Testimony Outline

Before I start I want you to write down the following: RISK MANAGEMENT, BEST PRACTICES. Keep those in mind, because that's really what we're talking about.

HI! My name is Jed Guertin, I'm a native Vermonter and resident of Montpelier. I'm semi-retired and at 72, I think I can say I've had an extensive "PAST life." The salient points of that past life for this testimony are that I was a research analyst, with a masters degree in resource economics. The only other thing that might be relevant is that I dabbled in water purification using ozone and carbon block filtration. In those two experiences I learned a lot about both ozone and carbon block filters, but most of all I learned that when dealing with water quality, you err on the side of caution.

Like Warren I came to the Berlin Pond issue a bit late. Once I figured out what was happening, some lights went on in my head. You see, when my father went into the service my mother moved back to Shrewsbury, MA to be near her family. Shrewsbury is near Wachusett Reservoir, where I spent a good deal of time. Wachusett Reservoir seemed to have quite a few restrictions regarding access, even back then. So it struck me funny that Wachusett Reservoir (at 4000+ acres) would be restricted, yet tiny Berlin Pond (256 acres) would not.

I fully support H.33, which would empower municipalities, that pay for and drink the water, with the ability to apply well established drinking water supply risk management and best practices for their water supplies, should they choose to do so. We're only talking about 1 1/2% of all the state's lakes and ponds, or around 1/2% of the state's water surface area.

Not only will H.33 provide these communities with local control over their drinking water (letting the people who are directly affected manage the risk) but it may also help get Vermont out of a political and economic pickle.

After the Supreme Court determined, in 2012, that the state, not Montpelier, had authority over our sole water supply source, control defaulted to ANR whose position is that recreation and public water supply are compatible uses of public waters. The state capital's water supply - completely protected for 130 years - opened to recreation overnight - no monitoring, no baseline studies, no restrictions except powerboats. Faced with this devastating action, I started researching other states' regulations. I began with Massachusetts, particularly Wachusett Reservoir, which had childhood connections. I talked to those folks, and that led to state regulators, which led to Connecticut and Rhode Island, then I looked at Maine and New Hampshire. What I heard from those states blew me away.

With each state, each conversation, each document I received, the level of dissonance I felt between what they were telling me, and Vermont's policies, grew and grew. I had to reread documents and call several people back, to verify what they told me, because it was so different from what Vermont is saying.

We're talking about a very specific arena of public water supply - surface sources. As Warren mentioned, there are maybe a dozen ponds, plus a number of streams, that are used as public water supply sources by communities like St. Albans, St. Johnsbury, Barre, Brattleboro, and Bellows Falls, as well as Montpelier. H.33 addresses only those sources. It doesn't apply to Lake Champlain or Memphramagog because those are international water bodies.

In this context, you should know that the Supreme Court did not open Berlin Pond to recreation. In fact, it said, right up front in paragraph 2, "we are sympathetic to the City's significant concern for regulating the source of its drinking water." Further in the same paragraph, it said, "Our opinion today does not hold that recreational use of Berlin Pond must be permitted. We conclude only that valid regulation would require action by the State either by direct regulation or by delegating such power to the City and this has not yet occurred." In other words, the city had not been granted authority over the water - although it could be.

I'd like to use as a guideline a document that DEC Commissioner Mears posted on ANR's website after the decision on the two petitions regarding Berlin Pond was announced last August. While the document addresses Berlin Pond, all its premises are applicable to all the small ponds that supply drinking water. Please keep that in mind - it's not just Berlin Pond.

What I'm going to do is juxtapose the other state's regulations against Mears' comments, which reflect Vermont's position.

Item 1. Is there a threat to drinking water quality from bacterial or pathogen contamination caused by people canoeing or swimming in Berlin pond?
No. (You can read the rest of the response in your packet.) Recreational uses such as boating, fishing and swimming on the Pond would cause a negligible increase in these contaminants at most. (Note - we should include giardia and cryptosporidium)

I have here two jars of water. One is free of contaminants. The other has a "negligible increase" in contaminants. Which would you choose?

Let's look at what the other New England states do. You have a handout from Cameron Wood, an intern to Legislative Counsel, who researched other NE state laws regarding activity on public surface water supplies. I've used both his research and my own in the following information.

