to the DEC and everyone who works so hard to protect our lakes. I think the recent Lake Bomoseen decision was particularly well-reasoned. Below I'll address a few shortcomings I see in this draft decision, and hopefully argue persuasively that it isn't a good time to use more herbicide in St. Catherine.

1. At the recent meeting for public comment, I didn't get a sense that the studies going on at Lake George really impacted this permitting process. I think we should continue to let that play out before permitting more herbicide in Vermont. The DEC and F&W in VT don't have the resources to do everything, as we have learned, so, this seems like a prime scenario to wait and see. Lake George is one of the most studied lakes in the northeast, and best I can tell, their monitoring is a pretty long way ahead of the monitoring we've been able to do in most of our lakes.

2. Did F&W support this draft decision, or does that department think that herbicide use is unwarranted?

3. The DEC made the argument in the meeting that the fishing in St. Catherine has changed over the years of herbicide use, not gotten worse. Essentially saying that there are more smallmouth now, and a lesser largemouth fishery than there used to be.

This tracks with what F&W has said, but there isn't nearly enough data on the fishery to know for sure, and, it doesn't take into account a number of other factors.

First, the smallmouth side. Alewives were first found in St. Catherine in 1997 (I notice the LSCA isn't really trying to poison that non-native species). Now, the smallmouth in the lake feed heavily on alewives, and their population is booming as a result. However, from an angler success and satisfaction standpoint, smallmouth eating alewives are more difficult to catch than largemouth. For largemouth, you can sorta just go around the edge of the lake and catch fish, especially on Cath, where the shallow dock and grass bite has always been a strong player. For smallmouth on St. Cath, to effectively catch ones feeding on alewives, you really want forward-facing sonar, and these days they can be pretty finnicky, as the ones that chase bait can wise up pretty fast.

The problem with the explanation that thefishing has changed, and not worsened, is that it gives up on the potential for it to improve. I'll offer a few examples. At Lake Champlain, last year, the smallmouth fishing was probably as good as it ever was. This year, the largemouth fishing was absolutely fantastic. So, there, even if you just thought about the Inland Sea (where there isn't herbicide use and the milfoil is currently fairly sparse) it is easy to see that both smallmouth and largemouth can thrive together.

Another salient example in my opinion is Lake Bomoseen, which is just north of St. Catherine. Similar in many ways, the lake does not have alewives, but, it does have smelt. Bomoseen is perhaps the premier big fish lake in Vermont, and the smallmouth and largemouth populations are both thriving there at the moment. It is one of only a few lakes in the northeast where smallmouth and largemouth in excess of 6 pounds are somewhat common. I personally have caught seven largemouth over 7 pounds in Bomoseen since 2022, and 11 smallmouth over 6 pounds in that same timeframe (I'm writing this in late November, 2024).

I would not expect the fishing to be that good in St. Catherine, but I don't think we need to settle for a fishery that has "changed," at least not without some more time and study.

4. Also on the fishing angle, someone noted in the meeting that there are still tournaments on St. Catherine, essentially positing that because of that, the fishing must be really good. That might persuade some, but it is a bad argument. We're not really making more lakes in the northeast, so, options are limited, and if every tournament was only on the best lakes, all the tournaments would be on the St. Lawrence River.

5. Someone at the meeting asserted that property values have been going up on the lake since they started using herbicide. I believe that argument is transparently ridiculous, but I'd like to point it out. For one, high property values are not good for everyone. For two, there probably isn't an inch of Vermont that hasn't seen property values and prices rise.

6. The protections for Ishnura kellicotti are not sufficient. Basically, the protections in the draft permit amount to nothing, as they only require a posthumous analysis, not actual protection. It is pretty well known that

ProcellaCOR can hurt pads, and, I think there's a great chance that the lack of pads in St. Catherine is because of that. Particularly on the northwest side of little lake (especially just south of Lakeside Park), and the bay by Sandy Beach Drive and Oxbow Bay, the populations of lily pads are diminished. Also, monitoring pads within 100 feet of an application area isn't sufficient. On Lake George, in Blairs Bay, they treated 4 acres, and the treatment diluted into 60 acres of the lake, some of it even around a point. To really protect Ishnura kellicotti, there should be no herbicide use allowed within a couple hundred feet of pads.

7. The costs for the project are excessive. The cost estimates for the herbicide use in St. Catherine are over $75,000 a year for each year of the program. If that same money was applied to DASH, or other mechanical means, or perhaps the greater program, there might be no perceived need for herbicide use at all. Over the last 20 years, the LSCA has become overly reliant on herbicide and is obviously unwilling to spend more on mechanical means to prove they can be successful.

8. There are a few points in the draft decision that don't comply with statute. First, there are reasonable non-chemical alternatives, and they should be used first.

9. There is no public benefit to this proposed herbicide use, in fact, there is the opposite. Money put into the herbicide treatments could instead be allocated to more DASH, or to improving septic systems or roads around the lake, or enhancing the Lake Wise program (which I commend the LSCA for being so good at). Money could also be put toward re-planting lilies, studying fish, or adding more greeter coverage. There is milfoil in many lakes in Vermont, if the LSCA strategy were to be followed everywhere, we'd be doing spot treatments of poison every week somewhere in Vermont.

10. The herbicide use will not benefit boating, swimming or fishing. The swimming areas on the lake are well-used and sandy bottom, and easy to maintain manually. There is also a large amount of the lake that is not the littoral zone where swimming can occur. Additionally, many people do not want to swim in water with herbicide or degradants in it. Boating is easy in most of the lake, and the places where there is "too much" vegetation are mostly very shallow, borderline wetlands anyhow. In the 2024 proposed management areas in the permit application, only one of them was really a challenge to navigate this year, and that was in the south lake which is very shallow. Grass growing in the main lake of St. Catherine will almost never be a problem for swimming, boating or fishing due to the layout of the lake. Unlike a place like Dunmore or Iroquois, Cath is deep in many areas and has a lot of rock substrate, which keeps grass from growing too thickly.

11. ProcellaCOR is the preferred herbicide now, but the EPA has a long history of removing approval for various poison usage over time, even after allowing them. Waiting another 15 years or so to see what kind of cancer ProcellaCOR may cause might be a good thing.

12. It would be good to not use ProcellaCOR in June, there are still a lot of fish spawning and lots of fry in shallow water then. Confining the treatments to later in July would be safer.

13. In other lakes around the state, milfoil is receding without human intervention. This year in the Inland Sea on Lake Champlain, and in Lake Bomoseen, lots of people noticed reduced milfoil growth. I would not be surprised at all if milfoil expansion in St. Catherine was minimal even without any herbicide use or harvesting. Right now, there's something going on with the milfoil in the region that we don't really understand, and hammering our lakes with more herbicide is perhaps something to avoid given the current climate.

**Response 50:** It should be noted that Vermont Fish and Wildlife (FWD) is within the Agency of Natural Resources under the direction of the Secretary, along with the Department of Environmental Conservation (DEC) and Forest, Parks, and Recreation (FPR). While Aquatic Nuisance Control permit applications are reviewed by the DEC's Lakes and Ponds Program, experts from DEC, FWD, FPR, and the Department of Health are included in the review under the Internal Review Procedure (IRP), and a final decision is ultimately determined by the Secretary. During this IRP, within FWD, both the Fish Division and Wildlife Division are required to provide comments on whether there is an acceptable risk to the non-target environment and public good assessment.

During the IRP for this permit application, the Wildlife Division indicated concerns over both white water lily (*Nymphaea odorata*) and yellow water lily's (*Nuphar variegata*) sensitivity to ProcellaCOR EC and these plants direct relation to the rare damselfly, the Lilypad Forktail (*Ischura kellicotti*). Larvae of *Ishnura kellicotti* are deposited on the underside of *Nymphaea odorata* and *Nuphar variegata.* The Secretary found that these aquatic plant species may be sensitive (not controlled/sublethal) to ProcellaCOR EC based on treatments conducted in previous years, and found that Lilypad forktail may be negatively impacted by ProcellaCOR EC. As a result, Condition a.12.C of the permit was implemented to further protect this rare species and was approved by the Wildlife Division.

The Fish Division provided comments regarding mitigation actions to reduce the use of herbicides to focus only on moderate-dense and dense stands of Eurasian watermilfoil to protect the fish community. Thus, the Secretary will assess the proposed treatment locations targeted by a spot treatment to ensure the use of herbicide will be focused to areas of dense or difficult to manage Eurasian watermilfoil growth only where non-chemical control methods may be unreasonable due to the size or density of the Eurasian watermilfoil population or the potential non-target impacts associated with conducting a non-chemical control activity as found in Finding a.4. Further support of fishery habitat protection was included in Condition a.5, where authorized annual aquatic plant control shall not exceed 40% of the littoral zone.

While FWD is charged with fisheries management, DEC is charged with a broader mandate of managing waters so that all uses designated in the Federal Clean Water Act (Boating, Fishing, Swimming, Aesthetic Uses, Water Supply, Aquatic Habitat, and Aquatic Biota) can be enjoyed by Vermonters and, in some cases, management actions intended to maintain all uses lead to actions with acceptable changes to individual uses.

Though property values are not among the criteria considered by the Secretary under 10 V.S.A. § 1455, Vermont Fish and Wildlife states on their website "Besides the ecological impacts, infestations of milfoil have economic impacts through the reduction of property values and the high costs of various treatment options."

The Secretary recognizes that some drift may occur during treatment and has increased the buffer zone found in Condition a.12.C.iv of this permit, previously set at 100 feet, to 500 feet, as to further protect *Ishnura kellicotti*.

Aquatic vegetation is not static, and Eurasian watermilfoil populations do naturally shift. However, Eurasian watermilfoil continues to be Vermont's most abundant aquatic invasive species being found in over 100 waterbodies.

Also, see responses 16, 19, 22, 39, 40, 47, 59 and 119.

**Comment 51:** I have been fishing Lake St. Catherine for the past 4 years. One thing I am starting to see more often than not is starving fish. Most notable are northern pike. Some could be upwards of 15lbs, but they are obviously starving and dying. This needs to be looked into. It is also worth mentioning that we are seeing smallmouth bass with lesions, infections and growths on them. This does not just happen on its own. It's worth investigating what affects these chemicals have on the fish population. Considering the ingredients, there is no possible way that herbicides are safe for aquatic life.

**Response 51:** See responses 16, 22, 25, and 39.

**Comment 52:** I don't agree with the use of these herbicides in our Vermont lakes. There isn't enough testing to really see the effects it has on the eco system. It kills more then just milfoil. Nobody knows what the long term effect could be. Which wasn't supposed to be the case... I have first hand caught a lot of fish that look sick and have sores on them, some of them look like they have a sort of fungus growing on them or infection. Especially in lake st.catherin This wasn't the case before they started dumping herbicides...

**Response 52:** See responses 16, 19, 22, 25, and 39.

**Comment 53:** I'm completely against the use of herbicides in any Vermont water but especially my home lake. It has done nothing for the fisheries in any positive way and at the last meeting it was stated that it also kills lillys. Native plants do not benefit from this. Milfoil has been found to not choke out lakes like thought and this is evident in many others lakes with it present. The burned sick fish are the first indication that this chemical is harmful. I hold a fishing license in 5 states and have seen with my own eyes the difference this herbicide does to population and size. The only thing holding that lake together is another invasive the alwives with out them there would be no forage base at all.

**Response 53:** See responses 9, 10, 16, 22, 25, and 39.

**Comment 54:** I fully support Lake ST. Catherine Association's application for the use of ProcellaCOR to effectively manage EWM. I hope that the permit decision will be based completely on the quality of their application, VT statutes and the available science and data we have today. Not on unfounded fears and inflammatory rhetoric. Lake St. Catherine has benefited from past use of ProcellaCOR and has proven to use it sparingly and in combination with all other available treatment methods in VT. While everyone would prefer if herbicides were not needed, the facts show that ProcellaCOR is significantly more effective than non herbicidal treatments. It is a tragedy that VT lakes all must go years with non-herbicidal treatments and watch EWM spread out of control within 2-3 years time regardless. Treating a new population of EWM from the outset would likely save Associations/towns an enormous amount of money and time and result in better containment of a new infestation and possibly eradication. Not to mention that less herbicide would likely be needed over time. Also, Associations would spend less money over time with treatment of EWM and so some of the grant money, coming from the state and other agencies, could then be allocated to other lake health projects such as watershed management.

**Response 54:** The Secretary acknowledges this comment**.**

**Comment 55:** Herbicides have destroyed everything where I live in Florida. Lake Okeechobee is completely barren of any vegetation. An extreme problem for all forms of life that call the 450,000 acre lake, home. No vegetation means no habitat, no filtration, no life! It has shut down almost every business around the lake and has created backlash to our coasts. Herbicide is not the answer to anything, ever. Fish have sores, birds dying, increased algae growth due to increased level of nitrates. It physically burns human skin… and this is a good idea to put it in our water??? Make it make sense.

**Response 55:** See responses 9, 10, 16, 19, 22, 25, 39, and 41.

**Comment 56:** I frequently fish this lake and have noticed first had how detrimental the weed killer / herbicide can be to the overall health of the lake and the fish. It has really hurt the fish population over the years and I would love to see this lake back to iys glory

**Response 56:** See responses 16, 22, and 39.

**Comment 57:** It’s AMAZING how ONLY Human beings can Completely Fuck up a Good thing, trying to play “God”, deciding what’s good for our waterways and Fisheries, based on ignorant people’s NEEDS and Mindless Requests. Milfoil Not only provides essential cover for ALL Game species in these lakes, but also filters the gin clear water, in which they hold. Lake St Catherine, Lake Bomoseen and Hortonia are special, ALL holding potential for state record fish and their ecosystems should NOT be altered. Particularly through the use of herbicides, of which we have All seen the devastating impact these chemicals can wreak on our lakes and living beings.

Maybe if the people who had less money had a voice that was listened our world wouldn't be such a Fucked up place. Why don't you just kill everything you don't want in the lake so that out of state residents can ride around in moombas drinking Alcohol waterskiing and be content. This is a terrible idea and extremely Ignorant.

