

## **Vermont Fish and Wildlife Board**

### **June 16<sup>th</sup> Meeting Minutes**

The Vermont Fish and Wildlife Board held a meeting beginning at 5:00 pm on Wednesday, June 16<sup>th</sup>, 2021, at the Pavilion Auditorium in Montpelier. The meeting can be viewed in its entirety here: [https://www.youtube.com/watch?v=J\\_cAmg5a2VU&t=4486s](https://www.youtube.com/watch?v=J_cAmg5a2VU&t=4486s) and a recording can be made available by the Department of Fish and Wildlife upon request.

**Board Members Present:** Tim Biebel (Board Chair); Brian Bailey; Michael Bancroft; Wendy Butler; Michael Kolsun; Bryan McCarthy; Bill Pickins, David Robillard; Jay Sweeny; and Martin Van Buren

**Department Staff Present:** Commissioner, Louis Porter; Wildlife Director Mark Scott; General Counsel Catherine Gjessing; Col. Jason Batchelder, Law Enforcement Director; Lt. Sean Fowler, Warden Dustin Circe; Kim Royar, Furbearer Biologist and Acting Wildlife Species Program Manager; Dr. Katy Gieder, Research Coordinator; Forrest Hammond, Bear Project Leader; Chris Bernier, Turkey Project Leader; Executive Assistant, Will Duane.

#### **Agenda:**

- 1) Approval of Previous Meeting Minutes.
  - May 19<sup>th</sup>, 2021
- 2) Public Comments (Limited to 2 minutes per speaker)
- 3) Rulemaking Petition Discussion
  - Petition to place a moratorium on fisher trapping
    - Presented by Lisa Jablow
  - Petition to close trapping seasons; petition to suspend
    - Presented by Walter Medwid
  - Petition to return the end of trapping season for river otters to February 28
    - Presented by Rob Mullen
  - Petition to ban live action trail cameras during hunting
    - Presented by David Kelley
- 4) Commissioner's Update
- 5) Roundtable Discussion

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The Meeting was called to order at 5:05 PM

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## Approval of Previous Meeting Minutes

**Motion:** Brian Bailey moved to approve the minutes from the May 19<sup>th</sup> meeting. Bryan McCarthy seconded the motion.

**Discussion:** Chair Tim Biebel noted a typographical error for correction.

**Vote:** 8-0 unanimous roll call vote to approve the previous meeting minutes as amended. Wendy Butler and Bill Pickens abstained from voting as they were not present at the May 19<sup>th</sup>, meeting.

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## Public Comments (2 minutes per speaker)

Mike Covey, Williamstown – You hear a lot about how some practices are ethical or unethical, you have petitions in front of you from organizations who want to end trapping. They seem to be able to find a way to say that any form of hunting is unethical. You'll hear statements tonight from some of them who say they support trail cameras, but then they'll submit a petition to ban certain types of trail cameras. That will be followed by statements that they are unethical. You'll hear them say that they support hunting so long as it's for sustenance or for food. Just within the last few weeks rabbit hunters have been attacked for training their animals. There was a group of goose hunters who had a good day and they were characterized as being unethical because the members of some of these organizations didn't like the pictures of some of the geese that were shot. These geese were shot within legal seasons and within legal limits, but they were called unethical because some people didn't like the photos that were taken. We need to stick to facts. We have a great group of biologists from the department, they would give us solid evidence if there was a need to curtail some seasons. There was a recent petition to expand the bobcat seasons and out of an abundance of caution the Board and the Department did not support that. Please think critically about where these petitions are coming from.

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## Rulemaking Petition Discussion

Four petitions for rulemaking were received by the Board so far in 2021. The topics are included in the agenda and the petitions are included as attachments to these minutes. The petitions are listed on the agenda. Each petitioner was provided 10 minutes to address the Board and present any additional information or comments. The full presentations by the petitioners can be viewed at the link to meeting video above.

- [Petition to place a moratorium on fisher trapping](#) submitted by Protect Our Wildlife – Presented by Lisa Jablow (via telephone).
- [Petition to close trapping seasons; petition to suspend](#) Presented by Walter Medwid
- [Petition to return the end of trapping season for river otters to February 28](#) submitted by the Vermont Wildlife Coalition – Presented by Rob Mullen

- Petition to ban live action trail cameras during hunting submitted by the Vermont Wildlife Coalition – Presented by David Kelley

Following the presentations by the petitioners Department staff presented the Department's responses to the petitions for the Board's consideration. The petitions and slides from the Department presentations are attached to these minutes. After presentations from the petitioners and Department staff the Board voted on each petition individually. The petitions and slides from the Department presentations are attached to these minutes. The meeting can be viewed in its entirety here:

[https://www.youtube.com/watch?v=J\\_cAmg5a2VU&t=4486s](https://www.youtube.com/watch?v=J_cAmg5a2VU&t=4486s) and recordings can be made available by the Department of Fish and Wildlife upon request.

### **Motions and Vote Outcomes:**

- Petition to place a moratorium on fisher trapping:
  - Marty Van Buren moved to deny the petition, Jay Sweeny seconded the motion.
  - Unanimous 10-0 roll call vote to deny
- Petition to close trapping seasons; petition to suspend:
  - Brian Baily moved to deny both aspects of the petition, Marty Van Buren second the motion.
  - Unanimous 10-0 vote to deny
- Petition to return the end of trapping season for river otters to February 28:
  - Jay Sweeny moved to deny the petition, Brian Bailey seconded the motion
  - Unanimous 10-0 roll call vote to deny
- Petition to ban live action trail cameras during hunting:
  - Jay Sweeny moved to deny the petition, Wendy Butler seconded the motion
  - Unanimous 10-0 roll call vote to deny.

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### **Commissioner's Update**

- The moose permit lottery deadline is June 30<sup>th</sup>. The Department is planning on holding the lottery drawing in mid-August.
- The Department has some vacancies in staffing right now: 2 of the 3 program manager position in the wildlife division are currently vacant. There are also some vacancies in the outreach and Warden Services division. The Department is working to fill those positions as quickly as possible.
- Thank you to the Department staff who joined the meeting tonight, especially those members of the furbearer team who prepared the responses to the petitions tonight. They take their jobs and the science very seriously and I thank them for that.

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The Meeting was Adjourned at 9:10 PM



February 15, 2021

Dear Members of the Vermont Fish & Wildlife Board:

Protect Our Wildlife is an all-volunteer Vermont nonprofit that represents over 2,500 VT residents from across the state as well as our social media followers of over 20k subscribers. Our team of volunteer professionals includes educators, biologists, wildlife rehabilitators, and other stakeholders who are committed to the equitable and responsible stewardship of Vermont's wildlife. Of particular interest to our group are predator species who are vital to healthy, vibrant ecosystems. Fishers, *Martes pennant*, are one of those species.

We have concerns over VT's fisher population due to a variety of reasons, including rodenticide exposure as well as other mortality factors that are not completely understood by the VT Fish & Wildlife Dept. Per VTFWD's 2020 furbearer newsletter {emphasis added}, "Thirty liver samples from fisher were sent to a Tufts University graduate student for rodenticide testing. Final results are pending, however preliminary information suggests that at least five different rodenticides are quite ubiquitous throughout the state. We had hoped to do some additional testing this year but were not able to due to budget reductions. If possible, we will continue testing next year as there are a lot of unknowns regarding how rodenticides influence carnivore survival."

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We were eager to review recent data from the VTFWD, including historical kills and trapper effort. With the consultation of our team, including a retired Ph.D. ecologist, a conservation biologist who serves on our Board, as well as a former UVM Instructor with a Ph.D. in microbiology and molecular genetics from UVM with post-doctoral research experience from Harvard Medical School, we have concluded that a moratorium should be placed on the trapping of fisher. We are asking that VT Fish & Wildlife Board and Department place politics aside and move this petition forward.

In the attached graphs, we have charted Catch Per Unit Effort (CPUE) data calculated using the VTFWD method and the traditional method. As you can see, the VT method introduces substantial variability into the data for most species, and it provides little help in evaluating any trends in the monitored population. To understand how CPUE (*as calculated traditionally*) has changed over time, we used the 1990-2004 period as a surrogate for a sustainable population, calculated a 95% confidence interval for that period, and compared it to data for the period from 2005 to the present. As you can see, beginning in 2003 the CPUE dropped below the lower 95% confidence limit (LCL) or almost 2 standard errors below the mean of the baseline period. It has remained substantially below the LCL through the present.

We believe this is important information because one of the largest contributors to failure when managing fish or wildlife populations is the phenomenon of “the shifting baseline.” A shifting baseline is a gradual change in the accepted norms for the condition of a population due to a lack of experience, memory, and/or knowledge of its past condition. In this case, since VTFWD has not taken management action to maintain a sustainable fisher population, one that is similar to that inferred from the CPUE in 1990-2004 by regulating fisher take, it appears VTFWD is experiencing this situation. We also believe that if the baseline

period were extended further back it is likely that the situation would be even worse.

In summary, this analysis of the fisher population presents evidence that supports a decision that the season for fisher should be closed. This evidence includes:

- 1) A significant decline in the number of fishers trapped over the last 15 years;
- 2) A significant decline in fisher CPUE over the last 15 years using a traditional approach to calculating CPUE;
- 3) A statistical comparison that documents that the fisher harvest since 2003 has been significantly below the lower 95% confidence limit of the mean harvest from 1990-2004, a proposed surrogate for a sustainable population.

We applaud the NH Fish & Game biologists who took the proactive measure to their Board (Commission) to place bag limits on fisher. We are asking that the VFTWD and the Board go a step further to enact a moratorium. In 2019, 19 fishers were reported trapped in just one WMU. This level of "harvest" is likely impacting the local population of fisher, which can have cascading effects on biodiversity and ecosystem health. Over the last 10 years, 3,037 fishers have been trapped and killed — not for food or in defense of property, but for "sport." This moratorium would also address the incidental take of the endangered pine marten as well as bobcat during fisher season. We also ask that the VTFWD provide the scientific basis, that includes peer review, as to why there is a trapping season on fisher with no bag limits in the first place.

We look forward to hearing from you.



Brenna Galdenzi, POW President and Co-founder

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March 30, 2021

Memo to: Tim Beibel, Chair Vermont Fish and Wildlife Board

CC: Senate President Pro Tempore Becca Balint  
House Speaker Jill Krowinski  
Chair, Senate Committee on Natural Resources and Energy Chris Bray  
Chair, House Committee on Natural Resources, Fish and Wildlife Amy Sheldon  
Lt. Governor Molly Gray

From: Michael Hass      David Kelley      Jennifer Lovett      James White  
Vincent Illuzzi      Peggy Larson      Walter Medwid (Contact person: wmedwid@gmail.com)

Re: Vermont's Recreational Trapping Program: A Petition to Close Seasons; a Petition to Suspend

These petitions seek to initiate urgent action on two fronts with regard to the state's recreational trapping program:

- 1) We hereby petition the Fish and Wildlife Board (FWB), consistent with its authority, to establish closed season status for the following species: red and gray fox, bobcat, fisher, weasel, coyote and otter per our findings below.
- 2) We hereby petition the Fish and Wildlife Board, consistent with its authority, to temporarily close all other recreational trapping seasons until such time as our findings can be fully examined and addressed by the FWB.

We have researched and assembled a full range of data that we believe fully supports both actions. We are also mindful of the context in which we find ourselves in this moment in time. To wit, there is pending legislation to ban recreational trapping in Vermont: a recent independent survey by UVM's Center for Rural Studies (the most definitive, independent survey on the subject) indicates majority public support for a ban on recreational trapping. Also, an increasing number of states have taken steps to either limit or ban certain types of traps.

We are including legislative leaders in this communication in order to provide additional background on the pending bill on recreational trapping and to alert them for the potential need for a legislative working group to address the controversies on trapping. Future actions also depend upon decisions of the FWB on these petitions, the fate of the legislation seeking to ban recreational trapping and pending legislation that may alter the fundamental role of the FWB (H.167, S.129).

Our petitions on the recreational trapping program and the call for a legislative examination of it are based upon the following findings starting with big picture perspectives (1-5) and concluding with more Vermont-based specifics (6-10).

It is our contention that the justification of continuing recreational trapping in Vermont as sanctioned public policy is seriously at odds with contemporary science, contemporary social-ecological conditions and contemporary expectations of wildlife governance. Vermont's wildlife governance infrastructure is not responding to the major shifts in our culture. As such, our public policy and practice must change to reflect contemporary socio-ecological conditions. Addressing recreational trapping is a most appropriate place to begin the process of change.

Thank you for bringing these petitions to the attention of full Fish and Wildlife Board.

# Findings

Finding 1. Current public policy on trapping contradicts the conclusions of the Association of Fish and Wildlife Agencies (AFWA)\* blue ribbon panel report on sustaining America's wildlife:

*"There is a need to broaden stakeholder representation to ensure fish and wildlife conservation remains relevant and supported by people from all walks of life" (AFWA 2016 p. 9).*

And while the following statement addresses agencies, we believe it applies to all wildlife conservation institutions:

*"To remain relevant, state fish and wildlife agencies will need to transform their structures, operations and cultures to meet the changing expectations of their customers. If [they] fail to adapt, their ability to manage fish and wildlife will be hindered and their public and political support compromised" (AFWA 2016 p. 9).*

Vermont's public policy on trapping has been codified without all public interests at the table.

\*AFWA is the professional group representing the interests of fish and wildlife agencies across the country. Vermont's Fish and Wildlife Department (FWD) is a dues paying member.

Finding 2. Vermont's recreational trapping practices are at odds with the thinking of prominent leaders in the wildlife profession, in that their inception and oversight violate principles of the public trust and good governance. Specifically, they conflict with the principles and spirit espoused in Decker et al. 2016. Current practices fall short of scientifically and socially responsible wildlife conservation and are inconsistent with modern expectations for wildlife governance. There is no evidence that diverse perspectives inform current practices nor do these practices reflect the wildlife values held by most Americans or their interests in outdoor recreation involving wildlife (Kellert et al. 2017, Manfredo et al. 2018). Vermont trapping practices appeal to a narrow sector of Vermont's populace, clearly inconsistent with public trust thinking (PTT) and good governance (GG) (Decker et al. 2016).

Exclusionary practices run counter to PTT and GG, creating an environment that leads many people who care deeply about wildlife conservation to view wildlife professionals "as part of the problem, not the solution," as two agency personnel suggested (Amend and Gasson 1996, p. 169). They go on to say, "...our future does not rest on doing the same things for the same people" and "we must be willing to drop our defenses and cultivate a culture of openness." (pp. 172, 175).

Finding 3. Our concerns about current public policy on trapping as established by the FWB are buttressed by key points drawn from AFWA's annotated bibliography on agency transformation meant to guide agencies and their associated structures (FWB) toward a sustainable and credible

approach to wildlife management (Forstchen 2018). Note that we interpret “agency” to apply to all wildlife institutions including the FWB. Relevant points are:

- Wildlife professionals generally agree that public values toward wildlife changed dramatically over the latter half of the 20th century (p. 19)
- There has been a gradual shift away from traditional values that emphasize the use and management of wildlife for human benefit toward a more protection-oriented approach to wildlife (p. 19)
- This trend is one of the most influential factors shaping wildlife management today (p. 19)
- People who have interests in fish and wildlife but are not anglers, hunters and trappers increasingly ask policy makers and managers to address their interests (p. 11)
- Some observers have noted that wildlife management has been “captured” by consumptive interest groups and that the “iron triangle” between resource managers, traditional commodity users, and policy makers limits access of others in the decision-making process (p. 23)
- This conflicts with the increasing public expectation for citizen participation in management decision making (p. 11)
- Wildlife managers must avoid the temptation to use only the preferences of a limited group of stakeholders as the basis for decisions (p. 15)
- Most of us realize there is a growing disconnect between much of what our agencies do and the interests of citizens in our states (p. 28)
- Successful agencies will embrace change and help their constituents do the same (p. 16)
- The wildlife profession must develop management programs acceptable to a large and growing array of stakeholders that often have competing stakes in wildlife management (p. 17).

Finding 4. Vermont’s current public policy on recreational trapping as determined by the FWB is also at odds with Principles #1, #2 and #3 of the North American Model of Wildlife Conservation:

#1 Wildlife is a public resource managed on behalf of all people. But in Vermont, the public has no seat at the decision-making table so how does the public interest get represented? When do special interests represent public interests?

#2. Commerce in dead wildlife is eliminated. Even with a dramatic drop in fur prices caused by the global campaign to end the use of fur in fashion (see next point), the trade in pelts persists in Vermont.

#3. Wildlife is allocated according to democratic rule of law (AFWA 2021). We fully agree that wildlife should be subject to the democratic rule of law. According to the World Justice Project (2021) “the rule of law is a durable system of laws, institutions, norms and community commitment that delivers accountability, just laws, open government, and accessible justice.” Open government means the “processes by which laws are enacted, administered, and enforced are accessible, fair, and efficient” (World Justice Project 2021).

**In other words, a decision is only as credible as the process that led to it.**

While we do not believe that wildlife should be “allocated” (because their value does not depend solely on their utility to humans), if this was done according to the democratic rule of law, the largest allocation might reasonably belong to the largest group: non-consumptive users, such as birders, hikers, photographers, gardeners, wildlife watchers and others. At the very least, these interests (stakeholders) must be fully represented. Actions by the governor’s office and FWD leadership have used, if not abused, their authority to subvert any nomination to the FWB that has not met the political agenda criteria of FWD. The boycotting of credentialed candidates who are not trappers or hunters is an affront to open, inclusionary government and it violates the core mission of the FWD to serve all Vermonters. Lastly, Vermont statutes, Title 10, Chapter 103 state clearly that wildlife is a public resource, and further, that wildlife is a resource that must serve the citizenry. These laws beg the question: How can the FWB in the absence of full, fair representation of the citizenry make any decision that serves the citizenry?

Finding 5. The public pushback against fur trapping is shown by major fashion houses banning fur in their creations; in the collapse of fur prices; in the bankruptcy of at least one major fur trading operation; and growing public support for banning recreational trapping. The 2017 Vermonter Poll conducted by the University of Vermont found most respondents favored a ban on the use of leg-hold, drowning and body-gripping traps (Center for Rural Studies 2017). Arizona, California, Colorado, Florida, Hawaii, Massachusetts, New Jersey, Rhode Island, and Washington have severely restricted leg-hold or body-gripping traps (or both), as have over 100 countries (Law Library of Congress 2016). As of this writing, a bill to ban trapping on all public lands in New Mexico is on the governor’s desk for signature.

Finding 6. Vermont’s fish and wildlife administration and public policy markets recreational trapping as “humane, highly regulated and an important conservation tool.” These excerpted comments from Rob Mullen, chair of the Vermont Wildlife Coalition, offer a far different perspective:

*“Highly regulated” included no bag limits on any species, no reporting of numbers killed of any species but three (otter, bobcat, and fisher), no reporting of any “by-catch” including domestic animals or pets and a general difficulty in enforcement that make any claim of being “highly regulated” potentially toothless.*

*“Humane” included using “instant-kill” traps (or as the FWD more modestly calls them, “quick-kill” traps). The official Best Management Practices (BMP) standard for these political euphemisms is not instantaneous or a few seconds as most humane people might imagine. For a beaver in a ‘Quick-Kill’ Conibear 330 the BMP requires only that 70% of trapped beavers die within 300 seconds (five minutes; and 30% taking any amount of time longer). Underwater sets killed in under nine (9) minutes. I was shocked to learn that my beloved Vermont allows drowning as a “humane” method of killing. Colony traps are designed to drown multiple animals at a time.”*

*“Conservation Tool” - a common refrain is that trappers help “control” populations. It requires some fanciful “biology” to believe that predators like bobcats, fishers, otters, minks, and weasels, need population control. The FWD confirmed to me that in over 30 years, only one bobcat had been trapped in Bolton, yet, we are not overrun with bobcats. Most years, otters are killed in only a few Wildlife Management Units, and yet we are not overrun by otters. Predator populations*

*have been naturally regulated for millions of years without any help from us (territoriality and prey density)."*

One final point: trappers are mandated to report their kills annually yet there are no penalties if reports are not filed. Furthermore, non-target species caught in traps are also not required to be reported. Collectively these comments raise serious questions about Vermont's public policy on recreational trapping being "...humane, highly regulated and an important conservation tool."

Finding 7. According to existing Vermont public policy as marketed-by FWD, "Trapping helps to maintain these species (furbearers) at healthy population levels mitigating the effects of density dependent diseases such as distemper and rabies ...." However, Vermont's position is not supported by science. A publication on trapping from The Wildlife Society (a resource that DFW references as a reliable source) states that, "The only definitive statements that may be made on the subject of disease control at this time are that regulated trapping will not (and is not designed to) eradicate diseases; very intensive trapping may help control diseases; and the relationship of normal furbearer harvests to disease occurrence and intensity in wildlife populations is not yet well understood." *Emphasis added*

Finding 8. According to FWD's marketing materials, "Trapping is an important tool to reduce human-wildlife conflicts." This contention is not supported. White et al. 2020 found no evidence that seasonal trapping was an effective method for reducing levels of human-wildlife conflict. Obbard et al. 2014 showed that the number of human-black bear conflicts correlated most strongly with the availability of the bear's natural food sources, not their population level. Higher harvests did not reduce conflicts. In fact, the authors contended that reducing conflicts through harvest alone would require such a high harvest level it might impair survival.

Integrated wildlife damage management (IWDM), an evidence-based and ecological approach to solving human-wildlife conflicts, is based on a timely, customized, multifaceted solution that typically includes changing problematic human behavior, often calling for the removal of anthropogenic attractants (Smith et al. 2019). Interventions are targeted specifically at the individual animal(s) causing the problem—a far more selective approach than using recreational trapping to reduce the overall population level, which as Obbard et al. 2014 showed, may not reduce the number of conflicts.

Finding 9. According to FWD's marketing publication on-trapping, "Trapping plays a multi-dimensional role in the management of wildlife populations." However, the FWD's stance on this issue is at best inconsistent. When asked if FWD considers trapping an important part of controlling wildlife populations in Vermont, FWD's long tenured and point biologist for furbearers and trapping said, "Not an important part, no." If FWD's top furbearer biologist cannot justify a role for recreational trapping, why does the practice continue? The Bridge (newspaper).

Finding 10. A growing body of evidence illustrates the important role of predators in regulating ecosystems and sustaining biodiversity. Apex predators (in Vermont these include coyotes, black bear, bobcat, river otter, and to a lesser extent, fisher) are primarily known for their role as inhibitors of rodents and other small prey populations as well as smaller predators like raccoons, foxes, skunks, and weasels (mesopredators). Many apex predators, for example coyotes, bobcats, and river otters, are now recognized as keystone species (6). This is due to their profound impacts on ecosystems in which they affect the distribution, abundance, and diversity

of their prey. This regulation of lower species in the food chain creates a process known as a trophic cascade. By dispersing native seeds and nutrients from foraging, they also influence the structures and balances of ecosystems and landscapes.

Apex predators occupy the top trophic position in a community. They are often large bodied, specialized hunters. Mesopredators occupy the position below Apex and tend to be more generalist hunters. Apex Predators suppress mesopredators in two ways, by killing them and by instilling fear, which motivates changes in behavior and habitat use that can limit mesopredator distribution and abundance. (Ritchie, 2009)

The control of mesopredators by apex predators has a significant effect in moderating the intensity of predation on smaller prey species like birds and small vertebrates. Consequently, the removal or loss of apex predators from a system results in the explosions of prey and small carnivore populations. This process, known as mesopredator release, is symptomatic of fundamental ecosystem imbalance and loss of biodiversity. (Ritchie, 2009; Prugh, 2009)

Ultimately, apex predators are more effective, more efficient, and more economical at controlling mesopredators than are human hunters. Recent studies indicate that it is exceptionally difficult to replicate the full ecosystem effects of apex predation. Interactions between predators result not only in direct killing but also in avoidance behavior and defensive group formation. Thus, fear of predation can have an even stronger impact on a landscape scale than the killing itself. (Ritchie, 2009)

In addition to maintaining a balance in nature by limiting the populations of those they hunt, apex predators, who are relatively safe from predation themselves (except by humans) are able to maintain relatively constant population densities despite differences in resource availability (6). In fact, the larger the predator, the more they can self-regulate populations. Smaller predators and mesopredators are more limited by the available food supply and predation. The expression of self-regulation stems from social interactions and is therefore subject to the condition of social or pack stability. In apex carnivore populations subjected to human hunting, age at sexual maturity declines, reproductive rate increases, parental care shortens and demography skews toward juveniles. In non-exploited populations of large canids (e.g., coyotes), offspring often remain with their natal group for several years delaying breeding age, reducing litter production, and consequently slowing or stopping population growth rates. (Wallach, 2015)

More studies need to be done on how to understand and manage the conservation of apex predators in order to maintain biodiversity and conserve ecosystems. Restoration of top carnivores is imperative in order to slow down further environmental degradation and species loss through uncontrolled mesopredator release. Habitat restoration and better public understanding/education, as well as compromises by those likely to have predator confrontations, must be prioritized as wildlife management strategies (Prugh, 2009).