First of all, Massachusetts state law prohibits swimming, bathing, boating, fishing, going on the ice, or allowing any animal to go into the water of any surface water source or tributary. Swimming is out, period. The other activities may be permitted on a case by case basis, BUT the local Water Commissioners granting such a permit must "determine what level of public access on water supply owned/controlled lands is acceptable and include provisions for inspections, security, enforcement, and public education."

And elsewhere, in a document addressing public access and recreation control, the state says, "**Public access/recreation should be prohibited if appropriate controls, and funds to sustain those controls, are not available."**

Here's an example of how the system works: the Wachusett/Quabbin Reservoir system, which supplies water to some 2.5 million people in the greater Boston metro area.

Wachusett Reservoir is a 4K+ acre reservoir in an almost 75K A watershed (just a little larger than our ponds)
- all body contact is prohibited
- boating is prohibited
- Shore fishing is allowed from specific areas
- Access points are gated and patroled 24/7, and only open during daylight.

- Limited access for hiking and biking is allowed on designated trails in the watershed during daylight only
- Access is carry-in, carry-out
- And, just to indicate the thoughtfulness of regulators, discarded fishing line is collected in special containers and recycled. Lead sinkers are prohibited.

On top of that, the intake protection zone for Wachusett Reservoir is a no-trespass zone that includes 4 miles of shoreline.

I'd like to take a minute and talk with you about intake protection zones - the area surrounding the intake (the bonnet) where the water is drawn for transport to the water treatment plant. The theory is that pathogens can only travel so far in water, so a protection zone can reduce the amount of pathogens that reach the intake. The other New England states define intake protection zones on water sources where activity is allowed.

Quabbin Reservoir is a little different - it's a secondary water source for the Boston Metro district, in that it's a feeder to Wachusett. It's 38 square miles in area. In the process of creating Quabbin Reservoir, several communities were displaced. Because of that, provision was made to allow some recreation on the water.
- body contact is prohibited
- Approximately 30% of the reservoir is restricted to no access because it's the intake protection zone.
- The rest of the reservoir has specific areas for shore fishing and some motorized boating
- Access points are gated and monitored
- All private boats launched on the reservoir must now undergo a Division-approved decontamination process, and display a seal that certifies that the inspection has occurred.
- There is a dusk-to-dawn curfew
- Horsepower is limited
-The reservoir is patrolled 24/7.

Here's one more statement from the water district that governs Wachusett and Quabbin: "**All ... updates [to the watershed protection plans] reflect the shift of the water supply industry and federal drinking water regulations towards concern for microbial contaminants that can cause acute illness."**

Boston, the state capital, is served by a water source that is protected. Yet Boston still has cryptosporidium in its water.

CONNECTICUT AND RHODE ISLAND

Connecticut and Rhode Island prohibit swimming, by state law, in all public water supplies. Local water districts can control other activities. In general, those two states look a lot like Massachusetts in what is allowed, or not, on drinking water sources.

An example is Providence Water Supply Company, which serves 60% of the state's 1M residents, sourcing water from 6 reservoirs in a 92 square mile watershed. No activity is allowed on the reservoirs or surrounding lands, except on case by case basis (on land only).

The capital cities of both Connecticut and Rhode Island are served by water sources that are protected.

MAINE

Here's a statement from a 2010 Review of State-Level Risk Management for Lakes used as Public Drinking Water Sources, Prepared by the Maine Department of Health for a legislative Committee on Natural Resources: "There are a variety of uses of lakes, notably fishing, boating and swimming, that are generally protected and encouraged in Great Ponds, since these are waters of the state. These surface uses are sources of increased risk to drinking water, and the restricted zones in place on many drinking water lakes are intended to manage that risk at an acceptable level." Note: MANAGE THAT RISK.

In your packet you have information about management practices on several lakes in Maine.

Note that water utilities, municipalities and the Department of Health and Human Services are all authorized to take reasonable steps to protect a public water source.

One of Maine's positions is "If it's never been opened [to recreation], don't open it."

Of the 44 lakes and ponds in Maine that are sources of public drinking water (which represents approximately 3% of all Maine's lakes):
- 27% are protected by regulations that prohibit access of any kind.
- 23% are protected by regulations that prohibit body contact of any kind.
- The majority of the rest have limited no access zones and/or limited no body contact zones

Let's look at Sebago Lake, which has been a recreation mecca for centuries. It's huge, it's easily accessible (maybe half hour from Portland), it's economic value to Maine is enormous. It also serves as a water supply source for the Portland metro area - 23 towns with 15% of the state's residents. It is controlled by the Portland Water District, whose position reaffirms the 1913 Legislature's decision (1913!!) that "10% of Sebago Lake – the Lower Bay- should be set aside for the sole purpose of protecting the region's drinking water...."

