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FEATURED

## Troubled Water? Department Of Environmental Conservation Works With Stewards To Reclassify, Protect Declining Lakes

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Dr. Leslie Matthews, an aquatic ecologist with DEC, makes observations of the shallow water habitat on Echo Lake in Charlestown in August 2021. (Courtesy photo Kellie Merrell)

*This is the first in a three-part series regarding lake reclassification efforts in the Northeast Kingdom.*

It's no secret that the Northeast Kingdom's lakes are special to locals and visitors alike: one only has to look to the sheer number of properties along Caspian Lake or the endless stream of visitors to Lake Willoughby.

However, decades of data show that while Vermont's oligotrophic lakes — the scientific term for lower-nutrient bodies of water that are generally quite clear and deep — are mainly of excellent quality, the vast majority of them show steadily increasing phosphorus levels. Eventually, this will lead to declines in the quality of the lake: murkier water, increased growth of aquatic plants and fish species prized by anglers that are less and less able to survive.

Over the past year and a half, scientists and leaders within the Department of Environmental Conservation's Lakes and Ponds Management and Protection program have been working with stakeholders across the Northeast Kingdom on an effort that would bring enhanced protection to these lakes: using a tool from the Clean Water Act to reclassify choice waters from "good" to "excellent."

"We're spending all of this money and time and effort on restoring impaired waters — the Champlain, Carmi, Memphremagog efforts — and that's important and that's good," said Oliver Pierson, Lakes and Ponds Program manager. "But, at the same time, we have data showing that we're beginning to lose our highest-quality waters. We've come to the realization that, in addition to restoring impaired waters, we should be increasing protections to maintain our best-quality waters and sort of save the best of what's left."

"It's a lot more efficient and less expensive to take a few steps to protect the high-quality waters as opposed to trying to fix an impaired body of water," he added.

### **What Is Lake Reclassification?**

As a result of the Clean Water Act, passed almost 50 years ago as one of the first and most influential modern environmental laws, the state of Vermont defined specific water quality standards, creating "classes" for all bodies of water. All surface waters in the state were categorized as class B(2) — "good" — even if they met the standards for a higher ranking.

B(2) water bodies — which still include pretty much every bit of surface water in the state — must fall within a certain range of nutrient criteria in order to allow a "full support of uses": boating, swimming, fishing, aesthetics, wildlife, etc. If water quality declines to the point where a lake or pond goes above those nutrient ranges, the water is listed as "impaired" — such as Lakes Carmi, Champlain and Memphremagog currently are — and the state is required to work to restore it.

However, for extra-high quality waters such as many of the NEK's oligotrophic lakes, there's quite a long way to fall before the impairment mechanism is triggered.

## A Bit Of History

In the 1980s, the legislature reclassified all surface waters above 2,500 feet to the highest possible status: A(1), also known as “excellent.” In a separate statute around the same time, they also made it so that large septic systems could not be built in watersheds containing those “excellent” water bodies.

“I think that was done then to try to get a handle on ski area development,” said Pierson. “That’s the start of this, the first look into reclassification for protection.”

Decades later, in 2016, the DEC reclassified a number of high-quality waters in the Green Mountain National Forest’s wilderness areas to A(1) status as well, a move that was well-supported by various entities including the public.

While the DEC, as well as its parent organization, the Agency of Natural Resources, is able to unilaterally reclassify bodies of water — following public hearings, of course — there is another way: local stakeholders can submit a petition requesting the reclassification from B(2) to A(1) for their lake or pond, as long as it meets the nutrient criteria and has clear public support.

Over the past two years, Pierson and his team have been hard at work reaching out and working with lake associations, select boards and stakeholders at six NEK lakes — Caspian, Maidstone, Echo, Seymour, Willoughby and Shadow — as well as Lake Raconda in Southern Vermont. Those seven lakes were chosen due to their meeting the “excellent” standards set out for A(1) water bodies and also because they have been seeing increasing phosphorus loads over the past few decades.

Despite DEC’s ability to legally reclassify these lakes to “excellent” status on their own, Pierson says that the Lakes and Ponds Protection Program has decided that they currently only want to support reclassification efforts if there is enough grassroots approval that the community can draw up and turn in their own petition.

“We want the process to demonstrate that there’s local support and interest in this and that we’re not the big bad state coming in and imposing our will on Vermonters,” explained Pierson. “And that’s also consistent with Governor [Phil] Scott’s vision for governance in Vermont writ large.”

## NEK Lake Reclassification Petitions: A Model For Environmental Protection?

Kellie Merrell, a longtime aquatic ecologist with the DEC and a Danville resident, has been advocating in support of this reclassification tactic for many years.

“It’s been really a great privilege to get to monitor Vermont’s lakes for the past 20 years,” she said. “We are really blessed with fabulous lakes. I think about the problems Vermont lakes have, because I see them, but then I go to these national and international conferences and I think ‘good grief, we are really stewarding some of the best lakes not only in the nation, but on the planet.’”

“We are really in this unique position where we have these high-quality waters but, unfortunately, we’re seeing these trends going in the wrong direction,” Merrell continued. “To me, that’s a real opportunity because that means something is changing right now and that we can maybe turn those trends around.”

Merrell notes that millions of Vermont taxpayer dollars have already gone to restore — well, more accurately, maintain the current degraded status of — impaired lakes, including Lake Carmi, which in 2018 was designated by the legislature as “in crisis.”

“[Carmi] is not getting worse, so one could argue that maybe those millions of dollars are at least helping that,” she said.

However, Merrell noted that if these high-quality oligotrophic lakes are reclassified and then fall below their new “excellent” nutrient criteria, the amount of money that would need to be invested to restore them is a lot less than what has been invested at Lake Carmi.

“We can’t afford to have a bunch more Carmis in the state,” she said.

“I personally felt that when the ‘lake in crisis’ bill was passed, the oligotrophic lakes that have these increasing trends ... those are Vermont’s lakes in crisis,” Merrell added. “Lake Carmi has been this way for 40 years. We have been putting a lot of money into it and it hasn’t been getting worse, but also hasn’t been getting better.”

Merrell notes that the current lake reclassification efforts can be more accurately described as just putting the lakes in the class where they have always belonged.

“I think if we can do it here in Vermont, we can be a good example for other places that have been struggling with how to protect their high-quality waters as well,” she said. “Time is of the essence for them, too.”

*Parts two and three of the series will delve into specific efforts and further complexities of this environmental protection tactic.*

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