**Response 58:** The Secretary acknowledges this comment**.**

**Comment 59:** Ever sense this program and chemicals the fishing has been complete shit summer and winter. When I was younger I would catch so many fish and now I barely get any and I know it's not me because other lakes that don't use this harmful chemical have great fish. We need to stop giving into the rich on the lake who want these weeds gone if there so worried about there lake front maybe they should pay to get by there house weeded out instead of ruining the entire lake for everyone else. They have the money to get there portion of the lake weeded

**Response 59:** The purpose of the control activity is to use ProcellaCOR EC as a part of an ongoing integrated pest management plan to manage an established population of an aquatic invasive species (Eurasian watermilfoil) to improve the public good uses of Lake St. Catherine. Public good uses include navigation, and other recreational and public uses, including fishing and swimming.

Also, see responses 16 and 41.

**Comment 60:** Hi
I want to express my appreciation for the work of the Lake St. Catherine association in controlling the milfoil. I'm impressed with the amount of research that goes into finding the least harmful methods. Our family is comfortable using the lake for swimming and fishing without any concerns so I absolutely support the approval of the permit.

**Response 60:** The Secretary acknowledges this comment.

**Comment 61:** I grew up in Poultney and spent many summer days with friends at their homes on the lake in the 1960's and 1970's. After a hiatus of about 20 years I was fortunate enough to purchase a home on the lake and was quite surprised at the invasion of the milfoil. I immediately began supporting the LSCA and the tireless work they spent on the health of the lake. The results have been amazing and it seems that the lake is returning to what I remember from years past. It is my understanding that the ongoing treatment program is critical to not only maintaining the milfoil control. but continuing to ensure that it does not return and spread once again. Please consider approving the ongoing support for the lake.

**Response 61:** The Secretary acknowledges this comment.

**Comment 62:** I would like to express support for the Lake St Catherine Associations 5 year permit application for use of ProcellaCor EC.
I attended the meeting on November 20th at the Town Hall in Wells. I appreciate the attendance and input of all parties. I must express disappointment in some of the allegations made by people opposed to the permit and the process.
Statements such as "the lake is doing well as is", seems to ignore the efforts made over the last 40+years of restoration and maintenance to bring it to a level where we can keep it "doing well". To those of us who have worked hard be it physical labor, mechanical assistance, or herbicide, doing well would not be the case if we did not have a group of volunteers to follow up, plan and execute a management program to the best of our abilities both physically and financially. Overall the lake is not just doing well but getting better for use and environment. Wildlife has come back in abundance with new species taking up residence from Osprey, Eagles, Loons, Great Blue Herons with an occasional Bittern and Green Heron both observed in the last 2 years. In lake

activity notes beavers, muskrats, frogs, snakes turtles, etc are all common to encounter.
There seems to be conflicting reports on the fisheries, lack of documented historical data before the 80's by Fish and Wildlife. Information we see from visitors seem to contradict others that appear to be driven by stories or outfitters comparing with other lakes. Claims of fish decline in the last 5-6 years is not been a verified statement. We welcome verifiable data collection on the fisheries health and changes. We know there have been changes since the introduction of Alewife, one of the most obvious has been the loss of the robust smelt population of the past. We have gotten recent reporting of smelt slowly returning and again would welcome more data of changes over time. It is disturbing to hear about dramatic undocumented statements and photos thrown out as fact on social media to gain support from those who follow sound bites.
Using alternative methods to herbicide has always been a goal. Seeking out effective and affordable processes that work best in controlling the EWM while acknowledging there is no silver bullet has always been in the forefront of consideration and planning. There is documentation that is available and a long history of the extensive planning and review process. A comment in support for the DASH program while appreciated was meant to assert that suction dredging was the same on steroids, which it is not. The association has researched this process, toured with the army corps of engineers to get their perspective on use of this type of equipment and it was not pursued further because of the concern for unintended, irreversible consequences and about and the cost (estimates were in the 10's of millions of dollars in the little lake alone and that was 20+ years ago). ProcellaCor EC is a necessary tool to have available. The oversight process does not really stop here at the issuance, meetings to discuss strategies every season with scientists and professionals to seek approval for the best outcome and control. Every year is different and if you look historically we have been able to reduce treatment in favor of other methods but, if the tools are taken away as options we very well could be going down a road of no return in a short time. I would venture to estimate that it would take as little 3 years of no management to reverse the in lake environment to pre 80's conditions. We know milfoil likes LSC, we know it spreads by fragmentation, we know that weed harvesting continues to be a problem with spread, we have never had a year of natural die back like some other lake bodies assert.
One last thought on the overall management program on Lake St Catherine. The Lake St Catherine Association a volunteer organization has gone far and above any other organization in the area to protect preserve and maintain lake health. It is not only a ProcellaCor EC topic, the ongoing efforts throughout the water shed with partners to seek long term education, watershed and storm water projects cannot be discounted. There is a robust Lake Wise program to introduce lake property owners on the aspects and rewards of lake shore best practices to protect the water body and reduce phosphorus loading. Without the diligence of a multifaceted program we very well could be in a very different place environmentally and economically. This all takes tremendous time, funding and diligence.
Thank you again for the efforts put into the process.

**Response 62:** The Secretary acknowledges this comment.

**Comment 63:** This is unreal at this point. I think stopping now would be your best choice. These chemicals have hurt the lakes aquatic life in a massive way. From fish to zooplaketon these chemicals have played a massive part in fish not reproducing. There spawning grounds is literally destroyed by what you guys do in the summer. You truly don't understand what you are doing. If you did you would have stopped many years ago. If there's is 1 drop of chemical put in our lakes we will have no choice. We will sue you with the help of the EPA. We've already discussed lake st Chathrine and lake bomoseen as being our upmost attention.

**Response 63:** To appeal this decision, permit Condition b.16 states the following:

"Appeals. Pursuant to 10 V.S.A. Chapter 220, an aggrieved person shall not appeal this permit unless the person submitted to the Secretary a written comment during the applicable public comment period or an oral comment at the public meeting conducted by the Secretary. Absent a determination of the Environmental judge to the contrary, an aggrieved person may only appeal issues related to the person's comments to the Secretary as prescribed by 10 V.S.A. § 8504(d)(2). Pursuant to 10 V.S.A. Chapter 220 and the Vermont Rules for Environmental Court Proceedings, any appeal of this decision must be filed with the clerk of the Environmental

Division of the Superior Court within 30 days of the date of the decision. The Notice of Appeal must specify the parties taking the appeal and the statutory provision under which each party claims party status; must designate the act or decision appealed from; must name the Environmental Division; and must be signed by the appellant or the appellant's attorney. The appeal must give the address or location and description of the property, project, or facility with which the appeal is concerned and the name of the applicant or any permit involved in the appeal. The appellant must also serve a copy of the Notice of Appeal in accordance with Rule 5(b)(4)(B) of the Vermont Rules for Environmental Court Proceedings. For further information, see the Vermont Rules for Environmental Court Proceedings available at www.vermontjudiciary.org. The address for the Environmental Division is: 32 Cherry Street; 2nd Floor, Suite 303; Burlington, VT 05401 Telephone #: 802-951-1740."

Additionally, the permit authorizes the use of SePRO ProcellaCOR (EPA Reg. No. 67690-80), a product already registered by the U.S. Environmental Protection Agency, to control Eurasian watermilfoil in Lake St. Catherine. As stated in permit Condition a.1, the product must be registered with both the EPA and the Vermont Agency of Agriculture, Food, and Markets at the time of use and applied in accordance with all applicable state and federal regulations.

**Comment 64:** I'm in favor of the permit. I live on another body of water in Vermont and it brought our lake back to life, both for the native species and for the local community. I've done the research, it's the right tool for the job. Thank you.

**Comment 65:** The Secretary acknowledges this comment.

**Comment 66:** After reading the notes and summary on the Millfil treatment program, I am in agreement that the ProcellaCOR treatment procedure should move forward on the Lake.

**Response 66:** The Secretary acknowledges this comment.

**Comment 67:** Thank you for the opportunity to comment. I fully support continuing the current plan to eradicate milfoil in Lake St Catherine as proposed and implemented by the LSCA and the State of Vermont. My family has lived at the lake for over a century/6 generations. Milfoil was causing the lake to die. Now, bird species we never had in my memory live and thrive at the lake, and native weeds have reappeared, fish are starting to spawn and thrive as well. I do think the lake would benefit from a serious stocking program to ameliorate the deficits complained of by some sports minded folks. Frankly, the somewhat vocal but not proven to be a majority of voices- in opposition to proven scientific results is causing "Little Lake" to be a threat to the "Big Lake" that should be stopped

**Response 67:** The Secretary acknowledges this comment.

**Comment 68**: As a home owner on Lake ST Catherine's I wanted to comment on the Milfoil eradication program.

My family is very much in favor of how the program has been administered and how residents of the lake have been kept very informed about the program. We continually receive information that keeps us very knowledgeable about this very desirable long term program. I can see how in certain locations of the lake there are clearly more native species without the heavy milfoil plants. Our daily use of the lake has been very positively affected.

I know I speak for many homeowners when I ask that this program be continued on an ongoing basis.

**Response 68:** The Secretary acknowledges this comment.

**Comment 69:** As a long time home owner on lake St Catherine, I would like to voice my support for the milfoil treatment program that the lake association and others have implemented and managed. It has dramatically changed the water quality in the lake for the better and is an appropriate approach to managing this invasive species which when I was a child was literally choking the lake to death. I am glad to see we have moved on from the old days of burning (and likely spilling In the lake) countless gallons of fuel in a futile attempt to manage the milfoil through cutting. Please continue to allow this current very effective program to be run. Thanks!

**Response 69:** The Secretary acknowledges this comment.

**Comment 70:** To Whom It May Concern, I am a Wells resident for 27 years, and appreciate The Lake St. Catherine's efforts in using the necessary means in eradicating the Eurasian watermilfoil in Lake St. Catherine. I feel that the Association has been conservative in its use of ProcellaCOR and DASH (diver assisted suction harvesting of individual milfoil plants). Other natural techniques proved to be more harmful.

I strongly support Lake St. Catherine's application for ProcellaCOR, as I feel it is not harmful to the ecosystem.

**Response 70:** The Secretary acknowledges this comment.

**Comment 71:** I have been a full time resident on Lake St Catherine, Poultney VT for 11 years. I am in favor of approving the herbicide treatment on the lake for 2025.
Thank you

**Response 71:** The Secretary acknowledges this comment.

**Comment 72:** I fully support the current process for controlling Milfoil in Lake St Catherine. These controls have been in place for the past two decades or more, and have been successful. I have read the scientific reviews and they reassure me that the current method is safe. Thanks for the opportunity to comment.

**Response 72:** The Secretary acknowledges this comment.

**Comment 73:** I would like to start by thanking the hard work and effort the Lake St. Catherine board has done to preserve the health of Lake St Catherine. It is obvious to me that the Board has done a far superior job with the plan than the surrounding lake communities in VT and NY. I would also like to thank those who continue to challenge the use of ProcellaCOR because I think a healthy dialogue will ensure the protection of Lake St Catherine will stay current with the most up to date information.

My wife and I purchased our home in the North Bay in 2018 and therefore don't have the experience of the generational homeowners. What I do know is that we seriously considered purchasing a home on Little Lake at that time but decided against because of the horrible condition of the lake due to the milfoil. Many of the reasons for having a lakefront home, swimming, boating, kayaking an dockside fishing would not have been possible because of the infestation of the milfoil. At that time the remediation efforts were doing little to control the spread of the milfoil and the eventual demise of the Little Lake was imminent. I have done some research on the benefits and concerns of the use of ProcellaCOR both here on Lake St Catherine and the surrounding area and although there is no perfect solutions I believe the long term plan as proposed by the Lake St Catherine Board does an excellent job of balancing those concerns while preserving the overall health of the lake.

We fully support the plan as proposed but would encourage the continued evaluation as new information on the long term effects are available.

**Response 73:** The Secretary acknowledges this comment.

**Comment 74:** My family has been coming to Lake St Catherine since 1956. It started as a vacation destination and ended up as a lake home and residency. I have been swimming, fishing, boating and enjoying water sports in the same location since I was four years old. Because of Eurasian Milfoil, swimming (in the 1970s) was next to impossible unless you went out to deep water. Hungry Harvey was a disaster. It cut the Milfoil, but did NOT pick it up. Pulling milfoil by hand and using a vacuum to get it out of the lake works, but is only part of the solution because of time and cost. Following fact based science (which includes chemicals), seems to be the only way to bring Lake St Catherine back and keep it there.

**Response 74:** The Secretary acknowledges this comment.

**Comment 75:** I have spent time on Lake St. Catherine for over eighty years. My family and I have owned a cottage on the lake since 1962. I feel that the Lake St. Catherine Association is a tremendous asset to the lake. The effort these volunteers put forth on behalf of all the people who live at, or spend time on, Lake St. Catherine is exemplary.
The improvement that has taken place with regard to milfoil in the lake has been dramatic. I strongly support the continued effort in that regard and hope that the continued appropriate use of ProcellaCOR will be authorized to the benefit of the lake, and to those of us who enjoy seeing continued improvement to the lake through the leadership of the Lake St. Catherine Association.

**Response 75:** The Secretary acknowledges this comment.

**Comment 76:** My fiancé and I own a home on Lake St. Catherine and I support the work of the Lake St. Catherine Association in mitigating the effect of milfoil on the Lake through its Milfoil Control Program.

**Response 76:** The Secretary acknowledges this comment.

**Comment 77:** I own a home on Lake St. Catherine and I am also a member of the Lake St. Catherine Association. Since the Association began its Milfoil Control Program, which precedes my service as a board member, I have seen dramatic improvement in the condition of the lake.
It's now a pleasure to swim off my dock and my fiancé can take a boat out without having to make frequent stops to dislodge milfoil from the prop. It's great to sit on my deck and see schools of bait fish and fish breaking the water to feed. I credit the Milfoil Control Program for this.
The Lake St. Catherine Association has been purposeful in treating specific areas of growth each year and in balancing its program with herbicide and hand harvesting. I request DEC approval of the Lake St. Catherine Association's application for the continued health of Lake St. Catherine and for the continued enjoyment of the Lake by homeowners and visitors.