Sebago is an economic generator for the region and the state, yet the state is still willing to set aside 10% of the lake to protect drinking water from pathogens.

As a result, there is a 2-mile limit around the water intake in which swimming is prohibited and limited boating is allowed.
- body contact is prohibited,
- kayaks must have skirts,
- areas where invasives are found are closed off and marked.
- The area is patrolled and monitored by the district and police
- boating is only allowed during the day.

Inside that 2-mile limit, there is a 3000-ft radius, 500 A zone around the intake in which no human activity is allowed. That zone is bigger than any of our ponds. The District owns about 2500 acres of land around Lower Bay. Access to this land is very limited, and a land acquisition program allows the District to purchase any properties around the lower bay that come up for sale.

Maine's capital city, Augusta, is served by a water source that is protected.

Lastly, NEW HAMPSHIRE - live free or die New Hampshire.

New Hampshire has a tiered regulatory system, with the Department of Environmental Services at the state level and local health officers or boards at the local level. A local town, or ten or more citizens, can petition the Department to provide more protection when they feel the local regulations are not sufficient.

The Department has adopted regulations for approximately one-half of the surface water sources in New Hampshire. For those waters with regulations, each individual surface water source has its own set of rules. Most seem to prohibit all general recreational use (swimming, boating, fishing). The regulations state that if local ordinances are more stringent then they will apply.

All ponds supplying public water systems in NH, which are less than 160A, are closed to human access. (Most of the ponds that H.33 would impact are less than 160A).

From several cases I've seen, it appears that NH DES and its Water Council err on the side of caution, setting the bar high rather than low. You have examples in your packet.

But I do want to quote from Dr. Jeffery Griffith, a water-borne infectious disease expert hired by DES to defend the town of Salem's prohibitions on swimming in Canobie Lake. (Dr. Griffith's credentials are in your packet.) Dr. Griffith treated 20 of the 100 people who died following the Milwaukee cryptosporidiosis outbreak in which basically everyone in the city became ill following the failure of the water treatment plant. Dr. Griffith was doing experimental treatment on those 20 people, because nothing else was working, and even they died. His comment: "There is no medical treatment for this parasite."

Another quote:“Cryptosporidium has been the poster child of bad bugs because it’s difficult to treat in water. And that’s because chlorine doesn’t do anything against it.”
“Now, the only barrier that exists against cryptosporidium is filtration. And I would try to disabuse anyone of the idea that a treatment plant provides a hundred percent protection against cryptosporidium. It provides a partial barrier, and so cryptosporidium has become the poster child because there have been a lot of waterborne disease outbreaks in the US.”

and again: “The incidence of waterborne diseases in the US is underreported, everyone accepts that as true.” “The only question is, is it tenfold underreported or is it a hundredfold underreported?”

Giffiths again: "The truth is, most people don't get sick from it, but you know, I just saw a child up in Maynard, MA, who lost 30 pounds - a 90-pound kid went down to 60 pounds, pooping his brains out, in the hospital for two weeks, three actually. His mom and his siblings got sick with this. He's not dead, so he's not captured in the statistics. How much was that illness worth? What did it mean in terms of his missing a semester at school, etc, etc, you know, those things add up in terms of cost."

Last Griffiths quote: “The treatment plant . . . is meeting regulations, but anybody who thinks that taking less good water and running it through the same treatment plant means you get identical water to what happens if you start with good water is, you know, smoking something funny. . . .”

New Hampshire's capital city, Concord, is served by a protected water body.

Vermont is such an outlier, with regard to preventing pathogen contamination of surface water sources, that I would have to consider discarding it from any analysis.

Here's Item #2 from DEC's "fact sheet".
Is there a threat to drinking water quality from petroleum contamination from ice augers, vehicles or snowmobiles on ice during winter?
Possibly. The Montpelier Water Treatment Facility already uses a carbon activated powder treatment unit with state of the art filters that is capable of removing volatile organic compounds that may be present in the water. However, the unit was not designed with the express intent of removing petroleum products from the raw water. Because of the potential for petroleum contamination, the Department determined that the use and presence of internal combustion motors on Berlin Pond be prohibited.

