

## **Vermont Baitfish Regulations Review Team Revision Proposal**

### **Draft for VTFWD Fish Management Section**

**March 16, 2018 Draft**

#### **Introduction (purpose, background, Baitfish Regulation Review Process, scope / application, regulatory context)**

##### **Purpose**

In May of 2017 the Vermont Fish and Wildlife Department and Vermont Fish and Wildlife Board convened a team of Department staff and board members to begin a review process of the current regulations and management strategies with regards to baitfish use in Vermont. The “Baitfish Regulations Review Team” has spent a significant amount of time reviewing, researching, and taking public input regarding Vermont’s current management practices and regulations for baitfish.

The overall goal of the Baitfish Regulations Review Team was to review the current Vermont baitfish regulations with the strong likelihood of coming back to the Vermont Fish and Wildlife Board with a revised proposal in the future to regulate baitfish use in a manner that is in the best interest of the public and protects Vermont’s fisheries resources.

This document outlines a general regulation revision proposal for the Vermont Fish and Wildlife Board to consider. Additionally, this document will be accompanied by a powerpoint presentation and public responsiveness document which are meant to complement the proposal and serve as an additional technical resource of the research that was conducted by the Team.

##### **Background**

Angling with live bait has a long history and tradition in Vermont. The commercial harvest of baitfish, and their sale for statewide use was a common practice for decades. Most of the commercial harvest of baitfish occurred in Lake Champlain and its tributaries where commercial operators harvested primarily eastern silvery minnows and emerald shiners. Rainbow smelt were caught by hook-and-line from a number of Northeast Kingdom waters and sold statewide, and white suckers, golden shiners, and fathead minnows were netted from small waters across the state and sold in bait shops. Anglers could personally harvest minnows for use as bait with few restrictions. Prior to 2002, regulations for personal harvest and use of baitfish pertained only to the gear used (minnows nets 75-ft in length or less, or minnow traps no longer than 18-inches with a 1-inch opening) and quantity transported (anglers could transport no more than two quarts of live minnows). Species restrictions for use as bait only prohibited the use of any spiny-rayed fish, members of the pike family, goldfish, carp or lamprey as bait, unless they were being used in the water where taken.

In more recent years however, baitfish use has come under increased scrutiny across North America regarding concerns over the movement and introduction of non-native species and fish diseases. It’s been widely recognized amongst fisheries management agencies that the use and movement of baitfish is a major vector of the spread of aquatic invasive species and fish diseases. For example, the transport and use of baitfish is considered to be one of the key means by which the Viral Hemorrhagic Septicemia

(VHS) virus spread from the infected Great Lakes to other inland waters. Reviews of state baitfish regulations conducted by Meronek and Copes (1995) and Meronek et. al. (1997) concluded that anglers, management agencies, the bait industry, and the aquatic resource would benefit if states introduced bait regulations to protect and conserve aquatic resources.

The first major revision of Vermont's long-standing baitfish regulations occurred in 2002 with the adoption of the "green list" of 15 approved baitfish species. The approach was meant to primarily address the accidental introduction of unwanted fish species into new waters around the state. The green list applied to both commercially and personally harvested baitfish. Rainbow smelt could also be caught and used and/or sold by hook and line only, and yellow perch could be caught and used as bait on the same water, but not sold as bait. Commercial bait harvesters and bait shops were also required to be permitted through the department for the first time.

In 2007, after VHS was discovered in the Great Lakes and was causing massive and widespread fish kills, the Vermont Fish & Wildlife Department implemented a relatively drastic emergency baitfish regulation to protect Vermont's waters and fish population from the VHS virus. Changes at that time included further restricting the importation of all fish species, including baitfish, into the state without a permit, requiring that all imported fish originate from an approved and inspected hatchery source, prohibiting all personal harvest of wild baitfish except for rainbow smelt and yellow perch (which could be harvested and used only on the same waters where taken), prohibiting all commercial baitfish harvest on all waters except for on Lake Champlain where harvested baitfish could only be sold for use on Lake Champlain, and the introduction of a baitfish receipt system to track the purchase, movement and use of commercially purchased baitfish.

The following year in 2008 a permanent regulation was adopted by the Vermont Fish and Wildlife Board that retained many of the components of the emergency rule, but also incorporated a number of changes to accommodate angler comments and reduce the regulatory impact on angling. Some of these changes included allowing the personal harvest of baitfish for use only on waters where taken, allowing anglers to transport and use commercially purchased baitfish for 96 hours on the waterbody designated on their receipt, prohibiting the transport of baitfish away from waters of the state by motorized vehicle, allowing the commercial harvest of baitfish on other waterbodies provided the baitfish are sold for use only on the same waterbody, and allowing anglers to buy baitfish from NY and NH for use on Lake Champlain and the Connecticut River border waters.

In February of 2013, after more time had passed after the original discovery of the VHS virus in the Great Lakes, further changes to the baitfish regulations was passed, again to increase angling opportunities with live bait, but also to retain the protections the rules provide for the health of Vermont's waters and fish populations. Four new species were added to the green list of fish species approved for use as bait statewide, and another two species were approved for use only on Lake Champlain. Furthermore, the prohibition on anglers transporting commercially purchased baitfish away from state waters was lifted. Anglers were now allowed to transport commercially purchased baitfish away from a waterbody and bring the same bait back to the same waterbody within the 96-hour period as indicated on the baitfish receipt.