**Response 77:** The Secretary acknowledges this comment.

**Comment 78:** I am in agreement to do the milfoil treatments at the Lake. I also want to encourage the State to check on resident's septic tanks that are overflowing and causing sewage to go in to the Lake. It's not fair that some people have to jump through hoops to do the right thing and others are allowed to not have the proper maintenance done to keep the lake safe.

**Response 78:** The Secretary acknowledges this comment**.**

**Comment 79:** Section G of the permit application states "... guarantee to hold the State of Vermont harmless from all suits, claims, or causes of action that arise from the permitted activity; ...". It is clear from this statement that the State of Vermont is trying to avoid any liability from the actions that take place under this permit. With the State of Vermont using section G of the permit to attempt to limit their liability, who is liable should the actions in this permit cause injury, property damage, harm to the environment, etc.? I would assume the applicant would be responsible. In this case, as the applicant is an association that is made up of a membership, then the association and its membership will be holding the liability for all suits, claims, or causes of action that arise from the activity they are permitted for. Since the ANR is attempting to use section G of the permit application to avoid any liability due to the actions allowed in this permit, can the ANR attorneys give their opinion on who holds the liability on this permit? I have asked this question before and not given a direct answer. This time, on the record, I am requesting an answer.

**Response 79:** As per Section G of the permit application, the Applicant (here, Lake St. Catherine Association) affirms that all information contained in the application is complete and accurate to the best of its knowledge, the Applicant agrees to assume full responsibility for all activities conducted pursuant to any permit issued as a result of the application. By signing Section G of the permit application, the Applicant agrees to indemnify and hold harmless the State of Vermont from and against any an all claims, damages, liabilities, costs or expenses arising out of or resulting from the permitted activities. This may include personal injury, property damage, or environmental harm. The Applicant commits to carrying out the permitted project in accordance with the plans, specifications, and conditions approved by the Agency of Natural Resources (ANR) and agrees that any deviation from the authorized activities without prior written approval from ANR may constitute a violation of the permit and the applicable law. Further, the Applicant acknowledges that failure to comply with the terms of the permit may result in a violation of 10 V.S.A. Chapter 50, § 1455, and ANR may bring an enforcement action for such violations pursuant to 10 V.S.A. Chapter 201.

**Comment 80:** In the draft permit, Specific Conditions #7, B, it states "...all property owners (including commercial camps) that abut Lake Saint Catherine, and all property owners that abut the waters receiving effluent up to one mile downstream of Lake Saint Catherine outlet by a method that provides proof of notification.". Does this mean that certified letters will be sent to the property owners? What other method will be used to ensure that the property owners have all received this notification? How will the department verify that this specific condition has been met?

**Response 80:** Condition a.7.B of the permit does not require that this notification be sent using Certified Mail® from the US Postal Service. The permittee is required to notify the Secretary, municipal offices of Poultney and Wells, all property owners (including commercial camps) that abut Lake St. Catherine, and all property owners that abut the waters receiving effluent up to one mile downstream of Lake St. Catherine's outlet. The notification requirement set forth in Condition 7.B of the permit shall be met by using a method that provides proof of notification such as regular mail, e-mail, or other forms of notice that provide proof of notification. The notification and method of pre-treatment notification shall be reviewed and approved by the Secretary prior to distribution, and it shall be carried out in a manner that provides verifiable proof of notification, as required by permit Condition 7.B.

**Comment 81:** In the draft permit, Specific Conditions #5, the annual control area is to be no more than 40% of the littoral zone. This 40% number is a number that has been agreed upon by the DEC and Fish and Wildlife Department. With the recent in-depth studies currently in progress on Lake George, how can the applicant and the DEC contain treatment area to only 40% when it is now proven that ProcellCor travels outside the treatment zone? Any level of product that travels outside the treatment zone increases the treatment zone.

In the 2023 Lake St. Catherine Aquatic Macrophyte Survey submitted to the Lake Saint Catherine Association by Arrowwood Environmental, they state on page 1 “Flow in the lake system is from north to south. Along the eastern shore of the channel between Lily Pond and Lake St. Catherine, there is an inlet of an unnamed brook which flows through a large wetland complex. Endless Brook flows into the eastern side of Lake St. Catherine near the northern end. This brook contains most of the flow from the watershed east of the lake...The entire lake system flows out of the southern end of Little Lake into Mill Brook, which is a tributary of the Wells River.” It's clear this lake has inlets and an outlet, which means there will be flow throughout the lake. Flow within the treatment zone means the product will move. Has the
DEC or the applicant completed a water circulation study to be able to more accurately determine how much area can be treated and maintain the 40% threshold agreed upon by both departments?

Please review Procellacor monitoring results from Lake George provided in the link below.
https://lakegeorgeassociation.org/procellacor-monitoring-results

**Response 81:** ProcellaCOR EC (active ingredient florpyrauxifen-benzyl) is expected to dissipate rapidly to a reduced concentration in Lake St. Catherine due to its rapid photolysis and aerobic aquatic metabolism. The outlet of Lake St. Catherine (Main Basin) flows through a channel into Little Lake, and then into Mill Brook. Due to its rapid degradation, it is anticipated that reduced concentrations will flow downstream until complete breakdown of the pesticide occurs. It has not been determined to be necessary for a flow study to be conducted as findings that are required to be made under 10 V.S.A. § 1455 can currently be made.

It should be noted that ProcellaCOR EC will mainly target Eurasian watermilfoil. Thus, within the approved locations for treatment of dense or difficult to manage Eurasian watermilfoil populations, unimpacted species are expected to remain and likely replace Eurasian watermilfoil.

**Comment 82:** I am a little confused and question if there is a misprint on the actual Application for use of Pesticides under an Aquatic Nuisance Control Permit form.
Part E. Treatment Information, #7. States “if you answered “no” to D5b above, than a Long Range Management Plan (LMP) is required:
Describe how control of the nuisance species will be conducted for the duration of the permit (must be at least a 5 year time span and incorporate a schedule of pesticide minimization) and
b) Explain how the LMP will be financed; include a budget and funding sources for each year.
If you go back to D5a, the question is asked if it is a private pond. If you answered “no”, you are to skip to question D6. If it is a public body of water, like Saint Catherine, you would answer no and continue to D6. When you get to section E7, if you answered “no” to D5a, you would skip D5b entirely, and not be required to answer section E7, as you were not required by the application to answer D5b. The statute clearly states that a long-range management plan incorporating a schedule of chemical minimization is required as one of the criteria for a permit to be issued. If you follow this form, the only time you would have to add a LMP is if you are treating a private pond not entirely on the landowner's property. I believe this is a misprint on the application. I believe section E.7 should read “If you answered “no” to D5a above, then a LMP is required. This would require the applicant to complete section 7a and 7b and submit an application with the required information to satisfy the statute. It doesn’t make any sense that a private citizen or group looking to apply a pesticide to a public body of water would not be directed to a long-range management plan while a landowner who shares a private pond with his neighbor would. Again, I think it is a typo, but it makes a big difference in the interpretation of this application.

**Response 82:** 10 V.S.A. § 1455(e) states “A landowner applying to use a pesticide on a pond located entirely on the landowner’s property is exempt from the requirement of subdivision (d)(4) of this section.” A long-range management plan is required for public bodies of water or if the private body of water is not totally contained

on the landowner's property. The Secretary recognizes that the wording of question E.7 in the application may cause confusion and will adjust this language accordingly.

**Comment 83:** what are the parameters to decide what an acceptable risk is for an untested combination of chemicals/pesticides to our children . would you allow your baby to go in this water after treatment . the lack of a long term study and the states approval of untested treatments is questionable

**Response 83:** See response 19.

**Comment 84:** Should the applicant have to provide all information in Section E of the Aquatic Nuisance Control Permit application to meet statute requirements and requirements of the DEC, then they are missing a major part of their LMP. The LMP does not list any source of funding for the LMP. A long-range management plan is great, but if the funding is not available, then the plan has no merit. Where will the applicant get the roughly $150,000 per year to follow through with LMP? Page 10 of the Lake Saint Catherine Associations project descriptions submitted with the application lists an estimate for the 5-year management program. It reads, "Project cost estimates for the Five –Year Eurasian Watermilfoil Management Program being proposed at Lake St. Catherine is provided in the following table. Please note that these are estimates and are subject to availability of funds.". This comment would lead anyone to believe that their LMP cannot be guaranteed. It reads that the management plan can change, or not happen at all if no funding is available. Why does the DEC accept a management plan that does not show the ability to be completed?

**Response 84:** The Secretary does not require proof of funds for how the proposed project and implementation of the management plan will be paid for. However, failure to implement pesticide minimization measures would result in non-compliance with the permit.

**Comment 85:** The applicant has stated in multiple spots throughout the Detailed Project Description that they plan to utilize spot treatments of ProcellaCor in moderate to dense areas of Eurasian Watermilfoil growth. The draft decision states that: "the Secretary will assess the proposed treatment locations to ensure the use of Pesticides will be focused on areas of dense or difficult to manage Eurasian watermilfoil growth only ....". The applicant's application shows proposed treatments for 2024, not 2025. To start, I don't have the ability to provide comments on an up-to-date application. I would like to be able to comment on an application that contains up to date information. Not knowing what the proposed treatment areas are, or the current density levels of Eurasian Milfoil within Lake Saint Catherine makes it impossible to accurately ask questions regarding this permit. Can the DEC please provide the 2024 fall plant surveys that were required to be done after the 2024 ProcellaCor treatments? Should any permit decisions by the DEC be based on outdated information? Without the updated information, there are a few general questions to be asked. Who determines if an area is too difficult to manage with non-chemical methods? What does the DEC use for a definition of unreasonable in relationship to the size and density of the Eurasian Watermilfoil population? Who determines the action threshold for milfoil mitigation is appropriate? What is the current DEC action threshold when it comes to waterbodies with long established Eurasian Watermilfoil infestations?

**Response 85:** 4233-ANC-C was received by ANR on 3/20/2024. The 2024 fall plant survey is available upon request through the DEC or the lake association and may be obtained by contacting us via email. A treatment shall only occur in locations that have been approved annually in writing by the Secretary. Prior to a treatment, the permittee and co-permittee (if applicable) shall submit a request to the Secretary with proposed annual treatment locations. Requests may be submitted to the Secretary over the growing season as needed.

The Secretary identified a potentially reasonable approach for addressing a well-established lake-wide population of Eurasian watermilfoil. Baseline assumptions regarding the proposed control activity were made

to outline a reasonable approach for controlling Eurasian watermilfoil as well as identifying ecological and water quality characteristics for this waterbody:

- The control activity proposes to target specific locations (spot treatments) of dense or difficult to manage populations of the aquatic invasive species Eurasian watermilfoil.
- Eurasian watermilfoil has been established in Lake St. Catherine since at least 1978.
- The Eurasian watermilfoil population has spread throughout the lake, is a well-established population, and eradication is a highly unlikely outcome from control efforts.
- Non-chemical control methods targeting Eurasian watermilfoil have been used in Lake St. Catherine.
- ProcellaCOR EC (active ingredient florpyrauxifen-benzyl) is expected to dissipate rapidly to a reduced concentration in Lake St. Catherine due to its rapid photolysis and aerobic aquatic metabolism. The outlet of Lake St. Catherine flows into Mill Brook. Due to its rapid degradation, it is anticipated that reduced concentrations of ProcellaCOR EC will flow downstream until complete breakdown of the pesticide occurs.
- As identified in the Vermont Lake Score Card (ST. CATHERINE – data through 2022), Lake St. Catherine's (Main Basin) trend score is fair, it meets Vermont's water quality standards, and it has a moderately disturbed watershed score. Mean spring total phosphorus is 14.6 ug/L, mean summer total phosphorus is 15.1 ug/L, and mean summer Secchi depth is 5 meters. The mean spring total phosphorus concentration trend is stable; the mean summer total phosphorus concentration trend is stable; and the mean summer Secchi has a highly significantly decreasing trend (decreasing water clarity). This data supports the likelihood of the presence of elevated biological productivity within Lake St. Catherine, which may result in dense aquatic plant populations, including Eurasian watermilfoil.
- As identified in the Vermont Lake Score Card, the Vermont Inland Lake Shoreland and Habitat Score/USEPA National Lake Assessment Score ranks Lake St. Catherine (Main Basin) as being in fair condition. This ranking is a measure of the human activity within 15 meters of the lake's shoreline at ten random sites around the lake; it reflects how intensively and extensively a lake's shoreland is developed. The fair condition indicates Lake St. Catherine has a mixture of significant development within the immediate shoreline as well as locations that are either undeveloped or are developed in a way that reduces impacts on the resource. Those locations of significant development reduce the natural resiliency of the waterbody and increases potential adverse impacts to the biological, chemical, and physical integrity of the waterbody.

The use of a pesticide for targeted spot treatments is a reasonable approach to manage Eurasian watermilfoil in Lake St. Catherine given the baseline assumptions. This management approach can target limited locations within the littoral zone where public good uses, such as boating, fishing, or swimming, are impacted by this species. This targeted spot treatment approach can be limited to specific areas to minimize potential adverse impacts on native aquatic plant species that may be sensitive to the pesticide. The Secretary will assess the proposed treatment locations targeted by a spot treatment to ensure the use of pesticide will be focused to areas of dense or difficult to manage Eurasian watermilfoil growth only where non-chemical control methods may be unreasonable due to the size or density of the Eurasian watermilfoil population or the potential non-target impacts associated with conducting a non-chemical control activity.

The Secretary has determined there is no reasonable non-chemical alternative available.