## **Vermont's apex species and the roles they play**

(see Elbroch and Rinehart, 2011 for species profiles)

### 1. **Coyote (Canis latrans)**

Coyotes are an apex predator in Vermont. They fill the role of mesopredator in other locations where they share habitat with wolves.



Coyotes self-regulate their populations according to the available food supply in their home range. Exploitation of coyotes by hunting and trapping results in increased juvenile reproduction and larger litters. These lead to pack dispersion, resulting in more numerous alpha breeder/hunter pairs. Thus, it has been demonstrated that external population controls (hunting) have actually increased coyote numbers.

Coyotes live in territorial family packs led by a mated alpha pair who defend a home range of about 4- 8 square miles. They produce one litter per year per pack. Litter size is on average 4- 7 pups depending on the available food sources. Of these pups, only 25% will survive to adulthood. Defending their territory from intruding and transient coyotes is another way coyote populations are self-regulated.

Where coyote populations have declined, other mesopredators such as foxes and raccoons have increased significantly resulting in altered ecosystems with decreased biodiversity (plant as well as animal) and population density of smaller species, such as birds and rodents. These well-recognized effects of coyote hunting reveal without question that coyotes are important to maintaining the integrity and balance of native ecosystems. (Crabtree, 1999)

2. **North American River Otter (*Lontra canadensis*)**

Otters are not traditionally thought of as apex predators but, by preying on fish, frogs, crayfish, insects, and birds, they regulate species populations in aquatic ecosystems. Their latrines contribute to the health of riparian plant communities by distributing aquatic nutrients into soils increasing nitrogen content and growth rate of some native plant species. River otters require clean water in order to survive and are bio-indicators for healthy aquatic systems. Threatened by habitat degradation, pollution, and human exploitation, river otters do not overpopulate their ranges and have slow reproductive growth. Most females do not reproduce until they are 5-7 years old and then only give birth to one to three pups per year.

River Otters are listed as a species of greatest conservation need in VT FWD's Wildlife Action Plan.

3. **Bobcat (*Lynx rufus*)**

Bobcats are considered a keystone species for their ability to stabilize rodent populations. They are very solitary animals and rarely associate with each other except during breeding season. Mothers and their litters of 2-4 kittens are the basic social unit. Even where territories overlap, adult bobcats will avoid each other. They breed once a year, in February/March, and breeding success is directly proportional to prey availability. Breeding rates vary from 92% of adult females down to 30% or less depending on food scarcity and often female bobcats will only breed every other year. Bobcats live in varied habitats, depending on landscape connectivity and quality for availability of prey and mates, denning sites, as well as protection from predators. Loss of habitat has resulted in greater competition for prey with other predator species, coyotes in particular, and impacts bobcat conservation.

4. **Black Bear (*Ursus americanus*)**

Female bears (sows) only breed every two years and generally the first time occurs between 2-8 years of age, typically around 4 or 5. The average litter size is 2-3 cubs who stay with, and are dependent on, their mother for more than one year. Black bears mate in June-July but the process of delayed embryonic implantation postpones cub births until late winter when the female is safely in hibernation. Birth of cubs is also regulated by the condition of the sow in the

early winter---her nutritional status and age. Older and larger (fatter) sows produce larger litters. Younger bears produce fewer cubs. If in poor health, or lacking enough body fat to sustain lactation, a sow will not give birth (abort fetuses) or abandon newborns. Thus, there is a strong correlation between a female Black bear's body condition, environmental factors, and her reproductive success. Hunting bears, especially sows who may be pregnant or have dependent cubs, can have a dramatic and negative effect on population dynamics.

5. **Fisher (*Martes pennanti*)**

Fishers are generally solitary except during mating season. The rest of the year they tend to be territorial toward their own species and gender. Fishers breed in March/April but delay implantation of embryos and give birth almost a year later in February/March. Due to this process, embryonic diapause, female fishers are pregnant for all but two weeks of every year. Litters are born in late winter to early spring and range from 1-5 young with an average of 2-3 kits. When kits disperse and are on their own in late summer or fall, there is a high chance of mortality. This is especially true if the local fisher population is growing and vacant territory is challenging to find and establish. Fishers and American martens (*Martes americana*), an endangered species in VT, overlap in habitat, food sources, and behavior. Trapping of fisher can therefore negatively impact both fisher and marten populations. Fisher populations are in decline in New England and the reasons are likely complex, ranging from habitat loss and fragmentation, to the use of rodenticides, and trapping. (USDA, Forest Service, 1994).

## **Literature Cited:**

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**State of Vermont  
Fish and Wildlife Board**

**Petition for Rulemaking**

Now comes the Vermont Wildlife Coalition, by and through its Chair, Robert Mullen, and does hereby petition this Board to:

**Return the end of the trapping season for river otters to February 28.**

The Petitioner is the Vermont Wildlife Coalition. The Coalition is a non-profit 501(c)(4) Vermont corporation with approximately one thousand members representing the full diversity of Vermont's public and public opinion. Most of our members are actively engaged with wildlife as wildlife watchers, hikers, hunters, fishermen and as credentialed professionals such as biologists and therefore have an abiding interest in the subject matter. We are beneficiaries of the Public Trust created by 10 V.S.A. 4081 and Chapter II, Section 67 of the Vermont Constitution.

The Vermont Fish and Wildlife Board has jurisdiction over this matter by virtue of 10 V.S.A. 4081(b).

**Cause:** In 2016, this Board granted a petition by an officer of the Vermont Trappers Association to extend the otter trapping season to eliminate the ‘trigger rule’ (e.g., moving Conibear triggers to the side of the opening from the middle) necessitated by the 2007 extension of the beaver trapping season to March 31, past the end of the otter trapping season on February 28. What we see as some problematic reasoning from the Fish & Wildlife Department (hereon the “Department”) backing that decision and subsequent results of the extension, prompted this petition.

**Memorandum in Support of the Petition**

**Birthing:** In North America, river otter births, according to a variety of respected institutions, occur variously from November or December to May, with a peak in March and April; or November to May with a peak in March and April; or “late winter and early spring;” or between February and April.

- University of Michigan: [https://animaldiversity.org/accounts/Lontra\\_canadensis/](https://animaldiversity.org/accounts/Lontra_canadensis/)
- University of Wisconsin: [Lontra canadensis - Vertebrate Collection | UWSP](#)
- [North American river otter | Smithsonian's National Zoo \(si.edu\)](#)

- [North American River Otter | National Wildlife Federation \(nwf.org\)](#)
- [North American river otter - Wikipedia](#)
- In Vermont, according to the current version of the Department’s website otter fact page, birthing is usually in late March – May, [River Otter | Vermont Fish & Wildlife Department \(vtfishandwildlife.com\)](#), Until last year, the otter fact page went on to note that, “*In Vermont, it is protected from over hunting with the season only lasting about four months, from the end of October through the middle of February. This time of year is chosen to protect against mothers or newborns being harvested.*” **Makes sense.**

Now, after the otter season extension through March, the Department’s web page has been updated. While it still gives birthing as starting in late March, it says that “*In Vermont, it is protected from over hunting with the season only lasting about five months, from the end of October through the end of March. This time of year is chosen to protect against mothers or newborns being harvested.*” **Makes less sense.** Note that on page six (6) of the Public Comment Responsiveness Survey on the otter season extension prepared by the Department for the Board [Final Responsiveness Summary Furbearer Rule.pdf \(civiclive.com\)](#) the Department says of their otter web page fact sheet,

“...it is important to note that this factsheet was originally prepared more than three decades ago based on the contemporary knowledge of the time.”

True, and happily, our state of knowledge has increased over thirty years, but to claim the website simply was not updated for decades is remarkable (*it only took three years to update the season extension on the otter page*). Notably, the Smithsonian Institution’s National Zoo and the ever-evolving Wikipedia among many other academic sources, still have dates consistent with Vermont’s “out-of-date” ones even though the Department now disavows their own.

Trapping through March may now, or soon, increase or create the very risk the Department website says it seeks to avoid. Whether late March is the onset of the birthing season now or not, our warming winters, thinner ice, and earlier ice-outs will, if anything, shift the birthing season to earlier dates as is often, or even typically, now the case for otter populations south of Vermont.

**Mammal Species of Greatest Conservation Need (SGCN):** According to the Department, river otters are among the 33 “Mammal Species of Greatest Conservation Need” in Vermont.

<https://vtfishandwildlife.com/sites/fishandwildlife/files/documents/About%20Us/Budget%20and%20Planning/WAP2015/5.-SGCN-Lists-Taxa-Summaries-%282015%29.pdf>

They were given SGCN status because they are specialized predators with relatively low population density and low reproductive rates (1-3 kits per year on average and not all females breed every year). They are difficult to study, and therefore, there is concern that they may be particularly susceptible to habitat loss, pollution, and climate change. Consequently, despite their current population being healthy, they could rapidly be negatively affected by increased mortality and/or decreased reproduction. The National Wildlife Federation makes a similar point: "... but conservation reintroduction efforts are helping populations to recover. However [habitat destruction](#) and [water pollution](#) still puts these animals at great risk, especially because they are so specialized." ([North American River Otter | National Wildlife Federation \(nwf.org\)](#)).

Despite this, the state of Vermont extended the trapping season into the birthing season, or – even granting the Department’s backtracking on their own dates – what may soon become the birthing season as winters continue to become milder. This does not seem consistent with erring on the side of caution in dealing with a Species of Greatest Conservation Need, regardless of its current population level. Moreover, the Department spent considerable time and a good portion of the furbearer project’s budget to research rationalizations to give the benefit of any doubt to the petitioning trapper and his request to ease the inconvenience of having to adjust trap triggers at the end of February.

**Incidental take:** The Department also argued that the otter season extension would reduce the incidental take of otters that had occurred during March (about one (1) per year) since the beaver season had been extended in 2007 by reclassifying them as in-season. This clerical solution does eliminate the wanton waste of otters taken in March by allowing them to be legally utilized, but as far as otters are concerned, it can only increase the number killed, which as stated in the Department’s summary, was not a management objective.

This bureaucratic artifice may be helpful and convenient for trappers and the Department, but it was a step, however small, in the wrong direction for otters. As it has turned out in practice, it was not such a small step. The Department estimated that the March extension of the otter season would result in an average of no more than ten extra otters killed per year (to prevent an average of one from being killed incidentally). Unfortunate for the otters, but according to the Department, sustainable population-wise. However, 2019 data, the third year of the extension, reveals nineteen (19) otters reported killed in March. That is a **90% increase over the estimate** and represents a more than a **34% increase in mortality** over the total as of the end of February 2019. It should also be noted that



a large portion (seven) were reported killed in the last week of March (Department trapping data).

A second option, reportedly considered by the Department, was eliminating the trigger rule by returning the beaver season to the end of February (as it had been prior to 2007) instead of extending the otter season through March. However, in testimony before the FWB, LCAR, and in the Final Responsiveness Summary referenced above, it was argued that the beaver season needed to be extended through March to reduce the need for out-of-season nuisance (or “conflict”) beaver trapping. That trapping tends to peak in spring and summer which in turn puts nursing otter mothers and their kits in, as the Department calls it, “serious risk” of being killed accidentally since the young venture out of and eventually leave the den during that period. In theory, increasing the in-season take of beavers would reduce the need for out-of-season beaver trapping and so would also reduce the risk of incidental killing of nursing otter mothers and young (an average of five (5) reported per year). This reasoning makes some grim sense but is undercut when one reads in the summary that the Department sought to: “...*minimize the out-of-season take when such beavers are often wasted and **unreported**. For this reason ... the Department expanded the beaver trapping season through the month of March in 2007. As a result ... the percentage of beaver taken out-of-season as nuisance animals dropped from 44% to 28% ...*” (page 16 [Final Responsiveness Summary Furbearer Rule.pdf \(civiclive.com\)](#)). Such single-digit precision seems suspiciously over-cooked since it is derived from unknown starting and ending points (conflict beavers “often wasted and unreported”). While it may be that the season extension reduced the incidence of human/beaver conflicts, the seeming faux precision possibly suggests a desire to inflate the certainty of that result and concurrently, to undermine confidence in it. The Department also states that it relies on the fact that now, conflict beavers “taken into possession” need to be reported. However, beaver pelts typically have little or no monetary value in summer, thus the motivation to “take possession” and report the animal, as opposed to disposing of it, is reduced, again, eroding the value of such data.

In any event, according to the Department’s data, the season extension would reduce the incidental take of an average of one (1) otter a year in March, and fewer than five (5) in conflict beaver trapping by allowing the killing of an extra nineteen (19) otters per year during the extended season. Again, an odd way to conservatively manage a SGCN.

### **Animal welfare:**

Two or three Department personnel made much of the animal welfare benefits of eliminating the trigger rule in presentations to the FWB and in testimony before



LCAR. Scant mention was made of those same arguments in the Department's published *"Final Responsiveness Summary Furbearer Rule,"* yet since the Department personnel were unified and consistent in their presentations to the Board and LCAR, and these purported animal welfare improvements were possibly part of the Board's decision to grant the extension and LCAR's minority approval (two vote margin needed to overturn the rule) of the extension, we will review them.

The trigger rule stated that after the otter season closed February 28, triggers on say a Conibear 330 (a common, "quick-kill" beaver trap) had to be offset – slid from the center to the side of the trap opening – to minimize the odds of otters (slimmer than beavers) springing the trap as they passed through. The Department reported that this was very effective in selecting for beavers and resulted in no more than one otter per year trapped by mistake (page 16 [Final Responsiveness Summary Furbearer Rule.pdf \(civiclive.com\)](#)) after the beaver season was extended past the otter season in 2007. However, the Department also claimed that the trigger offset caused the Conibear "quick-kill" trap to rarely malfunction. In verbal testimony, the details of typical malfunctions were noted to be a beaver hitting the offset trigger with its side after it had passed partly through the trap rather than its head as it first entered it. The reported result was that the animal might not be caught as designed and suffer an inhumane drowning death instead of dying "humanely" in the "quick-kill" trap. This was reasonably presented as an undesired animal welfare outcome. However, for all that concern, drowning is not mentioned in the Final Responsiveness Summary, only "non-lethal" captures – page 17-- with no discussion of how they affect animal welfare.

This was a notable omission. A submerged trap closed about a beaver's torso or hips might not be able to kill a large, robust beaver directly by the force of that action (is that the basis of switching to "non-lethal capture?"), but the inescapable 'side-effect' of holding it under water certainly would. We hope that this was not the Department trying to use such a tortured, rhetorical technicality to skirt this issue and clean up trapping for public consumption, but the fact pattern fits. Even more so when one considers the inconsistency of portraying drowning as an undesirable animal welfare outcome sufficient to merit eliminating the trigger rule, when the Department allows other types of trap sets that are designed to drown captured animals. Then again, worrying about all of this presumes that there is a significant difference between being killed in a "humane, quick-kill trap" and drowning. As it turns out, according to research data compiled by the Association of Fish and Wildlife Agencies (AFWA), there is not much (document attached).

The summary by the AFWA (of which VT FWD is a member), compiled the results of many research projects on trap function and efficiency that were used in the development of the trapping Best Management Practices (BMPs). The Department lauds the BMPs as hallmarks of modern, humane trapping. The research determined times to death (or “irreversible loss of consciousness”) for various species in various types of traps (we will not detail the research procedures). The pertinent times to death or “irretrievable unconsciousness” for beaver:

1. Conibear 330 (“**quick-kill trap**) on land: up to **five (5) minutes** for 70% of trapped animals (30% could suffer indefinitely).
2. Conibear 330 (“**quick-kill trap**) underwater for beaver: up to **nine (9) minutes**.
3. Drowning sets for beaver: **five (5) to ten (10) minutes**.

What is clear from the AFWA’s own research summary is that at the allowable BMP performance times, there is only a marginal difference between a “quick-kill” trap underwater (as most winter beaver sets are) and drowning, contrary to the narrative that the Department promoted to the FWB and LCAR and continues to present to the public. Moreover, that marginal improvement is for 70% of trapped animals. For nearly a third, the difference will be negligible if any. Several minutes is the ‘accepted’ best practice. It is inhumane. The BMPs, for whatever modest improvements in animal welfare that they may have accomplished, are “greenwash” trying to present slightly less cruelty as kindness. The world can be unkind, and trapping can be necessary, but it should be conservatively employed out of pressing need, not expanded as a matter of convenience. It is far from the solution we would like, but we ask the Fish & Wildlife Board to return the end of the trapping season of otters to the middle of February. We will ask the Department to ramp up non-lethal flow control measures and education on the same.

Even in most parts of Alaska, the season ends February 28<sup>th</sup>. In some parts it ends January 31<sup>st</sup>.

<https://www.adfg.alaska.gov/static/regulations/wildliferegulations/pdfs/trapping.pdf>

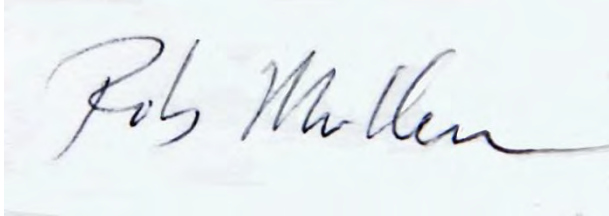
In Maine the trapping season for river otters ends December 31<sup>st</sup>.

<https://www.maine.gov/ifw/hunting-trapping/trapping-laws/index.html>

In Pennsylvania the season is only one week, from February 13-20.

<https://www.pgc.pa.gov/HuntTrap/Law/Pages/SeasonsandBagLimits.aspx#.VsQRNfViko>

Dated at West Bolton, Vermont, this 25th day of March, 2021.

A handwritten signature in black ink on a light blue background. The signature reads "Rob Mullen" in a cursive script.

Rob Mullen; Board Chair for the Vermont Wildlife Coalition



“Ice Breaker” American River Otter - 7” x 12” acrylic by Rob Mullen

**State of Vermont  
Fish and Wildlife Board**

**Petition for Rulemaking**

Now comes the Vermont Wildlife Coalition, by and through its Chair, Robert Mullen, and does hereby petition this Board to forbid the use of live action trail cams for locating and identifying for the purpose of taking wildlife during hunting season.

1. Standing: The Petitioner is the Vermont Wildlife Coalition. The Coalition is a non-profit 501(c)(4) Vermont corporation with approximately one thousand members representing a wide diversity of the Vermont's public and public opinion. Most of our members are actively engaged with wildlife as wildlife watchers, hikers, hunters, fishermen and as credentialed professionals such as biologists and therefore have an abiding interest in the subject matter. We are beneficiaries of the Public Trust created by 10 V.S.A. 4081 and Chapter II, Section 67 of the Vermont Constitution.
2. The Vermont Fish and Wildlife Board has jurisdiction over this matter by virtue of 10 V.S.A. 4081(b).

**Memorandum in Support of Petition**

The most respected hunting organizations in the United States have come to recognize that using advances in modern technology for hunting wild game crosses an ethical and moral line. That line should be recognized by those responsible for making the rules.

"Trail cameras can be a helpful tool in game management and selective hunting. The use of devices that transmit captured or live images or video from the field back to the hunter crosses the line of fair chase." Official position of Boone and Crocket Club regarding live action trail cameras and their use in hunting game.

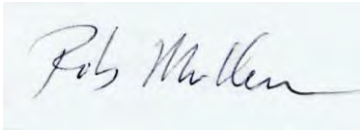
The Boone and Crockett Club will no longer accept entries that were taken with the aid of a cellular-linked trail camera, sighting ethics as the reasoning. The Arizona Game and Fish Commission voted unanimously in June to ban the use of "live-action" cameras. Nevada also banned the use of all trail cameras on public land for the purpose of hunting during certain times of the year. Nearly 90 percent of Nevada is public. Montana and New Hampshire have similar restrictions. Montana has banned the use of cellular linked live action trail cams during hunting season. New Hampshire also restricted the use of live action trail cams in 2015. Hunters can use them, but they are prohibited from hunting an animal on the same day the photos are taken.

<https://www.petersenshunting.com/editorial/cellular-linked-trail-camera-controversy/330542>

“Fair chase” has always been a part of the Vermont hunting tradition. It is the ethical pursuit of free-ranging wild game animals in a manner which does not give the hunter an improper or unfair advantage over the animal. For instance, “jacklighting” has, for years, been illegal in Vermont. With the proliferation of new technologies such as cellular connected trail cams, there is an entirely new toolbox that was never imagined even 50 years ago. The use of these technologies has nothing to do with Vermont's hunting tradition and make a mockery of any notions of fair chase.

If the Board fails to address the implications of these technologies, they will eventually cast a shadow over the integrity, the character, the soul and the reputation of Vermont hunters and the Vermont hunting tradition. Ultimately, that tradition will be the loser.

Dated at West Bolton, this 30th day of March, 2021.

A handwritten signature in cursive script, reading "Rob Mullen", written in black ink on a light blue background.

Robert Mullen for the  
Vermont Wildlife Coalition



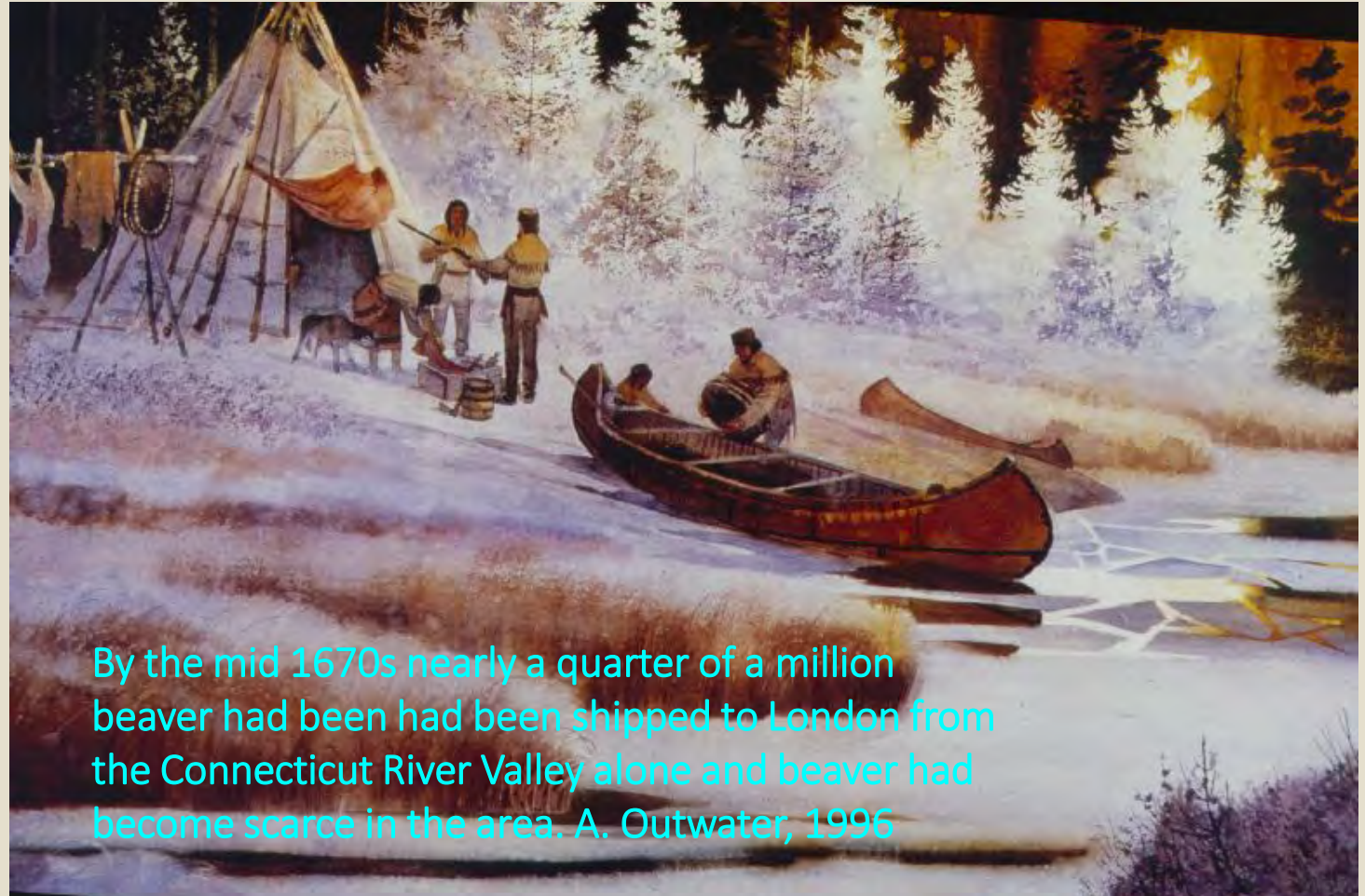
A 2021 Petition to Ban Regulated Trapping and...