Of course there is a threat from petroleum contamination. DEC admitted that and addressed it partially by proposing to write rules prohibiting any internal combustion motors from going on the pond. They did not address ice shanty heaters. There is no monitoring. Sadly, this rule will pertain only to Berlin Pond.

In Maine, fuel contamination from parking near the intake is considered so important that they wrote up a position paper to address the problem. In the position paper, the suggested minimum distance allowed for a parking lot is 2 miles from the intake. They recognize that the two-mile distance is somewhat impractical, but it's food for thought.

Note that Massachusetts prohibits ice fishing specifically. The other states prohibit it implicitly where access is prohibited.

On Auburn Lake in Maine, ice fishing is prohibited, because "The activities associated with ice fishing are very different than boat fishing, and would likely have very negative impacts on the water quality of our drinking water supply."

Item #3 from the "fact sheet"
Is there a threat to the drinking water source from terrorism if [the] pond is more publicly accessible?
No. The Department of Environmental Conservation does not find there is evidence that the recreational use of the pond increases the possibility that the pond will be the target of a terrorist attack.

That's an interesting response, because the 5 other NE states and the Federal Government seem to have a different take on the general issue of sabotage on public water sources. While a "terrorist" is a possibility, the other NE states are more concerned with sabotage committed by a local person with a grudge or an unstable individual. And because there is no patrolling or monitoring - no best practices for management - and unfettered access to the pond is allowed 24/7, DEC has made enforcement of any law - littering, spilling petroleum products, sabotage, etc - exponentially more difficult.

Interestingly, in 2013, 7 middle eastern and asian graduate students were caught on Wachusett watershed property at midnight. While no legal action was taken, it's important to note that without the controls in place there, they would never have been discovered.

Item #4

Does the recreational use of Berlin Pond pose a risk from invasive species introduction?
Certainly recreational use can result in the inadvertent introduction of new or invasive species. A prohibition on public use, however, does not guarantee freedom from invasive species. Berlin Pond is itself an example on this, having had a population of Eurasian watermilfoil since 1986, at a time when Pond recreation was prohibited. The Department of Environmental Conservation supports public access to public waters and does not support limiting public access as an invasive species spread prevention strategy. Other less restrictive methods can help to limit or prevent the spread of new invasive species into Berlin Pond. These include access area greeters, signage, and education efforts. The Department will make itself available to work with any user groups to ensure an adequate prevention program is in place at Berlin Pond.

Please read Mears' response - it is unbelievable.

How do you think the milfoil got there? It doesn't fly through the air - it had to be brought from somewhere else, probably on an illegal boat. This milfoil has been stable for 30 years.

Professionals from all the other states agree that paddles and boats with electric motors on waters with invasive colonies create an automatic dispersal system for invasive plants, which spread via broken stems and leaves.

On Quabbin Reservoir, all private boats launched on the reservoir must now undergo a Division-approved decontamination process, and display a seal verifying the inspection.

CT state law: Any person who engages in any recreational activity which involves the use of a boat on reservoirs which are wholly owned by a water company shall use boats owned by said water company.

Maine and NH lakes that are regulated have locations of invasive colonies marked off as no-access zones.

Note that DEC "will make itself available to work with any user groups to ensure an adequate prevention program is in place." It hasn't happened in almost 3 years, and no responsibility at all is taken by the Department.

FYI - Zebra mussels colonized the entirety of Lake Bomoseen in just 6 years from their discovery. According to State data, zebra mussel larvae have been found in 3 other lakes, although colonies have not yet been found.

There are at least 34 ponds already impaired by milfoil, curly pondweed, brittle naiad and more.

Invasives play havoc with aquatic environments, water quality and treatment plants. WHY TAKE THE RISK???

Commissioner Mears said at one point, "If there's a problem, we'll deal with it." That's no way to manage risk.

Last item:

Litter and other enforcement issues
The Department recognizes that enforcement of statutes and rules is the preferred way to prevent littering without unnecessarily prohibiting a normal use of the pond.

The other states monitor and patrol to prevent law-breaking. Laws without monitoring, patrolling, or any other enforcement, and no budget or staff, are toothless. Again, with unfettered access to the pond, who can identify the source of litter, petroleum contamination, invasive introduction, poop, or any other problem? ANR's laissez-faire approach makes any enforcement exponentially more difficult.