**Comment 86:** Page 13 of the draft permit states, "To minimize unnecessary pesticide exposure to the public over a weekend, treatments will occur on a Monday or Tuesday. On the day of treatment, no use of the treated waterbody and associated outlet stream from up to one mile downstream is recommended for any purpose, including swimming, boating, fishing, irrigation, and all domestic uses.". If the health department, Sepro, and the ANR believe this product and the actions carried out by this permit to be safe, why is the State

recommending not to use the waterbody? Much like when you sign an insurance waiver at an event, all you are really doing is opening yourself up to liability by acknowledging that there is a potential for harm. Does the DEC/ANR believe there is a potential for harm by utilizing this public resource during the day of treatment? If no, then why are there water use recommendations?

**Response 86:** While the Secretary has determined that there is a negligible risk to public health, the purpose of these recommendations is to minimize unnecessary pesticide exposure to the public. These are recommendations only, not a requirement to avoid use of the water.

Also, see response 19.

**Comment 87:** Part 8 of the draft permit, Public Benefit, states: "It remains undetermined as to whether the control activity will produce a tangible short- or long-term benefit to fishing.". This is a common language found in almost every permit going back 20 years. After 20 years of chemical use for milfoil management, shouldn't the state have determined if there will be an impact good or bad on fishing? This directly ties in with impacts on the non-target environment. The decrease in the largemouth bass population has been established by Fish and Wildlife and proven via multiple studies over the past 20 years. It is no secret that there has been a decrease, as it was acknowledged by the DEC during testimony prior to the formation of the Act 57 study committee. Largemouth bass happen to be one of the most sought-after species for anglers as noted in the Fish and Wildlife's Bass management plan. Any decrease in angler opportunity to catch this species should prove that there is no tangible benefit to fishing. While the Fish and Wildlife department has in the past only studied bass in Lake Saint Catherine due to their popularity with anglers, anecdotally a decrease in all warm water fish species has been noted. With the knowledge that similar actions to the one applied for have indicated changes in the non-target environment, how come the State of Vermont hasn't conducted any studies on other non-target species to determine impacts both directly and indirectly related to this permit?

**Response 87:** As a result of continued Vermont Fish and Wildlife reports showing that fisheries have not been damaged as a result of Eurasian watermilfoil management, as well as ecotoxicity studies showing there is low acute or chronic risk to fish, it has not been determined to be necessary for further study to be conducted as findings that are required to be made under 10 V.S.A. § 1455 can currently be made.

Also, see responses 16, 22, 39, 40, 41, 50, 81, 85, and 95.

Source:

Vermont Department of Environmental Conservation, Aquatic Nuisance Control Permit, ProcellaCOR EC Aquatic Toxicity Review, https://dec.vermont.gov/sites/dec/files/wsm/lakes/ANC/docs/ProcellaCor%20Aquatic%20Toxicity%20Review%20_03162022.pdf.

**Comment 88:** Per the Lake Saint Catherine score card, the trend of the Summer Secchi is highly significantly decreasing, indicating water clarity is decreasing. What does the DEC contribute to the continuing decrease in water clarity too? We know decreasing rooted vegetation could lead to turbidity by allowing the lake bottom to be looser. We also know that the amount of algae in the water can influence Secchi readings. Aquatic vegetation utilizes nutrients as does the algae. Are we seeing an increase in algae due to the removal of large amounts of aquatic vegetation? What is the relationship between the removal of aquatic vegetation and water clarity?

**Response 88:** See response 41.

**Comment 89:** We support the LAKE ST CATHERNE'S application to use ProcellaCOR to treat Eurasian Water Milfoil (EWM) in all of Lake St Catherine (LSC).

My wife's family owns a cottage on LSC. They have enjoyed the lake since the late 1950's. I was invited to LSC by my wife to be in 1975.

About that time EWM was discovered n LSC. At a point I can recall residents not being able to get there arms to go around when they tried to swim. I would "rake" the milfoil out in order to form a path from the shore to their float so that they could swim.

In 2004 the LSCA applied Sonar to LSC and by the next Spring there was hardly any milfoil to be seen. However, the milfoil slowly returned and the LSCA took action by spot treating the returning areas of milfoil with Renovate. The product was improved by the manufacturer and the LSCA

later conducted spot treatments with Renovate II, then Renovate OTF and in 2017 -2018 spot treated with ProcellaCOR.

We have always supported the LSCA efforts to address the control of EWM with the use of varied herbicides since their efforts began in 2004. There has never been any known health risks or problems using the lake water once the treatment period concluded. We have not seen any health issues or impact on the use of the water in LSC during the 20 years that the LSC begun address the control of milfoil with a herbicide.

**Response 89:** The Secretary acknowledges this comment.

**Comment 90:** Thank you for the opportunity to comment on Lake St Catherine's application to apply ProcellaCOR to assist in controlling Eurasian Water Milfoil (EWM). I support their request. I write as a camp owner who draws water from the lake for some domestic uses and occasionally consumes its fish. These comments also come as one who spent hundreds of hours organizing and assisting in the removal of EWM from Salem Lake in Derby. Our attempts at removing EWM through traditional methods failed, even after careful GPS documentation of plant locations, likely for these reasons: fragment spread associated with hand pulling and DASH; an abundance of native floating and submergent plants masked EWM locations; an inability to limit recreational boat activity in affected areas furthered EWM fragmentation and finally, competition with other lakes for diver time. Also, drought conditions over two consecutive summers further propelled EWM growth.
Lake management costs continued to mount as EWM rapidly spread. The lake association finally decided to seek a permit to apply this herbicide after discussions with many stakeholders and carefully weighing ProcellaCOR's pros and cons. The lake has been mostly EWM free over the past two years. My conclusion is that a reasonably safe herbicide is the most practical and cost effective way to manage EWM.

**Response 90:** The Secretary acknowledges this comment.

**Comment 91:** It seems like aggressive aquatic vegetation removal has been taking place on LSC over the years and it is affecting the warm water fish species, and especially largemouth bass as has been determined by the Vermont Fish and Wildlife department through many studies and noted in several reports. Since the DEC is charged with ANC permitting, how did you come to determine this is an acceptable risk to the nontarget environment. Also, how is this a public benefit to people that fish LSC for largemouth bass as the largemouth bass populations and size structure appear to have declined due to aggressive aquatic vegetation mitigation? What does the DEC consider to be impacts to non-target environment? The statute doesn't clearly state that the DEC must only look at direct impacts of the use of chemicals on the fish etc. It would appear that the DEC currently only uses the information about the chemical's direct impacts on the non-target environment and not the indirect impacts, such as the removal of aquatic habitat. As noted in the draft permit, milfoil can create beneficial habitat. Although there is some regrowth of native vegetation, what studies have the ANR done to ensure that the native vegetation that is regrowing is providing equal habitat to support warm water fish species that the milfoil was providing? What studies have been done regarding consistent changes in vegetation densities and makeup does the department use to determine that a constant change in available habitat and type of habitat has no negative affect on the non-target environment?

Below are a few bullet points from Bass Inventory/Managment reports on Lake St. Catherine. You can find more at Search Fisheries Libraryhttps://anrweb.vt.gov/FWD/FWLibraryExternal/SearchFisheriesLibrary.aspx
2005 F36-R7 - Study III (3)
https://anrweb.vt.gov/PubDocs/FWD/FisheriesLibrary/Fisheries/Historic%20Fish%20Documents/F36-R8/F36R8SG02.pdf
Additionally, in the last 4 years, Lake Hortonia, Burr Pond, and Lake St. Catherine have been treated with an herbicide in an attempt to eradicate Eurasian watermilfoil. It is fortuitous that we have collected long term data sets for bass populations for these lakes. In coming years, this data will be analyzed to determine if negative impacts have occurred to the bass populations and fisheries in these lakes due to widespread aquatic vegetation eradication
F-36-R-8 Study III Bassmanageme
https://anrweb.vt.gov/PubDocs/FWD/FisheriesLibrary/Fisheries/Historic%20Fish%20Documents/F36-R8/F36R8SG02.pdf
Additionally, since the year 2000, Lake Hortonia, Burr Pond, and Lake St. Catherine, in addition to a number of smaller ponds, have been treated with an herbicide in an attempt to eradicate Eurasian watermilfoil. It is fortuitous that we have collected long term data sets for bass populations for these larger lakes. In the coming years, this data ill be analyzed to determine if negative impacts have occurred to the bass populations and fisheries in these lakes due to widespread aquatic vegetation eradication.
F-36-R-9 Study III Bassmanageme
https://anrweb.vt.gov/PubDocs/FWD/FisheriesLibrary/Fisheries/Historic%20Fish%20Documents/F36-R9/F36R9SG03.pdf
However, over time measurable decreases in fish populations might become apparent as decreased spawning success, feeding and growth of juvenile fish due to habitat loss translate into fewer juvenile fish recruiting to the adult population. When catch-per-unit effort of juvenile bass less than 10 inches is plotted for pre-treatment years versus post-treatment years for the 3 chemically treated index survey lakes, a decrease in juvenile bass CPVF becomes apparent Figure 5. For example, on Lake St. Catherine, average CPUF of largemouth bass less than 10-inches in length in the ten pre-treatment years 1993 2003 was 56 bass-per-hour, whereas the average CPUF for 2004 through 2006 was only 7 bass per-hour. Similar but less dramatic declines are also evident on Lake 1-lortonia and Burr Pond Figure 5. With less available habitat, juvenile bass numbers seem to have declined due to lack of cover and protection, resulting in increased predation and decreased survival of younger year classes and smaller fish. The current decline of smaller largemouth bass may eventually translate into decreased fishing quality in later years, as these decreased year classes of bass recruit to the adult population.
F-36-R-9 Study III Bassmanageme
https://anrweb.vt.gov/PubDocs/FWD/FisheriesLibrary/Fisheries/Historic%20Fish%20Documents/F36-R9/F36R9SG03.pdf
When catch-per-unit effort of juvenile bass less than 10 inches is plotted for pre-treatment years versus post-treatment years for the 3 chemically treated index survey lakes, a decrease in juvenile bass CPVF becomes apparent Figure 5. For example, on Lake St. Catherine, average CPUF of largemouth bass less than 10-inches in length in the ten pre-treatment years 1993 2003 was 56 bass-per-hour, whereas the average CPUF for 2004 through 2006 was only 7 bass per-hour. Similar but less dramatic declines are also evident on Lake 1-lortonia and Burr Pond Figure 5. With less available habitat, juvenile bass numbers seem to have declined due to lack of cover and protection, resulting in increased predation and decreased survival of younger year classes and smaller fish. The current decline of smaller largemouth bass may eventually translate into decreased fishing quality in later years, as these decreased year classes ofbass recruit to the adult population.
Microsoft Word - F-36-R-19-Study II -Bass-D2.docx
https://anrweb.vt.gov/PubDocs/FWD/FisheriesLibrary/Fisheries/Historic%20Fish%20Documents/F36-R19/F36R19Study02-21.pdf
-Stock density indices have fluctuated considerably over time on Lake Hortonia, Lake St. Catherine and Burr Pond, while Lake Bomoseen has been relatively stable (though it has exhibited a mild increase in recent years). Though fewer years of data are available for southern Lake Champlain, metrics have also fluctuated for that

waterbody. It is unclear what causes these fluctuations; however, the first three lakes have had aggressive and repeated lakewide aquatic plant control programs implemented for more than 15 years in the form of chemical treatments, diver-assisted suction-harvesting and hydroraking. Lake Bomoseen on the other hand has had aquatic plant control via only mechanical harvesting, which only removes the tops of plants at the lake surface, and does not result in widespread lakewide loss of aquatic plant stands.
-Further data analysis should be conducted for lakes on which aggressive and repeated aquatic plant control programs have been implemented sine 2000 to determine if plant control is correlated to fluctuations in largemouth bass stock density metrics.
Microsoft Word - F-36-R-21-Study II - Bass D2.docx
https://anrweb.vt.gov/PubDocs/FWD/FisheriesLibrary/Fisheries/Historic%20Fish%20Documents/F36-R21/F36R21Study02-21.pdf
-Lake St, Catherine – summer largemouth bass Lake St, Catherine has also been part of the district bass index electrofishing surveys since 1988 and has been surveyed in July twenty-seven times in the last thirty-one years. Long-term PSD, RSD and CPUE trends for largemouth bass collected during July sampling events are reported in Table 4. Long-term stock density indices and CPUE trends for largemouth from July sampling are reported in Figures 7 and 8. A comparison of largemouth bass Total CPUE and Legal CPUE (10 inches and larger) is provided in Figure 9. PSD and RSDp values on Lake St. Catherine have steadily increased over time, from 1988 through 2012, indicating an increasing proportion of large-sized individuals in the population. RSPp in particular shows a fairly dramatic increase to levels at or above the target value of 25 from 2002 through 2016 (Figure 7). Lake St. Catherine has had the most active Eurasian water milfoil control program in the District with whole-lake and spot treatments using at least three different herbicides, in addition to diver-assisted suction harvesting and hydro-raking activities. These actions have resulted in widespread decreases in aquatic vegetation and fish habitat, which could be contributing to decreasing proportions of smaller sized individuals in the population as protective cover and juvenile foraging areas have declined in the lake. Catch-per-unit-efforts of all size categories of largemouth bass have also declined since 2006 as compared to the period from 1988 through 2005 (Figure 8).
Lake Champlain Lake Sturgeon Survey And Inventory
https://anrweb.vt.gov/PubDocs/FWD/FisheriesLibrary/Fisheries/Historic%20Fish%20Documents/F36-R23/F36R23Study02-21.pdf
-Lake St. Catherine has been part of District 2 bass index electrofishing surveys since 1989 and has been surveyed in May 14 times in the last 34 years. July electrofishing efforts targeting Largemouth Bass have occurred 27 times in that same time period. More effort was expended historically to assess and monitor the Largemouth Bass population because the species was targeted more by anglers than Smallmouth Bass, and Largemouth Bass composed a larger part of the black bass community in the lake. However, this appears to have changed considerably in recent years, as the black bass community has shifted from Largemouth Bass to Smallmouth Bass. This is likely related to more aggressive aquatic plant control efforts in recent years that have suppressed complex aquatic plant communities more than earlier efforts. Following a 15-year study of the black bass population in Lake Morey, VT, Kirn (1996) concluded that the introduction and rapid expansion of Eurasian watermilfoil (Myriophyllum spicatum) (EWM) in the lake was a major factor that lead to the development of a high-quality Largemouth Bass fishery there. Similar observations have been made in other Vermont lakes with established EWM populations (Good 2019). 3 Changes in available aquatic vegetation density and plant community structure can directly affect black bass populations. Lake St. Catherine has had the most active EWM control program not only in District 2, but across the entire state, with a 40-year history of mechanical harvesting and chemical control (Hicks 2018). From 1980 through 2000, EWM was mechanically harvested with floating combine and hydro-raking machines. Chemical treatments started in 2004 and have occurred annually since 2005, utilizing three different herbicides (Table 5). The 2004 treatment was a whole-lake chemical treatment with fluridone being applied to all 1,200-acres of the lake's surface area. Subsequent applications have been considered "spot treatments" to suppress EWM as it regrows in areas around the lake. As it's generally understood that eradication is impossible, this cycle of rapid EWM regrowth followed by annual spot treatments and removal, as well as continuing annual mechanical removal efforts through diver-assisted suction harvesting, will continue to suppress the quantity and quality of available submerged aquatic

