



**Testimony of the Adirondack Council at the
Joint Legislative Public Hearing held by the Health and Environmental
Committees concerning Water Quality and Contamination in New York State**

September 7, 2016

Good afternoon Chairman Hannon, Chairman Gottfried, Chairman O'Mara, Chairman Englebright and honored legislators. My name is Kevin Chlad, and I am the Director of Government Relations for the Adirondack Council. The Adirondack Council is a 501 (c) 3 not-for-profit organization dedicated to ensuring the ecological integrity and wild character of the Adirondack Park. We envision an Adirondack Park with clean water and air, healthy and abundant wildlife and large wilderness areas, surrounded by working farms and forests and vibrant communities. We do not accept any public funding. We offer the following testimony as you examine water contamination situations and assess the effectiveness and implementation of laws and public policies in protecting water quality and public health.

I would like to start by reminding you about the importance of water, specifically in our 6 million acre Adirondack Park. Back in the 1870's, the state's Adirondack surveyor, Verplanck Colvin, witnessed rampant deforestation taking place in a time when sustainability was not a common consideration. He issued his findings in a report to the state legislature, noting serious concerns that if the Adirondack watershed was allowed to continue to deteriorate, it would threaten the viability of New York's waterways, which were used heavily at the time for transportation and commerce. **The Park was ultimately created in 1892, with the principle consideration being the protection of clean water for New Yorkers.** The mighty Hudson River flows from Lake Tear of the Clouds, set on the shoulder of Mount Marcy, our state's highest point. At its start, this great river is a babbling brook in the middle of the wilderness.

To this day, water is the cornerstone of the Adirondack ecosystem, economy, and culture. Each year, as many as 10 million people flock to the Adirondack Park to enjoy a place that stands in stark contrast to their daily lives. They seek, amongst other things, clean water in the more than 2,800 lakes and ponds and 1,500 miles of rivers, that are believed to be fed by an estimated 30,000 miles of brooks and streams. Some visitors just want to be near the water, in one of the Parks 130 communities, many of which are set along a precious body of water. Others seek out recreation including all types of boating and rafting, fishing and swimming.

For the more than 130,000 full-time residents of the Adirondack Park, keeping their water clean is even more important. Many residents still keep with family traditions of hunting for deer, small game and fowl, and fishing as the seasons permit, using their catch to supplement their diets. For some, this is a matter of culture. For others, this is a way to survive in a rural economy. For the region's economy, clean water serves as the key attraction that drives business. This rings true for hotels, waterfront bars and restaurants, boating rentals, fishing outfitters and guide services, gift shops and craft stores, marinas and boat tours. The rate of traffic at community beaches and boat launches is also a driving force in local economies. For those who seek the wilder experiences that the park has to offer, such as hiking, biking, paddling, hunting and fishing, the health of Adirondack wildlife is directly linked to the quality of the experience. Many people visit the Adirondacks in hopes of viewing a loon, a bear, an eagle or a moose; and for those who fish, the 12,000 year old heritage strains of brook trout call. Water-related creations such as the Adirondack guide boat and the Ausable Wulff dry fly serve as premier examples of how Adirondack culture has been shaped by generations of men and women who have lived lives that depended on pristine water.

Our cultural legacy, the park's wildlife, and our North Country economy will fall to pieces if we do not preserve this national treasure, and the clean water that pours from it. The following testimony provides a review of current threats to water quality and current sources of water contamination. This review is not exhaustive, but will demonstrate that we are at a crossroads: **will we rise to the occasion as New Yorkers to preserve our precious resources, public health and our Adirondack legacy for current and future generations, or will we succumb to fear of the work that lies ahead of us and turn a blind eye? We see this as an opportunity for us all to join together and clean up our act and build a future for ourselves and generations to come.**

Clean Water Infrastructure – Crisis or Opportunity?

Anyone who has read the news in the last year knows of the regular presence of stories highlighting breaks and limitations in capacity in wastewater and drinking water lines across the North Country and state wide. Far too often these days, residents must boil their water or purchase it bottled. Far too often these days, businesses find out that they cannot expand because their current municipal water capacity will not permit such growth. Far too often these days, business startups must look elsewhere, because the community they want to settle in cannot accept more stress on their water treatment system. Far too often, families have to cancel fishing trips or days of swimming at the beach because the NY Alert system warns them of a Combined Sewage Overflow or the Department of Environmental Conservation (DEC) reports water contamination. It does appear now that a sleeping giant has awakened in New York. Now is the time we must come to terms with the fact that as citizens of the State of New York, we have not done enough in recent decades to maintain our water treatment and delivery assets.

