

**ANC Rulemaking Focus Group  
Straw Proposal Document in Advance of Second Meeting on 2/23/23**

**Rulemaking Theme 1:** Develop definitions for terms used in the statutory findings (e.g., acceptable, reasonable, negligible) as well as refine definitions in statute (e.g., aquatic nuisance)

**Table of Contents**

- I. Introduction**
  
- II. There is no reasonable nonchemical alternative available**
  - a. Permit Findings
  - b. Definitions of the Term “reasonable”
  - c. DEC Criteria for determining whether there is no reasonable nonchemical alternative available
  - d. Discussion Points for the 2/23/23 meeting
  
- III. There is acceptable risk to the nontarget environment**
  - a. Permit Findings
  - b. Definitions of the term “acceptable,” “risk,” and “acceptable risk”
  - c. Defining the non-target environment
  - d. Determination of acceptable risk to the non-target environment
  - e. Discussion Points for the 2/23/23 meeting
  
- IV. There is negligible risk to Public Health**
  - a. Permit Findings
  - b. Definitions of the term “negligible.”
  - c. Defining what “public health” means and how this term is considered
  - d. Discussion Points for the 2/23/23 meeting
  
- V. Additional Definitions for Potential Inclusion in Rulemaking**
  - a. Existing Definition of Aquatic Nuisance
  - b. Potential Revised definition of Aquatic Nuisance contained in H.51:
  - c. Potential Expanded definition of Aquatic Nuisance proposed by DEC:
  - d. Additional Definitions
  - e. Discussion Points for the 2/23/23 meeting

## I. Introduction

The Aquatic Nuisance Control Statute Chapter on Permitting, [10 VSA 1455](#), defined five findings that must be met before a permit can be issued for a pesticide. The principal goal of ANC Rulemaking Theme 1 is to define definitions for certain statutory terms that can be objectively applied during the permit adjudication process. Theme 1 will focus on creating a structure for how the first three findings are made and reviewed as well as better defining three terms used in statute, namely “reasonable,” “acceptable,” and “negligible.” The relevant statutory text is pasted below:

*Statutory findings 1-3 under 10 V.S.A. § 1455(d): (d)The Secretary shall issue a permit for the use of pesticides in waters of the State for the control of nuisance aquatic plants, insects, or other aquatic life, including lamprey, when the applicant demonstrates and the Secretary finds:*

- ***there is no reasonable nonchemical alternative available;***
- ***there is acceptable risk to the nontarget environment;***
- ***there is negligible risk to public health;***
- *a long-range management plan has been developed which incorporates a schedule of pesticide minimization; and*
- *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.*

## II. There is no reasonable nonchemical alternative available

### a. Permit Findings

For context, the following are the relevant findings in response to this statutory requirement from an actual VT DEC aquatic nuisance control permit, 3382-ANC-C, issued 2/24/2022. This text is provided to give the Focus Group an idea of how DEC is currently complying with this statutory requirement and determining that there is no “reasonable” non-chemical alternative available:

- i. Control Activity Purpose. *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 Fairlee.*
- ii. No Reasonable Non-Chemical Alternative Available – 10 V.S.A. 1455(d)(1). *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 populations of the aquatic invasive species Eurasian watermilfoil.*
- *Eurasian watermilfoil has been established in Lake Fairlee since at least 1995.*
- *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 Fairlee.*
- *ProcellaCOR® EC (active ingredient florypyrauxifen-benzyl) is expected to dissipate rapidly to a reduced concentration in Lake Fairlee due to its rapid photolysis and aerobic aquatic metabolism. The outlet of Lake Fairlee flows into an unnamed tributary of the Ompompanoosuc River. 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 (FAIRLEE – data through 2020), Lake Fairlee’s trend score is poor, its Vermont Water Quality Standards status is stressed from nutrients and phosphorus, and it has a “moderately disturbed” watershed score. Mean spring total phosphorus is 12.2 ug/L, mean summer total phosphorus is 15.6 ug/L, mean summer chlorophyll a is 4.7 ug/L, and mean summer Secchi depth is 6.1 meters. The mean spring total phosphorus concentration trend is significantly increasing; the mean summer total phosphorus concentration trend is highly significantly increasing; and the mean summer Secchi depth trend is significantly decreasing. This data supports the likelihood of the presence of elevated biological productivity within Lake Fairlee, 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 Fairlee as being in poor condition. This ranking is a measure of human activity within 15 meters of the lake’s shoreline at ten (10) random sites around the lake; it reflects how extensively a lake’s shoreland is developed. 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 Fairlee 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 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.*