vegetation that supported high quality Largemouth Bass populations. Comparing trends for Lake St. Catherine's Smallmouth Bass and Largemouth Bass population metrics from electrofishing data, it's clear that there has been a considerable shift in the black bass species composition. CPUE for Smallmouth Bass has been steadily increasing since the early 2000's, while Largemouth Bass populations and size structure appear to have declined (Figures 1 and 2), although the timing of observed changes in size structure are more recently, and delayed from catch rate changes. This could be attributed to increased foraging efficiency for larger adult bass as vegetation density decreases. For several following declines in aquatic plant density, forage fish species would have less cover and protection, meaning more effective and successful foraging opportunities for Largemouth Bass as the prey have fewer places to hide. This initially could result in short term increases in growth and therefore size structure of adult Largemouth Bass. Additionally, for Largemouth Bass, it appears that the proportion of sub-legal fish in the total catch is less than it was in the early periods of the historical data set – prior to annual chemical milfoil treatments that started in 2004. This is likely related to the lack of structural complexity in the remaining aquatic plant community, resulting in lower survival of juvenile bass (Cox et al. 2017) as the quality of protective cover and juvenile foraging areas have declined in the lake. On the other hand, many areas of the littoral zone that used to be covered in dense stands of EWM are now primarily unvegetated open water areas incorporating shale, gravel, and rock substrates. This appear to be benefiting Smallmouth Bass, as the species tends to thrive in this type of habitat.
-Further data analysis should be conducted for lakes on which aggressive and repeated aquatic plant control programs have been implemented since 2000 to determine if plant control is correlated to fluctuations in largemouth bass stock density metrics.

**Response 91:** See responses 9, 10, 16, 22, 39, 40, 50, 59, and 87.

**Comment 92:** I do not support the continuous use of herbicides in Lake St. Catherine. The LSCA does not provide evidence of no reasonable non chemical methods available to manage EWM. In fact they list several methods available to them. While they may "want" to use ProcellaCOR, they do not provide convincing evidence of the "need" to do so. The permit application appears to request permission to apply herbicides each year for the next five years wherever they choose, up to the 40% limit of the littoral zone. It would appear to be based on an "honor system" as treated areas are not yet identified nor does the DEC have the capacity to provide direct oversight. The budget shows an increasing amount of money to be spent over the 5 year permit period. This does not meet the requirement for a "minimization" plan.
It is a conflict of interest for Solitude to be a co-applicant as they benefit financially from herbicide treatment.

**Response 92:** The permit outlines a long-range management plan through the use of an adaptive management strategy for controlling Eurasian watermilfoil over the 5-year effective period of the permit. As a means to ensure that the permittee is actively implementing their long-range management plan that incorporates a schedule of pesticide minimization, the permittee must implement pesticide minimization measures annually and report to the Secretary on those efforts as required by condition a.14 of the permit. Pesticide minimization measures must include one or a combination of Eurasian watermilfoil non-chemical control projects and/or efforts that reduce the likelihood of Eurasian watermilfoil populations from developing. As SOLitude Lake Management is the pesticide applicator for this permit, they are required to be listed as a co-permittee per statute.

Also, see responses 40 and 81.

**Comment 93:** I was very dismayed to hear that the application to treat Lake St. Catherine with the herbicide ProcellaCorEC had been approved. I had hoped that we were moving away from pesticide use in our public waters based on VT statutes limiting their use and DEC/ANR promises to work toward minimization.
While I was glad to see specificity in the draft permit, such as distance requirements avoiding lily populations which are native and potentially host the lilypad forktail, a rare insect species, this puzzled me. It is well established that substances dissipate through water in unpredictable ways. A distance regulation is not a

reliable barrier for protecting the lilies, their large animal communities, or the dozen or so other rare, threatened or endangered plants in the lake - a dynamic aqueous environment. Also there is insufficient data on potential impacts of ProcellaCor in more dilute concentrations, or as it breaks down into its smaller components. I therefore disagree with the "acceptable risk to the non-target community" finding, believing that we should always err on the side of caution, especially in non-emergency situations.
I further disagree with the finding that chemical use is the only reasonable alternative to management. Clearly there has been a long history of E. milfoil management strategies used in this lake, both chemical & mechanical. The goal cannot be eradication in such an established population. Chemical treatment may be an easier strategy, but it is obviously not the only strategy. If we are working toward herbicide minimization, shouldn't we be focused on improving mechanical controls rather than adding yet another new chemical to the mix?
I am concerned also about enforcement. I'm very aware that the DEC/ANR doesn't have the workforce to be consistently on the ground during lake & pond data surveys and treatments, relying instead on volunteers, permitees, and the outside companies hired to do some of these tasks. There is an inherent conflict-of-interest potential in this system. Furthermore, while I certainly support the scientific method of pre-/post- testing laid out in the draft permit, any damage will already have been done by the time analysis happens. Is this the correct approach for stewardship of an important public ecosystem?
Finally, the wider public is not fully engaged in the process until after the permit has been issued. I know that there are attempts to reach stakeholders through the ERB webpage and a few local meetings, but many lake users won't be aware until they receive notification of an actual treatment date (either through a letter or notice), when it is too late to voice an opinion.
I appreciate this opportunity to voice an opinion.

**Response 93:** See responses 9, 47, 50, 80, and 108.

**Comment 94:** Both the Town of Wells and Town of Poultney appear to have sent in letters of support for this application.
Touching on the Wells letter first, there appears to be no signature on the letter. Without a signed letter, we have no idea if the letter is from the chair of the selectboard. Without a signature, notarized, or witnessed, I believe that it would not be accepted in any court of law and should be questioned in this case. Also, it was brought to my attention that there was no authorization by the selectboard during an open meeting to draft such a letter. Without approval by the board, the chair can only represent himself and not the town. The selectboard should have had a discussion about the letter in an open meeting so as not to violate open meeting laws, at which point they could vote to authorize the chair to draft and send a letter supporting the application. If a majority of the board was to vote yes, only then could a letter be legally sent representing the town. Does the DEC plan to or has it done its due diligence and contact the towns to ensure that the letters of support were done in accordance with open meeting laws, and were done with the proper authorization?
The Town of Poultney's letter was submitted by the town manager. In searching the selectboard minutes, I have found nowhere where a motion was made and approved by the selectboard to authorize the town manager to send a letter of support. Regardless of what has happened in the past, this is a new permit, and any letter of support should have been voted on by the selectboard during an open meeting and could only be approved by a majority vote of the selectboard. Again, has the DEC done its due diligence to ensure that these letters submitted with the permit application were done in accordance with the law and represent the towns positions?
An unsigned letter that could have come from anyone and letter from a town manager with what appears to be no vote by the selectboard during an open meeting makes the letters that were sent to the DEC invalid and shouldn't be accepted as part of this permit process.

**Response 94:** The Secretary did not make any findings for this permit application as a result of municipal support, and this is not required under 10 V.S.A. § 1455. Public comment and input on permit applications is an important part of the overall permit application review process. The Secretary will consider municipal input to

a permit application; however, the Secretary is still required to evaluate any applications it received according to the standards articulated in statute.

**Comment 95:** I attended the Nov 20th Town Hall meeting and found it very informative. I live on Forest House Bay and have seen the positive effects of using this herbicide over the years. Please continue to provide feedback regarding future applications.

The one question that I have is: is anything going to be done regarding the native species and their continued growth throughout the Littoral zone? In Forest House Bay I can see that many species are rather abundant - there does not appear to be any place that does not have plants growing in the bottom sediment and in many areas, by the end of the summer, some plant species have reached the surface of the lake. Recreational use - swimming, treading water, floating on tubes and etc - is affected by these plants and it has created an uncomfortable situation when trying to enjoy and use the lake.

It is great that the native species are continuing to grow and thrive but they are approaching a takeover of the bottom sediment in swimming areas in front of many of the lakeside properties.

**Response 95:** A healthy lake ecosystem supports a diverse array of aquatic plants, animals, and algae that occur naturally in all water bodies. Generally, this growth is desirable and beneficial. Algae are a primary food source for zooplankton, which provide food for insects and fish. Aquatic plants are crucial to Vermont's fisheries as they provide spawning and nursery areas and shelter from predators. Aquatic plant diversity increases the variety of wildlife in a lake or pond that in turn supports Vermont's revered animals such as loon, moose, and otters. Vegetation in and around a waterbody provides shade which maintains cold temperatures and oxygen rich waters. Aquatic plants also provide physical structure which stabilizes sediments and prevents erosion.

Source:

Vermont Department of Environmental Conservation, Managing Aquatic invasive Species: A Resource Guide for Vermont Lake Managers, https://dec.vermont.gov/sites/dec/files/wsm/lakes/ANC/docs/ManagingAquaticInvasiveSpecies.pdf.

**Comment 96:** I'm writing in to support the Lake St. Catherine's permit application for the use of ProcellaCOR as part of their Milfoil Control Program. The LSCA's milfoil control efforts have safely and effectively resulted in the lowest percentage of milfoil cover and frequency of occurrence in the lake since the mid-2000s. Also, and just as importantly, many species of LSC's native aquatic plants that had been suppressed by milfoil growth have increased in frequency of occurrence. The LSCA has always employed evidenced-based decision making when evaluating lake related issues, and they continue to do so with their Milfoil Control Program by working with the State and lake scientists & experts, and following the science and the data. Evaluating the results of these efforts show that the LSCA are doing the right things for the long-term health of Lake St. Catherine. Thank you.

**Response 96:** The Secretary acknowledges this comment.

**Comment 97:** The LSCA should leave all the weeds alone in the lake. I fish many lakes in Rutland county. Lake St. Catherine has very murky water compared to all the other lakes in Rutland county. Maybe if they left the weeds in place it would help filter clearer water.

**Response 97:** See responses 9, 10, 40, and 41.

**Comment 98:** As a resident of Poultney, on Lake St. Catherine, I have seen and appreciate the work of the Lake St. Catherine Association to care for the lake. They have always been professional and science based in their communications and decision making. Please accept my comments in support for their permit application.

**Response 98:** The Secretary acknowledges this comment.

**Comment 99:** As the President of the Lake St. Catherine Conservation Fund, I wish to communicate that we fully support the idea of holding a public meeting, to provide residents of Wells the opportunity to ask questions regarding the permit and the associated chemical treatment.

LSCCF is an organization that believes transparency is of the utmost importance to our devoted members. Having an open dialogue about the chemical and the pros and cons regarding its use in an open forum should be standard practice.

Thank you and we look forward to hearing more about the subject and the general populations opinions**.**

**Response 99:** The Secretary acknowledges this comment**.**

**Comment 100:** According to the ProcellaCOR specimen label you can create a biotype milfoil which is chemical resistant to ProcellaCOR or any other herbicide of the same mode of action. This happens when the area is treated for more than two consecutive years, with herbicides of the same mode. Knowing that chemical drift occurs and the possibility of degradants in the sediment from previous herbicide treatments will you be putting safeguards in place to test for chemical resistant milfoil, trace elements in the sediment, and flow control/current mapping?

According to the ProcellaCOR specimen label treatment with Procellacor can lower dissolved oxygen and cause fish suffocation. Will you be implementing Safeguards that include Dissolved oxygen testing 24/7 before, during, and post treatment with herbicides? will you also include a fish and macroinvertebrate survey before and after treatment with herbicides?

At the public meeting in Wells Vt. Town Office the question came up about the OTHER INGREDIENTS which make up 97.3% of the overall ingredients. The question was why are they not listed and are they toxic. The answer was they are not but nobody had the specifics available. A gentlemen from Soitude said the manufacturer doesn't supply that information because they don't want to reveal any trade secrets. Why is this different from a manufacturer requesting to have a bioaugmentation introduced as a lake management tool only to be denied because they wouldn't reveal their secret ingredient?

**Response 100:** Based upon observations of Eurasian watermilfoil beds after a treatment with ProcellaCOR has occurred, stems may remain upright in the water column for several weeks while others may break apart more rapidly. Eurasian watermilfoil treated with ProcellaCOR EC often shatters or breaks apart completely to a degree where dead and decomposing material is not easily discernable. Within four weeks after a treatment with ProcellaCOR, it is anticipated that all Eurasian watermilfoil within a treatment zone will be controlled and no longer identifiable. Therefore, it is not anticipated that a layer of dead Eurasian watermilfoil will blanket and smother underlying species. In addition, given the up to month-long degradation of Eurasian watermilfoil within a treatment zone, it is not anticipated that anoxia issues caused by the breakdown of Eurasian watermilfoil will occur to a point where impacts to aquatic animals (e.g., a fish kill) will result, as dissolved oxygen level should be able to naturally replenish over that period. If anoxia does occur, it is anticipated to be temporary and minor.