Often times, crisis is opportunity. On one hand, we are witnessing one of the most significant public health challenges we have faced as New Yorkers in recent years. On the other hand, we have in our sights what could become the greatest economic development effort our state will see in a generation. The New York State Water Infrastructure Improvement Act (NYSWIIA) has already demonstrated its potential, issuing \$250 million in its first two rounds of grants to leverage more than \$1.1 billion in water quality investments. We applaud the Governor and Legislature for making the critical appropriations that made this possible, and we are excited to see how the Adirondacks will fare in the third round of grant disbursements. With that fund set to run out during the 2017-18 fiscal year, **we strongly urge the Governor and Legislature to make the NYSWIIA a staple of the NYS budget, and grow the annual appropriation to add fuel to the fire of progress.**

Roughly 130,000 residents live full-time in the Adirondacks, with another 200,000 second home owners and an economy that is predominantly focused on tourism, serving as many as 10 million people who visit the park annually. The small populations of taxpayers are tasked with paying to upgrade and repair systems that are required to withstand heavy use, often leaving a gap between the cost of a water infrastructure project and the amount they can actually afford. The grant fund closes this gap, and makes it possible for these rural Towns, Villages and Hamlets to move forward with community revitalization.

Let's put people to work. Infrastructure projects are big. They require lots of labor, and that labor pays well. And as we have mentioned, new water infrastructure projects can grow municipal capacities to welcome new and expanded business, and that will put people to work as well. At the same time, our communities will become more resilient in the face of storms that are increasing in their frequency and veracity, as a result of our changing climate. An investment in water infrastructure is an investment for the future of our Adirondack water, wildlife and communities.

Excessive Nutrient Loading, Contamination, and Blue Green Algae

In early July, the *Glens Falls Post Star* published a story titled, "*Lake George, famous for its clarity, is changing color.*" This piece shines a light on water quality impairment in Lake George, the Queen of American Lakes, which stems from **excessive nutrient loading**. This can occur when either too many nutrients are available on a slope of land at the edge of a body of water, or, because the terrain and vegetation do not offer enough of a buffer between the nutrient source and the water's edge. Nutrients are essential to plant and algae life, but excessive nutrient loads can spur overwhelming growth in the affected body of water. Should this go too far, the affected lake could experience **eutrophication**, an event in which dissolved oxygen levels decrease to the point that aquatic life can no longer exist. As you can imagine, these processes

have dramatic effects on the quality of all types of aquatic recreation. First, swimming and fishing get more difficult as the weeds and algae grow thicker, but at some point, they could become completely undesirable. Furthermore, real estate values on waterfront properties could plummet, further compounding local government constraints as the tax base dwindles. For communities in the Adirondacks who depend upon offering quality aquatic recreational experiences, runaway nutrient loading could serve as a knockout punch.

Another devastating effect of excessive nutrient loading that must be addressed is the increased occurrence of **blue green algal blooms**. When excessive nutrient loading meets increasing water temperatures resulting from climate change, the result in shallower waters is typically an algal bloom, of which the infamous toxic blue green algae can manifest. During the month of July in both 2012 and 2015, beaches in Port Henry were closed for a number of days after Toxic Blue Green Algae was found. Algal blooms like these can reduce recreation values in the affected area due to their unpleasant odor and appearance. They can also be harmful to public health when they produce toxins that can sicken people, cause rashes, or even kill livestock or pets. Lake Champlain contributes \$4 billion to the Tourism economy of that region, and that could quickly dwindle if we choose not to respond to this emerging threat.

So what causes excessive nutrient loading? While there are many potential causes, fertilizer applications for lawn care and agriculture have proven to be a source of concern when not applied following best management practices. Another cause lies in the removal of terrain and vegetation that would otherwise slow water and nutrient runoff. By slowing this process, nutrients are allowed to settle into the ground before reaching water. When trees and bushes are removed and replaced with grass, nutrients travel unimpeded into the water, where aquatic plants can absorb them.

With recent news stories reporting repeated closures of popular locations such as Million Dollar Beach in Lake George due to dangerously high levels of coliform bacteria, it is also clear that we must look at waste water treatment, not only with municipal systems, but also with septic systems and waste management in private businesses. Through public education and by using incentives, New York State can assist home and business owners with incorporating best management practices into their septic system management.