## **b. Definitions of the Term “Reasonable”**

What did legislature intend with use of the term “reasonable?” For context, the following are general definitions for *reasonable*:

- not extreme or excessive; MODERATE, FAIR (<https://www.merriam-webster.com/dictionary/reasonable>)
- based on or using good judgment and therefore fair and practical; acceptable (<https://dictionary.cambridge.org/us/dictionary/english/reasonable>)
- fair and sensible (<https://www.collinsdictionary.com/us/dictionary/english/reasonable>)
- **Legal Definition:** Just, rational, appropriate, ordinary, or usual in the circumstances. It may refer to reasonable care, cause, compensation, doubt (in a criminal trial), and a host of other actions or activities (see [here](#))

A definition from an existing water-related statute in Vermont, [10 V.S.A. 1002 - Regulation of Stream Flow](#), is:

- (18) “**Reasonable** and feasible” means available and capable of being implemented after consideration of cost, existing technology, logistics in light of the overall project purpose, environmental impact, and ability to obtain all necessary approvals for implementation.

Applying this definition to ANC, a “reasonable” nonchemical alternative could be defined as a nonchemical control method that is available and capable of being implemented after consideration of cost, existing technology, logistics in light of the overall project purpose, and environmental impact. DEC believes that reference to the project purpose is important because a control practice could be viewed as not being reasonable if it doesn’t address the problem at hand.

And from an alternative perspective, the Vermont Civil Procedures Act ([3 V.S.A. 801](#)) provides a definition of “arbitrary” that effectively defines when an agency policy or approach is *not* reasonable:

- “**Arbitrary,**” when applied to an agency rule or action, means that one or more of the following apply:
  - (i) There is no factual basis for the decision made by the agency.
  - (ii) The decision made by the agency is not rationally connected to the factual basis asserted for the decision.
  - (iii) The decision made by the agency would not make sense to a reasonable person.

## **c. DEC Criteria for determining whether there is no reasonable nonchemical alternative available**

Determining whether there is no reasonable nonchemical alternative available requires that the Secretary examine the control activity by applying the following criteria and presumptions, which DEC has developed and is already using to guide our review of permit applications and make a determination in relation to this finding:

1. What is the purpose and goal of the control activity? The purpose is why the control activity is being pursued and the goal is the desired end state after implementing the project.
2. What is the life history of the targeted aquatic nuisance species?
3. Within the waters of the project area, what is the history of the aquatic nuisance species being targeted for control, what is the current status of the aquatic nuisance species in those waters, and what is the chemical, physical, and biological status of those waters?
4. What control activities have been used previously within the project area to control the aquatic nuisance?
5. What management strategy is being proposed to control the aquatic nuisance and what measures will be taken to minimize the use of pesticide? A management strategy is considered the method by which specific control areas are identified for management as a means to achieve the purpose and goal of the control activity. This can include identification of an action threshold, areas of impacted public good uses, or areas of impacted aquatic habitat of a body of water.
6. What nonchemical control activities are available to control the aquatic nuisance and how are those nonchemical control activities incorporated into the management strategy?
7. What is the likelihood of achieving the purpose and goal of the control activity?

It must be demonstrated that the proposed use of pesticide is reasonable and that implementing nonchemical control activities only cannot reasonably achieve the purpose and goal of the project within areas proposed for the use of a pesticide. Consideration of potential impacts on the nontarget environment from implementing nonchemical control activities only will be factored into this determination<sup>1</sup>. If the Secretary determines that there are reasonable nonchemical alternatives available to achieve the purpose and goal of the control activity, the application will be denied.