Address the Role of the Vermont Fish and  
Wildlife Department in 21<sup>st</sup> Century



# Vermont – Natural history

- Search for beaver drove exploration of New England
- 200 million beaver in U.S. pre-Columbus
- Due to unregulated taking beaver were extinct from Vermont by early 1700's



# Vermont – Natural history

## Population (excluding Native Americans):

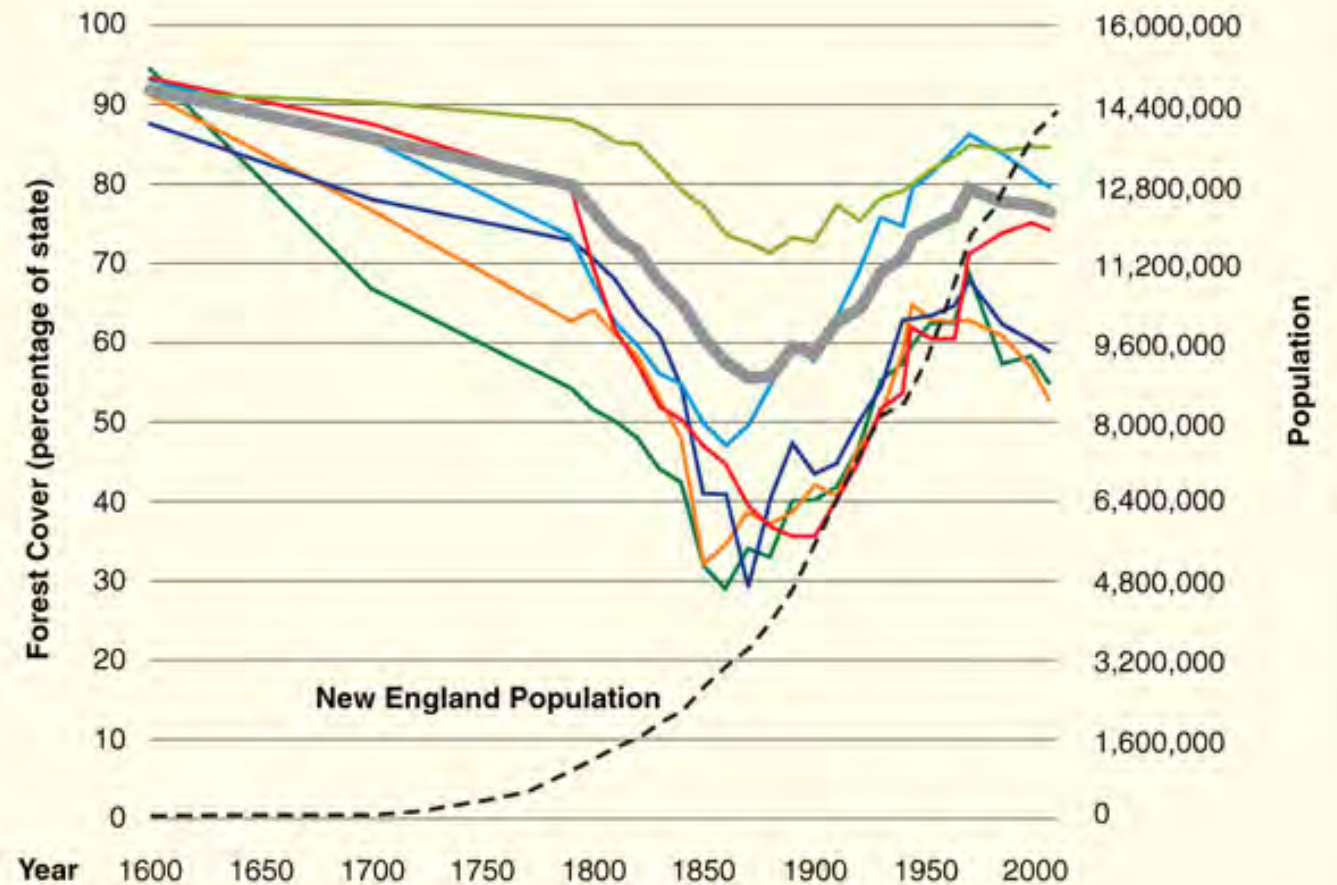
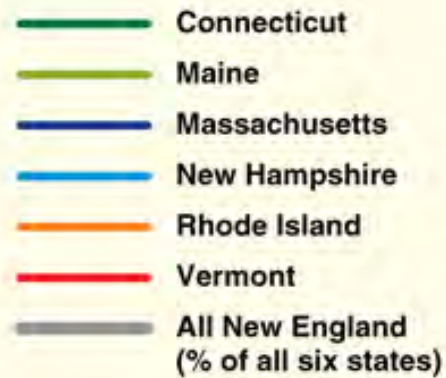
- 1760: <3,000
- 1790: 85,000
- 1800: 155,000



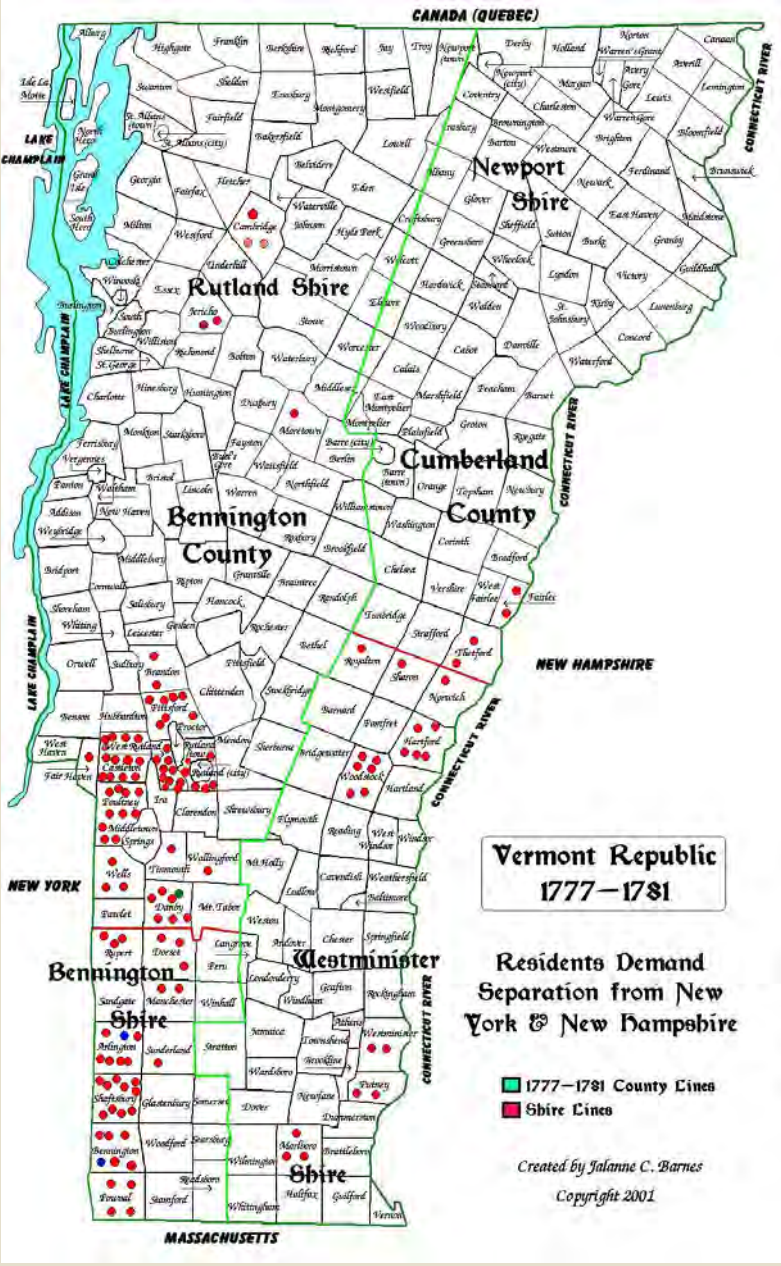


# Vermont – Natural history

## New England Forest Cover and Human Population



# Wolf Bounties 1777 to 1781





By 1880.....





# Vermont – Natural history

- 1876 Fish & Game Commission
- 1906 Current F &W Dept. Structure
- 1908 First hunting & fishing license

*The Commissioner of Fish and Wildlife shall **manage and regulate** the fish and wildlife of Vermont in accordance with the requirements of this part and the rules of the Fish and Wildlife Board. The protection, propagation control, management, and conservation of fish, wildlife, and fur-bearing animals in this State are in the interest of the public welfare. The State, through the Commissioner of Fish and Wildlife, shall **safeguard the fish, wildlife, and fur-bearing animals** of the State for the people of the State, and the State shall fulfill this duty with a constant and continual vigilance.*

-10 V.S.A. § 4081. Policy



# Vermont – Natural history

- Pittman-Robertson Funds established – 1937
- Created an excise tax on guns, ammo, archery
- Dingell-Johnson Funds followed in 1950
- Created excise tax on fishing equipment, boats, and motorboat gasoline
- The combination of sportsman-derived funds comprises upwards of 60% of the current VFWD budget





# Vermont – Natural history



## Other Fish and Wildlife restoration efforts:

- Moose
- Lake sturgeon
- Beaver
- Lake trout
- Peregrine falcon
- Lynx
- Eagle
- Walleye
- Osprey

**Introduction:** Petitioners base their proposal to ban trapping on one survey question by UVM's Center for Rural Studies.



### Public support for trapping:

- **Vermont** survey (2015): (56% of Vermonters support regulated trapping; 27% oppose.
- **Maine survey** (2020): 75% support; 17% oppose.
- **Connecticut** survey (2016): 61% support
- **Indiana:** (2016): 75% support
- **Wisconsin** (2016) 77% support



**Finding 1:** Petitioners contend that current public policy on trapping contradicts AFWA's blue ribbon panel results

- ❑ AFWA's Recommendation: **Broaden** the Tent
- ❑ The VFWD partners with many local and regional Conservation organizations.
- ❑ Sixty to 72 partners involved in the Wildlife Action Plan in 2005 and 2015.



Resource decisions include input from the public through hearings and public meetings.



# What about Equity for all?

According to aboriginal Amer-Indian philosophy, using and respecting animals are not believed to be mutually exclusive. On the contrary, perhaps it is only when we recognize our dependence on other creatures that we truly respect them.” Alan Herscovici, *Second Nature*, 1987



NKY Tribune

These regulated activities have no bearing on access or enjoyment by non-hunters

# Codified in the Vermont Constitution in 1793

## Section 67 of the Vermont Constitution

*The inhabitants of this State shall have liberty in seasonable times, to hunt and fowl on the lands they hold, and on other lands not enclosed, and in like manner to fish in all boatable and other waters under proper regulations, to be made and provided by the General Assembly.*



Increasing recognition on the importance of animal welfare, fair chase, and respect



**Finding 2:** Petitioners claim that Vermont’s current practices are at odds with the thinking of prominent leaders in the wildlife profession and violate the principles of the public trust and good governance as espoused in Decker et al. 2016”

*“I disagree with the above statement. The governance principles we put forth state that wildlife governance will produce multiple, sustainable benefits; will allocate benefits from the trust; and other principles **that clearly provide space for people who choose to trap.** It is the trust administrators (FWP) responsibility to ensure such allocations are sustainable, and I am not aware of any science that suggests otherwise in Vermont.”* Dr. John Organ pers com 2021, recently retired Chief of the USGS Cooperative Fish and Wildlife Research Units.



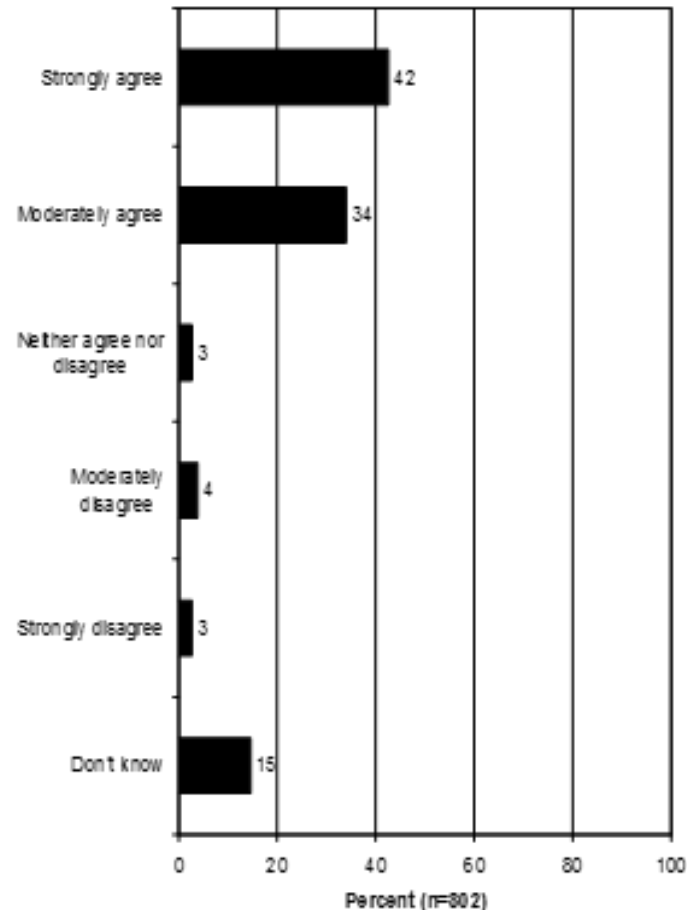
Dr. John Organ, co-author Decker et al;  
Director Emeritus of the Cooperative  
Fish and Wildlife Research Unit.

Petitioners suggest that there is no evidence that diverse perspectives inform current practices nor do the practices reflect the wildlife values held by most Americans or their interests in the out of doors.

## 2015: Satisfaction

- **76%** of residents (Gen Pop) agreed the Department balances interests of users and the public; up from 67% in 2003
- **7%** disagreed, down from 11% in 2003

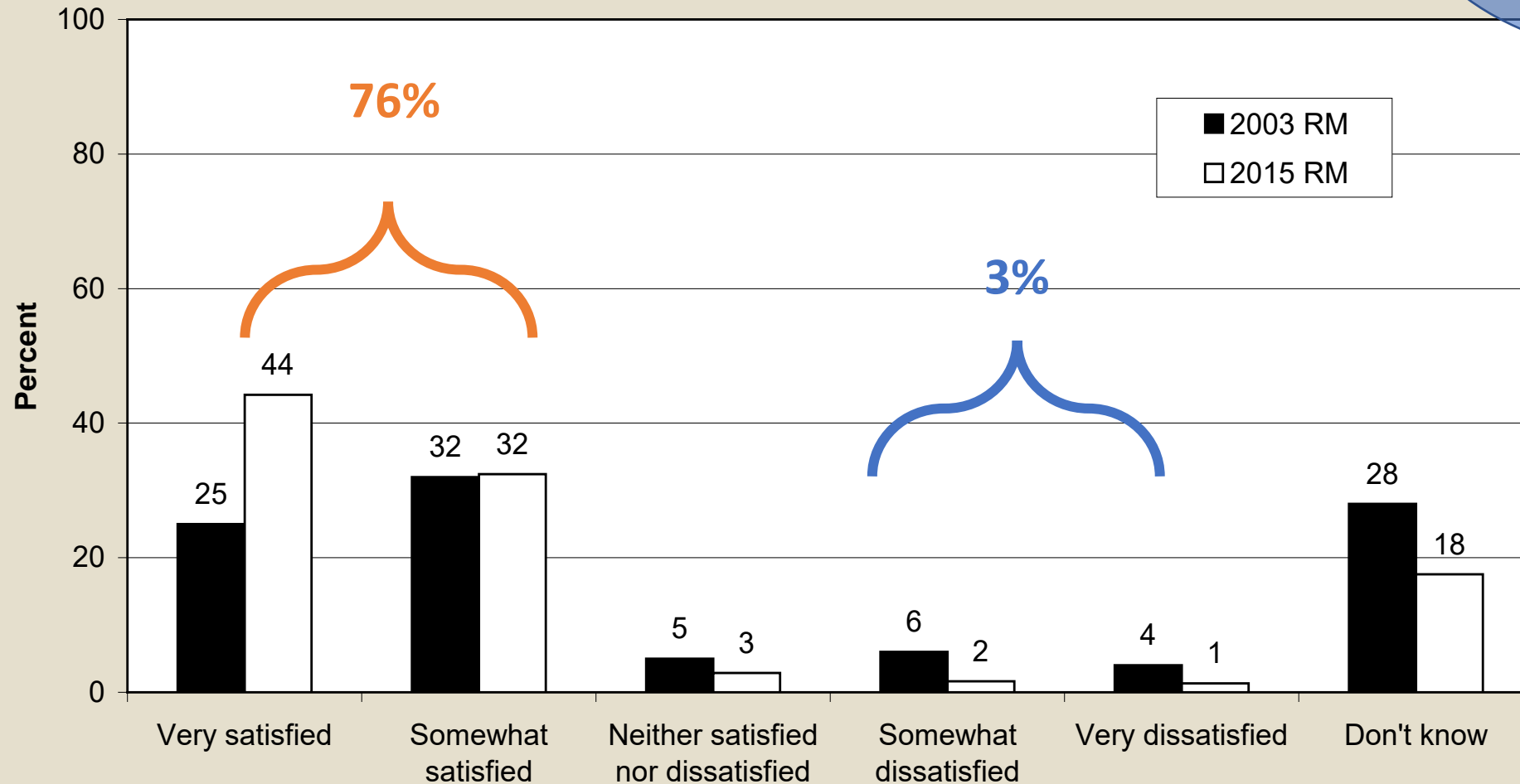
Q60. Do you agree or disagree that the Department effectively balances the interests of anglers, hunters, conservation groups, and the general public?  
(Vermont residents.)



# 2015: Department Satisfaction

Q59. Overall, are you satisfied or dissatisfied with the Vermont Fish and Wildlife Department as a government agency in Vermont, or do you not know? (Vermont residents.)

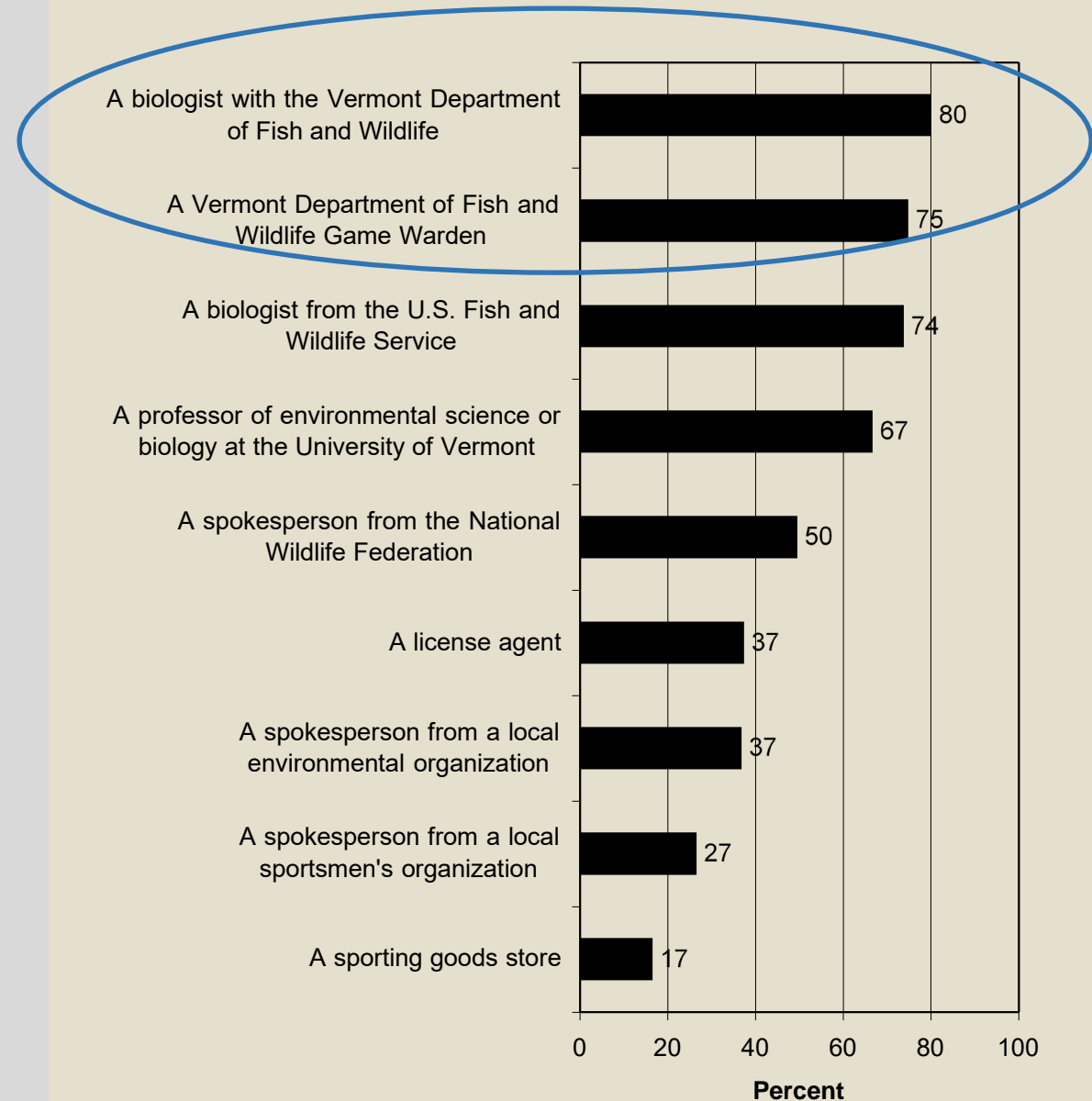
“Given that government is generally so negatively viewed the response to this survey is even more impressive”



## 2013: Credibility

- Department staff were the most credible source for wildlife information, according to the General Population (Residents)

Q105-113. Percent of respondents who indicated that each of the following sources would be a very credible source of information on fish and wildlife and outdoor recreation. (Residents)




**Finding 3:** VFWD's policy on trapping conforms to AFWA's work on Agency Transformation.

**“Although core constituencies like hunters and anglers will continue to be key allies, there is a need to broaden stakeholder representation to ensure fish and wildlife conservation remains relevant and supported by people from all walks of life.”** (Blue Ribbon Panel, 2016).



**“It is unfortunate that advocacy groups are transmogrifying principles developed by wildlife professionals designed to advance our profession in order to challenge accepted and legitimate wildlife management practices”.** Dr. John Organ



The Petitioners go on to suggest that wildlife management has been ‘captured’ by consumptive interest groups.

*“To safeguard the future of our country’s fish and wildlife, we must expand access and opportunities to bring the benefits of nature to all Americans.”* (Morris and Freudenthal, 2015). VFWD has been providing access and opportunities to the general public long before the AFWA Blue-Ribbon panel report.



# Vermont Fish & Wildlife Dept Leading on Landscape Conservation for Decades



- 2016, VT Conservation Design
- 2016, Resolution by the New England Governors & Eastern Canadian Premiers that sets a vision for landscape level conservation to address climate change adaptation for fish and wildlife
- 2013, BioFinder
- 2005, Wildlife Corridor Project
- 2000, VT Biodiversity Project
- 1991, Black Bear Range Map



# Vermont Fish & Wildlife Dept Leading Conservation & Land Use Planning

- 2016, Mapping VT's Natural Heritage
- 2005, Conserving VT's Natural Heritage
- Providing planning, mapping, and data analysis support to all 251 towns in Vermont
- Working closely with all VT Regional Planning Commissions
- Support the Association of Vermont Conservation Commissions
- Worked with VNRC to assess and evaluate all town and regional plans every 10 years since 2000.