Also, see responses 10, 40, 81, 87, and 113.

**Comment 101:** The fish/wildlife - how does this chemical affect the fish/wildlife in the lake and downstream (farms)? Our new administration is working to get rid of pesticides on all fruits and vegetables. This chemical feels similar to that as it will affect the aquatic life?

Do you have any examples of success where this worked? What is the metric to determine success?

What are the expectations if we use this chemical in our lake? Will it affect Little Lake, which is a growing problem.

How many times will this have to be done and what is that cost?

What are the implications if we don't do this?

**Response 101:** While there are recommended use restrictions identified on the product label for hydroponic farming, greenhouse, nursery plants, and irrigation of landscape vegetation, use restrictions are limited and will likely be temporary as ProcellaCOR EC is expected to dissipate rapidly in Lake St. Catherine due to its rapid photolysis and aerobic aquatic metabolism.

11 lakes and ponds in Vermont have utilized ProcellaCOR EC as a management tool to control Eurasian watermilfoil. In April 2022, the Lakes & Ponds Program completed a statistical analysis of pre- and post-treatment aquatic plant survey data from waterbodies that have been treated with the herbicide ProcellaCOR EC. This herbicide is permitted to target Eurasian watermilfoil only. In sum, aquatic plant survey data has shown that after a ProcellaCOR EC treatment, a statistically significant decrease of the lake-wide frequency of occurrence for Eurasian watermilfoil (target aquatic invasive species) and coontail (non-target native species) occurred. Over the same period, a statistically significant increase of the lake-wide frequency of occurrence for the beneficial native species Illinois pondweed and American eelgrass occurred.

This permit does approve the use of ProcellaCOR EC in Little Lake, considered a sub-basin of Lake St. Catherine for this project. Thus, a reduction of Eurasian watermilfoil is expected in Little Lake as a result of this project targeting populations in Little Lake.

Also, see responses 9, 10, 40, and 41.

**Comment 102:** I have been visiting our family cottage on Lake St. Catherine for 40 years and the property has been in the family for over 110 years. In the last 5 or so years the lake is by far the LEAST clogged by Eurasian watermilfoil I can recall seeing. This includes the years that the harvester was operating in the main lake.

I believe in the FACT based evidence that the last several years of treatment have made a huge, safe, and positive impact on the lake.

**Response 102:** The Secretary acknowledges this comment.

**Comment 103:** I'm an avid bass fisherman, be doing so for 50 years! I've seen the effects on many of the lakes, such as Hortonia, Lake St. Cathrine, Dunmore and Bomoseen! Nothing good comes from using herbicide on these lakes. Huge decline in fish numbers and overall health. Very concerned for the history of fisheries! I understand what it must be like to own homes on these waters and the constant battle with invasive species. But why destroy a whole lake when localized treatment would be just as effective! As you can see, I'm a huge opponent for the use of herbicide!!!

**Response 103:** See responses 16, 22, and 39.

**Comment 104:** I am looking forward to the public meeting in Wells next week regarding the permit for SeProPorcellacor application in Lake St. Catherine. I will be honest I am concerned about long term toxicity and effects on the lake, the fish, birds, and people who use the lake waters. I understand that the State of Vermont

has not done our own studies of this chemical, and I know budges are tights. But I wonder if you, or the state, have read over the findings from other states who have studied Porocellocor's effect?

Have you vetted any other studies done by either government agencies, states, or private organization?

I am also concerned about how the chemicals in the lake waters will effect those people and beings living downstream from the lakes outlet. I believe the application instructions on the chemical state it is only to be used in bodies of water with NO outlet. Why allow this application if it violates the manufacture instructions? Especially if that is the main guidelines the state follows.

I also wonder why last years application was approves and applied 10 days earlier that what is considered safe for fish fry? At least that's what the guide lines indicate.

**Response 104:** Yes, the State regularly corresponds with other states and reviews new reports and documentation that they provide.

The Specimen Label for ProcellaCOR EC states "A selective systemic herbicide for management of freshwater aquatic vegetation in slow-moving/quiescent waters with little or no continuous outflow: ponds, lakes, reservoirs, freshwater marshes, wetlands, bayous, drainage ditches, and non-irrigation canals, including shoreline and riparian areas in or adjacent to these sites. Also for management of invasive freshwater aquatic vegetation in slow-moving/quiescent areas of rivers (coves, oxbows or similar sites)."

This label clearly lists lakes or ponds as appropriate uses for ProcellaCOR EC which has been confirmed by the manufacturer and the pesticide registration authority in Vermont, the Vermont Agency of Agriculture, Food, and Markets.

Also, see responses 10, 22, 39, and 81.

Source:

SePRO ProcellaCOR® SC Specimen Label, https://sepro.com/Documents/ProcellaCOR_EC-Label.pdf

**Comment 105:** Please allow the continuation to treat this invasive plant. as you know, state parks, and nearly every national park treats, invasive plants. The Lake St Catherine Association has done an excellent job in meeting all the rules and regulations, contacting homeowners whenever a treatment is being done and have followed up where the milfoil needs to be retreated. Please please let them continue. We have owned the home on Lake St Catherine since 1983. It is one of the most beautiful lakes and it's so much fun to see the younger folks out enjoying the lake. Prior to the Milfoil treatment we were using a cutting and raking system, which was very ineffective. Both props were continually wound up with the weeds and much of it just floated to the edge of the lake. It was really disgusting. This program has been a home run.

**Response 105:** The Secretary acknowledges this comment.

**Comment 106:** Thank you for the opportunity to comment on Lake St Catherine's application to apply ProcellaCOR to assist in controlling Eurasian Water Milfoil (EWM). I support their request. I write as a camp owner who draws water from the lake for some domestic uses and occasionally consumes its fish. These comments also come as one who spent hundreds of hours organizing and assisting in the removal of EWM from Salem Lake in Derby. Our attempts at removing EWM through traditional methods failed, even after careful GPS documentation of plant locations, likely
for these reasons: fragment spread associated with hand pulling and DASH; an abundance of native floating and submergent plants masked EWM locations; an inability to limit recreational boat activity in affected areas furthered EWM fragmentation and finally, competition with other lakes for diver time. Also, drought conditions over two consecutive summers further propelled EWM growth.

Lake management costs continued to mount as EWM rapidly spread. The lake association finally decided to seek a permit to apply this herbicide after discussions with many stakeholders and carefully weighing ProcellaCOR's pros and cons. The lake has been mostly EWM free over the past two years. My conclusion is that a reasonably safe herbicide is the most practical and cost effective way to manage EWM

**Response 106:** The Secretary acknowledges this comment**.**

**Comment 107:** Are you aware of this?

The Minnesota Department of Agriculture (MDA) has identified florpyrauxifen-benzyl, the active ingredient in ProcellaCOR, as meeting the state's definition of per- and polyfluoroalkyl substances (PFAS). This classification is based on Minnesota's legislative definition, which encompasses a broad range of fluorinated organic chemicals containing at least one fully fluorinated carbon atom. Minnesota Department of Agriculture And, from section 15 of the ProcellaCOR Data Sheet submitted with the application:

WARNING: This product contains a chemical(s) known to the State of California to cause
Birth defects or other reproductive harm.
And, from section 6 of the ProcellaCOR Data Sheet submitted with the application:
Spills or discharges to natural waterways are likely to kill aquatic organisms. Prevent from entering into soil, ditches, sewers, waterways and/or groundwater.
Concerned citizens are paying attention to what the department does with this application. They are researching and following the science, and more importantly, "lack of science" on ProcellaCOR, and are watching every move the department makes to ensure the Public Trust Doctrine and citizens' rights are not violated.

**Response 107:** See response 116.

**Comment 108:** I was at the meeting tonight and would like thank you for your efforts to support the lake.
I am also writing to voice my full support for the permit to apply pesticide to control Eurasian Milfoil. We have a home on North Bay and have seen an enormous increase in the amount of milfoil on the lake in certain areas. I also have a
question on the benthic mats. It was stated the mats don't work but, in several Vermont lakes (shadow lake) there are indications that they do. I would like to do what I can to eradicate the milfoil on this beautiful lake.

**Response 108:** Benthic barriers are used throughout the State as a general aquatic nuisance control in select locations. Barriers have the potential to have immediate and long-term negative impacts on the non-target environment. Immediate impacts include the near total loss of aquatic habitat and non-target native aquatic organisms. Barriers restrict lake sediments from plant colonization and inhibit use of sediments by fish and macroinvertebrates. These immediate impacts pose a greater risk to the non-target environment during the spring spawning period (pre-July 1$^{st}$) in that barriers may directly interfere with the eggs, nests, or reproductive behavior of aquatic animals by smothering eggs, nests, or aquatic invertebrates. Potential long-term negative impacts to the non-target environment from barriers include alteration to the physical underwater habitat within the control location and the loss of native species.

Typically, benthic barriers are used for small projects to provide recreational access to waterbodies, such as at or around a homeowner's dock, at or near public beaches, or to provide access for navigational channels. The use of benthic barriers is not typically approved in large-scale applications due to its non-selectiveness in the species being controlled and risk of prop fouling as a result of billowing.

**Comment 109:** I am in favor of continuing herbicide control of milfoil. I remember when I couldn't take my boat out because the milfoil was so thick. Swimming was unpleasant near the shore and limited to deep water in the middle of the lake.

**Response 109:** The Secretary acknowledges this comment.

**Comment 110:** Poultney Fish & Game Club held their monthly meeting & one of the topics that was discussed was the submitted permit #4233 ANC in length. We were unaware that the permit is for 5 years which we strongly oppose. We have many concerns & questions we would like answered. First & foremost the water quality & fishery habitats have tremendously declined over the years since the use of these toxic chemicals. Our 2nd most concern is the state says we have 1.4 acres of dense milfoil & the permit wants to treat 34.33 acres this is a major concern of ours. The chemicals are not just eradicating the milfoil but also our native vegetation. Our members strongly disagree with the application of the toxic chemicals being dispersed into Lake St. Catherine. We ask that you withdraw the application at this time so the residents/townspeople can hold a special town meeting to discuss and vote on this matter. We would also like to have our questions & concerns answered publicly.

**Response 110:** See responses 9, 16, 22, and 39.

**Comment 111:** My family has been on Lake St. Catherine since 1907 and we are now welcoming the sixth generation to the lake! I have been coming here for over 70 years and my husband and I have owned our current cottage for over 30 years. Two of my siblings and three sets of cousins also own homes on the lake.

As children, it was always impressed upon us that our lake was the most pristine in the state. And it was easy to see why. The water was crystal clear year after year, even many feet away from the shoreline. But over the years that began to change as pine trees were cut down and fertilized lawns replaced the old carpet of pine needles we enjoyed as kids. Milfoil was introduced into our vocabulary and we watched Hungry Harvey try unsuccessfully to stem its impacts.

When the Lake St. Catherine Association introduced the use of ProcellaCor treatments on the lake we were concerned about the possible side effects. The ensuing years have demonstrated our concerns were misplaced. Both the scientific data and our personal experience support the effectiveness and safety of the treatments.

On behalf of the generations of my family that have loved the lake, and those that will follow, I urge approval of the Aquatic Nuisance Control permit application.

**Response 111:** The Secretary acknowledges this comment.

**Comment 112:** I did not join the meeting tonight until 6pm, so missed most of it. The last two guys to comment, however, made very good points (regular fertilizing of lawns, cutting down trees, paving, etc). I was not able to successfully register so that I could comment, however I'd like to do so now, if I may. What about all the boats on the water and the impact they have on disturbing the millfoil, cutting pieces off that then fall to the bottom of the pond/lake and take root and spread? I live on Burr Pond, for just about a year now. Previously, I docked a pontoon boat on Dunmore. Here, we have kayaks. My personal opinion is that Burr Pond is too small for motorized boats. There are at least 10-12 boats that "reside" here, and then, of course, non-residents come here in their boats to fish. I'm curious, how is the decision made about allowing motorized boats on a particular body of water? And WHO makes those decisions?

I'd love to be part of the solution, so I'd like to know how I can be actively involved in helping to make, and keep, our bodies of water as healthy as possible. Any volunteer opportunities? How can I be informed about any other meetings?

**Response 112:** The Vermont Use of Public Waters Rules were adopted on October 5, 1994 and were originally administered by the former Vermont Water Resources Board and later the Water Resources Panel under 10 V.S.A. §1424. The rulemaking authority of the Water Resources Panel was transferred to the Agency of Natural Resources in 2012 under Act 138. The rules of the Panel are now deemed to be the rules of the Agency and will

remain in effect unless amended by the Agency. Members of the public can petition the State to adopt rules regulating the use of particular public waters.

The Agency of Natural Resources is host to a number of community science projects that can be found on our website: https://anr.vermont.gov/activities/citizen-scientists-volunteer

**Comment 113:** I would like to know the exact ingredients in ProcellaCor and the amounts/percentages of each ingredient.

**Response 113:** The exact ingredients of ProcellaCOR EC are registered with the US Environmental Protection Agency (EPA Reg. No. 67690-80) and have been reviewed by the Vermont Department of Health. Any information submitted to the Administrator of the EPA, including exact ingredients as well as the amounts and percentages of each ingredient, are protected as trade secrets and/or confidential business information, and thus not publicly available, under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA). Accordingly, the exact ingredients, amounts, and percentages of each ingredient are not available to the public.

Sources:

Federal Insecticide, Fungicide, and Rodenticide Act, https://www.govinfo.gov/content/pkg/COMPS-10326/pdf/COMPS-10326.pdf.

You can view the publicly available ProcellaCOR SC EPA registration information here: https://www3.epa.gov/pesticides/chem_search/ppls/067690-00080-20180227.pdf.

You can learn more about Pesticide Registration here: https://www.epa.gov/pesticide-registration/pesticide-registration-manual.