**d. Discussion Points for the 2/23/23 meeting**

1. As shown in section II.a of this document above, is the existing approach DEC is using to make this determination adequate? Where is it lacking? What could be added?
2. Should an ANC rule on pesticide permitting include one of the definitions presented above in section II.b? Should there be other quantitative criteria used to determine that the proposed treatment is meeting this definition?
3. Should the applicant be required to provide answers to the seven questions in section II.c as part of their permit application?
4. Is there some other approach we should be using to make this determination, that could be incorporated into the rule?

---

<sup>1</sup> Nonchemical controls can have major impacts too. An acre of ProcellaCOR likely has far fewer impacts compared with an acre of bottom barriers.

### III. There is acceptable risk to the nontarget environment

#### a. Permit Findings:

For context, the following are the relevant findings in response to this statutory requirement from an actual VT DEC aquatic nuisance control permit, 3382-ANC-C, issued 2/24/2022. This text is provided to give the Focus Group an idea of how DEC is currently complying with this statutory requirement and determining that there is an “acceptable” risk to the non-target environment. This is a long section, as it shows the extent to which the DEC considers this issue prior to making a permitting decision. We strive to appropriately define the non-target environment, consider the risks, and make a determination in our permits. It is worth noting that none of our ANC permits have been appealed in the last five years.

Acceptable Risk to the Non-Target Environment – 10 V.S.A. 1455(d)(2). *The Secretary considers the following as the non-target environment:*

1. *Aquatic plants and animals within the waterbody proposed for treatment and waters up to one mile downstream of the waterbody.*
2. *Wetlands within the waterbody proposed for treatment and wetlands within the outlet waters up to one mile downstream of the waterbody.*
3. *Human use of waters treated with the pesticide. This includes, hydroponic farming, greenhouse and nursery plants, and all locations irrigated with waters treated with ProcellaCOR® EC.*
4. *The ecological integrity of the waterbody, which is the culmination of how the biological, chemical, and physical integrity of the waterbody interact. The concept of ecological integrity is identified in the [Vermont Department of Environmental Conservation Watershed Management Division’s Statewide Surface Water Management Strategy](#).*

*For determining what might be considered an acceptable risk to the non-target environment from a proposed treatment, the Secretary made several baseline assumptions related to the non-target environments potentially affected by the proposed treatment:*

- *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.*
- *Rare aquatic plant species have been recorded as being present in Lake Fairlee. Species observed include prickly hornwort (S2S3), Ceratophyllum echinatum; Nuttall’s waterweed (S3), Elodea nuttallii; Vasey’s Pondweed (S2), Potamogeton vaseyi; marsh mermaidweed (S2S3), Proserpinaca palustris; humped bladderwort (S3), Utricularia gibba; and lesser bladderwort (S3), Utricularia minor. Those species are not listed as being controlled by ProcellaCOR® EC as identified on the product label. However, Ceratophyllum echinatum is a close relative to a native non-target species that is listed as being controlled by ProcellaCOR® EC (Ceratophyllum demersum). Additionally, Proserpinaca palustris is within the same Family as Eurasian watermilfoil (Haloragaceae). Therefore, there is the potential that Ceratophyllum echinatum and Proserpinaca palustris may be negatively impacted by ProcellaCOR® EC.*
- *Native aquatic plants controlled by ProcellaCOR® EC as identified on the product label have been recorded as being present in Lake Fairlee. This includes watershield, Brasenia schreberi, last observed in 2021 with a 6% frequency of occurrence for the 120 survey points within Lake Fairlee at various densities scattered throughout the lake; and coontail, Ceratophyllum demersum, last observed in 2020 with a <1% frequency of occurrence for the 120 survey points within Lake Fairlee at a trace density along the western half of the southern shoreline. In previous correspondence with the co-permittee, it was identified that season long and sometimes multi-season 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. The applicant identified that *Ceratophyllum demersum* will most likely only be impacted at a treatment concentration of greater than 4 PDU. The applicant also identified that white water lily, *Nymphaea odorata*, and yellow water lily, *Nuphar variegata*, may also be sensitive (not controlled/sublethal) to ProcellaCOR® EC based on treatments conducted in previous years. Impacts to those species include slight discoloration, slight stem twisting, and leaf curling. However, plants grew out of those impacts after a period of several weeks after a treatment. *Nymphaea odorata* and *Nuphar variegata* were last observed in 2021. In 2021, *Nymphaea odorata* population densities were observed as trace to dense and dispersed throughout the waterbody with a 10% frequency of occurrence for the survey points within Lake Fairlee. In 2021, *Nuphar variegata* population densities were observed as trace to moderate and dispersed throughout the waterbody with a 2% frequency of occurrence for the survey points within Lake Fairlee.