## Mapping Vermont's Natural Heritage

*A Mapping and Conservation Guide for  
Municipal and Regional Planners in Vermont*



## Conserving Vermont's Natural Heritage

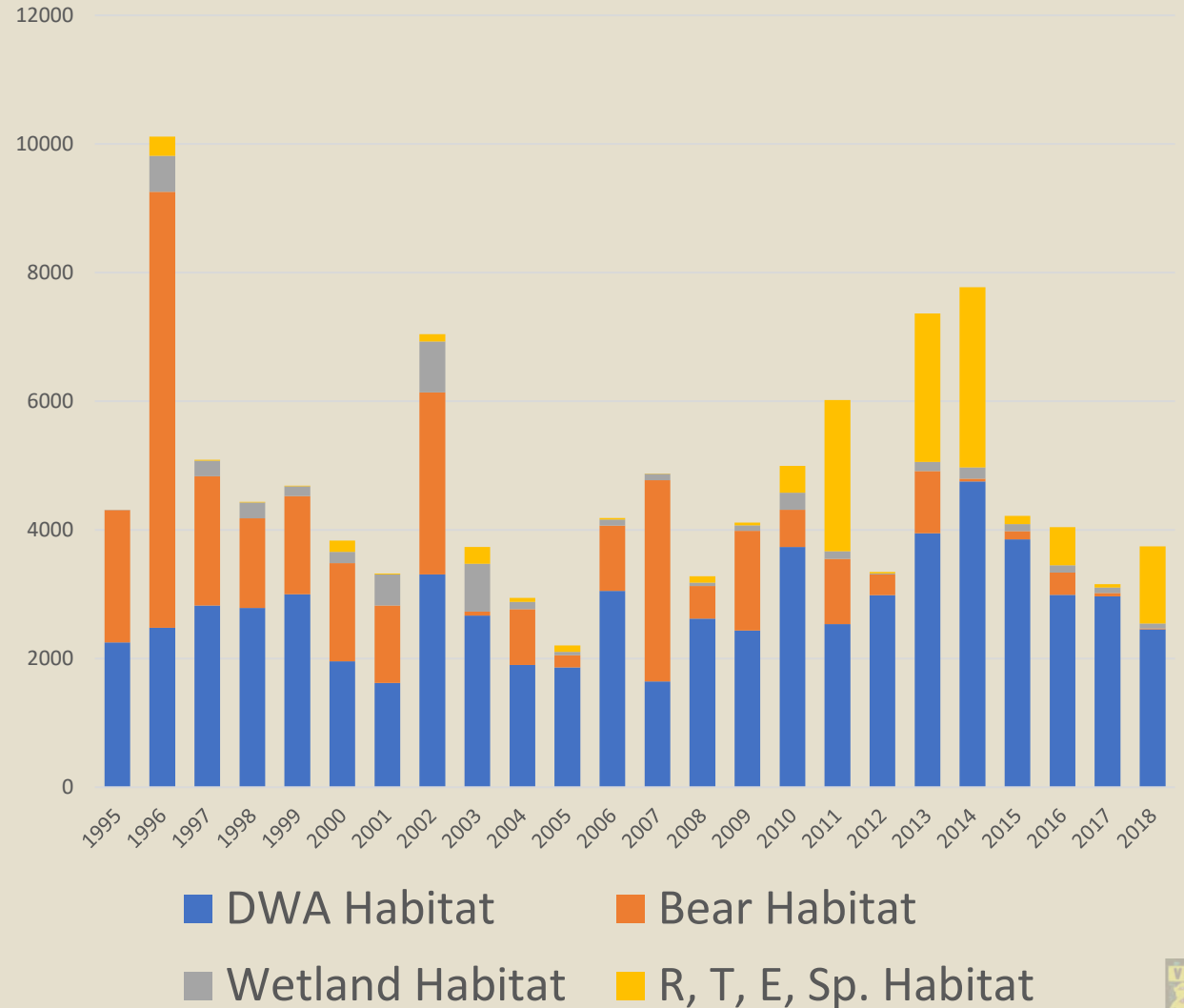
*A Guide to  
Community-Based Planning  
for the Conservation of  
Vermont's Fish, Wildlife,  
and Biological Diversity*





## VFWD: Protecting Habitat through Act 250, Section 248, Wetland Permits, FERC, and More

- Protected over 13,000 acres of necessary wildlife habitat between 1995 and 2018
- Reviewed 5,400 permit applications during that same time.
- Map & provide data on deer winter habitat, black bear habitat, significant natural communities and rare species to guide thoughtful development



# Land Conservation/Acquisition

- 100 WMAs throughout Vermont
- 135,000 Acres of Important Habitat and Public Access
- Celebrated 100 years of WMAs in 2021
- Wetland Conservation and Restoration Initiative (EPA Funds)
  - In three years, VFWD conserved 2,432 acres of land with 1,480 acres of restorable wetland





# Land Management

- Created Visitor Center at Dead Creek WMA
- Wildlife Viewing Areas at Dead Creek, Victory, Wenlock, Snake Mnt, Averill Mnt, and other WMAs
- 250 miles of roads to support public access and management
- 1000s of acres of habitat management and restoration



# Private Land Technical Assistance

FY2020:

- 3.5 staff members provide TA to private landowners
- Conducted 577 site visits
- 22 workshops, presentations, etc.

Partners include:

- Vermont Coverts
- VWA
- USFWS Partners for Wildlife
- Audubon Vermont
- NRCS
- FPR
- FWB



# Wildlife Diversity Program

Monitoring,  
managing, and  
conserving the  
nongame  
wildlife, native  
plants, and  
natural  
communities  
that comprise  
Vermont's  
natural heritage





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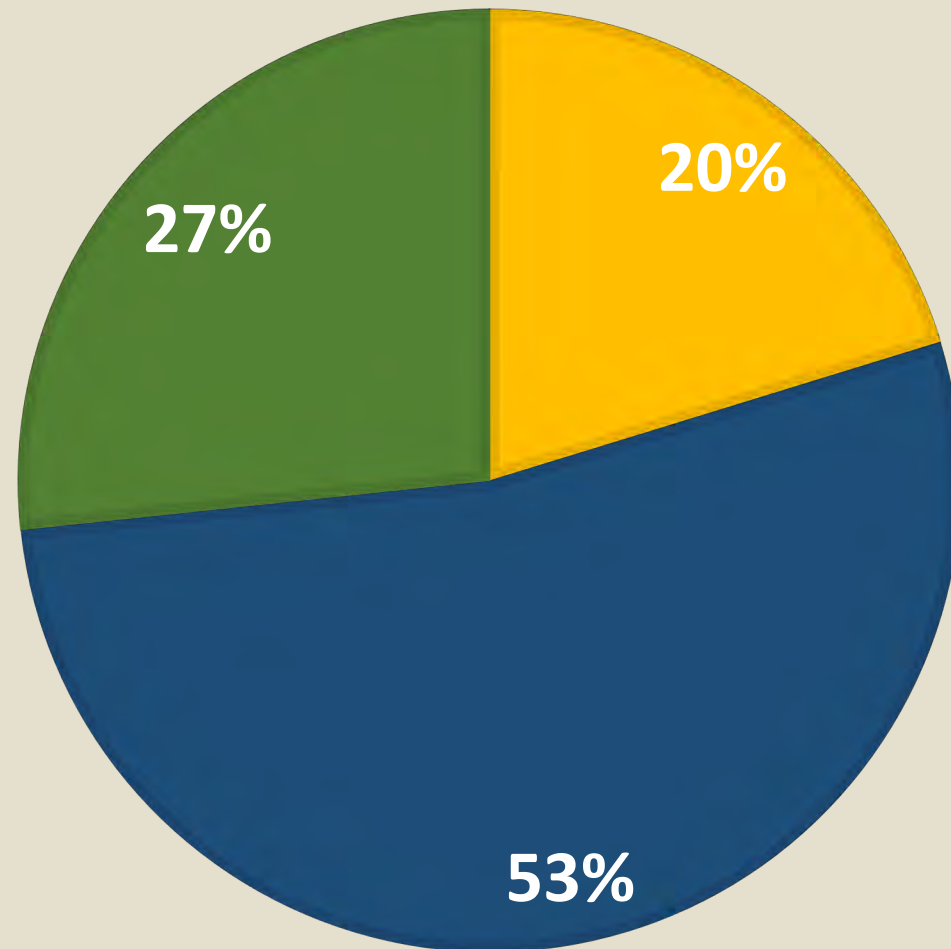
## **Outreach to all public's:**

- WMA Tours for general public
- Outreach to New Americans
- Outreach to indigenous tribal members
- Public presentations on all topics.
- Coverts trainings (private landowners)
- Teachers Course
- Camps



# WILDLIFE DIVISION BREAKDOWN OF ACTIVITIES

- Wildlife Diversity
- Land and Habitat Conservation
- Species Management



“Wildlife managers must avoid the temptation to use only the preferences of a limited group of stakeholders as the basis for decisions”





# Finding 4: Trapping is not at odds with the North American Model of Wildlife Conservation

- Wildlife is a Public Trust Resource: Author of the adjacent NAM technical review, Dr. John Organ, disagrees with petitioners.
- Markets for wildlife are eliminated: Today's legal fur market is highly regulated.
- Allocation of Wildlife is by law: Furbearers are managed to ensure that they continue to provide the critical ecological functions and values that are critical to healthy landscapes. Vermont also protects critical habitats through Act 250/248 which is not available to many states.

## The North American Model of Wildlife Conservation

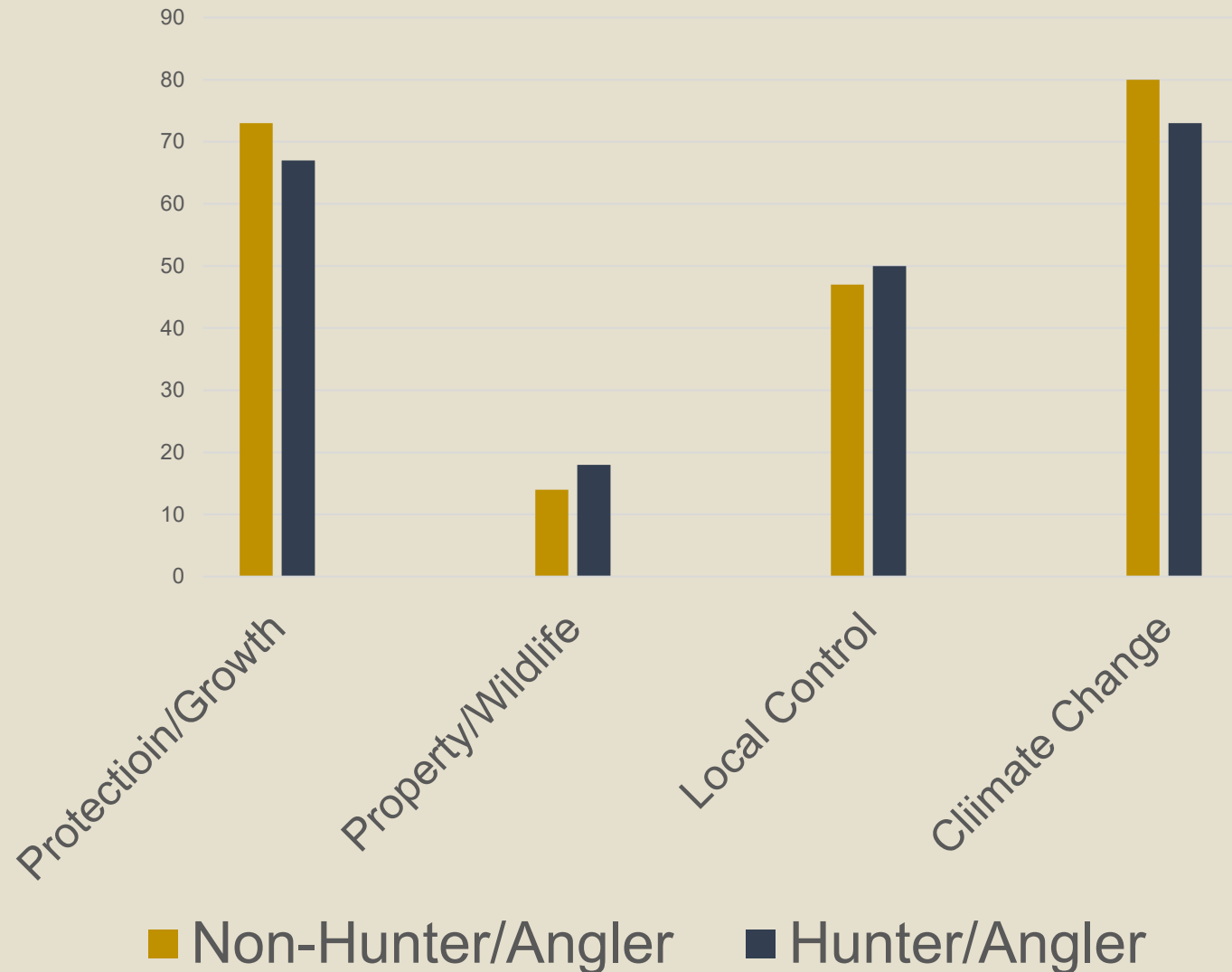


Technical Review 12-04  
December 2012

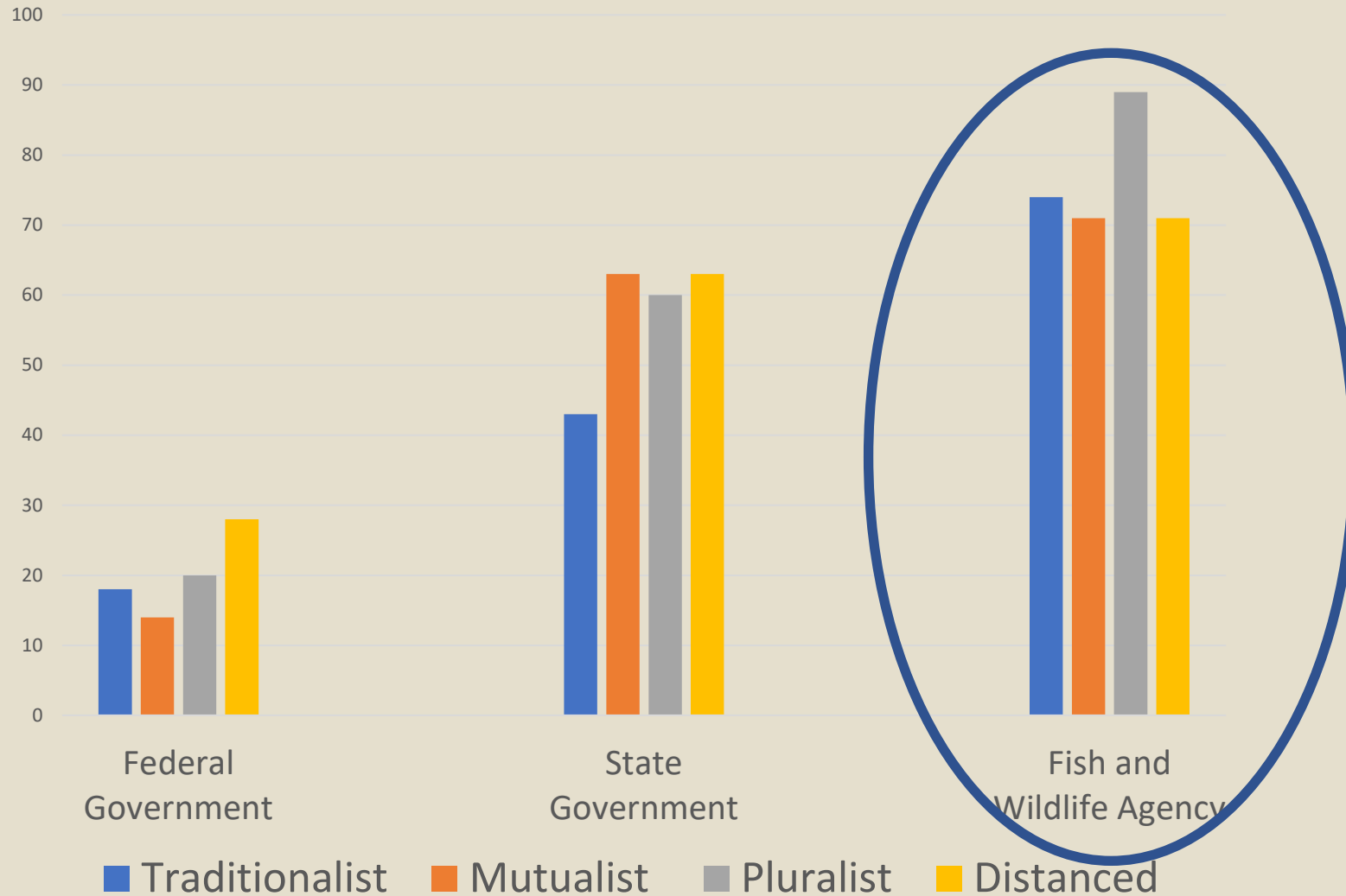


**Finding 5:** Public pushback against trapping in other states and jurisdictions does not justify the loss of trapping as a wildlife management tool, nor is it reflective of Vermont values.

Often those opposed to trapping exaggerate the opposition and polarization between those who utilize wildlife for food and clothing and those who don't.



# Public Support for the Vermont Fish and Wildlife Department



# Finding 6: Trapping is Highly Regulated

- 42 laws governing the harvest and sale of furbearers.
- Vermont has one of the longest running biological databases for bobcat, fisher, and otter.
- CPUE trend data collected since 1987.
- Mandatory fur dealer reports.
- Camera surveys to detect rare furbearers.
- Number of domestic animals trapped and taken to a vet = ~6/year in 314,500 trap nights.





# Finding 6: Animal Welfare—The Development of Best Management Practices

- ❑ Testing standards established by Canada, Russia and the EU.
- ❑ **Highest animal welfare standards for the harvest of any wildlife species --in accordance with the International Organization for Standardization (ISO)**
- ❑ Over 600 commercial trapping systems were tested for 23 furbearers with the cooperation of 1,000 trappers, wildlife technicians, and state agency biologists.
- ❑ Postmortem examinations were completed by veterinarians on 8,566 furbearers.
- ❑ In 230,000 trap nights over 21 years, no T&E species were captured. No domestic animals 99.95% of the time.
- ❑ AVMA encourages this research and refers to AFWA's BMP's on their website.

Then



Now



# Vermont has been active in the BMP Effort



## Vermont Furbearer Management Newsletter

FALL 2020 VOLUME 17 ISSUE 1

### Trapper's Daily Log

The newly published Trapper's Daily Logs have been well received by new and seasoned trappers alike. To date, with the help of the Vermont Trappers Association and Vermont State Game Wardens, the Vermont Fish & Wildlife Department (VFW/D) Furbearer Team has given away more than 400 of the Daily Logs. The tear-out Trapper Report Form included in the log makes it easy to send in the mandatory report at the end of the season.



The Trapper's Daily Log includes trapping season dates for each species, plenty of pages to keep daily records of sets, locations, and fur caught, a place to record expenses and supplies, a season summary page, and landowner permission forms. We have included "Key Messages on Trapping" to help you communicate the role of regulated trapping

*(continued on page 3)*

### Best Management Practices for Trapping Update



Many of you are already familiar with the Best Management Practices (BMPs) trap testing history, the purpose of which was to scientifically evaluate traps and trapping systems for animal welfare, selectivity, practicability, efficiency and safety. Vermont trappers and field observers were integral in testing several of the currently listed traps. As a result, there are now 600 commercially available trap designs that were created to humanely capture wildlife for harvest, restoration, and damage work. These have all passed the International Association of Worldwide Standards (ISO) for welfare, efficiency, and safety, and have also proved to be highly selective.

**It is important to remember that the public (and trappers) care deeply about wildlife and do not take the killing of animals lightly. It is, therefore, essential that trappers voluntarily adopt practices, including the use of BMP traps, that demonstrate their commitment to adhering to the highest standards of welfare and selectivity available.** The American Veterinary Medical Association (AVMA), the Association of Wildlife Veterinarians, The Wildlife Society and the Association of Fish and Wildlife Agencies all recommend the use of BMP traps.

The following are some of the important findings of the Association of Fish and Wildlife Agencies BMP research:

- ❖ During this national research effort, different trap designs were set over a quarter of a million times by trappers in the field to capture legal furbearers. Each trapper was accompanied by an independent technician/data recorder.

*(continued on page 12)*

### Inside This Issue

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Your Furbearer Management Project Staff ...	11

A majority of Vermont trappers (74%) have knowledge of and/or are using BMP systems—among the highest in the nation



# Finding 6: Trapping is an important tool for Conservation

- Recovery of American marten
- Protection of endangered species
- Research
- Human/Wildlife Conflicts
- Monitoring of Furbearer Populations



# Finding 7: The role of trapping in *mitigating* density dependent diseases.

Disease control ?



“reducing **local** densities of furbearer populations through harvests can reduce disease transmission and the potential for human contact”. Trapping and Furbearer Management Booklet, pg 27



Disease Surveillance

“Much of what we have and can learn about wildlife health and disease....come from tissue samples from harvested [animals]. ..without access to these tissues, wildlife, domesticated animal, and human health could be less well protected.” (D. David Needle, pathologist, UNH laboratory, 2021



## Finding 8: Trapping is an important tool to reduce human-wildlife conflicts

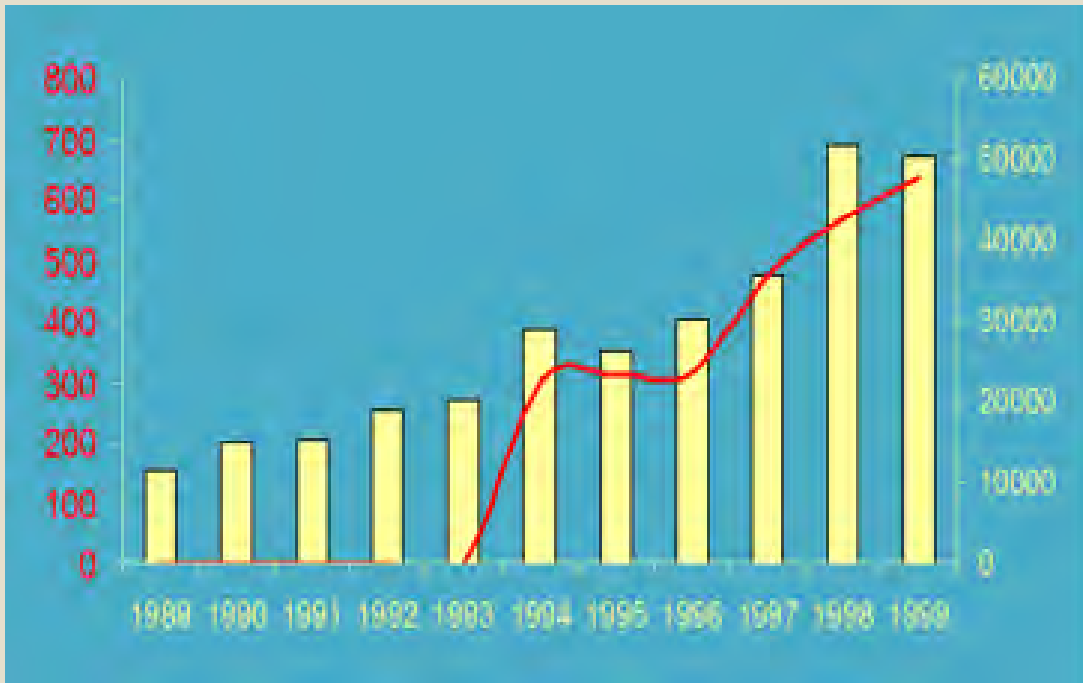
“Whether avocational trapping plays a role in either the short-or longer-term reduction of various human-wildlife conflicts involving furbearers depends on many factors that vary temporally and spatially including fluctuating pelt prices, number of active trappers, land access, and the type of conflict. Hence, broad generalizations about the effectiveness of avocational trapping at reducing human-wildlife conflicts are unwise. There are, however, sound arguments as to why avocational trapping can and does at times benefit management (Conover 2001), and strong correlative examples of extensive trapping restrictions leading to increased human-wildlife conflicts.” (White 2020)

# The Massachusetts Experience

Population

Complaints

Ques. 1  
1996



## Results:

- Increased costs to towns=\$4,000-\$21,000/year in several towns.
- More beaver are trapped today in body gripping traps than by the legal cage traps, often outside the regular trapping season when they are wasted.
- Public attitudes around beaver and the wetlands they create have gone from that of valued resource to “pest”.
- Wetland habitats are destroyed



**Finding 8:** Trapping is an important tool to reduce human/wildlife conflicts

VFWD has been recommending and implementing non-lethal control techniques for over 20 years:

- Beaver baffles/fences for flooding problems
- Husbandry techniques for livestock protection from coyotes and bears.
- Exclusion fencing for raccoons, skunks, etc.