**Comment 114:** We would like to know if there are water samples done. And, if so, the dates and results. Also there were soil samples taken this fall. What were the results from them and will this be an ongoing sampling?

**Response 114:** Condition a.8 states, "Water samples shall be collected at each of the approved monitoring locations (condition a.4.D.) to determine the concentration of florpyrauxifen-benzyl after completion of each treatment. The results shall be submitted to the Secretary within 24 hours of the permittee receiving the results and be posted to the webpage as required under condition a.7. of this permit.

A. Water samples shall be chemically tested 48 hours after completion of each treatment. If samples indicate that florpyrauxifen-benzyl concentrations are greater than 2 parts per billion (ppb), monitoring shall continue after an additional 24-hour period. This monitoring process shall proceed until all monitoring locations are less than or equal to 2 ppb florpyrauxifen-benzyl, or if this process is authorized to be discontinued by the Secretary.
B. The Secretary may require additional monitoring, including additional monitoring locations or the frequency of monitoring, if determined necessary.
C. Samples shall be analyzed using a methodology with a minimum detection limit of at least 1 ppb florpyrauxifen-benzyl."

The Agency of Natural Resources Lakes and Ponds Long-Term monitoring Section assisted the Lake St. Catherine Association with collecting a soil core within Lake St. Catherine. This soil core is expected to be analyzed for sediment diatom taxonomy and may be subject to other analysis. The Agency is not directly involved with this analysis and has not received results as a part of this study.

**Comment 115:** WELLS, VT – A critical public meeting is set to take place on Wednesday, November 20, at 4:00 PM at the Town of Wells Office Building, where impassioned residents, fishermen, and environmental advocates will gather to voice their concerns about the continued use of chemical

herbicides in Lake Saint Catherine. This meeting, addressing Aquatic Nuisance Control Draft Permit #4233-ANC-C, has galvanized a community increasingly alarmed by the long-term impacts of these treatments on the lake's ecosystem and local economy.

For over two decades, Lake Saint Catherine—a cherished resource for recreation, wildlife, and tourism—has been subjected to repeated chemical treatments, including Sonar (fluridone), Renovate (triclopyr), and now ProcellaCOR (florpyrauxifen-benzyl). Concerns have mounted over the potential for these chemicals to persist in the sediment, disrupt the food web, and harm the lake's iconic species, including bald eagles, loons, and numerous migratory birds. Critics argue that these "band-aid" approaches have prevented sustainable, holistic solutions from being pursued.

"This lake is more than water—it's a living ecosystem that sustains wildlife, supports local businesses, and creates lasting memories for residents and visitors alike," said David Emmons, Past President of the Lake Saint Catherine Conservation Fund. "For 20 years, chemicals have been dumped into this lake without a single long-term study of their impacts on the ecosystem or local economy. This has to stop."

The Stakes Are High

The meeting will provide a platform for concerned citizens to address:

● The impact of herbicides on Lake Saint Catherine's ecology: Long-term effects on sediments, invertebrates, fish populations, and bird species remain unstudied.

● Economic implications for local communities: Unanswered questions include how chemical treatments have affected tourism, property values, fishing, and recreation in the towns of Wells and Poultney.

● Sustainable alternatives: Critics call for a shift toward holistic solutions, such as sediment removal, aeration, and non-chemical management practices.

A Call for Accountability and Action

Attendees at the meeting will demand that the Vermont Agency of Natural Resources impose a moratorium on chemical treatments until independent, long-term studies are conducted to assess environmental and economic impacts. They will also call for a renewed focus on protecting the lake's natural balance and ecological integrity.

"We owe it to the generations who will inherit this lake to act responsibly," said Emmons. "The decisions we make today will determine whether Lake Saint Catherine thrives or becomes a cautionary tale."

Media Encouraged to Attend

Local press is urged to cover this pivotal event to shed light on the community's fight to protect one of Vermont's natural treasures. With over 50 residents expected to attend, this promises to be a passionate and impactful gathering.

**Response 115:** The Secretary acknowledges this comment**.**

**Comment 116:** I write to you today to voice my strong opposition to the proposed or ongoing use of herbicides, including ProcellaCOR, in Little Lake Saint Catherine. This portion of Lake Saint Catherine, comprising approximately 75 acres at the lake's southern end, is a unique water body characterized by its shallow depth—yet this shallowness is due to an extraordinary accumulation of organic sediment.

The proposal to apply herbicides in Little Lake Saint Catherine not only ignores well-documented scientific evidence about the inefficacy of such treatments in shallow water bodies but also risks compounding the lake's existing sedimentation issues. This misguided approach could result in long-term ecological and financial harm that far outweighs any perceived short-term benefits.

Little Lake Saint Catherine's Unique Characteristics

Little Lake Saint Catherine's true hard bottom lies 40 feet beneath the water's surface, yet organic sediment has reduced the effective depth to just 4–5 feet in most areas. This sediment is composed largely of decomposed

vegetation and organic material that has accumulated over decades. Introducing herbicides into this environment will exacerbate the sedimentation problem, as the targeted aquatic vegetation will die, sink, and further contribute to the organic layer.

Using herbicides in a water body with such a significant sedimentation issue is counterproductive and shortsighted. Instead of addressing the root cause of the lake's challenges, this approach will perpetuate and worsen the problem.

Scientific Evidence on Herbicide Ineffectiveness in Shallow Water Bodies

Study after study has demonstrated that herbicide application in shallow lakes is largely ineffective for several reasons:

Sunlight Penetration: In shallow water bodies, sunlight reaches the bottom, providing ideal conditions for rapid regrowth of aquatic vegetation. Eradicating a target species is virtually impossible under these conditions.

Sediment Disturbance: Herbicide application often disrupts sediment layers, releasing stored nutrients into the water column and promoting algae blooms and further vegetation growth.

Futility of Efforts: Even if herbicides temporarily suppress a target species, recolonization from nearby untreated areas or regrowth from resilient root systems quickly negates these efforts.

Herbicide use in shallow water bodies like Little Lake Saint Catherine is a futile and expensive endeavor, wasting taxpayer money and diverting resources from sustainable solutions.

Potential Long-Term Consequences

The risks associated with herbicide application in Little Lake Saint Catherine extend beyond its ineffectiveness:

Increased Sediment Accumulation: The vegetation killed by herbicides will sink to the bottom, decompose, and add to the lake's already substantial organic sediment layer, further reducing effective depth.

Chemical Persistence: The persistence of herbicides like ProcellaCOR, especially those with PFAS-related compounds, poses a long-term contamination risk. These chemicals may persist for decades or even centuries, binding to sediments and entering the food web.

Ecological Disruption: The cumulative impact of herbicides on non-target species, including benthic invertebrates, native aquatic plants, and predators, could irreparably harm the lake's ecosystem.

Learning from History and Current Science

As detailed in previous correspondence, the history of herbicides approved by the U.S. Environmental Protection Agency (EPA) is replete with cautionary tales. Chemicals like 2,4,5-T, alachlor, and chlorpyrifos were once considered safe but were later banned due to their catastrophic environmental and health impacts. Vermont must avoid repeating these mistakes by taking a precautionary approach to Little Lake Saint Catherine.

Moreover, the classification of ProcellaCOR's active ingredient, florpyrauxifen-benzyl, as a PFAS by the Minnesota Department of Agriculture further highlights the need for caution. PFAS are known for their extreme persistence in the environment, bioaccumulation in organisms, and significant health risks even at low concentrations.

Recommendations

Given these factors, I urge the Vermont ANR to:

Halt Herbicide Use in Little Lake Saint Catherine: Prohibit the application of herbicides in this unique and sensitive portion of the lake.

Adopt Sustainable Sediment Management Practices: Invest in methods like dredging or aeration with bioaugmentation to address the lake's sedimentation issue and improve water quality.

Focus on Preventative Measures: Prioritize non-chemical approaches, such as manual removal or suction harvesting of invasive species, which do not exacerbate sedimentation or introduce harmful chemicals.

Implement Comprehensive Monitoring and Research: Conduct long-term studies to understand the lake's ecosystem dynamics and assess the impacts of any management interventions.

Conclusion

Little Lake Saint Catherine is a vital part of Vermont's natural heritage, and its ecological health is integral to the broader Lake Saint Catherine system. Using herbicides in this shallow, sediment-laden water body is not only scientifically unsound but also environmentally irresponsible. I urge the Vermont ANR to adopt sustainable, forward-thinking solutions that address the root causes of the lake's challenges and protect it for future generations.

**Response 116:** The State of Vermont does not consider PFAS to be present within the active or inert ingredients of ProcellaCOR EC. Based on this review, Health and the Secretary have found that the proposed use of ProcellaCOR EC in Lake St. Catherine poses a negligible risk to public health.

Also, see responses 16, 19, 22, 39, 40, 41, 47, 100, 104, 108, 114, and 120.

**Comment 117:** We write to you with profound concern regarding the proposed or ongoing use of ProcellaCOR in Lake Saint Catherine. This herbicide, despite regulatory approval, raises significant unresolved questions about its environmental persistence, ecological impacts, and implications for public health. We respectfully urge the Vermont Agency of Natural Resources (ANR) to impose a moratorium on the application of ProcellaCOR in Lake Saint Catherine until comprehensive, peer-reviewed studies address these concerns in detail.

Key Concerns About ProcellaCOR

1. PFAS Classification and Environmental Persistence

Florpyrauxifen-benzyl, the active ingredient in ProcellaCOR, has been classified as a PFAS by the Minnesota Department of Agriculture (MDA). PFAS chemicals are notorious for their persistence in the environment and are often called "forever chemicals." Although not universally classified as a PFAS by all regulatory bodies, the presence of fluorinated compounds within ProcellaCOR's chemical structure warrants heightened scrutiny.

A 2023 Environmental Protection Agency (EPA) explainer emphasizes, "The more we learn about PFAS chemicals, the more we learn that certain PFAS can cause health risks even at very low levels. This is why anything we can do to reduce PFAS in water, soil, and air, can have a meaningful impact on health."

2. Impacts on Non-Target Plant Communities

While ProcellaCOR is marketed as a selective herbicide targeting invasive species like Eurasian watermilfoil (EWM), studies and anecdotal reports indicate that its application can affect native plant species outside the intended treatment zones. This drift occurs via wind and water movement, highlighting the potential for widespread unintended ecological consequences. Although proponents argue these effects are temporary, comprehensive data on recovery timelines and ecological impacts are lacking.

3. Bioaccumulation and Interaction with Microplastics

ProcellaCOR's fat-soluble nature raises concerns about bioaccumulation in aquatic organisms and persistence in lake ecosystems. Furthermore, evidence suggests that its active ingredient may bind to microplastics, which are prevalent in aquatic environments, potentially prolonging its environmental persistence and amplifying its ecological impact.

4. Gaps in Long-Term Ecological Studies

The relatively recent introduction of ProcellaCOR into aquatic systems means that its long-term effects on complex ecosystems remain poorly understood. Critical areas requiring further investigation include its impacts on:

- Benthic aquatic invertebrates: The base of aquatic food webs, which could be disrupted by ProcellaCOR's toxicity.
- Native plant species: Particularly those that contribute to biodiversity and ecosystem health.
- Aquatic predators and food webs: Including shifts in predator-prey dynamics, foraging behaviors, and trophic cascades.

5. Methodological Concerns in Existing Studies

Scientists like Carol Collins have questioned the methodology of existing toxicity studies, citing limited species selection and inadequate evaluation of indirect impacts. These gaps highlight the urgent need for independent, comprehensive research using in situ and mesocosm-based approaches to assess the herbicide's broader ecological consequences.

Learning from History: Lessons from Banned Herbicides

The history of chemical herbicides provides clear cautionary lessons about the dangers of prematurely approving chemicals without comprehensive long-term studies. Time and again, chemicals initially deemed safe for use were later found to have devastating consequences for ecosystems, human health, and public trust in regulatory

oversight. The U.S. Environmental Protection Agency (EPA) has banned numerous herbicides after their real-world impacts contradicted the assurances of safety presented during their initial approvals.

1. 2,4,5-T (a component of Agent Orange):

Initially approved for agricultural use, 2,4,5-T was widely used until the discovery that it was contaminated with dioxin, a highly toxic compound linked to severe health effects, including cancer, birth defects, and other reproductive harm. The consequences of its use in the Vietnam War remain one of the most prominent examples of regulatory failure, underscoring the need for stricter oversight and independent testing of chemical formulations.

2. Alachlor:

Used extensively to control weeds in crops such as corn and soybeans, alachlor was marketed as safe. However, over time, it became evident that the chemical leached into groundwater, contaminating drinking supplies and causing a range of health problems, including cancer. Its eventual ban highlighted the long-term risks of groundwater contamination from seemingly "targeted" herbicides.

3. Chlorpyrifos:

Once a staple in agricultural pest management, chlorpyrifos was found to have neurotoxic effects, particularly on children. Decades of scientific evidence revealed its role in developmental delays and other neurological impairments, leading to its recent ban. The delay in regulatory action despite mounting evidence exemplifies the dangers of relying on limited short-term studies at the expense of public health.

4. Daminozide (Alar):

Popularly used in apple orchards to regulate fruit growth, Alar was found to be a probable human carcinogen. Despite being widely used in the 1980s, its risks to consumers and agricultural workers were only acknowledged after significant public outcry and independent research.

5. Dinoseb:

This herbicide and insecticide, once considered effective for controlling pests in agricultural systems, was banned after it was linked to severe reproductive and developmental effects. Its removal came too late for many exposed individuals, highlighting the slow pace of regulatory response to emerging evidence.

6. Dacthal (DCPA):

Recently banned due to concerns over its potential to harm fetal development and persist in the environment, Dacthal demonstrates that even modern regulatory systems can approve chemicals with significant long-term risks.

7. Toxaphene:

A highly persistent and toxic insecticide, toxaphene was banned for its role as a probable carcinogen and environmental pollutant. Its legacy includes contaminated soils and waterways, which remain hazardous long after its removal from the market.