- The outlet of Lake Fairlee flows into an unnamed tributary of the Ompompanoosuc River. It is anticipated that reduced concentrations of ProcellaCOR® EC will flow downstream until complete breakdown of the pesticide occurs. The species composition within the unnamed tributary is not specifically known.
- Mapped Class II wetlands are located at the Blood Brook inlet, the Middle Brook inlet, an unnamed inlet along the northeastern shore, and the outlet. The Middle Brook inlet was surveyed by the Secretary on 6/5/2020 for rare aquatic plant species. During that survey, dense populations of *Proserpinaca palustris* were observed along the shoreline of the wetland growing out to approximately 1.5 feet deep. Scattered *Ceratophyllum echinatum*, *Elodea nuttallii*, and *Utricularia minor* populations were also found within this wetland along with robust growth of other native aquatic plant species with trace amounts of Eurasian watermilfoil. Additional wetlands may be present as defined by a dominance (>50% surface area coverage) of woody, emergent, or floating leaved vegetation anchored in sediment located in areas up to 6.5 feet deep. Examples of wetland vegetation include willow and alder shrubs, cattails, emergent bur-reed, emergent arrowhead/*Sagittaria* sp., and watershield/white water lily pads/spatterdock/floating leaved pondweeds. Provided only Eurasian watermilfoil is targeted, the control activity would be an Allow Use (6.18) under the [Vermont Wetland Rules](#).
- Lake Fairlee and its waters are public, and it is reasonable to assume that all public waters may be used for irrigation.
- As identified in the ProcellaCOR® EC Safety Data Sheet, the product is practically non-toxic to fish on an acute basis and the material is slightly toxic to aquatic invertebrates on an acute basis. Review of ecotoxicity studies based on the maximum label rate of 50 parts per billion, 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.
- Based on a bathymetry survey completed by the Secretary on 8/22/2018, Lake Fairlee is 467.7 acres, and the littoral zone covers approximately 151.7 acres, which is 32.4% of the total lake surface area. The littoral zone is the area of the lake that supports rooted aquatic vegetation.
- Approximately 20.9 acres are proposed to be treated with ProcellaCOR® EC in 2021, which is 4.5% of the total lake surface area and 13.8% of the littoral zone of Lake Fairlee. If a treatment is proposed during a year this permit is active, the final annual treatment area will be determined annually in accordance with condition a.4. of this permit.

The presence of aquatic vegetation is required for fish & wildlife habitat. Generally, Eurasian watermilfoil (EWM) has been identified as providing poor fish & wildlife habitat compared with native aquatic vegetation. The removal of EWM promotes native plant biodiversity, which improves the biological integrity of the lake

over time. However, EWM 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 Fairlee, no more than 40% of the littoral zone may be targeted by aquatic plant management activities annually. For any requests that propose managing more than 40% of the littoral zone, including a combination of chemical and non-chemical control methods, the permittee must demonstrate a need where the potential adverse effects on the non-target environment are outweighed by the tangible benefits.

It is not anticipated that the non-target aquatic plants and animals within Lake Fairlee, the waters downstream of Lake Fairlee, 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 4 PDUs (maximum application rate is 25 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 Fairlee (*Brasenia schreberi*, *Ceratophyllum demersum*, *Ceratophyllum echinatum*, *Nuphar variegata*, *Nymphaea odorata*, and *Proserpinaca palustris*) are often located within wetlands or wetland buffers. As previously observed by the Secretary on 6/5/2020, the Middle Brook inlet wetland contains all of these species. Due to this potential negative impact on native non-target aquatic plant species, a proposed ProcellaCOR® EC treatment should not exceed treatment concentrations where there is the potential for negative impacts (e.g., no greater than 2 PDU for locations with *Brasenia schreberi* or 4 PDU for locations with *Ceratophyllum demersum*) and treatment locations should avoid being within a wetland, 50 foot wetland buffer, or locations with known populations of these native non-target species, unless it can be determined that the overall lake-wide population of a sensitive species will not be significantly impacted.