Managing aquatic invasive fish species and fish pathogens through the implementation of spread prevention measures requires regulation, public compliance, and outreach and education. Developing baitfish regulations that provides angling opportunity and minimizes angler impact while providing

necessary protection of Vermont's fish populations is a difficult task and a complex issue. Regulations are important and critical tools in addressing the many risks the use of bait in Vermont poses to the health and well-being of Vermont's natural ecosystems and ensures health and quality of Vermont's recreational fisheries into the future.

The State of Vermont is striving towards developing a baitfish regulation that represents a balance between natural resource protection and the support of Vermont's traditional use of baitfish.

### **Baitfish Regulation Review Process**

The Team convened in May of 2017 is comprised of Department staff which includes the district fisheries manager who has chaired and led previous baitfish rulemaking processes in 2002, 2007, 2008, and 2012, a fish health biologist, and the fish culture operations manager. The Team also includes two Vermont Fish and Wildlife Board members who are also avid anglers.

To effectively review the Vermont baitfish regulations, the team compiled a list of questions that needed to be answered. These questions were grouped into 11 main topics / subject matters as follows:

- **Out of State / Arkansas Safe Bait** – Questions which involved an evaluation of the safety and risks of out of state bait to Vermont's fisheries resources.
- **Fish Importation** – Research into the current Vermont fish importation regulations, criteria, and decision-making process that allow baitfish to be imported into Vermont.
- **Baitfish Complaints** – A comprehensive review of the history of public complaints and feedback on the Vermont baitfish regulations.
- **Baitfish Suggestions** – A comprehensive review of the history of public suggestions to change the current Vermont baitfish regulations to reduce impacts on angling opportunities
- **Regulation Shortcomings** – Review of the current baitfish regulations to identify parts of the regulation that are unnecessary or ineffective at achieving the goals of protecting the health of Vermont's fish populations.
- **Comprehensive Evaluation of VHS, other fish pathogens, and aquatic invasive species (AIS) in the Northeast and surrounding regions** – A review of the current distribution, spread, status, and risks of fish pathogens (including VHS) and AIS throughout the Northeast and the surrounding regions.
- **Other State Baitfish Regulations** – Research into other states' baitfish regulations to help identify regulatory strategies that could be considered in Vermont to more effectively provide angler opportunity regarding baitfish while still providing an adequate level of protection to Vermont's fisheries resources.
- **Analysis of Geographic Areas of Risk / Bait Use** – Research to better understand regional bait use as well as a comparison of risk between waterbodies as well as geographic zones in the state.

- **Baitfish Preservation** – Review of the current allowable methods of baitfish preservation and evaluation of the risks of any new preservation techniques which could be allowed in the future.
- **Review of the “Green List” of Allowable Baitfish Species** – Review of the current allowable baitfish species to determine if any additional species should be added to the list.
- **Other Potential Impacts of the Rules** – Although the Vermont statutes that set forth rulemaking authority for the Vermont Fish and Wildlife Board do not include economic considerations, the administrative rulemaking process does require the Vermont Fish and Wildlife Department to analyze the impact of the current (and any future) baitfish regulations on the economy of Vermont.

To answer the questions associated with these topics / subject matters the team conducted internal research, collaborated with external professionals (i.e. researchers from Cornell / University of Minnesota, staff from the United State Fish & Wildlife Service Lamar Fish Health Center, and staff from the Vermont Department of Environmental Conservation), and compiled input from anglers, baitfish dealers, and other members of the public. In the beginning of the review process, the team presented the framework for evaluating the baitfish regulations and received guidance and feedback from board members to move the process forward. Throughout the remainder of the review process, the team kept the Vermont Fish and Wildlife Board updated on the current status of the review through regular presentations, informing them on key subject matters that the board wanted to learn more about. Additionally, the team held a series of “baitfish public discussion sessions” to gather additional public input on the current baitfish regulations and hear from the public ideas on how to improve the regulations. These baitfish public discussion sessions were held in three locations:

- January 30, 2018 (6:30pm – 9pm) – Springfield Middle School, Riverview Cafeteria, Springfield
- February 13, 2018 (6:30pm – 9pm) – Richmond Free Library, Richmond
- February 28, 2018 (6:30pm – 9pm) – Lake Region Union High School, Orleans

Meetings were moderately attended and included a brief presentation on the framework being used to evaluate the baitfish regulations as well as the anticipated timeline for a potential revision proposal, time for small group breakouts that were facilitated by Vermont Fish and Wildlife staff and Fish & Wildlife Board members, and time at the end of the meeting for individual public comments and questions. Notes were collected from small group facilitators and taken during the individual public comment / question session to be compiled, reviewed, and discussed by the team as part of the baitfish regulations review process. The compiled list of baitfish complaints and suggestions are categorized and addressed in the baitfish public responsiveness document.

After the team had reviewed the 11 main topics / subject matters and collected public feedback on the current baitfish regulations, it was determined that a baitfish regulation revision proposal was necessary and feasible, and a draft concept proposal was developed.

### **Scope and Application**

For the purposes of this concept proposal, “bait” refers to both live or dead baitfish. It does not pertain to other species such as leeches, crayfish, frogs, worms, etc.

The direction outlined in this regulation proposal applies to the State of Vermont. Understanding that the State of Vermont shares borders and waters with a number of states and provinces (New York, New Hampshire, Massachusetts, and Quebec) it is commonly understood that what the State of Vermont decides upon to manage baitfish in Vermont can have significant impacts to other states and how they manage baitfish.

The framework under which the current Vermont baitfish regulations were reviewed was to understand and evaluate any current and/or future baitfish regulations from three categories.

