November 4, 2024

Gwendolyn Temple
New York State Department of Environmental Conservation
625 Broadway, 4th Floor
Albany, NY 12233-3500

RE: PROTECT Comments on Advanced Notice of Proposed Rule Making – NYS Triennial Review of Water Quality Standards

Dear Ms. Temple:

Protect the Adirondacks ("PROTECT") is pleased to submit these comments to the Department of Environmental Conservation ("DEC" or "Department") in response to the Advanced Notice of Proposed Rule Making ("ANPR") regarding the Department's Triennial Review of Water Quality Standards ("WQS"). We appreciate DEC taking this opportunity to collect data and information in advance of new proposals for WQS in the State. PROTECT supports the Department's efforts to obtain a scientific foundation for proposals that will better protect the state's waters from pollution and degradation. The threats to our state's waters are growing every day due to emerging contaminants, and climate change is warming lakes, rivers and streams causing water quality problems from new and existing pollutants.

In the ANPR, the Department requested information on what existing WQS should be modified to better protect drinking water for humans. In addition, recognizing that there are pollutants that cause "toxic effects to fish and aquatic life," the Department also asked in the ANPR what new pollutants should be regulated and what existing WQS should be modified to better protect aquatic life that live and breed in the state's waters.

Protect the Adirondacks

PROTECT is a not-for-profit organization dedicated to the preservation and stewardship of the 6-million-acre Adirondack Park. Our mission is to protect the Adirondack Park's wild character for current and future generations. PROTECT pursues this mission through a combination of advocacy, grassroots

organizing, independent public oversight, research, water quality monitoring, education, and legal action. PROTECT has over 2,000 members and supporters who share a common desire to protect the environmental health and legacy of the Adirondack Park. Many of PROTECT's members reside or own property within the Park.

PROTECT administers the Adirondack Lake Assessment Program ("ALAP"), now in its 27th year, in partnership with the Adirondack Watershed Institute at Paul Smith's College. PROTECT organizes lake associations, residents, and other volunteers; trains them in the water quality sampling protocol developed by the Adirondack Watershed Institute; and provides them with the necessary materials to monitor water quality at waterbodies throughout the Adirondack Park. The samples are analyzed by the Adirondack Watershed Institute and an annual water quality report is published based on the results. Through ALAP, PROTECT helps to monitor the water quality of approximately 80 lakes and ponds throughout the Adirondacks. Water quality in the lakes and ponds in the Adirondack Park has been monitored as part of ALAP since 1998.

More information about PROTECT may be found on our website at www.protectadks.org.

DEC Should Adopt Chloride and Sodium Standards That Protect Water Quality from Road Salt Contamination

The Department should adopt chloride and sodium standards that protect the State's waters from road salt contamination. We consider this a priority WQS upgrade for the Adirondacks given the documentation of severe contamination of Adirondack water bodies from road salt used on State roads, and to some extent used on County and local roads within the Adirondack Park.[1]

In July 2020, the Adirondack Road Salt Reduction Task Force ("Task Force") was established in recognition of the need to reduce the application of road salt in the Adirondack Park, reduce risks to public health and the environment from road salt contamination, and maintain public safety for travel on winter roads. Pursuant to its enabling legislation, the Task Force was required to (i) complete a comprehensive review of road salt contamination and snow and ice removal best management practices on roadways, parking lots, driveways, and sidewalks within the Adirondack Park, and (ii) provide recommendations for reducing road salt usage and its impacts, while giving due consideration to public safety and the safety of travelers in the Adirondacks.

The Task Force's final report, issued in 2023, states:

> The impacts from road salt application are pronounced within the 6-million acre Adirondack Park, which typically experiences a longer snow and ice season than other areas of the state . . . . The impacts from road salt on the environment can be long term. Once road salt dissolves in winter it can run off into surface waters through snow melt and stormwater or find its way onto surfaces where, even later in the year, it can continue to leach further into groundwaters. As a result, the road salt applied for public safety during

[1] Research about road salt pollution in the Adirondacks is available here: https://www.adkwatershed.org/road-salt-research.

> the winter can elicit wide ranging impacts on both aquatic and terrestrial ecosystems and sources of drinking water.

Adirondack Road Salt Reduction Task Force Assessment and Recommendations (2023)[2] ("Task Force Report"), at 2.

The Task Force Report further states:

> Through its investigations, the Task Force found that while most monitored waterbodies in the Adirondack Park met existing regulatory guidelines for contaminants typically found near road salt applications, a limited number of instances of regulatory guideline exceedances were identified which could result in impacts to human health and the environment. Task Force members with subject matter expertise also found that more recent scientific literature (see section on Sources and Impacts of Road Salt) may indicate *existing water quality standards are not protective enough to prevent impacts to the Adirondack Park's sensitive natural resources and ecosystem*.

Id. (emphasis added).