As Warren noted, there is ample evidence of littering and damage at Berlin Pond, and I've seen pictures of litter and fuel slick on the water of Stiles Pond as well, and have heard of messes at Dix also. Has anyone been held responsible? No.

Enough of DEC's "fact sheet."

Here's a quote from the New England Water Works Association, the leading authority on education, training opportunities, and public outreach to protect and improve drinking water and water utility operations. Many Vermont water system managers are members. NEWWA says: "Recreational use of terminal reservoirs and adjacent land is contrary to the basic function of furnishing a safe, palatable water supply to customers, and should be prohibited to the greatest extent possible, but in no event should direct contact with the reservoir be allowed."

All the other New England states are utilizing best practices and risk management in a way that best protects the public health, something they evidently consider significant.

Against this background, we have Vermont's position:
- swimming, non-motorized boating and fishing are **compatible** with drinking water supplies.
- the state has a "strong preference for a variety of uses, including recreational use in Vermont's public drinking water supplies." (from DEC decision on Citizens to Protect Berlin Pond's petition, 8/14/2014)

Vermont has access to all the facts, studies, information that all the other states have, yet we have chosen to take a completely different path, which I believe could (or maybe has) put our water customers at risk, and could damage the state economically if our "green state" reputation is tarnished.

DEC's peers in other states are frankly aghast at Vermont's laissez-faire attitude, and in fact they are very concerned that Vermont's backwards standards for water quality will make it much harder for them to enforce their own laws.

Here are a couple more significant points to consider:

Vermont municipalities are required by ANR to have a Source Protection Plan for their water source. However, these plans address only activities on the land around the water - **not the water itself.** (Supreme Court opinion, Montpelier v. Barnett, 2012, ¶ 36) The opinion talks about the the enforcement options allowed in a source protection plan, but ends with, "There is no suggestion, however, that the plan itself gives the operator some special power to regulate the activities of persons who might use source waters for recreation or other purposes."

ANR recommends that municipalities protect their water sources by owning the land surrounding the water. But not all towns can afford or accomplish that, and roads near water bodies provide access that is not preventable under existing law. What's happening now on Berlin Pond, and very possibly other water supply ponds, is that the people who insist on their right to use the water regardless of other priorities are using highway rights of way to cross private land to access the water. If the ROW boundary touches the water, they say, they can legally cross it to get to the water. According to the ROW guru at VT AOT, they're right. People have threatened personal lawsuits against Montpelier police who have tried to stop them from crossing Montpelier's land, which is clearly posted, because they claim they are within the ROW.

This research leads me to believe that only the few municipalities that have actual protections built into their charters and ordinances have real protection for their water sources under law.

And yes, as Warren mentioned, some municipalities have included attempts at protection in their charters and ordinances. Whether those attempts would withstand the kind of challenge Montpelier was subjected to is unknown, but those attempts have been approved by the legislature. For example, Bellows Falls' charter, approved most recently in 2013, says clearly: "It is hereby declared to be unlawful for any person or persons to go upon or into the waters of Minard's Pond or other ponds, streams, or springs from which said corporation derives its supply of water; or to remove fish from said Minard's Pond..."

So the question is, **if some towns can protect their water sources, why not all???**

In conclusion, according to the Supreme Court 2012 opinion, the state can delegate certain powers to other bodies consistent with the public trust. (Montpelier v Barnett ¶ 17-19.)

It appears that local municipal governments would do a better job of protecting their source waters and providing healthy, palatable water to their consumers, than state regulators have done. Consequently, I support H.33 in its efforts to give those municipalities the authority to develop their own best practices for risk management. The legislation does not say they have to protect, only that they have authority over the waters. We believe the people who drink the water and pay for it should have the final say in what happens in and on those waters.

This is effectively a zero-cost solution - a simple answer to the problem of maintaining the purity of our public surface water supplies. H.33 should be a shining beacon compared to the expensive and difficult options facing the issues around Lake Champlain. Municipalities are already doing their own monitoring under their source protection plans - having control should not cost them any more, and in fact if they do manage their risk well, it may cost them less because they will not have to endure costly treatment plant upgrades or increased use of disinfection.

Why wait until our water supply ponds are contaminated and then try to do something about it - which is impossible?????

Oh yes - here's some anecdotal evidence of changes in Berlin Pond in the last 2 years. Please note the pictures on the last page of the document titled "Berlin Pond - Montpelier Water District" and read the description. Since ANR did no baseline testing when they opened the pond, this is the best evidence to be had.