- **Protection to the fisheries resource** – What level of safety does the current methodology for managing baitfish provide for the health of Vermont’s fisheries from both an AIS perspective as well as from a fish pathogen perspective? What level of safety would any proposed changes to that methodology pose to Vermont’s fisheries resources from an AIS and fish pathogen perspective?
- **Angler Opportunity** – What does the currently methodology for managing baitfish provide in terms of recreational opportunities to anglers? What would any changes to the current methodology have on affecting recreational angling opportunities?
- **Enforceability / Compliance** – How enforceable are the current Vermont baitfish regulations? What is the level of compliance for the current baitfish regulations? How might changes to the way that baitfish are managed affect the enforceability of any revised regulations? How might changes to the way that baitfish are managed affect overall compliance with any revised baitfish regulations?

### **Regulatory Context**

Vermont Fish and Wildlife Department’s ability to govern the use of the baitfish in the State of Vermont are established under four key pieces of legislation:

- 10 V.S.A. § 4081(b)** – In adopting a new baitfish rule, the Fish and Wildlife Board would follow the policy established by the Vermont General Assembly that the protection, propagation, control, management, and conservation of fish, wildlife, and fur-bearing animals in this state is in the interest of the public welfare and that the safeguarding of this valuable resource for the people of the state requires a constant and continual vigilance.
- 10 V.S.A. § 4082** – In adopting a new baitfish rule, this rule would be designed to maintain the best health, population and utilization levels of Vermont’s fisheries.
- 10 V.S.A. § 4083** – In adopting a new baitfish rule, this rule would establish means of taking fish; and prescribe the manner of transportation and exportation of fish.
- 10 V.S.A. § 4605(c)** – In adopting a new baitfish rule, this rule would prohibit the introduction or attempt at introduction of fish to specific waters of the State based on management purposes, ecosystem considerations, or the health and safety of Vermont’s fish populations.

### **Baitfish Importation (Permitted Importation Sources, Risk Analysis of Imported Bait, Recommended changes to baitfish importation)**

Prior to the 2007 Vermont baitfish regulations, importation of bait from out of state sources was already occurring. From past interviews with Vermont wild baitfish harvesters it was obvious even in the years of essentially unrestricted movement and harvest that the in-state supply of baitfish was not able to meet the demands of Vermont's anglers. Consequently, baitfish dealers imported bait from out of state sources for decades. When the Vermont baitfish regulations changed in 2007 prohibiting the movement of wild harvested baitfish away from a source waterbody to another for fishing, the demand for out-of-state baitfish increased. Consequently, the availability and ease of access for a number of baitfish species (i.e. white sucker, rainbow smelt) to anglers was diminished. Additionally, baitfish dealers lost a key means of specialization and price control when it came to bait that was sold in the shop. Since the inception of the post 2007 baitfish regulations anglers have complained about the quality and price of out-of-state baitfish that is allowed in bait shops. Additionally, anglers have questioned the relative safety of imported bait compared to in-state wild baitfish sources.

### **Permitted Importation Sources**

The Vermont Fish and Wildlife Department maintains a specific decision-making matrix for fish importation into the state. To be considered for import, the out-of-state facility must pass a number of checks which include things like water sources utilized, third party fish health / AIS bi-annual inspections, a clean history of no fish pathogens or AIS detected, as well as a number of other factors. Figure 1 outlines the decision-making matrix that has historically been utilized to determine whether an out-of-state source is approved to import fish (which includes baitfish) into Vermont.

### **Risk Analysis of Imported Bait**

The Baitfish Regulations Review Team has determined that the importation of baitfish from out-of-state has the potential to pose a significant risk to Vermont's fisheries resources, for reasons which include:

- There is a greater potential that an out of state source which is located a considerable distance from Vermont could have a previously undetected fish pathogen or AIS in that state versus Vermont.
  
- There has been a history of unapproved fish species and sometimes non-fish species being present in imported shipments of baitfish. During this review period, an invasive species, mosquitofish was detected in a shipment of fathead minnows that was delivered from an out-of-state baitfish source facility located in Arkansas. Furthermore, recipient reporting of unapproved fish species from imported shipments of baitfish has not occurred as it has been intended to.
  
- The lack of a firm chain of custody and physical safeguard to ensure that baitfish that leave a source facility are what is received in Vermont has the potential to allow for tampering of a load of baitfish after it leaves a source facility yet prior to its arrival at a Vermont facility.
  
- Inconsistencies in education regarding the importation of certain fish species has been an issue. An example of this arose during the team's review process where it was discovered that an educational organization was promoting the stocking of a prohibited fish species (mosquitofish) for insect control.

The baitfish regulation review team does however believe that with the current decision-making process for approving fish importation along with a number of recommended changes, baitfish importation can still be allowed in a manner that would provide for an adequate amount of protection to the fisheries resource while also allowing a steady, easily accessible supply of baitfish for Vermont baitshops and anglers.

### **Recommended Changes to Baitfish Importation**

*Changes that would not require a Vermont Fish and Wildlife Board rule change:*

- Consolidated messaging regarding fish stocking and importation with various partner organizations (i.e. addressing the mosquitofish website post with a partner educational organization)
- Requiring an out-of-state importation source facility to hold a separate fish importation permit from the recipient in-state facility. This would extend enforceability for breaking importation rules beyond the in-state importer to include the out-of-state source facility.
- Work with the out-of-state baitfish farms and haulers as part of a larger effort in the Northeast to create a solid chain of custody and physical safeguard program for baitfish that are imported into the Northeast. This is currently underway through the Northeast Fish Health Committee.
- Increased bait shop / wholesaler inspections from Department staff – Maintaining a more active Department presence by increasing bait shop / wholesaler inspections would promote increased compliance in checking imported bait shipments, reporting unapproved fish species, while also providing key outreach and education opportunities for shop owners and anglers.