Road Salt

The New York State Department of Transportation maintains 43,000 lane-miles of roads across our state for travel in the winter months, by plowing roads and applying over 800,000 tons of untreated road salt annually, at an average rate of over 20 tons per lane-mile, per year. They also apply more than a million gallons of salt brine, liquid salts, and other non-saline solutions. With a general goal of providing the public with reasonably safe roads, given their operational and immediate weather constraints, they are tasked with a very large and serious responsibility that cannot be taken for granted.

Last month, the Watertown Daily Times wrote about road salt, and the challenges it presents to our state's water quality, ecology, and now more recently, public health. They cited a March 2016 publication by the National Wildlife Federation, reporting that anywhere from 25 to 50 percent of all road salt runoff infiltrates soil and enters groundwater. Runoff can derive both from –on road application, or uncovered salt piles. While one would hope that the salt is diluted once it reaches a body of water, strong science suggests that salt concentrations are increasing in our water bodies, ground water and aquifers. Salt increases corrosion rates of our road infrastructure and automobiles, increases roadside soil erosion and runoff, displaces heavy metals found near roadways and moves them to adjacent water bodies, increases incidence of vehicle-animal incidents, and decreases health and vigor of roadside plants. **The results of a simulation, described in a report published by the Adirondack Watershed Institute at Paul Smiths College, showed a \$2,320 per lane-mile per year reduction in environmental value from road salt application. That is more than double the amount our state spends per lane-mile per year on road salt.** Since there are many alternative options to road salt, the high environmental cost of road salt applications makes a clear argument for opting towards more expensive, but more advanced technologies and alternative deicing methods, some of which, the state is testing currently. It is not realistic to suggest that the state convert entirely to alternative deicers, given their budgetary constraints, nor is it fair to paint alternative deicers as the savior to this water quality challenge. That being said, adjustments in the rate of application, the type of deicer applied, the speed permitted on any given road, or one of many other best management practices all provide hope that will find a solution.

Towns across the North Country are already struggling to deal with wells and aquifers contaminated by salt. There is no solution to this problem that is not expensive, whether it involves buying bottled water on a massive scale, shipping water in bulk tanks, or building a new drinking water system for a community. If we act now, we can still save countless water bodies, forests and aquatic ecosystems and communities who have not yet been dealt a blow by the effects of road salt contamination.

Acid Rain

The Adirondack Council has been working to solve the problem of acid rain in the Adirondack Park since the organization was founded nearly 40 years ago. We played a key role in identifying the problem in the 1970s, working with colleagues in New England and Canada to study, understand and publicize the issue. Through the decades, we have achieved some impressive successes, and suffered some disappointing setbacks.

We know that acid rain (can be rain, snow, fog, or dry particles of acidic compounds) has harmed forests, soils and water in sensitive regions of North America, Europe and Asia. Ecosystems in Adirondack Park have been especially hard-hit due to limitations on the Park's natural ability to withstand acidic pollution (thin soils, steep slopes, hard bedrock, high precipitation rates). These local factors allowed damage to our ecosystems to start sooner and

penetrate deeper than it did in other locations around the Northeast. Soil acidification has negatively impacted the health of sugar maple and red spruce and has potentially affected the health of wildlife that dwell in forests. Acidification of surface waters has led to the loss of fish populations and other aquatic life.

Federal victories such as the Cross State Air Pollution Rule should lead to further decreases in acid rain. This should accelerate recovery in acidified lakes, followed by recovery of acidified soils. It is vital to remember, however, that acid rain damage in the Adirondack Park has continued for the better part of a century. Scientists predict that a full recovery, if possible, will take decades or even centuries. They also doubt that emission controls alone will be enough to allow a full recovery of impacted forests and aquatic resources. This begs the next question, which is: What else do we need to do?