For each treatment, a pre-treatment quantitative aquatic plant survey will be completed during the year prior to a proposed treatment and a pre-treatment qualitative aquatic plant survey for Eurasian watermilfoil and the non-target native species that are controlled or sensitive to ProcellaCOR® EC will be completed during the year of a proposed treatment within the proposed treatment location(s). Following a treatment, a post-treatment quantitative aquatic plant survey will be conducted to assess how aquatic plant populations respond to control activities during the year of treatment and the year following the last treatment. Quantitative aquatic plant surveys will be completed during the aquatic plant growing season (July 1<sup>st</sup> through September 30<sup>th</sup>) and completed using the point-intercept rake-toss methodology. The Secretary will assess those surveys to ensure the acceptable risk to the non-target environment finding can continue to be met.

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 Fairlee due to its rapid photolysis and aerobic aquatic metabolism.

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.



*The use of ProcellaCOR® EC will only occur while Eurasian watermilfoil is actively growing, which is typically between mid-June through mid-September. ProcellaCOR® EC is absorbed through submersed plant shoots and leaves when used in water. There is the potential that treatments scheduled earlier in the year may be more protective of non-target native aquatic plants as Eurasian watermilfoil often begins actively growing before non-target native aquatic plants. Targeting Eurasian watermilfoil with ProcellaCOR® EC earlier in the season may also result in requiring a reduced amount of the pesticide to be effective at controlling Eurasian watermilfoil.*

*As Eurasian watermilfoil biomass may be reduced earlier in the year before non-target native aquatic plants begin fully growing, the reduction of that biomass may allow for an increase in available light for non-target native aquatic plants. This may temporarily increase the competitive advantage for those non-target native aquatic plants to exist for a longer period within the treatment location before Eurasian watermilfoil recolonizes the area, thus potentially reducing the frequency of using a pesticide.*

*The Secretary has determined that there is an acceptable risk to the non-target environment.*

**b. Definitions of the term “acceptable,” “risk,” and “acceptable risk.”**

What did legislature intend with use of the term “acceptable?” The following are general definitions for acceptable:

- capable or worthy of being accepted; barely satisfactory or adequate (<https://www.merriam-webster.com/dictionary/acceptable>)
- satisfactory and able to be agreed to or approved of; just good enough, but not very good (<https://dictionary.cambridge.org/us/dictionary/english/acceptable>)
- Acceptable activities and situations are those that most people approve of or consider to be normal (<https://www.collinsdictionary.com/us/dictionary/english/acceptable>)

The following are general definitions for risk:

- possibility of loss or injury; someone or something that creates or suggests a hazard (<https://www.merriam-webster.com/dictionary/risk>)
- the possibility of something bad happening; something bad that might happen ([RISK | definition in the Cambridge English Dictionary](#))

The following are general definitions for acceptable risk:

- Risk that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its own OH&S policy; The likelihood of suffering disease or injury that will be tolerated by an individual, group, or society. The level of risk that is determined to be acceptable may depend on a variety of issues, including scientific data, social, economic, legal, and political factors, and on the perceived benefits arising from a chemical or process; This is a risk management term. The acceptability of the risk depends on scientific data, social, economic, and political factors, and on the perceived benefits arising from exposure to an agent; The level of potential losses that a society or community considers acceptable given existing social, economic, political, cultural, technical and environmental conditions. Comment: In engineering terms, acceptable risk is also used to assess and define the structural and non-structural measures that are needed in order to reduce possible harm to people, property, services and systems to a chosen tolerated level, according to codes or “accepted practice” which are based on known probabilities of hazards and other factors; The likelihood of suffering disease

or injury that will be tolerated by an individual, group, or society. The level of risk that is determined to be acceptable may depend on a variety of issues, including scientific data, social, economic, legal, and political factors, and on the perceived benefits arising from a chemical or process; The acceptability of the risk depends on scientific data, social, economic, and political factors, and on the perceived benefits arising from exposure to an agent; Risk that has been reduced to a level that can be tolerated by the organization having regard to its legal obligations and its own OH&S policy. See [this link](#) for source info.