**However.....**

## Finding 8: Trapping is an important tool to reduce human-wildlife conflicts

*“Avocational trappers (or trapping in general) need not have population-level effects on a species, or demonstration thereof, to justify their potential role or value in reducing localized damage and conflicts.”*  
(White 2020)





# Finding 9: Trapping plays a multi-dimensional role in Wildlife Management

## It Does....

**However, we do not need to justify regulated trapping only based on its role in wildlife management. It is a right and a privilege, as long as it is ecologically sound, sustainable, and leaves room for enjoyment by other publics.**

“...hunter-gathers live in the forest, agriculturalists live adjacent to but within striking distance of the forest, and urban-industrial men live away from the forest. Paradoxically, the more the spatial separation from the forest, the greater the impact on its ecology, and the further removed the actors from the consequences of the impact.” M.Gadgil & Guba, cited in *Earth in Mind*, David W. Orr, 1994



Finding 10: Predators are critical to ecosystem health.



Deer and moose evolved under predatory pressure from wolves, mountain lions, black bears, and humans





# What we conserve



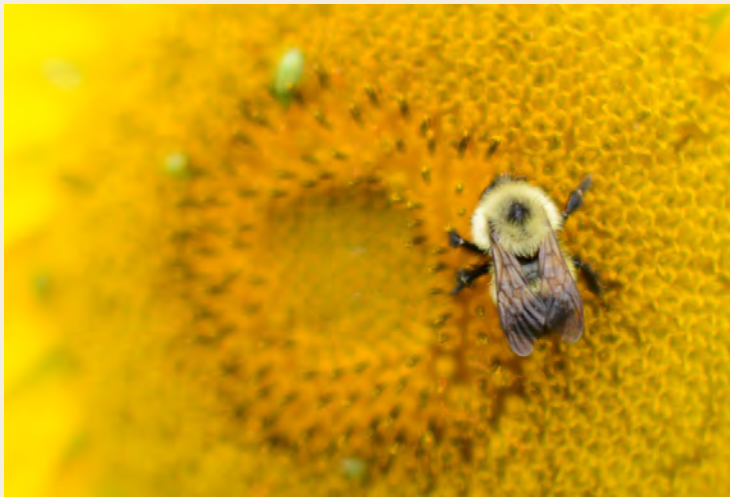
Natural communities



Fish



Habitat



Invertebrates



Wildlife

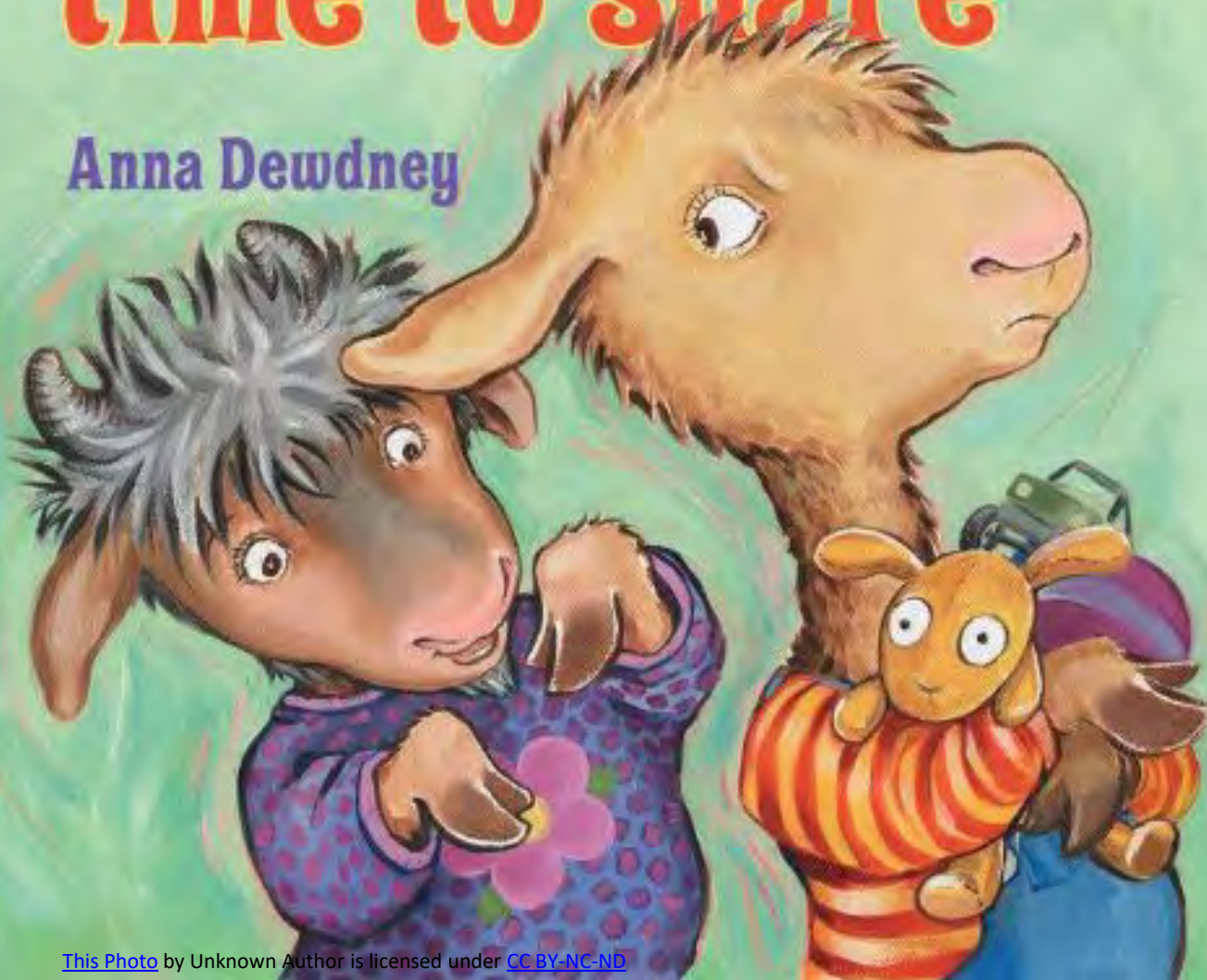


Plants



# llama llama time to share

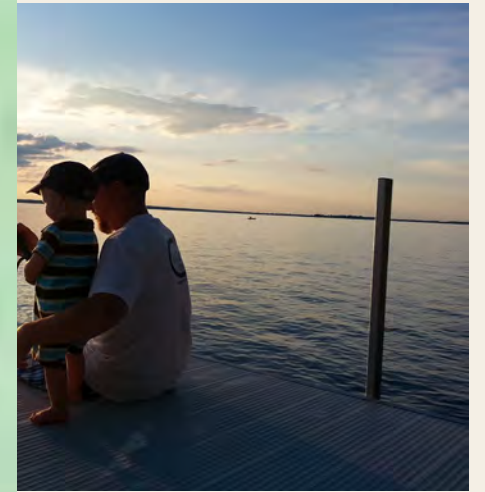
Anna Dewdney



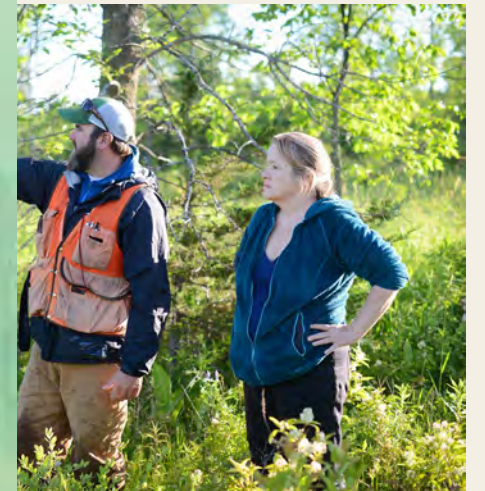
Wildlife watchers



Hunters and trappers



Anglers



Landowners

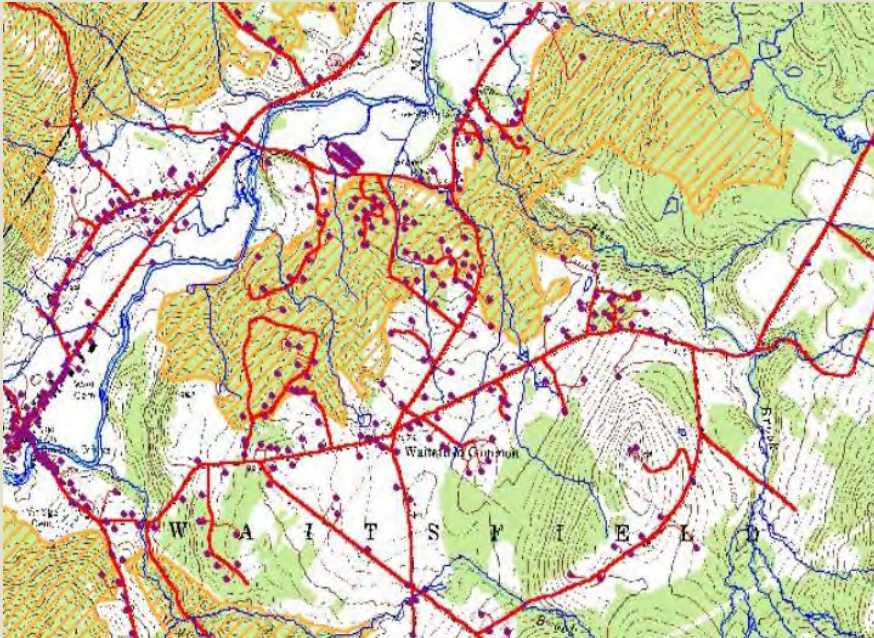


# Current Threats to Wildlife

- Habitat Loss/Fragmentation
- Impacts related to roads
- Climate Change
- Invasive exotic species
- Pollution and sedimentation
- Diseases







## Habitat is the Key

To mitigating climate change, minimizing fragmentation of large forest blocks, and maintain sustainable wildlife populations.



# A Land Ethic

---

“There were once men capable of inhabiting a river [or land] without disrupting the harmony of its life.” Aldo Leopold, Sand County Almanac, 1966



# The End—Petition One



**VERMONT**

respect. protect. enjoy.



# 2021 Otter Petition: Shorten the otter season to the end of February



# Species of Greatest Conservation Need

Species of Greatest  
Conservation Need

≠

Threatened and  
Endangered





# Species of Greatest Conservation Need

Field sparrow



Northern water snake



Ruffed grouse



Snowshoe hare



Brook trout



Black bear



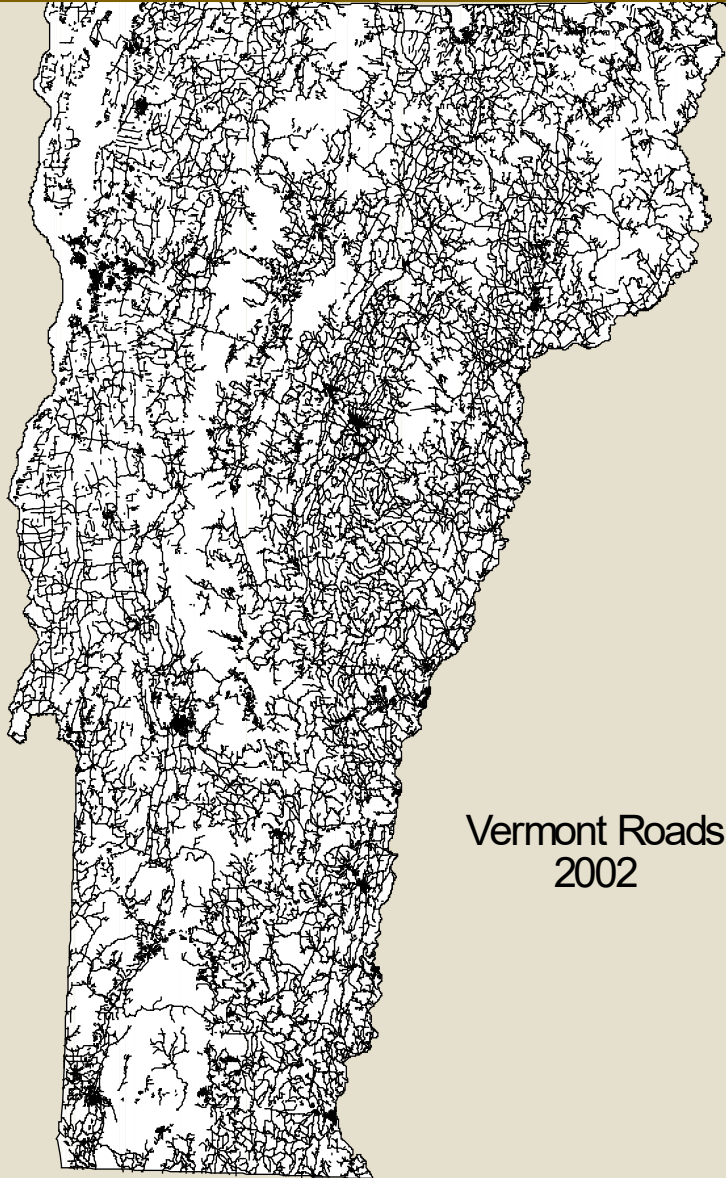


# Premise of Original Season Expansion

- Eliminate the off-set trigger on beaver traps.
- Allow utilization of otter caught in beaver sets.
- Minimize the harvest of otter in late spring and summer.



# Why not just shorten beaver season to match otter season?



Vermont Roads  
2002



**North Lake Bridge**  
**5-2-10**  
**Beaver Dam**

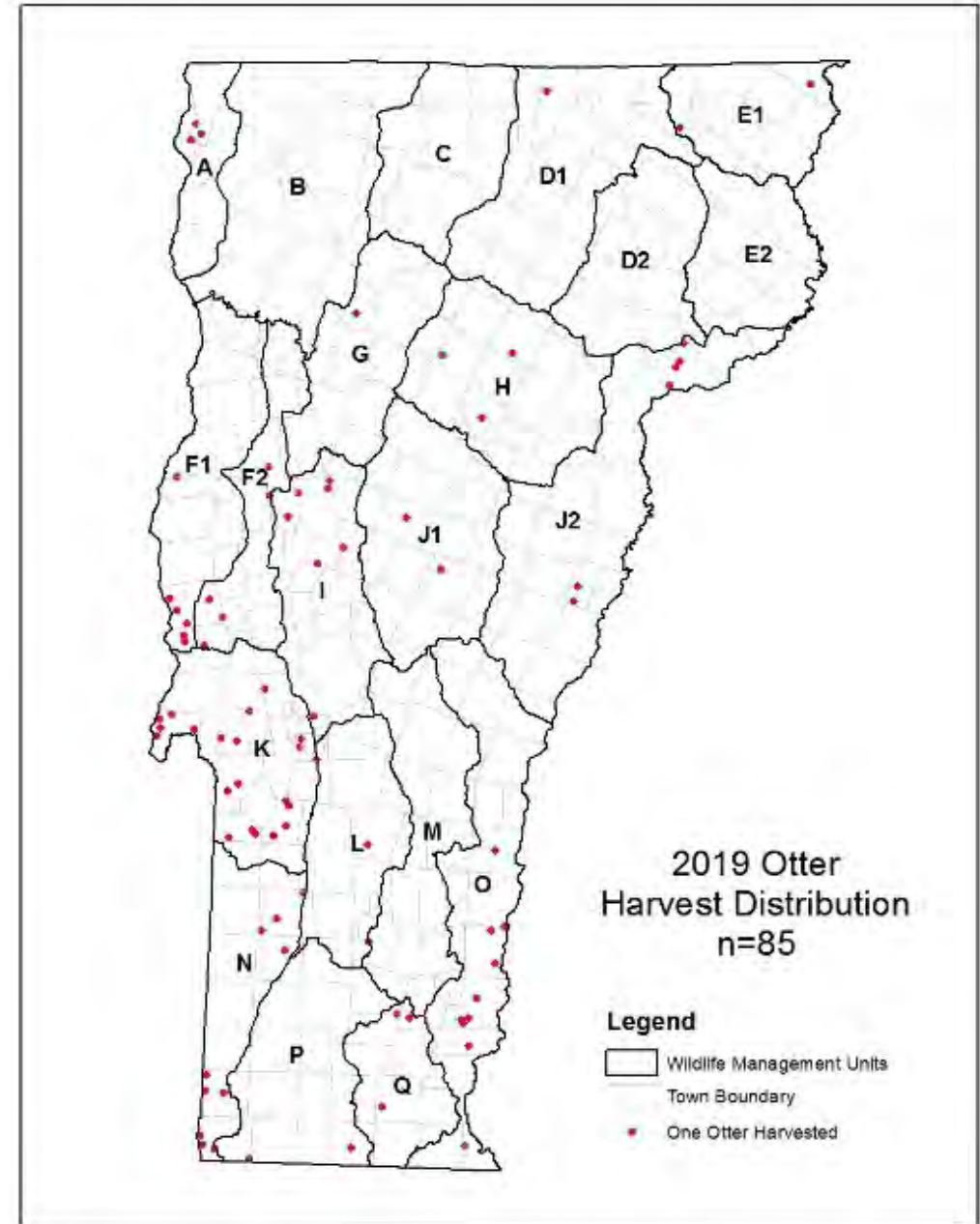
## But, does our current data support this change?

- We review biological data on an annual basis from the mandatory collection of harvested otter;
- Since 2017 we have an average of 42 successful otter trappers annually;
- Average annual harvest/trapper = 2.1
- At the highest harvest, only 1 otter are taken/94 mi<sup>2</sup> (60,160 acres or 3 towns) annually;
- Trapper Mail Survey began in 1987; mandatory since 2016 rule change.

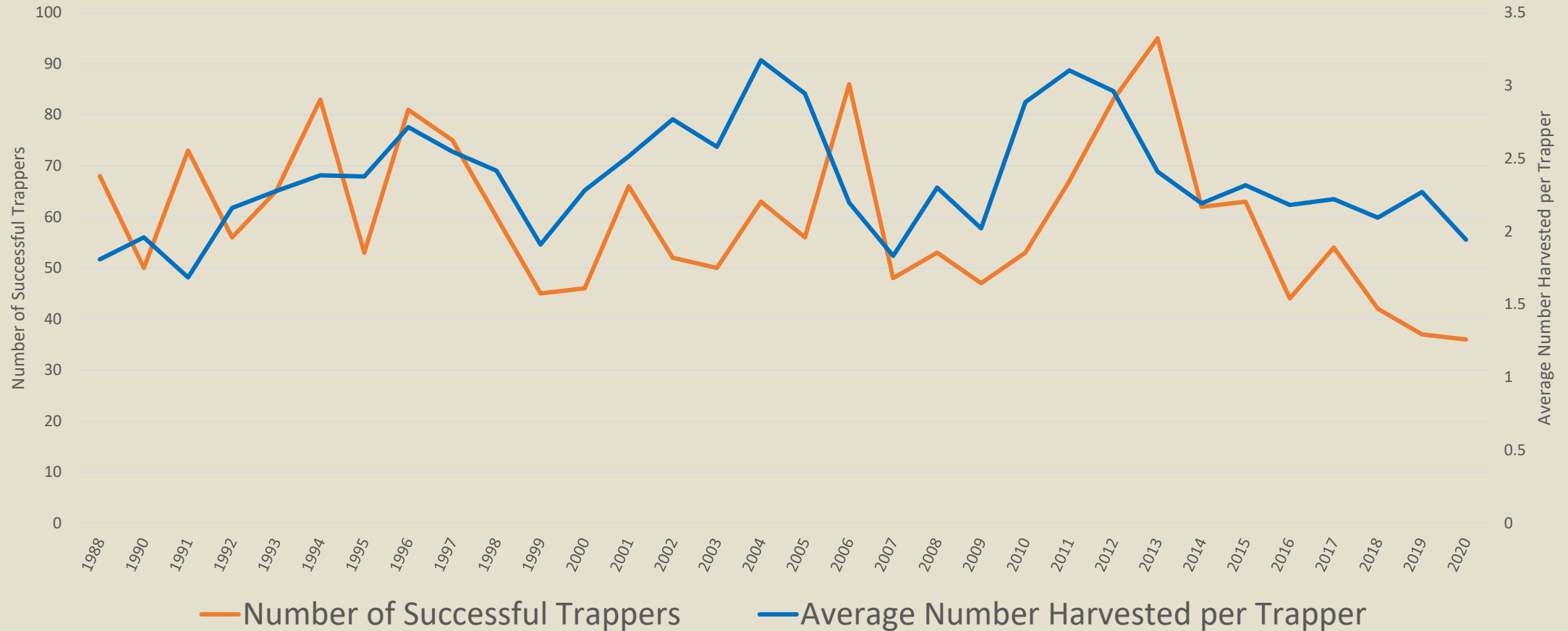


# Distribution of 2019 Otter Harvest

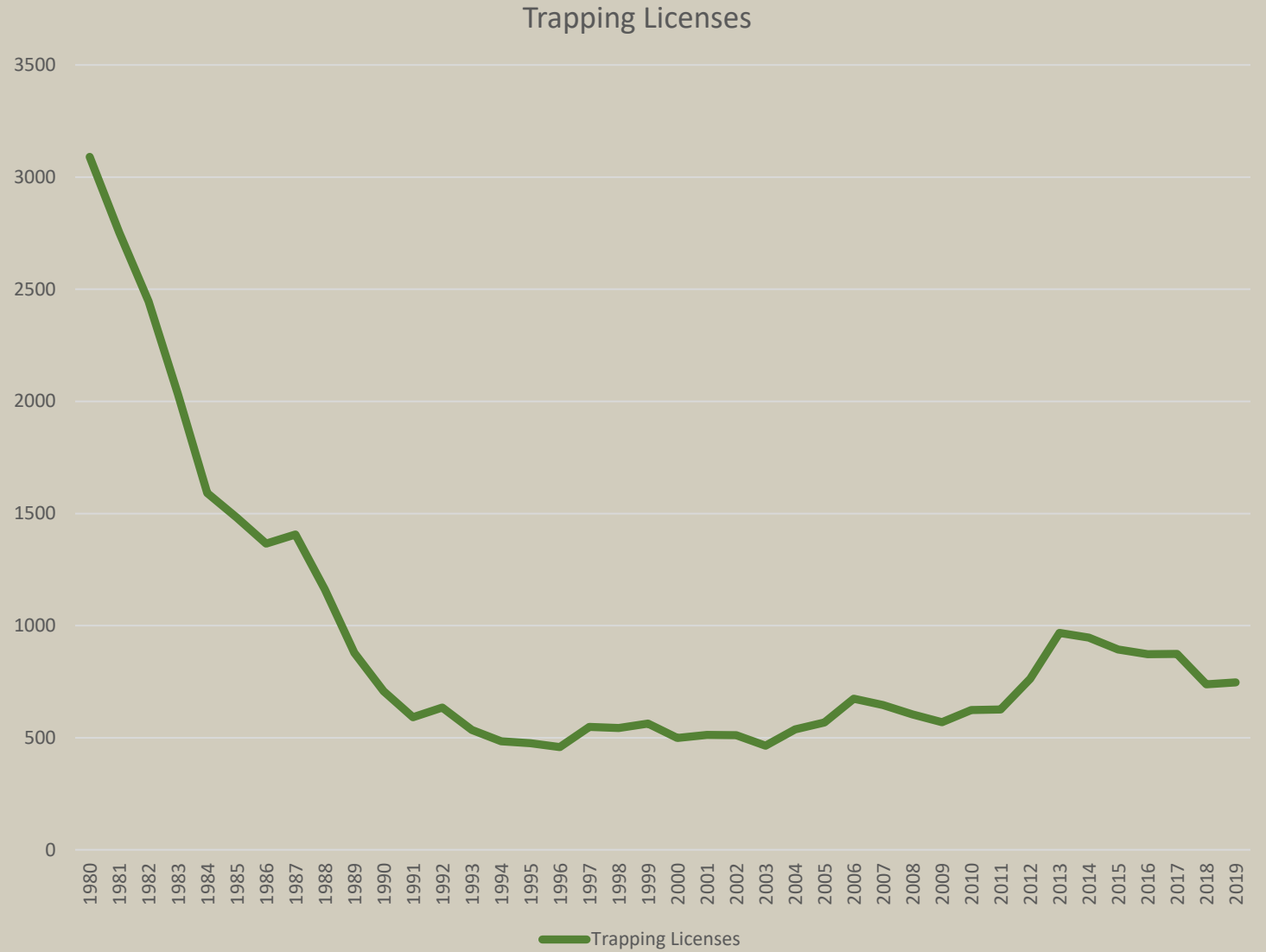
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# Number of Successful Otter Trappers and the Average Number of Otter Harvested per Trapper