8. Silvex (2,4,5-TP):

Closely related to 2,4,5-T, silvex was banned due to contamination with dioxin and its toxic effects on ecosystems. Its case highlights the dangers of chemical formulations that include unintentional contaminants.

9. Endothall:

Though some formulations remain in use, others have been banned due to their high toxicity to aquatic life, raising concerns about unintended impacts on non-target species and ecosystem health.

10. Aldicarb:

Recognized as one of the most acutely toxic pesticides to humans, aldicarb's use was eventually restricted and phased out after numerous incidents of poisoning and long-term environmental contamination.

The Pattern of Regulatory Failure

In each of these cases, the trajectory was strikingly similar:

Early Approval Based on Limited Data: Initial regulatory reviews failed to identify long-term risks, often relying on studies conducted by the manufacturers themselves.

Widespread Use: Once approved, these chemicals were used extensively, often with significant industry promotion and government endorsement.

Emerging Evidence of Harm: Independent studies and real-world data began to reveal unintended consequences, including contamination of water supplies, harm to wildlife, and serious health effects on humans.

Eventual Withdrawal After Catastrophic Impact: Only after undeniable evidence of harm—and often public outcry—were these chemicals banned, by which point irreversible damage had already occurred.
These cases emphasize the critical importance of adopting a precautionary approach when evaluating new chemicals. Vermont has an opportunity to lead by example, ensuring that history does not repeat itself with ProcellaCOR. The state must prioritize the health of its ecosystems and residents over expediency and industry pressure, recognizing that delaying precautionary action often results in far greater long-term costs.
Legal and Ethical Obligations Under the Public Trust Doctrine
As the steward of Vermont's public trust resources, the ANR has a fiduciary responsibility to protect the waters of Lake Saint Catherine for current and future generations. Failing to adequately assess and mitigate the risks associated with ProcellaCOR could expose the agency to legal challenges under the Public Trust Doctrine. Precedents such as Illinois Central Railroad Co. v. Illinois (1892) and National Audubon Society v. Superior Court (1983) reinforce the imperative to prevent harm to public trust resources.
Our Request
Given these concerns, we call on the Vermont ANR to:
1 Impose a Moratorium: Suspend all applications and permitting of ProcellaCOR in Lake Saint Catherine until independent, peer-reviewed studies provide clear evidence of its safety.
2 Commission Long-Term Studies: Invest in mesocosm and field studies to evaluate ProcellaCOR's effects on aquatic ecosystems, food webs, and bioaccumulation.
3 Adopt Precautionary Principles: Prioritize non-chemical management approaches, such as Diver-Assisted Suction Harvesting (DASH) and hand harvesting, to control invasive species without introducing new ecological risks.
4 Engage the Public: Facilitate community forums and transparent decision-making processes to involve stakeholders in evaluating ProcellaCOR's risks and alternatives.
Conclusion
Lake Saint Catherine is a cherished natural resource that supports biodiversity, recreation, and local communities. While addressing invasive species is critical, we must not trade one environmental crisis for another by introducing chemicals whose long-term impacts remain uncertain. We urge the Vermont ANR to act as a model of responsible governance by taking a precautionary approach to ProcellaCOR and safeguarding the legacy of Lake Saint Catherine
**Response 117:** See responses 9, 10, 16, 19, 22, 39, 49, 47, 81, 87, 100, 101, 104, 108, 114, 116, 119, and 121.

**Comment 118:** The DEC and Fish and Wildlife have come to an agreement that no more than 40% of the littoral zone can be treated in a year. Comments made in past meetings I have attended and comments between staff members have indicated that there has been some confusion over the exact meaning of this.

At one time I believe that comments were made that this should be revisited. Regardless of any confusion, how does the agency and applicant plan on keeping the treatment within the 40% zone? Recent studies done on Lake George have proven that ProcellaCOR doesn't stay within the treatment zone.

With it proven that ProcellaCOR and its derogates will travel outside the treatment zone, how can a permit be granted using a threshold of 40%, when an accurate treatment area is impossible to establish.

**Response 118:** See response 81.

**Comment 119:** Herbicides once EPA approved and now banned: 2,4,5-T, Aldicarb, Aldrin, Alachlor, Azinphos-methyl, Benomyl, Captafol, Carbaryl, Carbofuran, Chlordane, Chlorobenzilate, Chlorpyrifos, Creosote, Daminozide, DDT, Dieldrin, Dinoseb, Endrin, EPN, Ethylene dibromide, Fenamiphos, Heptachlor, Hexachlorobenzene, Lindane, Methyl parathion, Mirex, Monocrotophos, Parathion, Pentachlorophenol, Phorate, Phosdrin, Silvex, Sodium arsenite, TDE, Toxaphene, Trichlorfon, Zineb, Endosulfan, Ethylene oxide, Fluoroacetamide, Hexachlorocyclohexane, Kepone, Lead arsenate, Mercury compounds, Methoxychlor, Methyl bromide, Nitrofen, Propachlor, Quintozene, Rotenone, Simazine, Temephos, Thiodicarb, Vinclozolin, Zinc

Phosphide, Amitrole, Arsenic Trioxide, Captan, Chloropicrin, Dicofol, Fenthion, Formetanate Hydrochloride, Hexazinone, Isofenphos, Lasso, Metalaxyl, Methamidophos, Monosodium Methanearsonate, Napropamide, Omethoate, Oxydemeton-Methyl, Profenofos, Propargite, Quinalphos, Thiram, TCA, Triadimefon, Tributyltin, Trifluralin, Vamidothion, Ziram, Aluminum Phosphide, Brodifacoum, Chloralose, Cyanazine, Desmedipham, Diazinon, Dicamba, Ethoprop, Fipronil, Iprodione, Malathion, Oxamyl, Permethrin, Prochloraz, Propiconazole, Tebuconazole, Thiacloprid, Warfarin, Zinc Oxide

**Response 119:** ProcellaCOR EC is currently registered with the US Environmental Protection Agency (EPA Registration Number 67690-80) and with the Vermont Agency of Agriculture, Food, and Markets, where it is considered a Class A pesticide.

Also, see responses 19, 22, and 39.

**Comment 120:** To the findings that have to be arrived at in order to approve this permit. There are no reasonable non chemical alternatives. There are plenty of reasonable non chemical alternatives and so you cannot DEC arrive at that finding. Here's an example right here of a suction dredge that will go down, take out a milfoil bed, pump it through a hose to a dewatering bag on shore, and do a better job than suction harvesting does. Now the DASH program is incredibly successful. You guys are doing a fabulous job with that. You wanna turn it on steroids, do that. The State has plenty of money that's spending in the watershed. We can find some money to get ourselves a suction dredge.

As far as non-target species goes, I just want to read some of the information. So if spills or discharges of this herbicide make their way to natural waterways, they're likely to kill aquatic organisms, prevent them from entering into soil. Ditches, sewers, waterways and underground water section 12 talks about ecological information toxicity to fish.

The material is practically underlined, practically non-toxic to fish, so I'd like to know how do we determine practically. These are serious questions, by the way. OK. How do we determine practically what does the study look like? What? Where are the studies? I wanna know the studies I wanna see studies cited for these claims in this fact sheet that say it's practically non-toxic to fish. Where the studies?

Material is slightly toxic to aquatic invertebrates. The lake St. Catherine Conservation Fund received a denial to an expansion of an aeration permit. Once in that denial, and I'll quote the air bubbles rising from the bottom of the lake to the surface of the lake could negatively impact the aquatic invertebrates and throwing the entire food web out of balance. So if the bubble's can do that, I wonder what this chemical can do.

**Response 120:** See responses 9, 10, 16, 19, 22, 25, 39, 40, 47, 59, 85, 87, and 114.

**Comment 121:** I asked for the safeguards to be put in place to protect against any negative impacts on the fishery, humans or ecosystem. Safeguards are as follows. Dissolved oxygen testing, especially during respiration period. Core sample testing for trace elements of chemicals. Spot checking wells for trace elements chemicals. Looking for hybrid or chemical resistant milfoil and macro invertebrate and fish surveys and chemical drift and flow analysis. A side note on that, the dissolved oxygen testing the lake St. Catharine Conservation Fund this past June put in two installed automatic monitoring stations for dissolved oxygen. The preliminary results of those are not looking good. We really need more than 4 milligrams per liter. Otherwise you have a problem with fish kills and stressing the fish, and our numbers are showing from June, July and August. There are areas that are under .1 milligram per liter and. The final test results on that will be distributed to the state by the end of this year.
Let's switch over to Lake George Association. They're similar to our lake system they have. The Parks Commission that wanted to install ProcellaCOR in their lake, they did that in earlier this summer. Lake George Association lost that battle, and so they decided to initiate a sophisticated scientific studies program.
And that program covers all the statement or all the safeguards that I have been trying to get the state to

implement for the last 20 years.
The initial results of their studies are showing chemical drift, release of nutrients, increase in filamentous algae, increased inorganic matter degradants, which are chemical by products, also trace elements. The predominant one of which is also known to be a herbicide, and they were found in the sediment samples in both treatment area and the dilution zones.
Now if we use the safeguards 20 years ago, we would be way ahead. We have all the answers right now, but we didn't do that. So I'm going to ask the permitting agency, are you going to implement the safeguards if this permit is approved?
I also like to know if you're going to accept the use of biologic spot dredging to offset internal nutrient loading. When are you going to reconsider aeration to stabilize dissolved oxygen and benefit the health of the fisheries?

**Response 121:** There is no restriction to drinking water as identified on the SePRO ProcellaCOR® EC Specimen Label from waters treated with the pesticide. However, to minimize unnecessary pesticide exposure to the public, on the day of treatment, no use of the treated waterbody and associated outlet stream for up to one mile downstream is recommended for any purpose, including swimming, boating, fishing, irrigation, and all domestic uses. The permittee will supply potable water upon request to those who depend upon the treated waterbody or its outlet stream for up to one mile downstream for domestic use to prepare food or drink on the day of treatment.

As stated in a letter to the Vermont Department of Environmental Conservation's Lakes and Ponds Program from the Vermont Department of Health's State toxicologist on May 24, 2024:

"The EPA label for ProcellaCOR does not include any restrictions on use of the treated water for domestic (including drinking and cooking) or recreational use. The proposed treatments at Lake St. Catherine would result in a maximum florpyrauxifen-benzyl concentration of 9.7 ppb, or ~5 PDUs. The EPA label allows use of up to 25 PDUs, which corresponds to roughly 50 ppb. While EPA identified no adverse impacts in animals across the required toxicology studies, Health selected a point of departure of 300 mg/kg/day and derived a chronic oral reference dose of 3 mg/kg/day. Use of this chronic oral reference dose in Health's standard drinking water equations, assuming daily exposure to a 0-1 year old, gives a drinking water health advisory of 3,429 ppb. The drinking water health advisory for florpyrauxifen-benzyl is over 590 times higher than the highest proposed concentration in the treated areas, and over 60 times higher than the highest use amount allowed on the EPA label.

The proposed treatment of Lake St. Catherine with ProcellaCOR is expected to result in negligible risk to public health. Public notification of property owners and residents of the treated water body area as well as commercial camps and parents whose children are attending camps which use the treated water body and/or waters within one contiguous watermile of the treated water body should occur 30 days prior to application. Water body access areas as well as any nearby campgrounds should be posted for public awareness."

The Secretary concluded that carrying out the proposed project would result in a negligible risk to public health and have no undue adverse effect upon the public good.

As identified in the Washington State Department of Ecology's 2017 evaluation of ProcellaCOR, section 4.3.3.2 states:

"Few studies have yet been completed for groundwater, but based on known environmental properties concerning mobility, solubility, and persistence, Procellacor™ is not expected to be associated with potential environmental impacts or problems in groundwater.

In laboratory aquatic ecotoxicity studies, the highest concentration of TGAI that could be dissolved in the test water (or functional solubility) was approximately 40-60 µg/L in freshwater and 20-40 µg/L in saltwater. This is due to the low water solubility of the active ingredient and limits the range for which these toxicity tests can be conducted. This finding suggests that the water chemistry of Procellacor™ would limit potential environmental impacts to groundwater or surface water.

Impacts to public water supplies are expected to be low to negligible based on the low solubility, low persistence, and low acute and chronic toxicity of Procellacor™. Section 4.3.4 discusses possible measures or best management practices (BMPs) that could be used to further reduce potential impacts to public water supplies. The Ecology permit has mitigation that requires permittees to obtain an approval letter for this treatment prior to obtaining coverage under the permit."

Additionally, dredging or aeration in Lake St. Catherine would require a Lake Encroachment permit. One would need to apply for a Lake Encroachment permit for the Secretary to review a proposed project.

Sources: Washington State Department of Ecology. https://lgpc.ny.gov/system/files/documents/2022/03/procellacor-washington-st-aquatic-plant-management-eis.pdf

Also, see responses 16, 19, 22, 39, 41, 59, 81, 87, 100, 104, and 120.

**Comment 122:** I want to know the exact ingredients in ProcellaCOR and the amounts and percentages of each ingredient. I do not necessarily trust the scientist. I wanna know myself 'cause I wanna study it.

**Response 122:** See response 113.

**Comment 123:** I just would like to say, why did the signs go from a size this big that said, "hey, be aware we put chemicals in this lake. Don't let your kids swim in", it to something that's about this big, and it sits in the grass and nobody sees it. I see kids coming from all over different states who who are housing next to us. You know, the Airbnb thing. And they're swimming in it, and I know it says, oh, well, the renter was supposed to tell them. They're not going to tell them. They're not even there. Where are the signs that are warning them? Not these little postcards that are stuck in the grass that are mowed over and nobody sees them. It's not right. How can anyone let little kids swim in that when nobody even knows it?

**Response 123:** The Secretary acknowledges the difficulty of reading the signage and has increased the signage requirements to 18"x24", a standard size used for lawn signs. As such, permit condition a.7.C.ii. has been updated to the following:

"ii. On weather resistant material and at least 18 inches by 24 inches in size at all public access points and all other locations"