*Changes that would require a Vermont Fish and Wildlife Board rule change:*

The Baitfish Regulations review team has no recommended changes that would require a Vermont Fish and Wildlife Board rule change at this time.

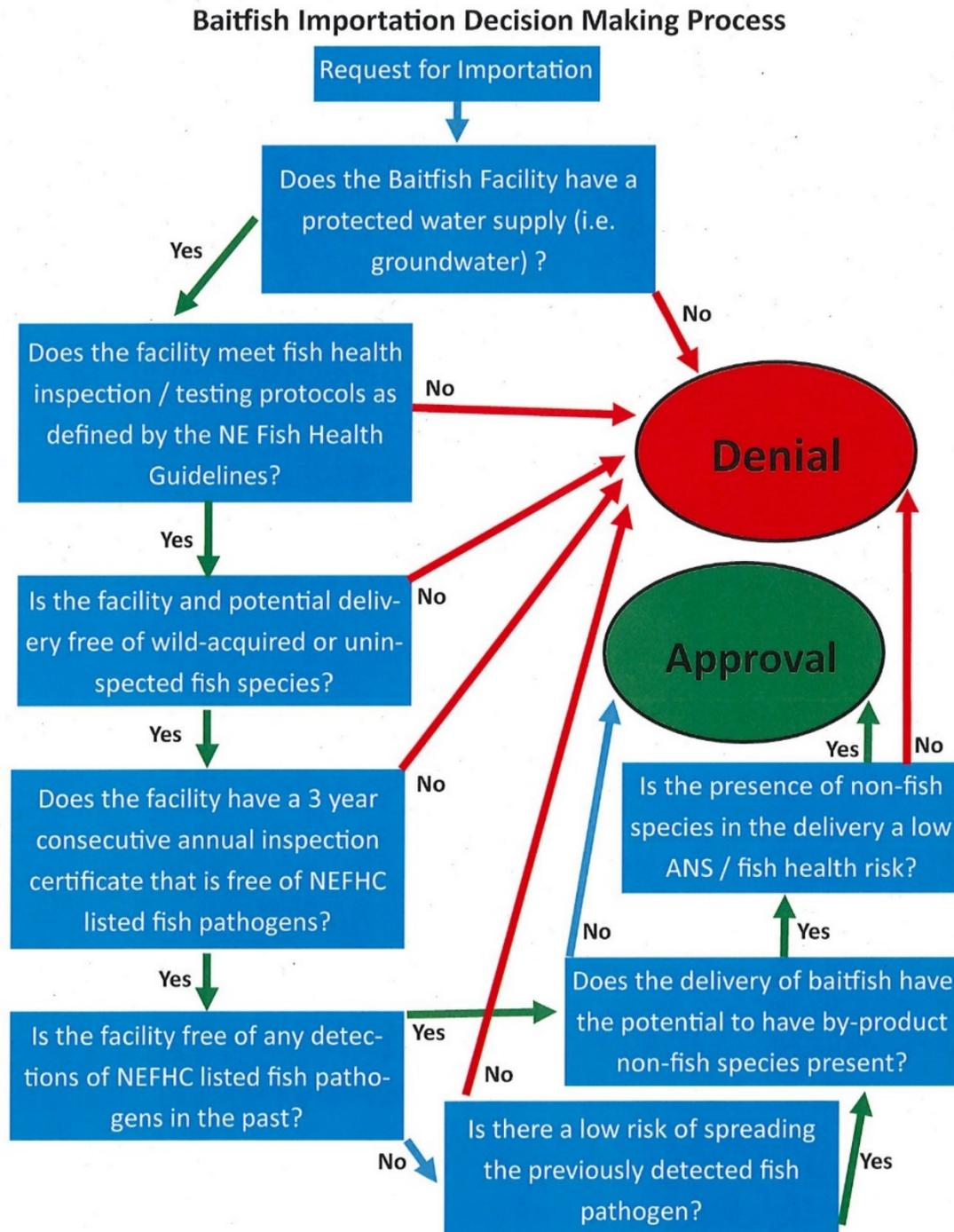
*Overall impacts of implementing recommended changes*

**Protection to the fisheries resource** – Slight increase from the current baitfish rules due to a stronger chain of custody

**Angler Opportunity** – The team believes that these recommendations will have no significant impact on angler opportunity from the current baitfish regulations.

**Enforceability / Compliance** – Significant increases in compliance and enforcement through increased accountability to out-of-state suppliers, maintaining a stronger presence for random compliance checks at baitshops and wholesalers, and correct outreach messaging with external partners.

**Figure 1. Baitfish Importation Decision Making Process**



### **Movement of Bait (Geographic Areas of Risk / Bait Use, Bait Management Zones, Recommended Changes)**

Under the current Vermont baitfish regulations, limited movement of commercially purchased baitfish from the recipient waterbody is allowed for a 96-hour period. Limited enforcement is provided for this movement through a baitfish receipt program. Movement of personally harvested bait off the waterbody from which it was harvested is not allowed under the current regulations. The Baitfish Regulations Review Team spent a considerable amount of time investigating various geographic areas of risk and bait use to better understand the relative risk likelihoods between different waterbodies and potential source areas for wild baitfish harvest.