The Task Force report estimates that NYS Department of Transportation ("NYSDOT") and local municipalities spread over 190,000 tons of road salt annually on Adirondack Park roads, including an average of 11 tons of road salt per lane-mile applied to the local road network and an average of 38 tons of road salt per lane-mile applied to the state road network in the Park. *Id*. at 8.

The road salt spread by NYSDOT and local municipalities is transported by stormwater runoff into lakes, ponds, rivers and streams in the Adirondack Park. The Task Force report cites research estimating that 3,687 miles of rivers and streams in the Adirondack Park have the potential to receive runoff from the paved road network, which represents 28% of the 12,998 miles of rivers and streams in the Park. *Id*. The research also estimates that 820 lakes and ponds receive runoff from the paved road network, equating to 195,000 surface acres of lakes (not including the largest ones), and includes all lakes with shoreline development. Of these lakes and ponds, 157 only receive state road runoff, 380 only receive local road runoff, and the remainder receive runoff from both state and local roads. Of the rivers and streams, 282 miles only receive state road runoff, 829 miles only receive local road runoff, and the remainder receive runoff from both state and local roads. *Id*.

Road salt runoff into lakes, ponds, rivers and streams in the Adirondack Park is likely having potentially significant adverse impacts on water quality. The Department's current WQS for chloride (250 mg/L) applies to protect surface and groundwater drinking water supplies and sodium (20 mg/L) applies to protect groundwater drinking water supplies. *See* 6 NYCRR § 703.5. The Department does not have WQS to protect aquatic life from sodium and chloride.

The only chronic standard for chloride (230 mg/L) was promulgated by the U.S. Environmental Protection Agency ("EPA") in 1998, and the Department indicated during its public information

[2] Available at https://extapps.dec.ny.gov/docs/administration_pdf/adirondackroadsaltreport.pdf.

meeting on the ANPR that the "future Triennial Review is slated to adopt EPA's chloride criteria for aquatic life propagation" at 230 mg/L, and "860 mg/L to protect aquatic life survival".

However, North American and European assessment of the impacts of chloride in freshwater ecosystems suggests that the EPA chloride standard of 230 mg/L is insufficient to protect zooplankton populations and that these organisms face significant mortality at such levels. Task Force Report at 2[3]. These impacts were observed at chloride concentrations substantially below 230 mg/L, with some occurring below the Canadian thresholds of 120 mg/L chronic and 640 mg/L acute limits for aquatic life.[4] The authors of the North American and European assessment cautioned that substantial changes in aquatic ecosystems are likely to occur well below a 50% decline in zooplankton abundance. *Id*.

Chloride concentrations already exceed 10 mg/L in 50 lakes in Adirondack Park watersheds receiving road salt and 40 mg/L in 8 lakes, with 6 of the 8 exceeding 40 mg/L being designated as Class A waterbodies.[5] *Id*. These six were Augur Lake, Lake Colby, Little Lake Colby, Upper and Lower Cascade lakes, and White Lake. Although most lakes and ponds (83%) included in the ALAP, jointly managed by the Adirondack Watershed Institute and PROTECT, show no trend in chloride over the last 10 years, 13% of Adirondack lakes and ponds show increasing chloride trends. *Id*.

The Task Force report concluded:

> Therefore, 10 mg/L of chloride, which is near the lower limit of impacts to aquatic life, is likely a reasonable threshold below which impacts are unlikely (i.e., protective). This threshold of 10 mg/L is also 20 times higher than the baseline concentration in Adirondack Park waterbodies. Similarly, slightly higher concentrations (closer to 40 mg/L of chloride) have been observed as causing further stress to aquatic life, with additional shifts in ecosystem structure and function at this concentration. This literature-based threshold also aligns with DEC's existing Consolidated Assessment and Listing Methodology values of 42.7 mg/L for flowing waters and 30.9 mg/L for ponded waters.

Id. at 11.

Accordingly, we urge the Department to adopt a WQS that is lower than EPA's 1998 chloride standards. The EPA WQS are not sufficient to protect aquatic life in the Adirondacks, especially as the ecosystems in the Adirondacks are facing the increasing stresses caused by warming waters from climate change. DEC should adopt regional WQS of 40 mg/L (chronic) and 640 mg/L (acute) to protect aquatic life in Adirondack waterbodies.

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[3] *See* Freshwater Water-Quality Criteria for Chloride and Guidance for the Revision of the Water Quality Standard in China, recommending that the WQS for chloride be less than 200 mg/L, available at https://pmc.ncbi.nlm.nih.gov/articles/PMC9956284/#sec6-ijerph-20-02875.

[4] See https://sustainabletechnologies.ca/app/uploads/2014/05/CWQG_chlorides.pdf

[5] All surface waters (rivers, streams, lakes, and ponds) are classified in accordance with New York State Codes, Rules, and Regulations to protect their best uses. NYSDEC has four best use classifications for fresh waters, denoted by letters A, B, C, and D, with classification A, the most protective classification, having four subclassifications. The best uses for Class A waters are for drinking, culinary, or food processing purposes; primary and secondary contact recreation; and fishing. 6 NYCRR §§ 701.3, 701.4, 701.5, 701.6.