It appears that the next steps include continuing our reduction of NO_x and SO_x emissions as part of our effort to reduce greenhouse gas emissions, continuing monitoring efforts to track recovery in the Adirondacks, and establishing critical loads standards specifically for acid rain. A critical load is defined as the maximum amount of a specific pollutant, in this case acid rain, that an ecosystem can tolerate without being damaged. **We have collectively accepted the negative impacts of our actions, and taken a course headed towards recovery, but this journey is not over. Critical loads are the next step, and New York State should continue to lead the nation, as it has for over 30 years, on the acid rain front.**

Invasive Species

On August 29th of this year, The Adirondack Almanack posted a story noting that Indian Lake, until then considered to be the largest invasive species free lake in the Adirondacks, had been found to have spiny waterflea. This discovery was made by the Adirondack Park Invasive Plant Program (APIPP), one of the state's nine Partners in Regional Invasive Species Management, or PRISMs. Their work is supported by state grants from the invasive species category of the Environmental Protection Fund. The spiny waterflea, native to Europe and Asia, ranges from ¼ to 5/8 inches in size and feeds on zooplankton, which are relied upon by young fish for food. The spiny waterflea itself is not an adequate replacement in the food chain, much akin to trying to survive by eating strictly potato chips. There are no known controls for the spiny waterflea once they are introduced into a body of water, making prevention the only effective measure right now.

We applaud the Governor and Legislature for the state law adopted in 2014 that requires boaters to clean, drain and dry their boats and gear between waterways. This has proven to be a useful incentive for boaters, though that law will sunset in 2019. Recent increases in the invasive species funding through the EPF have also provided a tremendous boost to efforts in the Park, allowing stakeholders to partner in establishing a Park-wide, Adirondack Invasive Species Prevention Strategy. While there is no doubt this has had an impact, we still wake up to read

unfortunate news stories about new contaminations all too often. **A recent economic study on the impacts of invasive species in the Adirondacks estimates that the potential direct economic impact from only eight invasive species that were evaluated could range from \$468 to \$893 million.** These infestations represent a very real and direct threat to the New York State economy. Our waters remain vulnerable until we employ even greater resources into user education, spread prevention, and eradication. Remember, it only takes one boat to create an infestation.

Recommendations

- **Make the NYSWIA a robust and recurring fund in the New York State Budget.**
- **Dedicate 40 more NYSDEC staff to water quality monitoring, education, engineering, planning, funding, and compliance assistance.**
- **Undertake amendments to the Adirondack Park Agency Act to better protect shorelines, water quality, wildlife habitat, and community vibrancy in the Adirondacks.**
- **Establish critical loads standards for acid rain in the Adirondack Park.**
- **Align NYSDOT road management guidelines with best management practices recognized by the scientific community.**
- **Expand the Adirondack Park Invasive Species Prevention Strategy by adding more boat washing stations, improved signage and educational outreach, and by supporting Adirondack efforts with expanded DEC water quality staffing.**

News Articles:

Million Dollar Beach Closes Again – Albany Times Union – August 24, 2016

<http://www.timesunion.com/local/article/Swimming-spot-shut-down-again-9180624.php>

Lake George, Famous for its Water Clarity, is Changing Color – Glens Falls Post Star – July 2, 2016

http://poststar.com/news/local/lake-george-famous-for-its-clarity-is-changing-color/article_059a5458-49b3-5267-b621-2bfd9211eaa8.html

The Problem with Salt - Watertown Daily Times – August 7, 2016

<http://www.watertowndailytimes.com/news03/the-problem-with-salt-road-salt-contamination-a-plague-across-the-state-20160807>

Invasive Spiny Waterflea found in Indian Lake – Adirondack Almanack – August 29, 2016

<http://www.adirondackalmanack.com/2016/08/invasive-spiny-waterflea-confirmed-indian-lake.html>

Blue Green Algae Closes Port Henry Beaches – Plattsburgh Press-Republican – July 4, 2012

http://www.pressrepublican.com/news/local_news/blue-green-algae-closes-port-henry-beaches/article_22982e8f-c2c5-538d-9c3e-2a7fd8f9f472.html

Understanding Algal Blooms – Adirondack Almanack – August 2, 2016

<http://www.adirondackalmanack.com/2016/08/understanding-adirondack-algae.html>

Port Henry Village Beach Closed-WPTZ – July 31, 2015

<http://www.wptz.com/news/port-henry-beach-closed-due-to-bluegreen-algae-bloom/34379908>

Reports:

Kelting, D. L., & Laxson, C. L. (2010, February). Review of effects and costs of road de-icing with recommendations for winter road management in the Adirondack Park. Retrieved from http://www.adkwatershed.org/files/road_salt-final_dlk.pdf

Prepared by Yellow Wood Associates, Inc., Adirondack Park Invasive Plant Program. "The Actual and Potential Economic Impact of Invasive Species on the Adirondack Park: A Preliminary Assessment." <http://adkinvasives.com/brochures-and-more/>, 2014.