### **Geographic Areas of Risk / Bait Use**

It was apparent to the team early in the process that there were two main species that are not easily accessible which has the potential to limit angler opportunity. White suckers which are commonly used for catching large northern pike and rainbow smelt which are commonly used for catching lake trout have been in limited supply and are difficult to have access to. Although anglers can harvest these species on a specific waterbody, smelt and sucker populations in certain geographic areas are limited and therefore limit angler opportunity. Furthermore, because Lake Champlain is a shared water between Vermont, New York, and Quebec and because New York has different rules and regulations regarding baitfish, New York anglers can commercially buy white suckers for use in Lake Champlain. This represents an inconsistency in regulations between New York and Vermont when it comes to a shared jurisdiction waterbody. This inconsistency will be addressed in a recommendation in the “Commercial Bait Operations” section.

Moreover, the team spent a considerable amount of time evaluating specific geographic areas of risk. To better understand areas of geographic risk, the team consulted with researchers at the University of Minnesota to discuss recent work that was done to evaluate risk in Minnesota when it came to a certain geographic areas’ susceptibility to VHS spread. Using this model as a starting point, the Team created a new model focused not only on VHS but also on a specific waterbody’s susceptibility to spreading dangerous fish pathogens and/or AIS. Criteria that were incorporated into this new “risk evaluation matrix” included:

- Hydrologic connectivity with other waters that have dangerous fish pathogens
- Linear distance to known VHS infected waters (this is regarding flight distances of piscivorous birds)
- Level of human movement / boat traffic to a given waterbody
- Live fish transfer of bait (tested, not tested, no baitfish use)
- Stocking of live fish (tested, not tested, no fish stocking)
- Adequacy of existing regulations governing the waterbody
- Previous detections of AIS / fish pathogens

As a result, this “risk evaluation matrix” was used to compare the relative risk score for many waterbodies around the state. This relative risk score, when compared with other scores, gave the team a better idea of geographic areas / waterbodies that were a higher risk than others. Results of the risk

evaluation matrix are shown in Table 1. The highest risk waterbody was Lake Champlain. This did not come as a surprise given its hydrologic connectivity with other VHS waters, its linear proximity to known infected VHS waters (St. Lawrence River), the high level of human movement / boat traffic on the lake, and more specifically the detection of almost 50 different aquatic invasive species in Lake Champlain. Other waterbodies that ranked high in risk were:

- Battenkill River (regular detection of whirling disease in trout species)
- Connecticut River (presence of a number of AIS, high boat traffic, stocking of untested fish from New Hampshire, movement of untested wild baitfish from New Hampshire)
- Lake Carmi (presence of alewife, close linear proximity to know VHS infected water, high boat traffic)
- Lake Bomoseen (presence of zebra mussels, Asian clams, high boat traffic)
- Lake St. Catherine (presence of alewife, high boat traffic)
- Lake Memphremagog (presence of number of AIS, high boat traffic)

Table 1 - Relative Risk Scores
--------------------------------

Waterbody	Risk Likelihood Score
Lake Champlain	59.00
Batten Kill	55.50
Comerford Reservoir	38.00
Connecticut River	38.00
Moore Reservoir	38.00
Lake Carmi	33.50
Lake Bomoseen	31.00
Lake St. Catherine	31.00
Lake Memphremagog	31.00
Glen Lake	15.00
Lake Paran	15.00
Burr Pond	14.50
Lake Hortonia	14.50
Lake Iroquois	14.50
Sadawga Pond	14.50
Shelburne Pond	14.50
Sunset Lake	14.00
Arrowhead Mtn. Lake	13.5
Beebe Pond	12.50
Crystal Lake	11.00
Island Pond	11.00
Kent Pond	11.00
Lake Dunmore	11.00
Lake Fairlee	11.00
Lake Willoughby	11.00
Plymouth Lakes Chain	11.00
Waterbury Reservoir	11.00
Colchester Pond	10.50
Lake Elmore	10.50
Lake Morey	10.50
Indian Brook Reservoir	10.00
Berlin Pond	9.50
Gale Meadows Pond	9.50
Lake Sunrise	9.50
Chittenden Reservoir	9.00

Harriman Reservoir	9.00
Harveys Lake	9.00
Joes Pond	9.00
Maidstone Lake	9.00
Molly's Fall Reservoir	9.00
Peacham Pond	9.00
Seymour Lake	9.00
Woodard Reservoir	9.00
Woodbury Lake	9.00
Big Averill Lake	8.50
Bristol Pond	8.50
Caspian Lake	8.50
Curtis Pond	8.50
Green River Reservoir	8.50
Little Averill Lake	8.50
Norton Pond	8.50
Salem Lake	8.50
Silver Lake (Barnard)	8.50
Colton Pond	8.00
Somerset Reservoir	8.00
Baker Pond	7.50
Clyde Pond	7.50
Emerald Lake	7.50
Huff Pond	7.50
Noyes Pond	7.50
Silver Lake (Goshen)	7.50
Stiles Pond	7.50
Weatherhead Hollow	7.50

## **Baitfish Management Zones**

After evaluating the relative risk scores for a number of waterbodies, the team is confident that a geographic zonation approach could be utilized as a potential tool for increasing angler opportunity while still providing an adequate level of protection to Vermont's fisheries resources. As such, the team has come up with two main options for the use and movement of wild caught baitfish. These two options are listed below:

### **Option 1 (3 Zones plus Black List / High Risk Waterbodies) – Preferred Option**

#### **Champlain Baitfish Zone**

Wild baitfish may be harvested from and used in waters lying west of a line starting at the New York border following Route 22A and progressing north to Route 7 in Vergennes, and then following Route 7 north to the Canadian border except for the portion of Arrowhead Mountain Lake lying west of Route 7 in Milton. Wild baitfish harvested from this zone may not be used in any other Baitfish Zone and may not be transported away from this zone. Wild baitfish harvested from the Interior Baitfish Zone may be used in this zone but will consequently fall under the same restrictions as wild baitfish harvested from the Champlain Baitfish Zone.