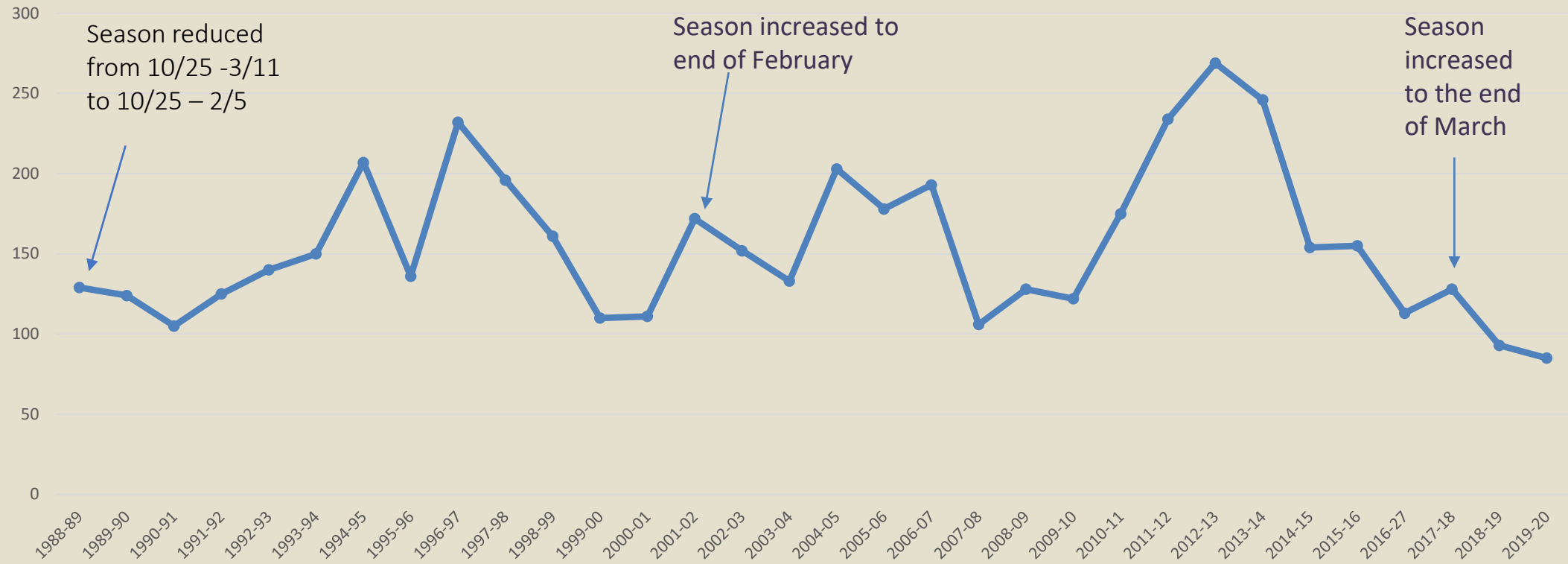


# Trapping License Sales 1988-2019

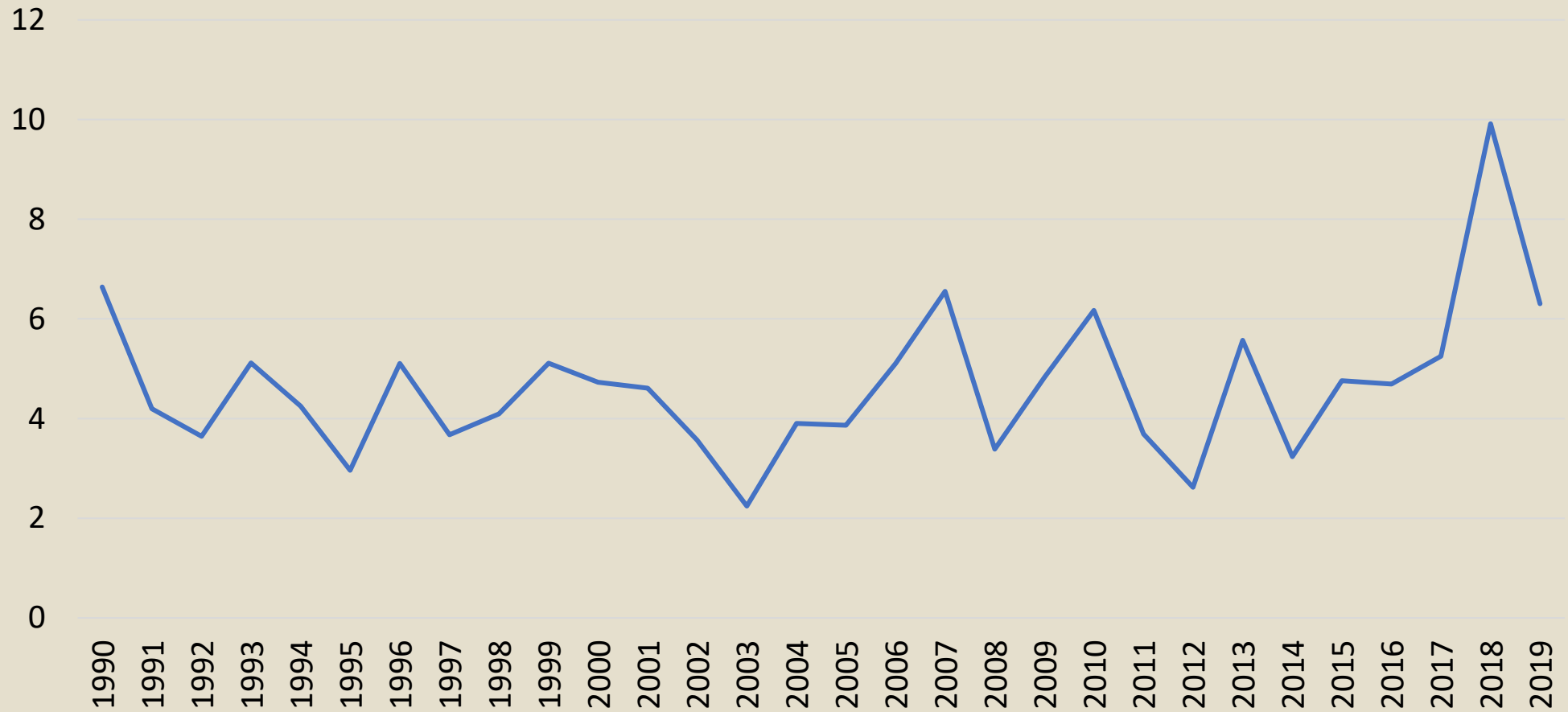




# Otter Harvest 1988-2019

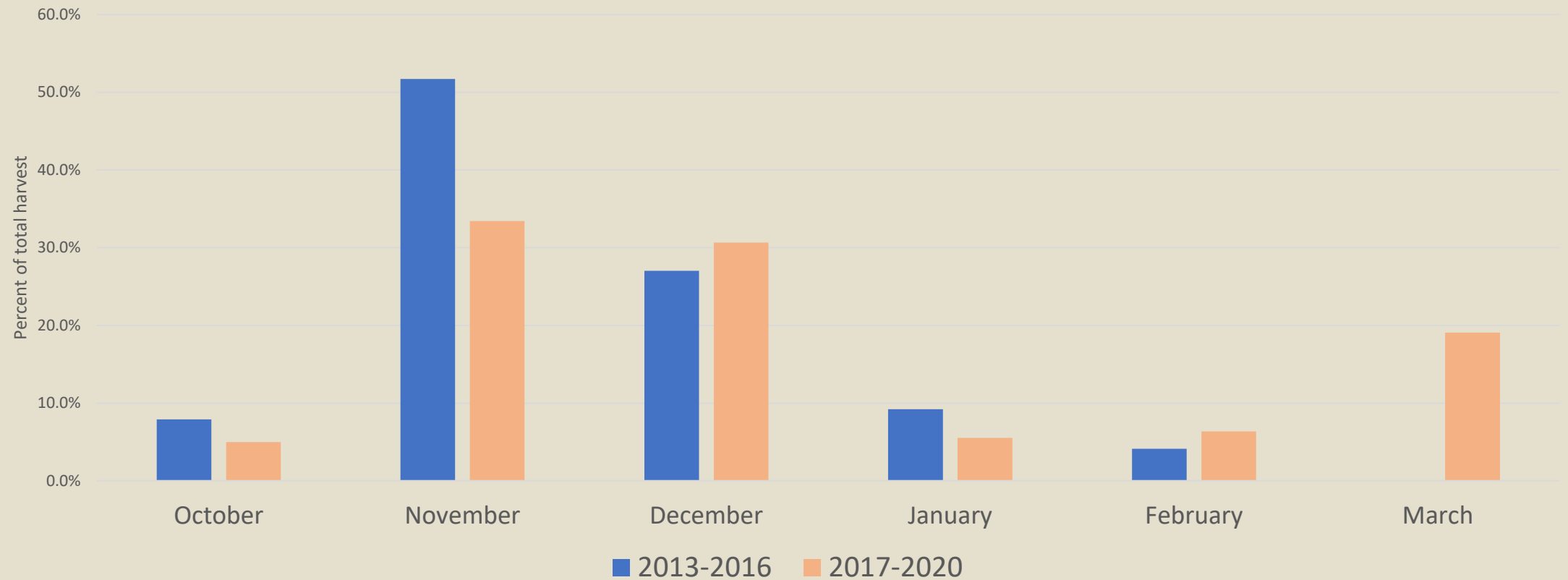


# Otter Catch per 100 Trap Nights



# Annual Harvest Trends

Percent Otter Harvest Per Month

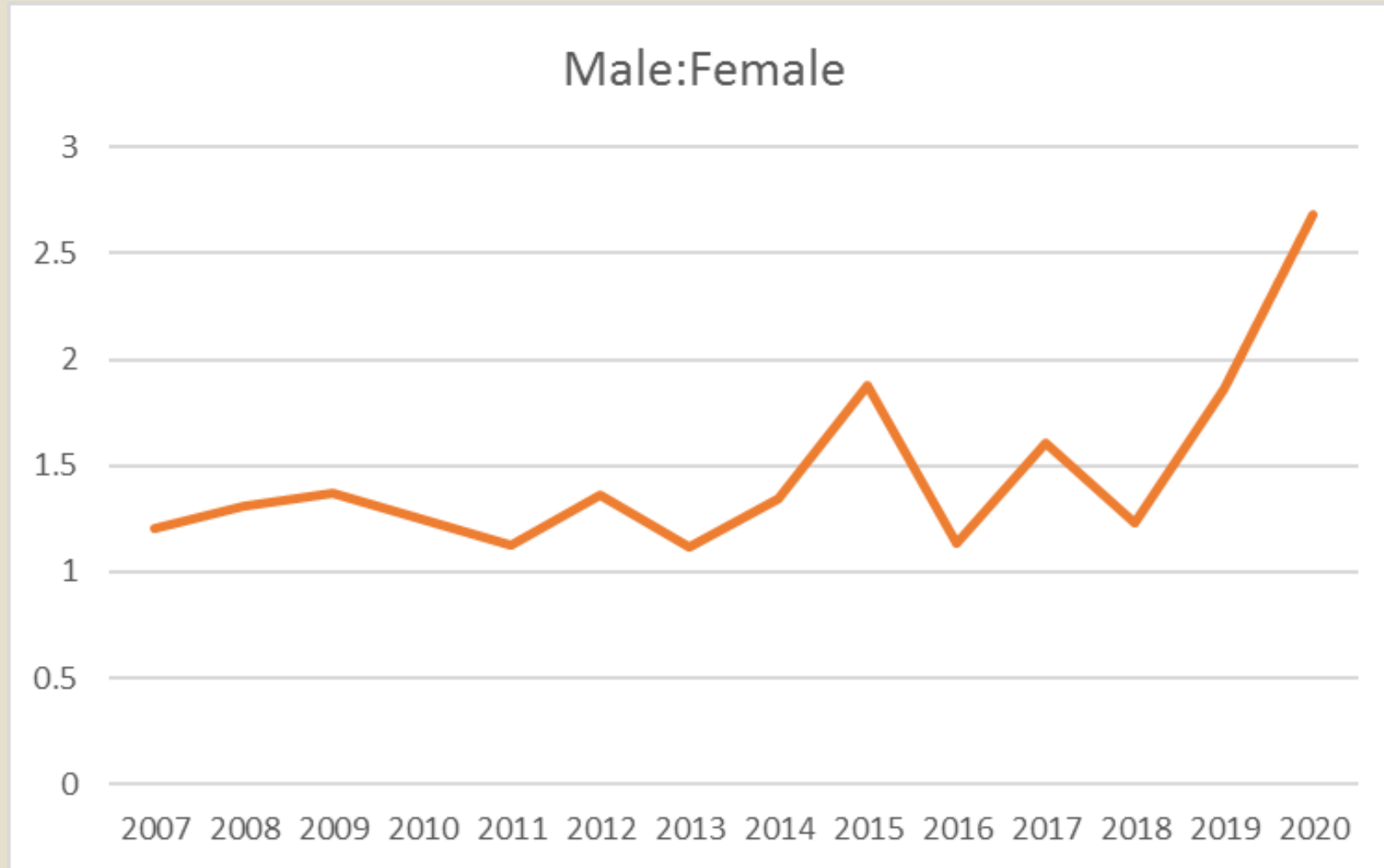




# Otter Harvest in March

	2017/18		2018/19		2019/20	
Age	Female	Male	Female	Male	Female	Male
0	4	0	0	0	1	
1	2	2	2	3	1	3
2	1	4	0	1		
3	1	1	0	0		
4	0	1	0	1		1
5+	0	2	1	3	1	
Unknowm		1			4	9
<b>Total</b>	<b>8</b>	<b>11</b>	<b>3</b>	<b>8</b>	<b>7</b>	<b>13</b>
% targeting beaver	53% (10)		27% (3)		75% (15)	

# Otter Male to Female Ratio





# Summary

- Number of trappers taking otter is low (average 42).
- Average number of otter taken per successful trappers is 2.1
- Many miles of the states 7,100 miles of waterways are not accessed by tappers in any one year.
- Since the season expansion, total season harvest is lower than average (192 between 2010 and 2016 and 109 between 2017 and 2020).
- There has been a shift in effort to later in the season which appears to have resulted in an increasing trend in males in the harvest.
- The number of females of breeding age taken in March is very low (1-2/year).



Vermont's River Otter population appears to be healthy, stable, and widespread.



This Photo by Unknown Author is licensed under [CC BY-SA-NC](#)



2021 Petition to  
ban fisher  
trapping due to  
concerns related  
to rodenticides



This Photo by Unknown Author is licensed under [CC BY-SA](#)



# Sampling for Diseases and Toxins in Fisher

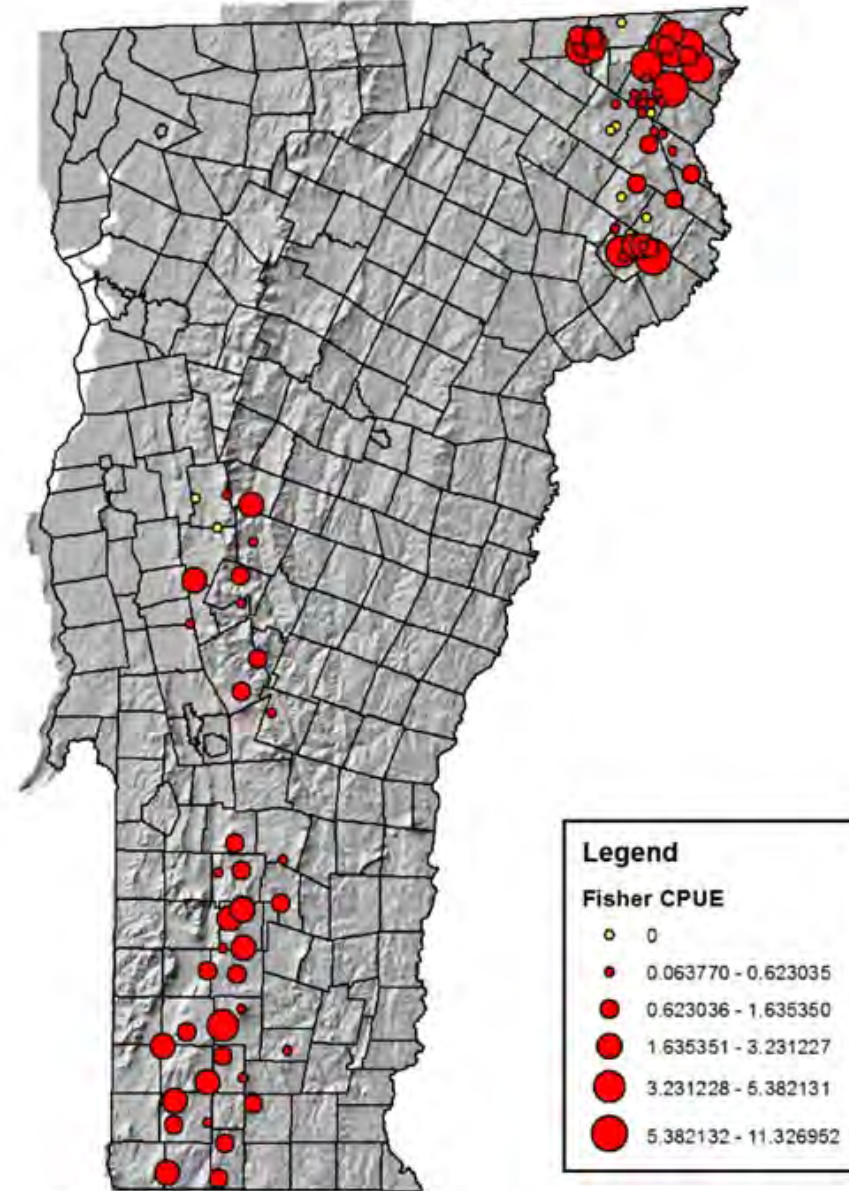
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- Currently testing fisher carcasses for rodenticides (60 samples to date)
- AR's detected across the state with no clear pattern.
- Also have tested fisher for CWD



Fisher Catch  
per 100  
Camera Trap  
Nights

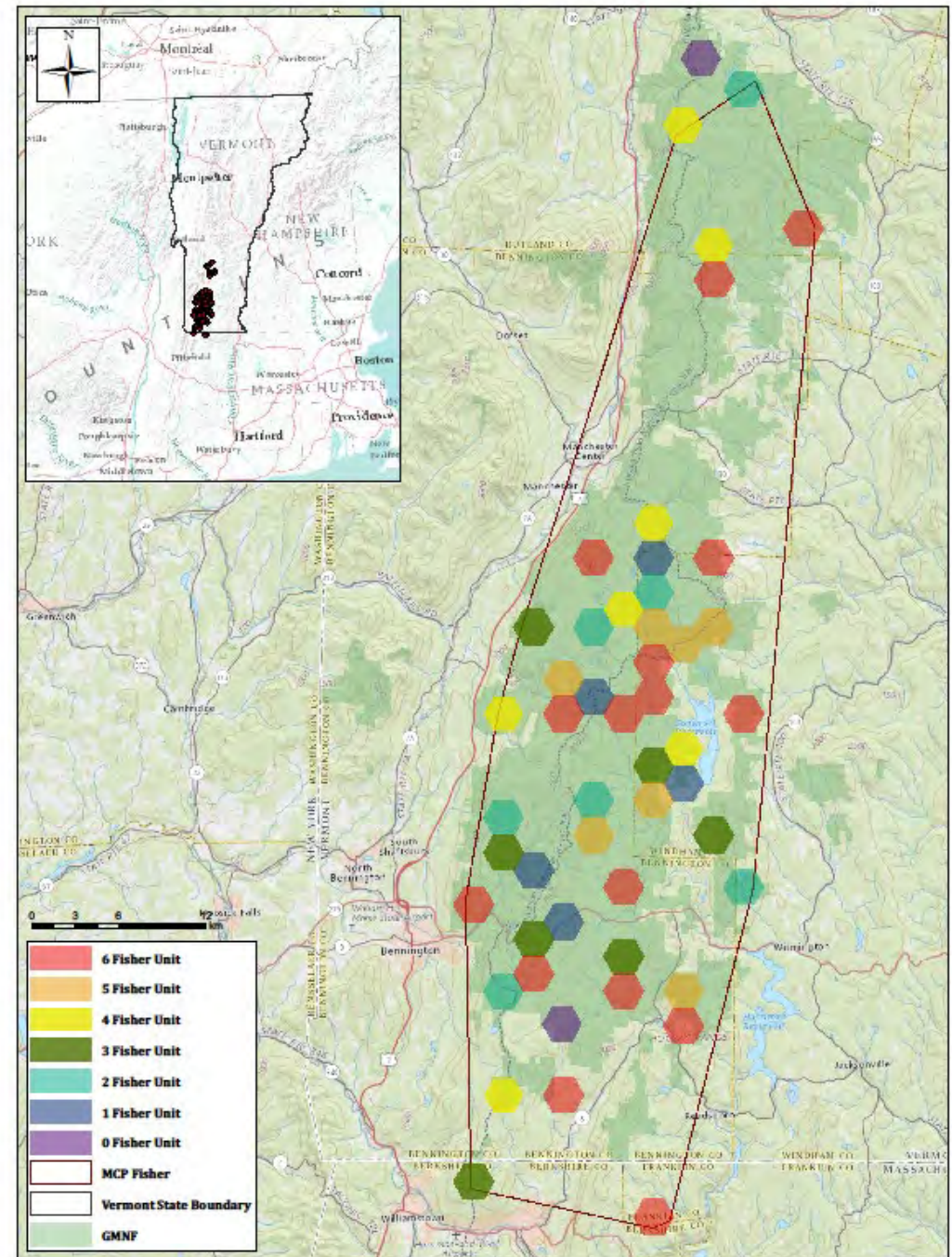
Fisher CPUE  
Independent Detections Per 100 Trap Nights  
2014 - 2019





Marten Survey Units in the southern unit of the GMNF that had one or more fisher identified (2016-2021).

In 49 out of 51 sampled units, at least one fisher was detected. More than half had 4 or more detections.