Moreover, DEC should extend the applicability of the sodium WQS (20 mg/L) to protect surface drinking water supplies, in addition to groundwater drinking water supplies.

DEC Should Adopt Strict Standards That Protect Water Quality From PFAS

The Department recognizes that "PFAS do not break down easily in the environment. They also build up in the bodies of exposed humans and animals", and they "may affect the developing fetus and child", and "may decrease fertility and interfere with the body's natural hormones, increase cholesterol, affect the immune system, and even increase cancer risk", according to the NYS Department of Health[6]. "Some PFAS … persist for a long time in the environment, especially in water. Their toxicity and persistence in the environment means they are a potential danger to public health and the environment"[7].

The Department should adopt new WQS for the two most widely studied PFAS chemicals – perfluorooctanoic acid ("PFOA") and perfluorooctane sulfonate ("PFOS") – to protect the State's waters. Currently, the Department has no WQS for PFOA in water bodies to protect aquatic life. In September 2024, EPA released scientific recommendations for concentrations of PFOA to protect aquatic life. "The final freshwater acute water column-based criterion magnitude is 3.1 mg/L, and the final chronic water column-based chronic criterion magnitude is 0.10 mg/L".[8] The Department should adopt these values as WQS for PFOA to protect aquatic life.

The Department has water quality guidance values to reduce PFOS impacts to aquatic life, but lower WQS need to be adopted. The Department's PFOS guidance values are 710 ppb [0.71 mg/L] (acute) and 160 ppb [0.16 mg/L] (chronic). EPA's September 2024 water quality recommendations included values of 0.071 mg/L (acute) and 0.00025 mg/L (chronic) for PFOS.[9] The Department should adopt these far lower values as WQS for PFOS to better protect aquatic life.

Additionally, as brought to light by the Lake George Association, limited information is available about the possible presence of PFAS in ProcellaCOR, a synthetic plant hormone is increasingly being used to treat Eurasian watermilfoil in waterbodies. In a report issued in February 2024, the State of Minnesota identified the active ingredient of ProcellaCOR EC (florpyrauxifen-benzyl) as meeting that State's definition of PFAS (meaning that the pesticide contains at least one fully fluorinated carbon atom)[10]. The Department should study this issue to determine if WQS are

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[6] New York State Department of Health website entitled Per- and Polyfluoroalkyl Substances (PFAS) Frequently Asked Questions, available at https://www.health.ny.gov/environmental/investigations/drinkingwaterresponse/docs/atsdr_pfas_factsheet.pdf.

[7] New York State Department of Environmental Conservation website entitled Per- And Polyfluoroalkyl Substances (PFAS), available at https://dec.ny.gov/environmental-protection/site-cleanup/pfas.

[8] EPA, Final Freshwater Aquatic Life Ambient Water Quality Criteria and Acute Saltwater Aquatic Life Benchmark for Perfluorooctanoic acid (PFOA), September 2024 (EPA-842-R-24-002), available at https://www.epa.gov/system/files/documents/2024-09/pfoa-report-2024.pdf.

[9] https://www.epa.gov/wqc/aquatic-life-criteria-perfluorooctanoic-acid-pfoa

[10] *See* Minnesota Department of Agriculture, Interim Report to the Legislature dated February 1, 2024, Table 2, page 18, available at https://www.lrl.mn.gov/docs/2024/mandated/240221.pdf.

needed to protect aquatic life from the potential long-term impacts of ProcellaCOR and/or its degradants.

DEC Should Adopt Numerical Standards That Protect Water Quality from Excess Nutrients

We encourage the Department to continue working towards establishing numeric criteria for levels of nutrients (phosphorus and nitrogen) in water bodies. Excess nutrients in Adirondack water bodies can cause significant adverse water quality impacts such as increasing aquatic weed growth and the production of harmful algal blooms. Numerous States, including California, Vermont and New Jersey, have made progress establishing numeric WQS for nitrogen and/or phosphorus for some or all of their water bodies.[11] Unfortunately, the Department's website indicates that progress towards setting numeric nutrients criteria has not been made in nearly ten years.[12] We urge DEC to prioritize WQS for Adirondack waters and to establish new WQS for nutrients in Adirondack lakes as part of the upcoming NYS Triennial Review of Water Quality Standards.

Conclusion

On behalf of the Board of Directors of Protect the Adirondacks, please let me express our gratitude for the opportunity to submit these comments and information to assist the Department in its development of new and updated WQS for the State.

Sincerely,

Claudia K. Braymer

Claudia K. Braymer,
Deputy Director

[11] https://www.epa.gov/nutrientpollution/state-progress-toward-adopting-numeric-nutrient-water-quality-criteria-nitrogen

[12] https://dec.ny.gov/environmental-protection/water/water-quality/standards-classifications#Nutrient