#### **Connecticut River Baitfish Zone**

Wild baitfish may be harvested from and used in waters lying east of a line starting at the Massachusetts border following Interstate-91 and progressing north to Exit 19, east on Rte 93 to Exit 1, north on Route 18 to Route 2, east on Route 2 to Route 102, north on Route 102 to Route 253, north on Route 253 to the Canadian border. Wild baitfish harvested from this zone may not be used in any other Baitfish Zone and may not be transported away from this zone. Wild baitfish harvested from the Interior Baitfish Zone may be used in this zone but will consequently fall under the same restrictions as wild baitfish harvested from the Connecticut River Baitfish Zone.

#### **Interior Baitfish Zone**

Wild baitfish may be harvested from and used in any waters lying east of the Champlain Baitfish Zone and west of the Connecticut River Baitfish Zone, with the exception of waters listed as Baitfish Exclusion Zones. Wild baitfish harvested from this zone may be used in the Champlain or Connecticut River Baitfish Zone but will consequently fall under the same restrictions as wild baitfish harvested from that respective zone.

#### **Black List / High Risk Waterbodies**

Wild harvested baitfish collected in the following waterbodies may only be used in those waters and may not be transported away from those waters:

- Lake Bomoseen
- Lake Carmi
- Lake Memphremagog
- Lake St. Catherine
- Battenkill, Green River, and its associated tributaries



## **Option 2 (4 Zones plus Black List / High Risk Waterbodies)**

### **Champlain Baitfish Zone**

Wild baitfish may be harvested from and used in waters lying west of a line starting at the New York border following Route 22A and progressing north to Route 7 in Vergennes, and then following Route 7 north to the Canadian border except for the portion of Arrowhead Mountain Lake lying west of Route 7 in Milton. Wild baitfish harvested from this zone may not be used in any other Baitfish Zone and may not be transported away from this zone. Wild baitfish harvested from the Interior West Baitfish Zone may be used in this zone but will consequently fall under the same restrictions as wild baitfish harvested from the Champlain Baitfish Zone.

### **Connecticut River Baitfish Zone**

Wild baitfish may be harvested from and used in waters lying east of a line starting at the Massachusetts border following Interstate-91 and progressing north to Exit 19, east on Rte 93 to Exit 1, north on Route 18 to Route 2, east on Route 2 to Route 102, north on Route 102 to Route 253, north on Route 253 to the Canadian border. Wild baitfish harvested from this zone may not be used in any other Baitfish Zone and may not be transported away from this zone. Wild baitfish harvested from the Interior East Baitfish Zone may be used in this zone but will consequently fall under the same restrictions as wild baitfish harvested from the Connecticut River Baitfish Zone.

### **Interior West Baitfish Zone**

Wild baitfish may be harvested from and used in any waters lying east of the Champlain Baitfish Zone and west a line starting at the Massachusetts border following Route 8A north to Route 112, north on Route 112 to Route 100 in Whitingham, north on Route 100 to East Jamaica, northwest on Route 30/100 to Rawsonville, north on Route 100 to Ludlow, north on Route 103 to Grahamville, north on Route 100 to Route 4, west on Route 4 to Killington, north on Route 100 to Morrisville, west on Route 15 to Hyde Park, north on Route 100 to Troy, north on Route 101 to Route 105, north on Route 105 to Route 243 in North Troy, north on Route 243 to the Canadian border. Wild baitfish harvested from this zone may be used in the Champlain Baitfish Zone but will consequently fall under the same restrictions as wild baitfish harvested from the Champlain Baitfish Zone.

### **Interior East Baitfish Zone**

Wild baitfish may be harvested from and used in any waters lying west of the Connecticut River Baitfish Zone and east a line starting at the Massachusetts border following Route 8A north to Route 112, north on Route 112 to Route 100 in Whitingham, north on Route 100 to East Jamaica, northwest on Route 30/100 to Rawsonville, north on Route 100 to Ludlow, north on Route 103 to Grahamville, north on Route 100 to Route 4, west on Route 4 to Killington, north on Route 100 to Morrisville, west on Route 15 to Hyde Park, north on Route 100 to Troy, north on Route 101 to Route 105, north on Route 105 to Route 243 in North Troy, north on Route 243 to the Canadian border. Wild baitfish harvested from this zone may be used in the Connecticut River Baitfish Zone but will consequently fall under the same restrictions as wild baitfish harvested from the Connecticut River Baitfish Zone.