# 2021 Fisher Petition: Moratorium on fisher trapping



# Vermont Fish and Wildlife mission



Conservation of fish, wildlife, plants and their habitats for the people of Vermont



# Petition

“VTFWD has not taken management action to maintain a sustainable fisher population, one that is similar to that inferred from the CPUE in 1990-2004”

*Fisher petition*

## CPUE is not population

- Catch per unit of effort (CPUE) = one index
- Also indices: sex & age; sightings; roadkill; surveys



# Example scenario.....

- ~80% forest over 9,623 mi<sup>2</sup> = 1539 count points
- Camera + SD card = \$280, 000
- Staff labor costs = \$154, 000
- Gas/mileage = \$2065
- \$ 436, 065 field cost + ~\$3600 data hosting + ~\$75 000 analysis

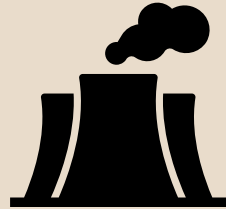
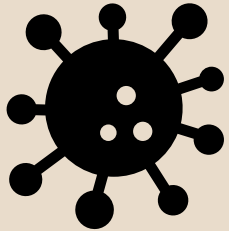
**TOTAL = \$514, 665**

**STILL NOT DIRECTLY COUNTING AND ONLY SNAPSHOT!**

# Petition

“this analysis of the fisher population presents evidence that supports a decision that the season for fisher should be closed” *Fisher petition*

One index  $\neq$  whole picture



# Petition

“CPUE data calculated using the VTFWD method and the traditional method....provides little help in evaluating any trends in the monitored population” *Fisher petition*

## Not valid statistical analysis

1. Doesn't account for 0's
2. Not at the sample level (i.e. trap line)

*“we calculate CPUE as an average of each individual trapper CPUE's, not the total caught divided by total trap nights...calculating CPUE in the way you described...would increase the chance that you overlook some factor that is driving a change in CPUE because your don't have a complete picture...(because your CPUE is not completely reflecting those 0 values), and statistically it's a more accurate way of monitoring CPUE because your sample unit is the trapline...Please feel free to connect me with your biostatistician colleague, I would be happy to have more in depth discussion.”*

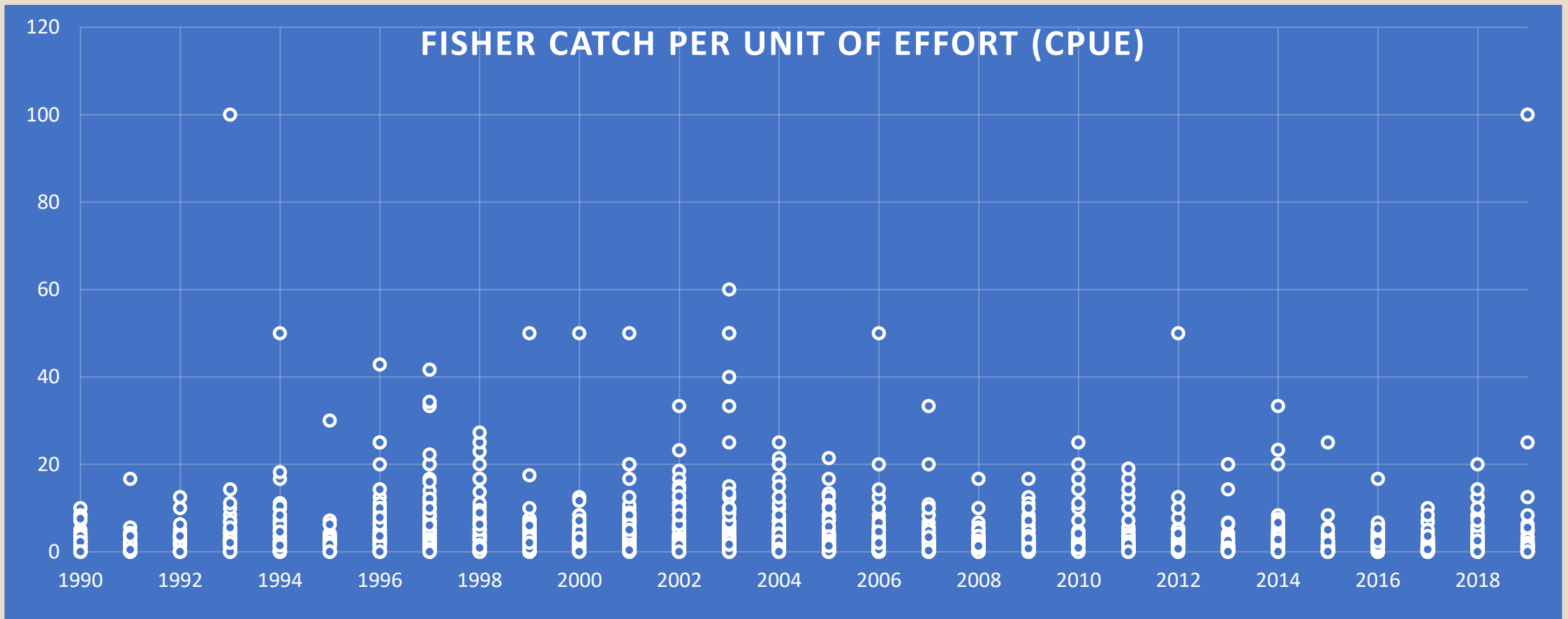
*Feb. 4 2021, Katherina Gieder*



# Petition

“VT method introduces substantial variability” *Fisher petition*

Data is and should be variable



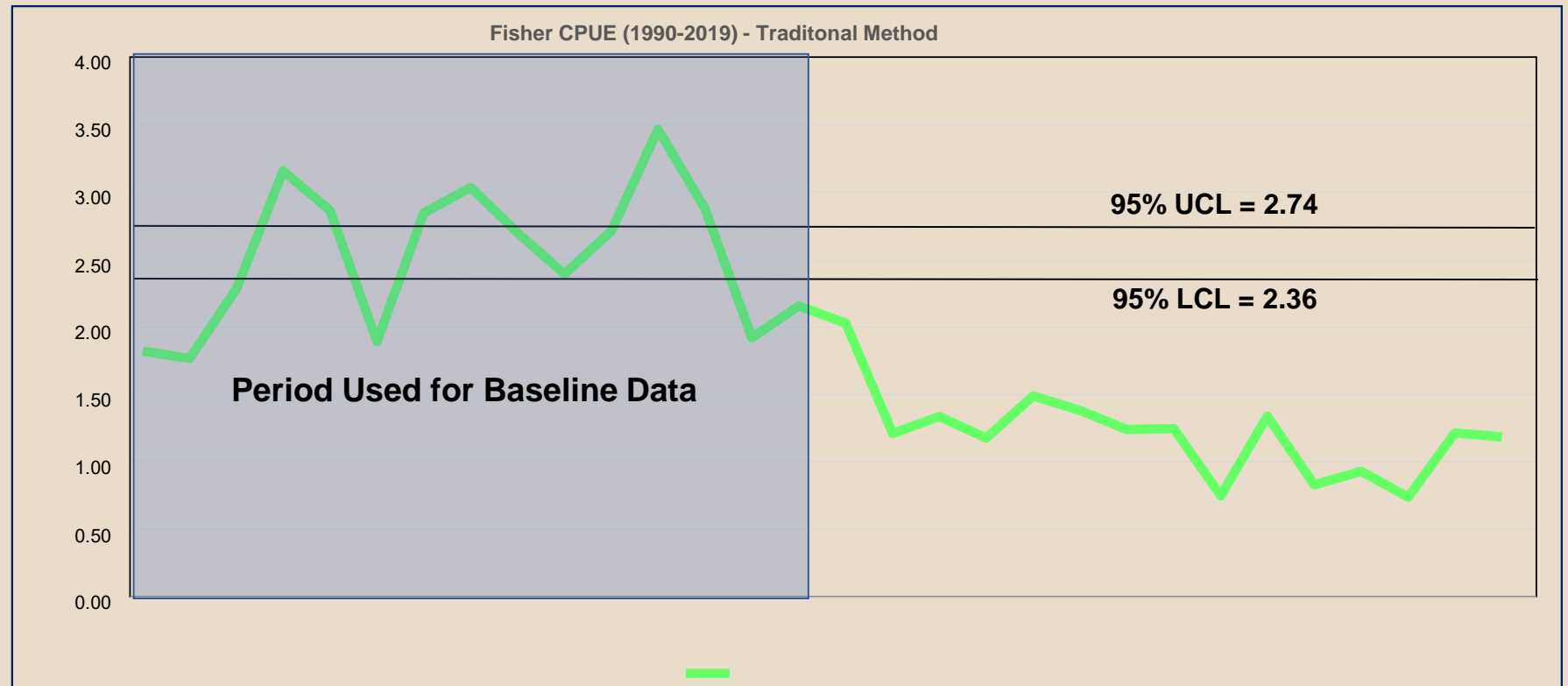
# Petition

“statistical comparison that documents that the fisher harvest since 2003 has been significantly below the lower 95% confidence limit of the mean harvest from 1990-2004” *Fisher petition*

**FALSE**

**1990-2004  
mean harvest = 224**

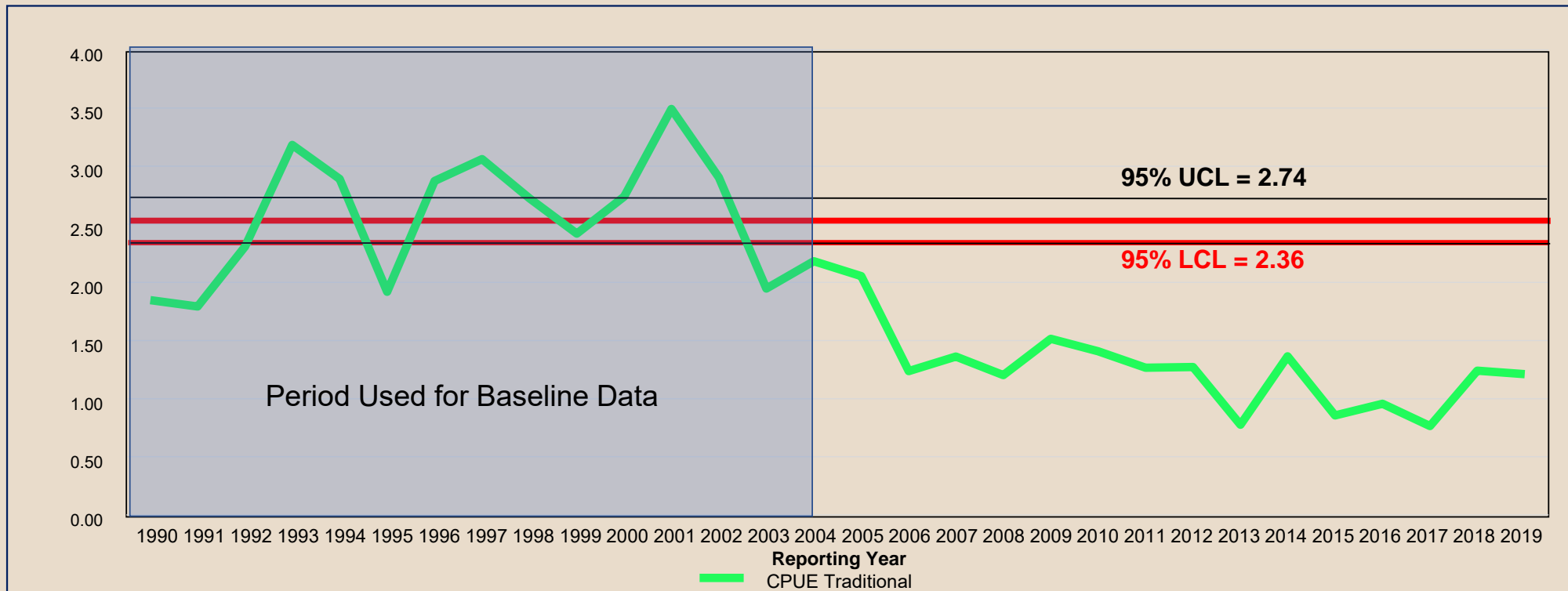
**2005-2019  
mean harvest = 221**



# Petition

“CPUE dropped below the lower 95% confidence limit (LCL) or almost 2 standard errors below the mean of the baseline period” *Fisher petition*

FALSE

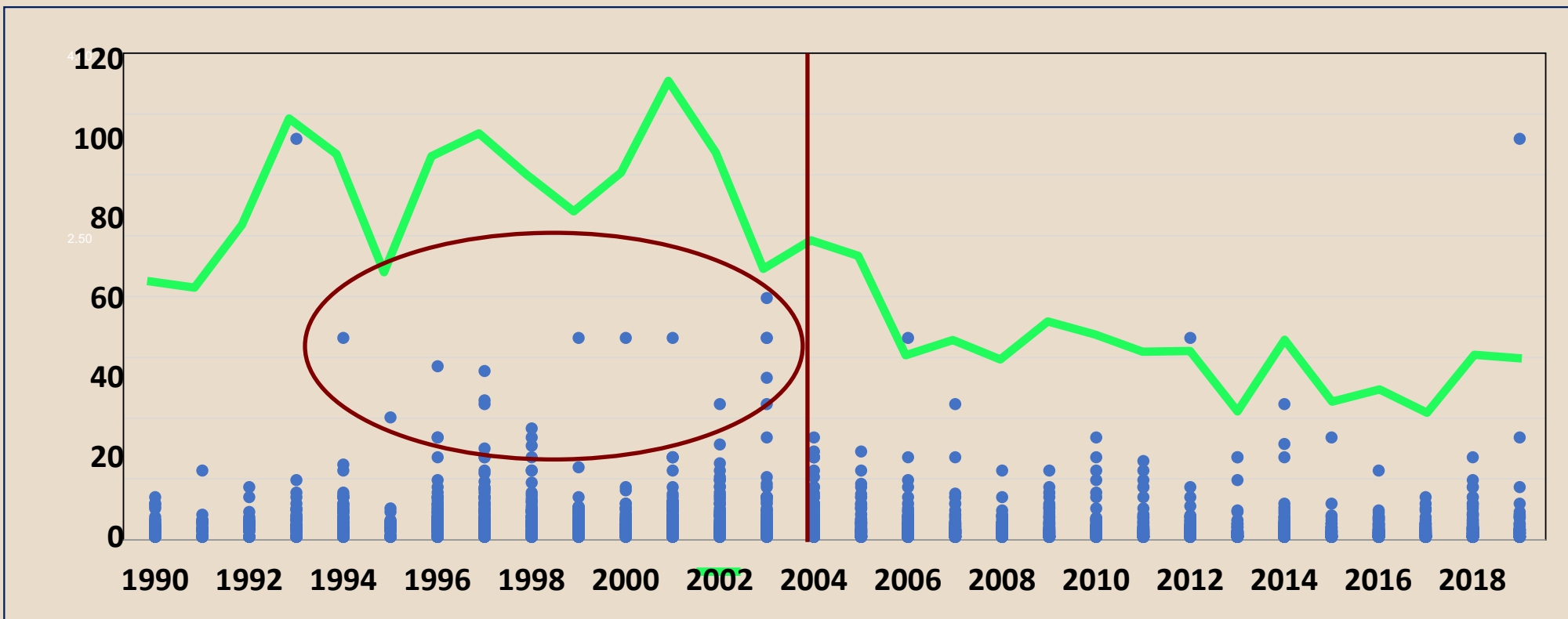




# Petition

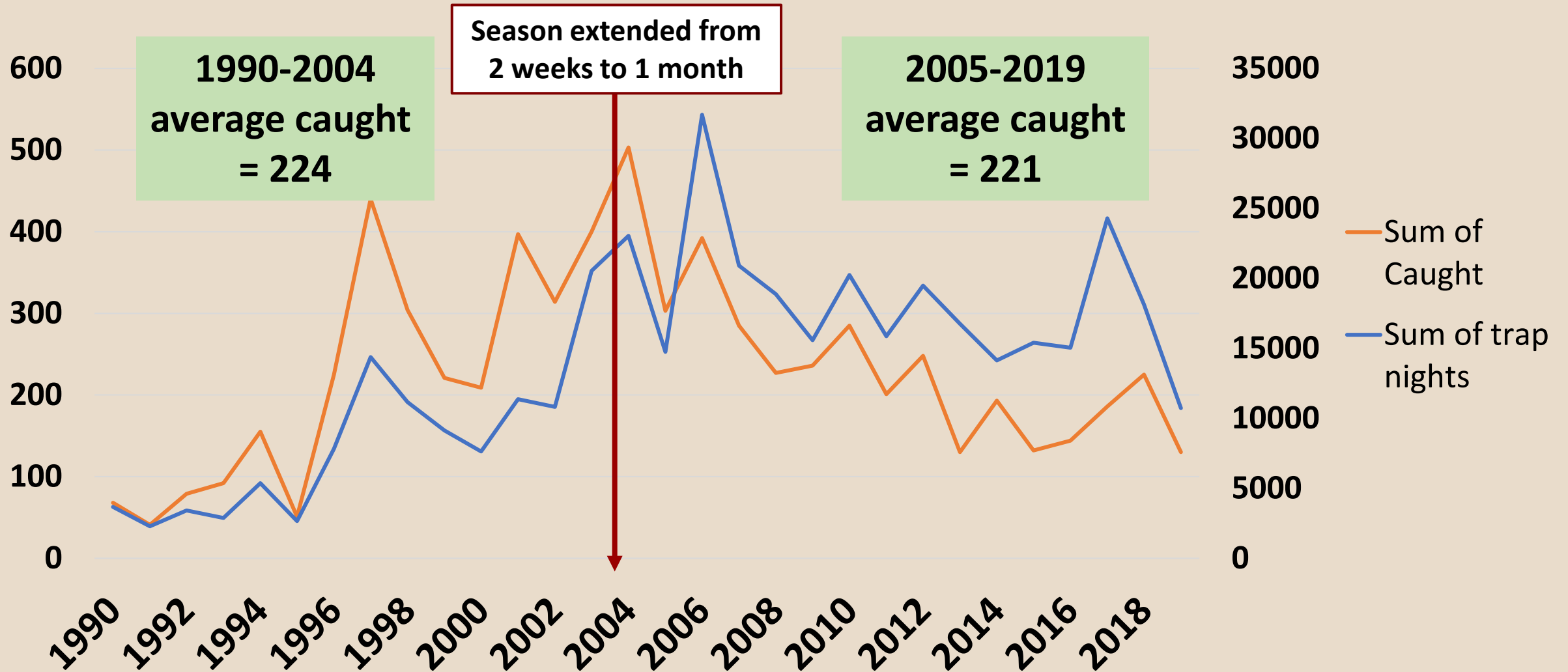
"CPUE dropped below the lower 95% confidence limit (LCL) or almost 2 standard errors below the mean of the baseline period" *Fisher petition*