- The level of Residual Risk that has been determined to be a reasonable level of potential loss/disruption for a specific IT system; A level of residual risk to the organization's operations, assets, or individuals that falls within the defined risk appetite and risk tolerance by the organization ([https://csrc.nist.gov/glossary/term/acceptable\\_risk](https://csrc.nist.gov/glossary/term/acceptable_risk))
- Acceptable risk is the level of potential losses that a society or community considers acceptable given existing social, economic, political, cultural, technical and environmental conditions. In engineering terms, acceptable risk is also used to assess and define the structural and non-structural measures that are needed in order to reduce possible harm to people, property, services and systems to a chosen tolerated level, according to codes or accepted practice; which are based on known probabilities of hazards and other factors. <https://inee.org/eie-glossary/acceptable-risk>
- The term "acceptable risk" describes the likelihood of an event whose probability of occurrence is small, whose consequences are so slight, or whose benefits (perceived or real) are so great, that individuals or groups in society are willing to take or be subjected to the risk that the event might occur. The concept of acceptable risk evolved partly from the realization that absolute safety is generally an unachievable goal, and that even very low exposures to certain toxic substances may confer some level of risk. The notion of virtual safety corresponding to an acceptable level of risk emerged as a risk management objective in cases where such exposures could not be completely or cost-effectively eliminated.
  - Two proxy measures have been used to determine acceptable risk levels. The revealed-preference approach assumes that society, through trial and error, has achieved a nearly optimal, and thus acceptable, balance of risks and benefits. The expressed-preference approach uses opinion surveys and public consultations to obtain information about risk levels warranting mitigation action.
  - Although regulatory authorities are reluctant to define a precise level of acceptable risk, lifetime risks in the order of one in a million have been discussed in regulatory applications of the acceptable risk concept. This level of risk is considered to be *de minimis*, an abbreviation of the legal concept *de minimus non curatlex* (the law does not concern itself with trifles). Attempts have also been made to establish benchmarks, such as the risk of being hit by lightning, to help interpret such small risks. Higher levels of risk might be tolerated in the presence of offsetting health or economic benefits, when the risk is voluntary rather than involuntary, or when the population at risk is small.
  - Although conceptually attractive, application of the concept of acceptable risk is fraught with difficulty, ultimately involving consideration of social values. Inequities in the distribution of risks and benefits across society further complicate the determination of an acceptable level of risk. See [this link](#) for the source info.

### c. Defining the non-target environment

To review this condition, DEC currently identifies the non-target environment as the following:

1. *Aquatic plants and animals within the waterbody proposed for treatment and waters up to one mile downstream of the waterbody.*

2. *Wetlands within the waterbody proposed for treatment and wetlands within the outlet waters up to one mile downstream of the waterbody.*
3. *Human use of waters treated with the pesticide. This includes, hydroponic farming, greenhouse and nursery plants, and all locations irrigated with waters treated with ProcellaCOR® EC.*
4. *The ecological integrity of the waterbody, which is the culmination of how the biological, chemical, and physical integrity of the waterbody interact. The concept of ecological integrity is identified in the [Vermont Department of Environmental Conservation Watershed Management Division's Statewide Surface Water Management Strategy](#).*

**d. Determination of acceptable risk to the non-target environment.**

The DEC is proposing the following language for a potential rule that could be used for determination of acceptable risk to the non-target environment:

1. Upon review of an application, the Secretary shall identify the area of impact under consideration. Within the identified area, the Secretary shall at a minimum consider the following to be the non-target environment:
  - A. Aquatic plants within the waters proposed for treatment and waters up to one mile downstream of the waterbody.
  - B. Aquatic animals within the waters proposed for treatment and waters up to one mile downstream of the waterbody.
  - C. Wetlands within the waters proposed for treatment and wetlands within the outlet waters up to one mile downstream of the waterbody.
  - D. Human use of waters treated with the proposed pesticide. This includes, hydroponic farming, greenhouse and nursery plants, and all locations irrigated with waters treated with the proposed pesticide.
  - E. The potential cumulative effect of the control activity on the non-target environment and receiving waters.
2. The Secretary shall identify how the control activity functions to control the aquatic nuisance.
3. Within the area identified as the non-target environment, the Secretary shall make determinations on the following:
  - A. Effect of the control activity on aquatic plants. This assessment shall consider immediate and long-term impacts to aquatic plants, including impacts to rare, threatened, or endangered species. A determination shall be made on whether the proposed control activity poses an acceptable risk to aquatic plants and whether any mitigating actions can/should be taken to avoid and/or reduce the potential impact.
  - B. Effect of the control activity on aquatic animals. This assessment shall consider immediate and long-term impacts to aquatic animals, including impacts to rare, threatened, or endangered species. A determination shall be made on whether the proposed control activity poses an acceptable risk to aquatic animals and/or their habitats, and whether any mitigating actions can/should be taken to avoid and/or reduce the potential impact.
  - C. Effect of the control activity on wetlands. This assessment shall consider immediate and long-term impacts to wetlands that are jurisdictional to the State. A determination shall be made on whether

the proposed control activity poses an acceptable risk to wetlands, and whether any mitigating actions can/should be taken to avoid and/or reduce the potential impact.

- D. Effect of the control activity on human use of waters treated with the pesticide. This assessment shall consider immediate and long-term impacts to the non-target environment that may be exposed to the pesticide as a result of human use of treated waters, including potential impacts to hydroponic farming, greenhouse and nursery plants, and all locations irrigated with treated waters. A determination shall be made on whether the proposed control activity poses an acceptable risk to this non-target environment, and whether any mitigating actions can/should be taken to avoid and/or reduce the potential impact.
- E. Potential cumulative effect of the control activity to the non-target environment and receiving waters. This assessment shall consider how the control activity may interact with other control activities within the receiving waters as well as the immediate and long-term impacts to the biological, chemical, and physical integrity of the receiving waters. A determination shall be made on whether the proposed control activity poses an acceptable cumulative risk to the receiving waters, and whether any mitigating actions can/should be taken to avoid and/or reduce the potential impact.
- F. Final determination on whether there is an acceptable risk to the non-target environment.

**e. Discussion Points for the 2/23/23 meeting**

- 1. As shown in section III.a of this document above, is the existing approach DEC is using to make this determination adequate? Where is it lacking? What could be added?
- 2. Should and ANC rule include one of the definitions for acceptable risk from section III.b? Should there be quantitative criteria used to define acceptable risk?
- 3. Is what is considered the non-target environment under III.c adequate for capturing what should be reviewed under this finding? Are there other aspects of the non-target environment that should be included in this review?
- 4. What do folks think about the language in III.d as the basis for the “acceptable risk” determination?

#### IV. There is negligible risk to public health

##### a. Permit Findings

For context, the following is the relevant findings in response to this statutory requirement from an actual VT DEC aquatic nuisance control permit, 3382-ANC-C, issued 2/24/2022. This text is provided to give the Focus Group an idea of how DEC is currently complying with this statutory requirement and determining that there is an “negligible” risk to public health.

*Public Health (there is negligible risk to public health) – 10 V.S.A. 1455(d)(3). At the request of the Secretary, the Vermont Department of Health (VDH), Radiological and Toxicological Sciences Division reviewed the risk of the proposed activity to public health, in which it examined potential concerns for public health that may be associated with exposure to ProcellaCOR® EC. Based on VDH’s review of the confidential statement of formulation, it is reasonable to conclude that human exposure to the inert compounds contained in ProcellaCOR® EC at the concentrations that would result under the conditions proposed by the applicants, is not likely to result in an increase in the level of concern for public health. Thus, the proposed treatment of Lake Fairlee with ProcellaCOR® EC is expected to result in negligible risk to public health, from both the active and inert compounds in ProcellaCOR® EC.*

*VDH recommends public notification of property owners and residents of the treated waterbody area as well as commercial camps and parents whose children are attending camps which use the treated waterbody and/or waters within one contiguous water mile of the treated waterbody should occur 30 days prior to application. Waterbody access areas as well as any nearby campgrounds should be posted for public awareness.*