### **Black List / High Risk Waterbodies**

Wild harvested baitfish collected in the following waterbodies may only be used in those waters and may not be transported away from those waters:

- Lake Bomoseen
- Lake Carmi

- Lake Memphremagog
- Lake St. Catherine
- Battenkill, Green River, and its associated tributaries



In both options the establishment of a Lake Champlain and a Connecticut River Baitfish Zone delineate two of Vermont's highest risk water bodies and specifically do not allow personally harvested wild baitfish outside of the respective zone. Similarly, both options do not allow personally harvested wild baitfish outside of the individual black list / high risk waterbodies as well. By doing this, waterbodies and geographic areas of high risk are being treated differently than other waterbodies which are not as risky. Additionally, the movement of personally harvested wild baitfish from areas of less risk to areas of more risk (i.e. Interior Zone to Lake Champlain Baitfish Zone) would be allowed so long as once the baitfish are used in a riskier baitfish zone, they then fall under the rules of that riskier zone. The main difference between option 1 and option 2 is that option 2 further divides the Interior Baitfish Zone into multiple sections to add an additional level of protection to the fishery, roughly based on an east-west watershed divide.

It should be noted that once personal wild harvest and movement of bait is allowed, a receipt system for enforcement is significantly diminished. Therefore, the team does not recommend a receipt system for personally harvested wild baitfish. With this direction, the team feels that increased outreach and education regarding the dangers and risk vectors of AIS and fish pathogens is paramount to ensuring voluntary compliance in the midst of decreased enforceability. It also should be noted that in 2017 the number of law enforcement incidents with baitfish totaled 38. This is a low number in terms of law enforcement of the current regulations and feedback at the various "baitfish public discussion sessions" was clear that there are a number of anglers that are intentionally breaking the current baitfish regulations and using loopholes to avoid enforcement.

### **Recommended Changes for Geographic Areas of Risk / Bait Use**

*Changes that would not require a Vermont Fish and Wildlife Board rule change:*

- Increased outreach and education regarding the dangers and risk vectors of AIS and fish pathogens and how it relates to movement of baitfish. –Increased outreach and education could help increase compliance with any new geographic approach to personally harvested wild baitfish movement.

*Changes that would require a Vermont Fish and Wildlife Board rule change:*

- Implement Option 1 or 2 of the baitfish management zone approach for personal harvest of wild baitfish – This would have a significant positive impact on angler opportunity while still providing an adequate level of protection to the fisheries resource if compliance could be maintained.

*Overall impacts of implementing recommended changes*

**Protection to the fisheries resource** – Slight decrease in overall protection to the fisheries resource by allowing movement of wild caught bait from one waterbody to another; however, it is being done through a careful methodology of risk assessment and risk reduction.

**Angler Opportunity** – Significant increases to angler opportunity by allowing for increased access to hard to acquire baitfish species and transfer between waterbodies (within a zone). Will also help to address significant shortages and access issues to rainbow smelt and white sucker.

**Enforceability / Compliance** – Given the current level of compliance and enforcement with the current baitfish regulations coupled with new outreach and education on the dangers and risk vectors associated with AIS, fish pathogens, and baitfish the Team views these recommendations as having no significant impact on enforceability / compliance.

**Commercial Bait Operations (Designation / Use of Commercially Purchased Bait, Receipts, Commercially Preserved Baitfish, Recommended Changes)**

Similar to the earlier recommendation of a geographic zonation approach for personally harvested wild baitfish, the Baitfish Regulations Review Team believes that there is an opportunity to allow for a geographic zonation approach for commercially harvested wild baitfish in Vermont to increase angler opportunity while still providing an adequate level of protection to the fishery.

**Designation / Use of Commercially Purchased Bait**

Currently the Vermont baitfish regulations allow for a commercial bait dealer to operate as either a “statewide” bait dealer or a “waterbody specific” bait dealer. In order to be a “statewide” baitfish dealer, a shop must receive only inspected, approved baitfish and meet a number of biosecurity conditions (i.e municipal and/or well water, etc.). If a baitfish dealer desires to hold bait that is harvested from the wild it can sell baitfish to anglers for use only on the water that the bait was harvested from. This process is currently enforced through a baitfish receipt program where a baitfish dealer fills out a receipt and gives the angler a copy of the receipt denoting a fishing location where the bait can be used.

Similar to the personal harvest of wild baitfish, the team recommends an identical geographic zonation approach for commercial harvest and sale of wild baitfish. As such, commercial baitfish dealers would have the following designations, requirements, and uses.

- “Statewide” baitfish dealer – A baitfish dealer would be required to meet the same requirements that they are currently under for this designation. Bait could be sold for use statewide; however, once the bait is used on a certain waterbody, it must comply with the provisions for baitfish movement in the zone that it is used in (i.e. if bait is bought from a statewide baitfish dealer and is used on a non-Black List / High Risk waterbody in the Interior Baitfish Zone then it is able to be moved just like wild harvested bait in that zone.
- “Geographic Zone” baitfish dealer – A baitfish dealer would be allowed to harvest and sell bait in a certain geographic zone and hold it in their bait shop in accordance with the provisions for the baitfish management zone in which they were harvested in. (i.e. if a baitfish dealer harvests bait in the Champlain Baitfish Zone and holds it at their facility in the Champlain Baitfish Zone, it would only be authorized to sell bait for use in the Champlain Baitfish Zone). Note: A geographic zone baitfish dealer that is physically located in a higher risk zone could collect baitfish from a less risky zone and offer it for sale for that less risky zone if it would meet the necessary biosecurity conditions for holding that bait.

- “Black List / High Risk Waterbody” baitfish dealer – A baitfish dealer who would like to harvest and sell bait from a “Black List / High Risk” waterbody or hold fish in water from a “Black List / High Risk” waterbody would be required to meet the same requirements that are currently in place for a “waterbody specific” bait dealer.