## The bigger picture



# Petition

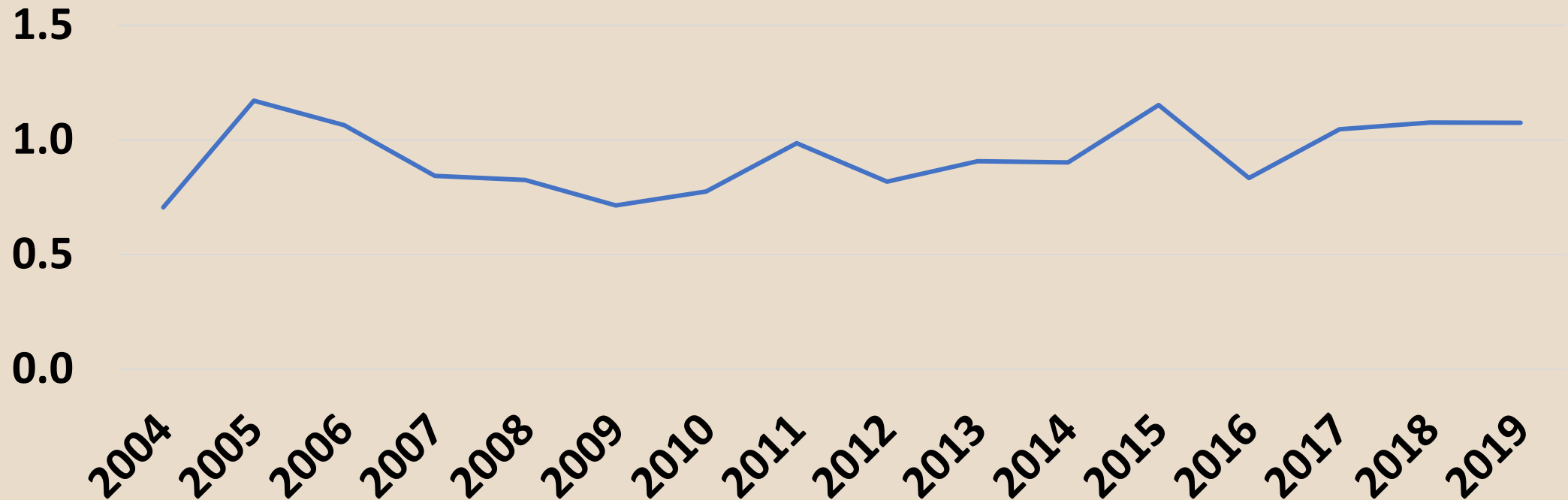
## The bigger picture



# Petition

## The bigger picture

### Males/Females

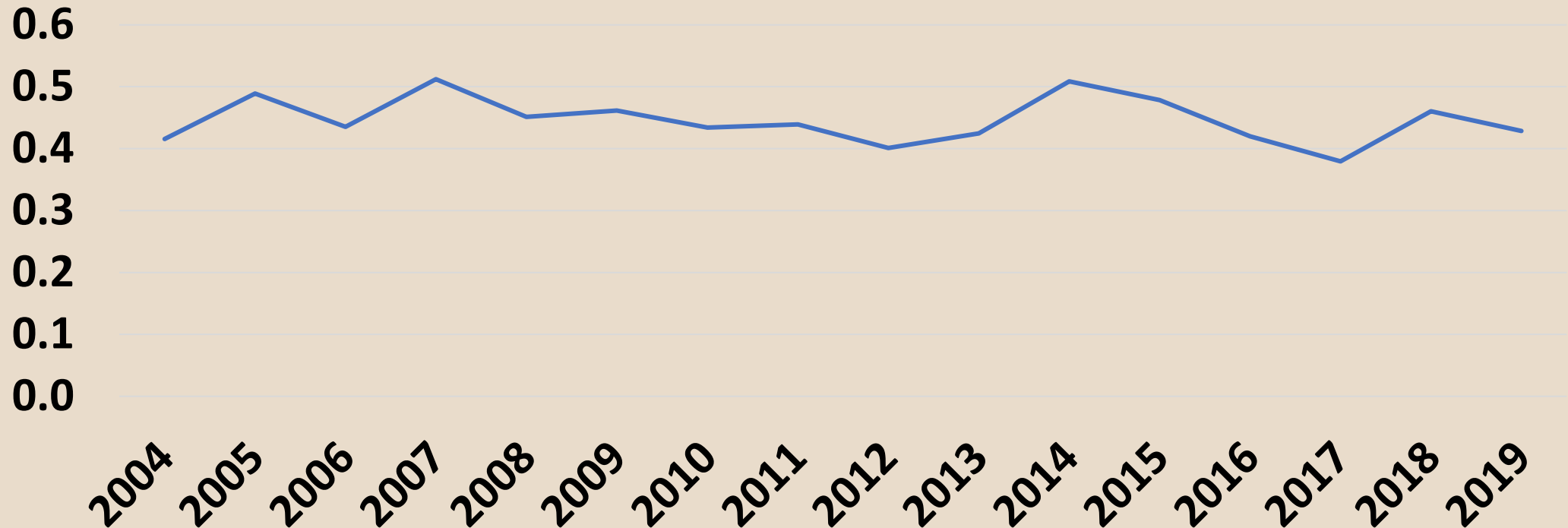




# Petition

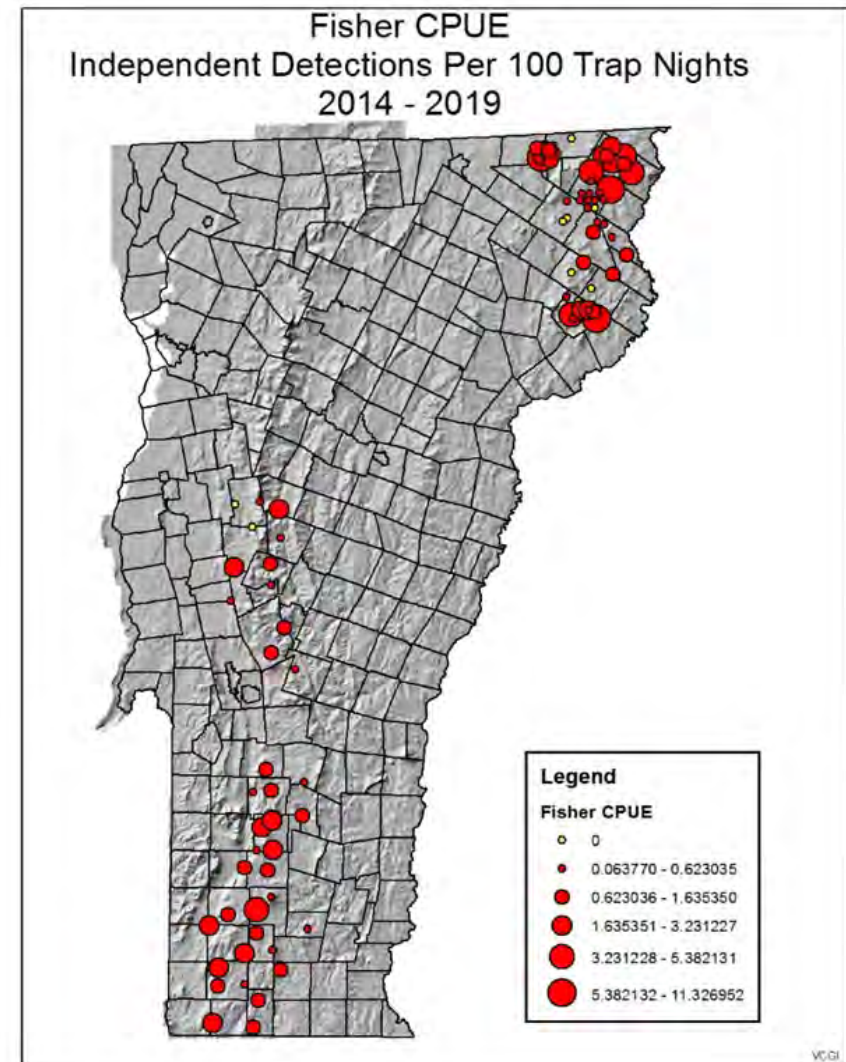
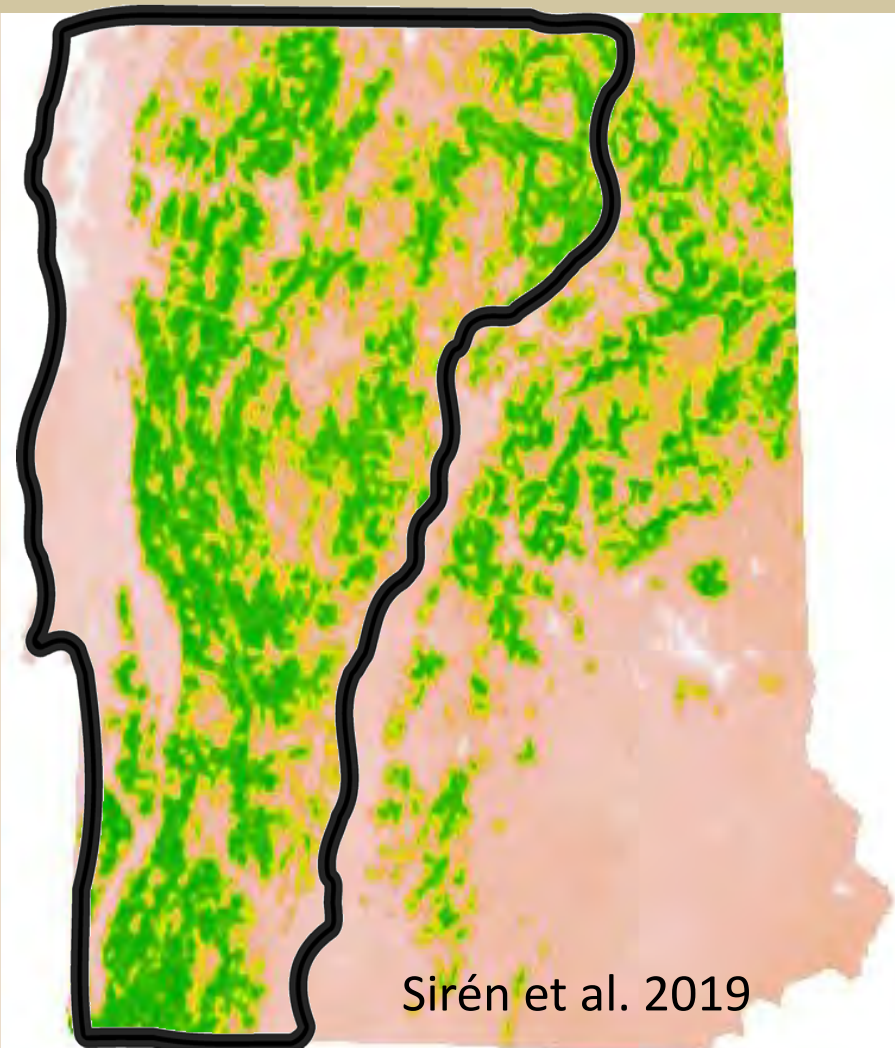
## The bigger picture

### Proportion of juveniles in harvest



# Petition

## The bigger picture



# Petition

“We also believe that if the baseline period were extended further back it is likely that the situation would be even worse.” *Fisher petition*

## Lacks historical context

- WHY is 1990-2004 the baseline?
  - Stability?
  - Acceptable threshold?
  - Thought process?
- Fisher were so endangered in the past, they had to be reintroduced!

# Petition

## Ignores complexity

- Harvest
  - Catch per unit effort (CPUE)
  - Sex and age
  - Disease and toxicity
- Road/incidental mortality, camera networks, Vermont Conservation Design, forest/land cover, habitat surveys, public opinion surveys....

} Expert statistical knowledge





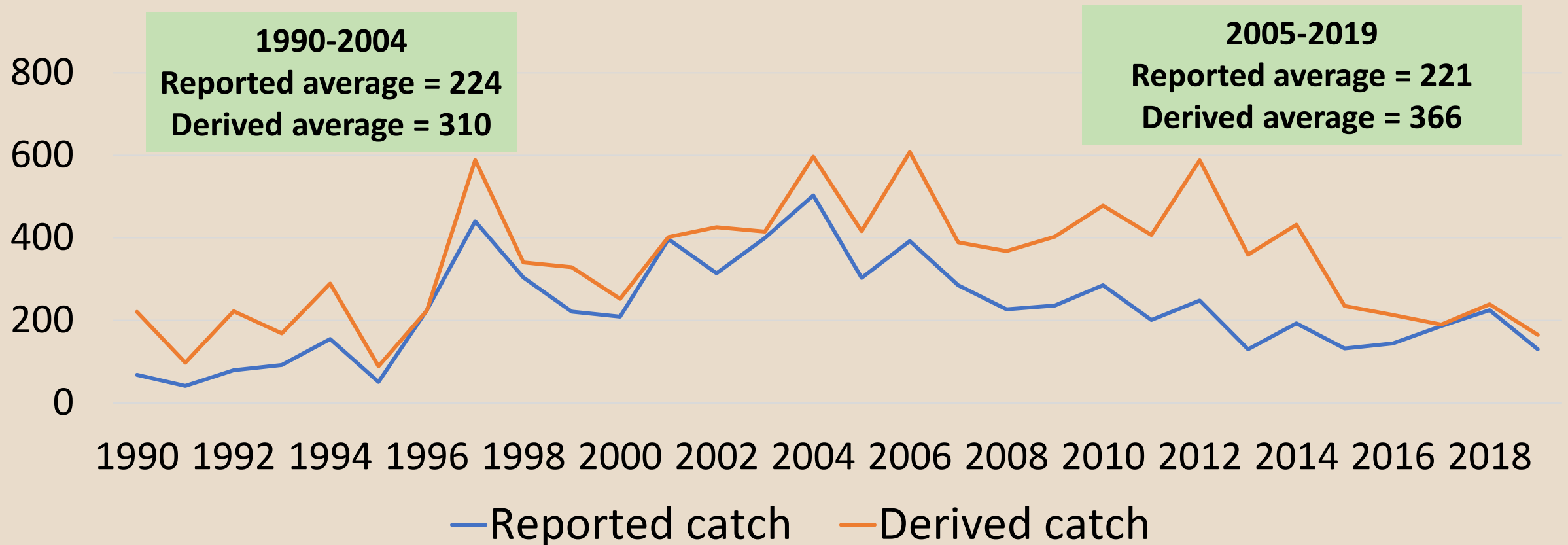
# Fisher petition findings

- 1) significant decline in the number of fishers trapped over the last 15 years
- 2) significant decline in fisher CPUE over the last 15 years
- 3) fisher harvest since 2003 has been significantly below the lower 95% confidence limit of the mean harvest from 1990-2004, a proposed surrogate for a sustainable population

# Fisher petition

## Concluding findings from VTFW

1) “significant decline in the number of fishers trapped over the last 15 years” **FALSE**

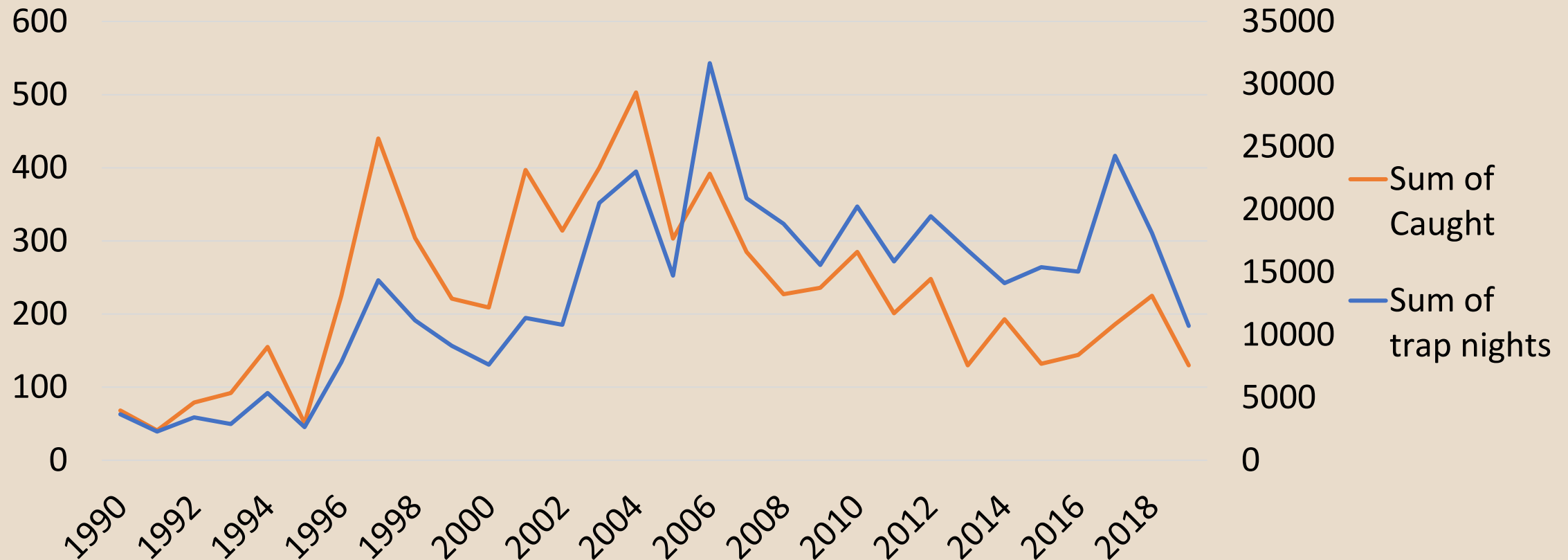


# Fisher petition

## Concluding findings from VTFW

2) “significant decline in fisher CPUE over the last 15 years”

**EFFORT INCREASED AS A RESULT OF SEASON CHANGE**



# Fisher petition

## Concluding findings from VTFW

3) “fisher harvest since 2003 has been significantly below the lower 95% confidence limit of the mean harvest from 1990-2004, a proposed surrogate for a sustainable population”

**FALSE AND CPUE ≠ POPULATION**



# Fallacies

## Historical context

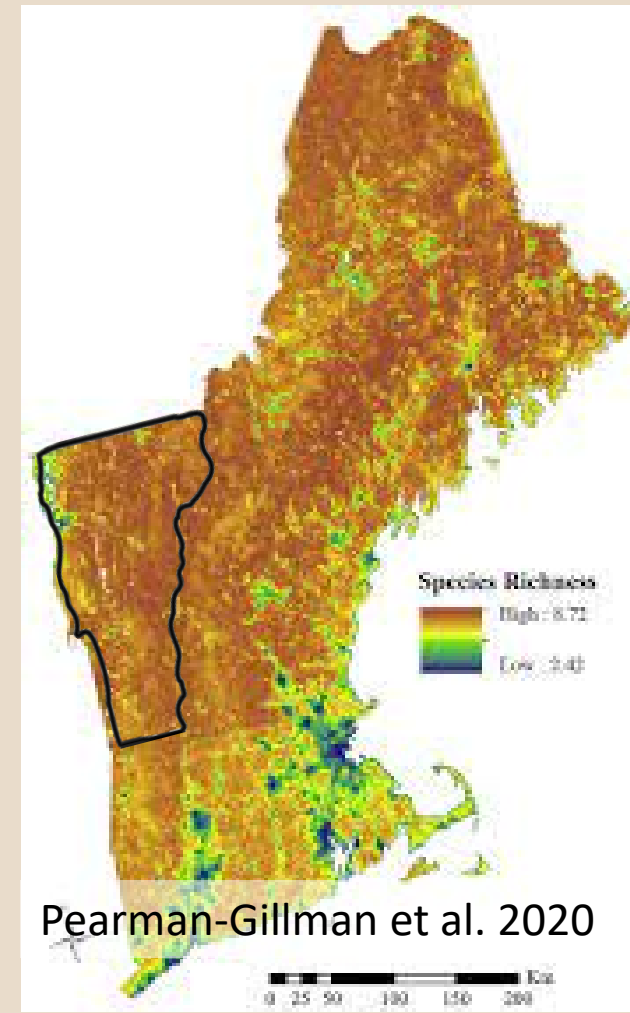
1850s (before the Department existed)

- 25% forest cover
- mass species decline

Today

- 80% forest cover
- largest unbroken habitat tracts
- highest species richness

**THIS IS VTFW'S EXPERTISE, TRUST, AND CREDIBILITY**



# Fallacies

## Poor science

- single metric and value
- unexplained baseline
- inappropriate statistics

## Why?

- Dismiss complexity = bias likely
- Manipulates data to support an opinion
- Doesn't account for other indices or threats



**DILUTES VALUE OF SCIENCE**

# Fallacies

“We ignore public understanding of science at our peril”  
— Eugenie Clark



IT DOES



IT'S NOT



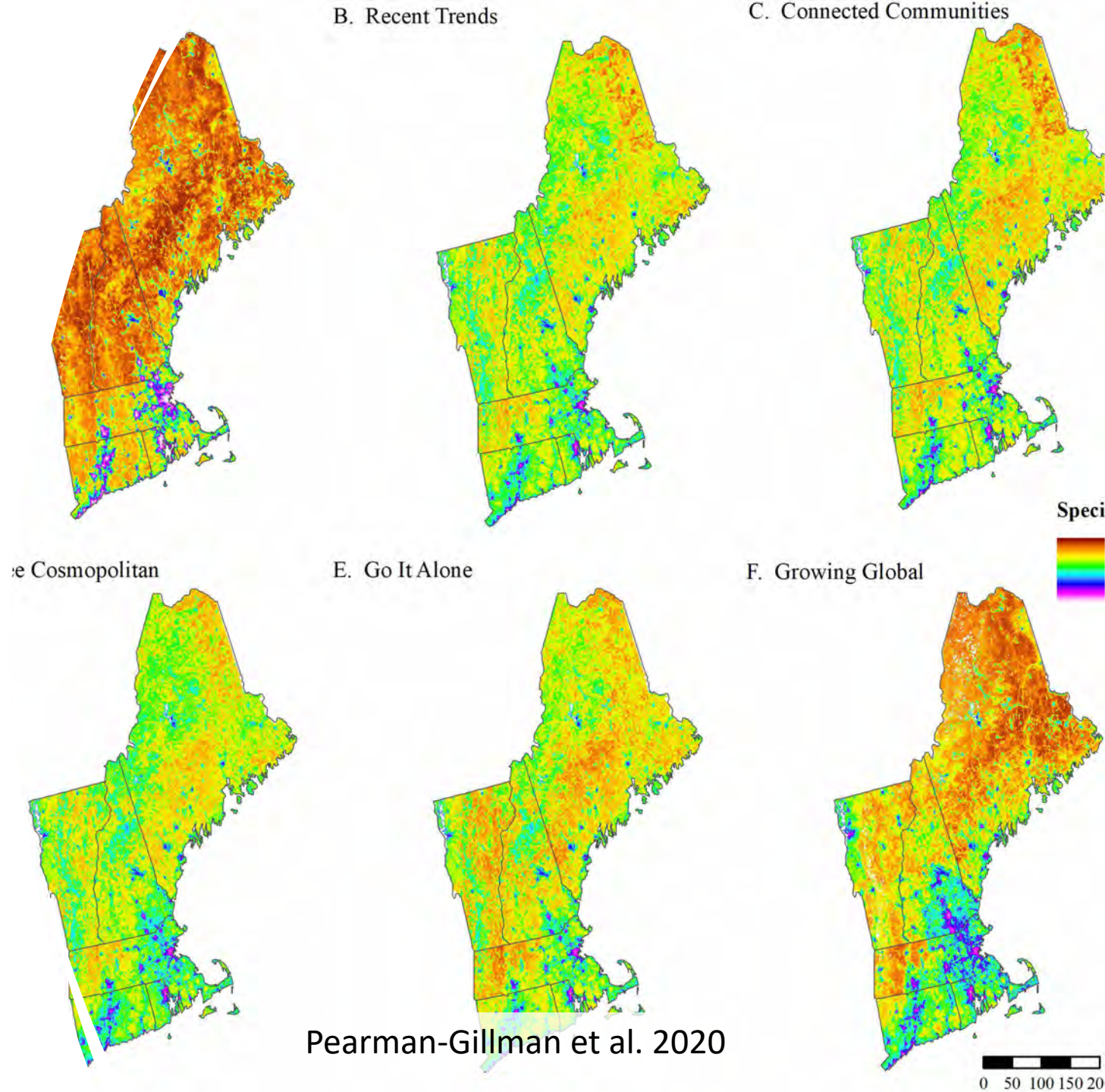
THEY  
DON'T



THEY  
CAN

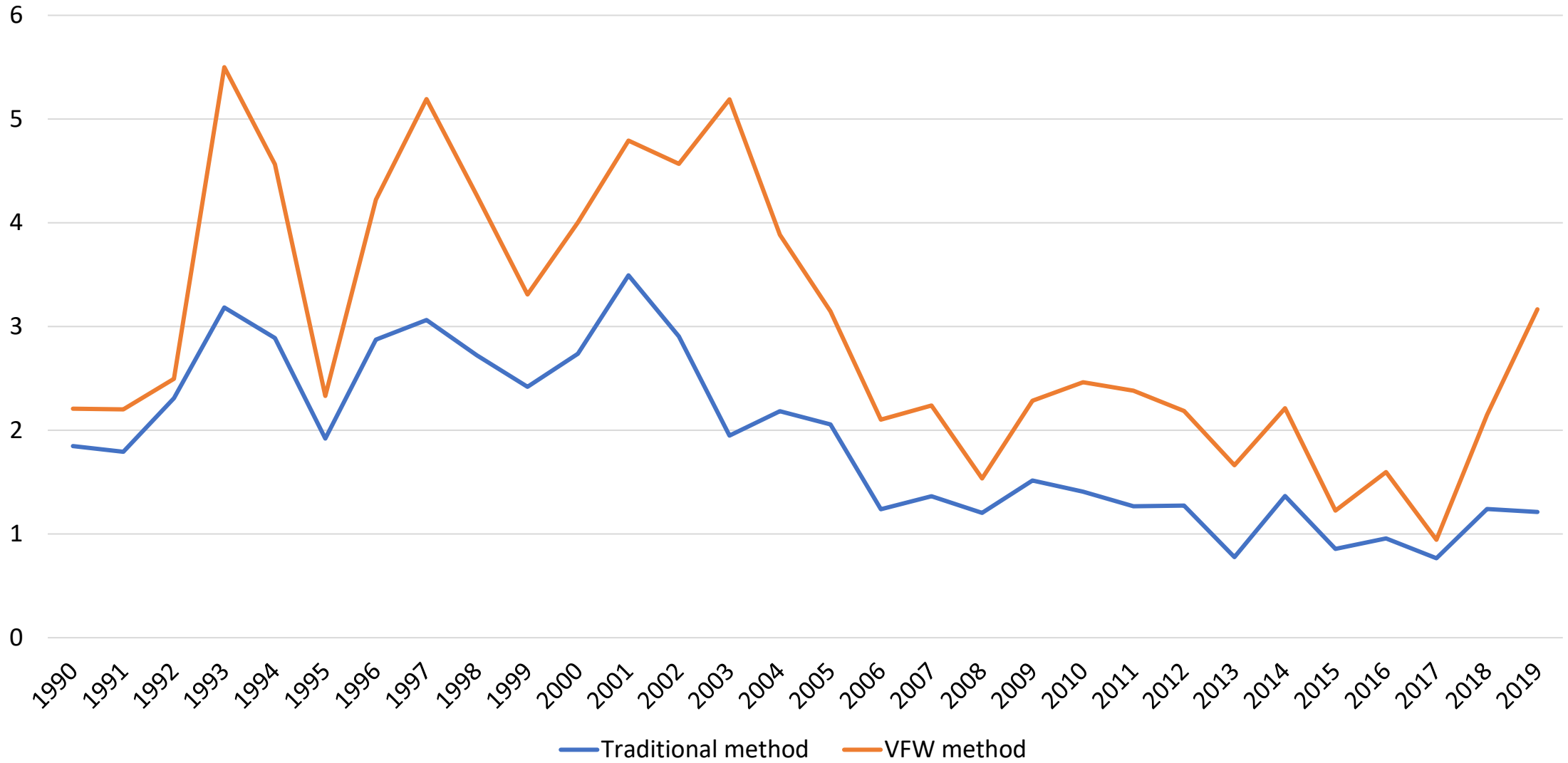
# Vermont Fish & Wildlife

- 130000 acres protected
- 52 animal, 163 plant T&E species
- Species and habitat recovery

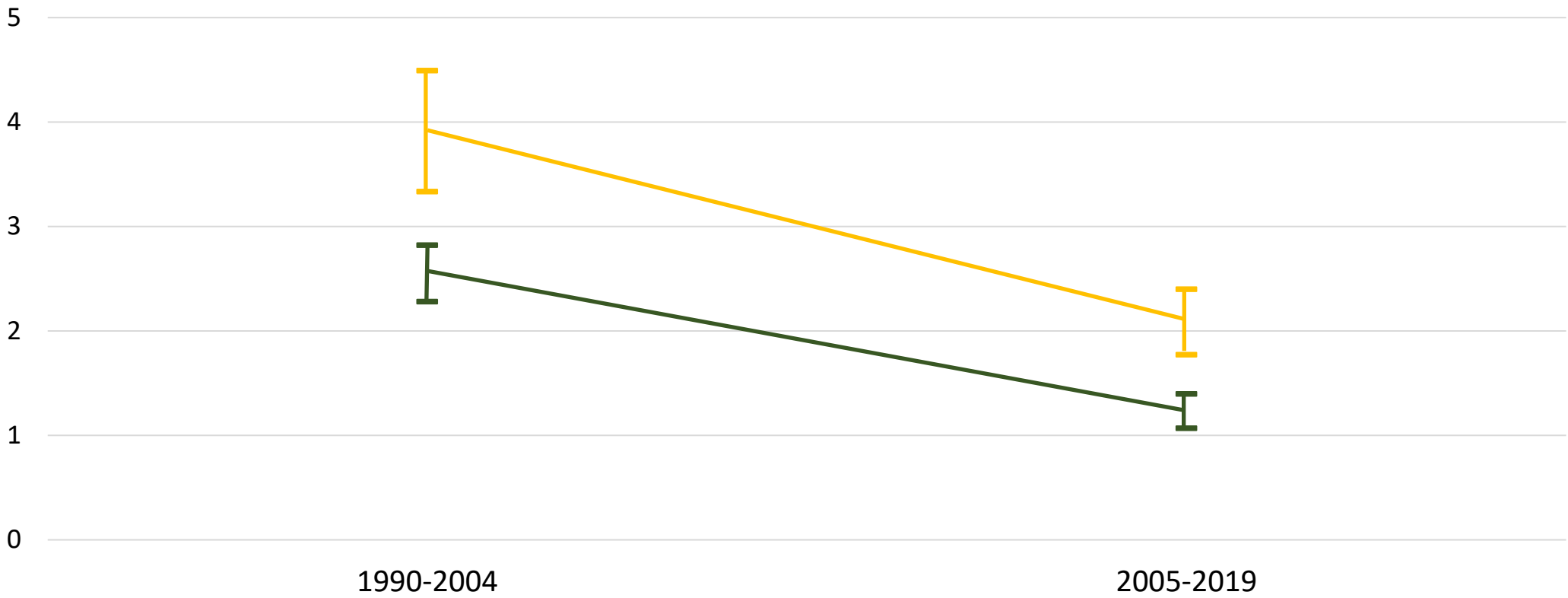




# CPUE average calculation comparison



Yellow = VFW, Green = Traditional





The End

# Percent of total annual harvest taken in defense of property in 2018