*To minimize unnecessary pesticide exposure to the public over a weekend, treatments will occur on a Monday, Tuesday, Wednesday, or Thursday only. 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<sup>2</sup>.*

*The Secretary has determined that there is negligible risk to public health.*

##### b. Definitions of the term “negligible.”

What did legislature intend with use of the term “negligible?” The following are general definitions for negligible:

- so small or unimportant or of so little consequence as to warrant little or no attention (<https://www.merriam-webster.com/dictionary/negligible>)

---

<sup>2</sup> The one-day limitation is a legacy finding/permit condition. There's no true technical reason for this prohibition on use of drinking water for one day after treatment as there is no drinking water restriction on the EPA label. DEC has kept it in the permits as it does give people the opportunity to minimize their exposure to a pesticide on the day of treatment (when concentrations are the highest) if they choose.

- too slight or small in amount to be of importance (<https://dictionary.cambridge.org/us/dictionary/english/negligible>)
- An amount or effect that is negligible is so small that it is not worth considering or worrying about (<https://www.collinsdictionary.com/us/dictionary/english/negligible>)
- very small or unimportant (<https://www.britannica.com/dictionary/negligible>)

**c. Defining what “public health” means and how this term is considered**

Similar to how the non-target environment is broken apart, should there be a list of various specific factors that are identified for review to clarify what is considered “public health” under ANC? If so, what should those be?

For pesticide applications, DEC primarily relies on the Vermont Department of Health to review whether the proposed use of pesticide will have a negligible risk to public health.

**d. Discussion Points for the 2/23/23 meeting**

1. As shown in section IV.a of this document above, is the existing approach DEC is using to make this determination adequate? Where is it lacking? What could be added?
2. Should an ANC rule include one of the definitions presented above in section IV.b? Should there be quantitative criteria used to define negligible?
3. As identified in section IV.c, what does public health consist of?

## V. Additional Definitions for Potential Inclusion in Rulemaking

### f. Existing Definition of Aquatic Nuisance

Currently under 10 VSA 1452: (2) “Aquatic nuisance” means undesirable or excessive substances or populations that interfere with the recreational potential or aquatic habitat of a body of water, including rooted aquatic plants and animal and algal populations. Aquatic nuisances include zebra mussels (*Dreissena polymorpha*), quagga mussels (*Dreissena bugensis*), Asian clam (*Corbicula fluminea*), fishhook waterflea (*Cercopagis pengoi*), rusty crayfish (*Orconectes rusticus*), spiny waterflea (*Bythotrephes longimanus*), or other species identified by the Secretary by rule.

### g. Potential Revised definition of Aquatic Nuisance contained in H.51:

“Aquatic nuisance” means undesirable or excessive substances or populations biological organisms that interfere with the recreational potential or aquatic habitat of a body of water, including rooted aquatic plants and 6 animal and algal populations.

### h. Potential Expanded definition of Aquatic Nuisance proposed by DEC:

The Secretary considers an aquatic nuisance to be any form of a biological organism that is undesirable (e.g., non-native invasive species) or a biological organism that interferes with the recreational potential or aquatic habitat of a body of water (e.g., an excessively abundant aquatic plant population that interferes with boating or swimming, cyanobacteria blooms). Non-biological organisms (e.g., sediment, nutrients) are not considered to be an aquatic nuisance.

### i. Additional Definitions

The jurisdictional trigger for ANC is whether someone wants to use pesticides, chemicals other than pesticides, biological controls, bottom barriers, structural barriers, structural controls, or powered mechanical devices in waters of the State *to control* an aquatic nuisance. To help clarify the jurisdiction of this authority, the following is a proposed definition of control:

“Control” means undertaking an activity with the intent of managing an aquatic nuisance.

### j. Discussion Points for the 2/23/23 meeting

1. Is the expanded definition of aquatic nuisance adequate? Should this be expanded further?
2. There are several aquatic animals currently listed as an aquatic nuisance. Should this list be expanded to include other aquatic plant and animal species (e.g., all aquatic plants listed under the Agency of Agriculture, Food and Market’s [Noxious Weed Quarantine Rule](#))? If so, which species and why?
3. Is adding a definition for “control” to this rule necessary? If so, is the proposed definition adequate?