In a previous section, the importation of white sucker was discussed and outlined as an inconsistency between New York and Vermont with regards to bait use on Lake Champlain. As such, New York allows the importation and commercial sale of out-of-state white sucker for use on Lake Champlain.

Consequently, New York anglers can use white sucker on Lake Champlain; however, Vermont anglers cannot. The team views this as a discrepancy that could be addressed by allowing a “Lake Champlain Baitfish Zone” baitfish dealer to import white sucker if the lot of fish being imported have adequate fish health inspection. This would match New York’s approach for allowing white sucker use in Lake Champlain, thus increasing angler opportunity at no impact to the fisheries resource in Lake Champlain.

### **Receipts**

It was previously noted that once personal wild harvest and movement of bait is allowed, a receipt system for enforcement of wild harvested baitfish is significantly diminished. However, with commercially purchased bait, the team believes there might be a valuable outreach opportunity and tracking means by maintaining a receipt program for bait destined for the “Black List / High Risk” waterbodies and the Connecticut River / Lake Champlain Baitfish Zones. Therefore, the team has come up with two options for managing baitfish receipts.

Option 1 (Preferred Option) – Maintain a baitfish receipt program for baitfish that are destined for a “Black List / High Risk” waterbody or the Connecticut River / Lake Champlain Baitfish Zones - Receipts would be valid for 240 hours (10 days) to allow for use over multiple weekends and could be taken home as long as it is not held in waters of the State. This would also match New York’s regulation for the allowable timeframe for commercially purchased baitfish use. All other commercially purchased bait destined for Interior zones would not need a receipt and would be valid for a period of 1 year. This would provide a valuable outreach tools for novice anglers regarding the movement of bait into high risk waters and would also serve as a means of tracking a bait shipment in case something unusual was found in an angler’s bait bucket (i.e. mosquitofish, stickleback, central mudminnow)

Option 2 – Eliminate the baitfish receipt program altogether. This would avoid complication and confusion for anglers; however, this might result in a lost outreach opportunity / means of tracking bait shipments. Regardless, commercially purchased bait would still only be valid for 240 hours (10 days).

### **Commercially Preserved Baitfish**

During the team’s evaluation, the team investigated the current allowable methods of commercial preservation of baitfish. The team agreed that the current allowable methods are still acceptable; however, new research has shown that a new baitfish preservation technique involving salt and borax is proven to be effective in killing fish pathogens of concern. Therefore, the team would like to recommend that the Department include the salt/borax method in their list of allowable methods for commercial baitfish preservation.

### **Recommended Commercial Bait Operations Changes**

*Changes that would not require a Vermont Fish and Wildlife Board rule change:*

- Allow white suckers to be imported by “Lake Champlain Baitfish Zone” baitfish dealers provided that the lot of fish has been tested and is free of pathogens of concerns and that the shop meets the criteria for a “Lake Champlain Baitfish Zone” shop. This would provide additional angler opportunity in a manner that has no impact to the protection of the fishery as New York is already allowing the use of imported suckers into Lake Champlain.
- Vermont Fish and Wildlife Department would include the salt / borax method in their list of allowable methods for commercial baitfish preservation. This might allow for additional angler opportunity in receiving better quality preserved baitfish product with no impact to the protection of the fishery or to the enforceability of the current regulations.

*Changes that would require a Vermont Fish and Wildlife Board rule change:*

- Redefine baitfish dealers to be inclusive of changes that would allow for the harvest, sale, and movement of wild harvested baitfish. This would provide a significant increase in opportunity for anglers to have access to baitfish which they haven’t had traditional access to since 2007 while still providing an adequate level of protection to the fisheries resource if compliance is maintained. It also would most likely lower the cost of baitfish in bait shops and provide a level of customization to different bait shops.
- Implement either Option 1 or 2 for baitfish receipts. Although enforceability would decrease, Option 1 would still allow for a valuable outreach opportunity while also providing a means of tracking a bait purchase / shipment.
- Clarify in the regulation what constitutes a “Commercial Bait Dealer” so that it includes operations selling live fish as bait, and not other sporting goods stores (i.e. Dicks, Walmart, Kmart) that may be selling commercially preserved baitfish in packages

*Overall impacts of implementing recommended changes*

**Protection to the fisheries resource** – Slight decrease in overall protection to the fisheries resource by allowing movement of wild caught bait from one waterbody to another; however, it is being done through a careful methodology of risk assessment and reduction.

**Angler Opportunity** – Significant increases to angler opportunity by allowing for increased access to hard to acquire baitfish species and transfer between waterbodies (within a zone). Will also help to address significant shortages and access issues to rainbow smelt and white sucker.

**Enforceability / Compliance** – Given the current level of compliance and enforcement with the current baitfish regulations coupled with new outreach and education on the dangers and risk vectors associated with AIS, fish pathogens, and baitfish the team views these recommendations as having no significant impact on enforceability / compliance.

## **Conclusion**

The harvest and use of live baitfish has been and continues to be a significant part of Vermont's heritage and connection to our fisheries. Overall, it has become apparent to the Baitfish Regulations Review Team that current Vermont baitfish regulations and management of baitfish is a very intricate and complex set of rules and regulations. With that said, the team believes that there is room to improve the regulations, specifically in terms of revising the rules in a manner that would allow more opportunity for anglers but still provides an adequate level of protection to the resource. The proposals and recommendations in this document attempt to maintain protection of the health of Vermont's important fisheries resources while increasing angling opportunity with live bait. This is a fine balance and the Baitfish Regulations Review Team believes that this concept proposal is the best balance that can be struck currently with regards to baitfish.