



## Water Quality Monitoring

It's in everyone's best interest to know as much as possible about water quality throughout the Adirondack Park. Gathering water quality information for particular lakes and ponds contributes to our understanding of the impacts of human activity on Adirondack waters. Unfortunately, across the Adirondacks there is little information regarding the water quality of most of the Park's lakes and ponds. Of the thousands of bodies of water across the Park, only a handful have been systematically tested on an annual basis.

The Residents' Committee to Protect the Adirondacks (RCPA) and the Adirondack Watershed

Institute (AWI) at Paul Smith's College formed a partnership in 1998 to launch what is now the largest water quality monitoring



program in the Adirondacks, the Adirondack Lake Assessment Program (ALAP).

ALAP has two goals. First, to provide accurate data about particular lakes and ponds that will help to inform decisions about improving or maintaining water quality. Second, to assemble a profile of water quality conditions across the Adirondack Park.

ALAP is open to any individual, lake association, business, family, or group in the Adirondack Park who is interested in serving as a volunteer water quality monitor on a given lake or pond. There are 60 lakes and ponds currently enrolled in the program. RCPA aims to enroll 150 lakes over the next several years.



## How ALAP Works

The Adirondack Lake Assessment Program provides volunteer monitors with sampling and collection equipment for a one-time start-up fee of \$250. RCPA and AWI train volunteers and provide support materials for sampling protocols.

Sampling takes place once a month dur-

ing a 3-month (June - August) or 5-month (May - September) season. Total sampling time is approximately one hour. All samples are frozen and delivered to either Paul Smith's College, the RCPA office in North Creek, or another arranged location. The annual cost for the 3-month monitoring season is \$100 and \$160 for the 5-month monitoring season

The AWI laboratory analyzes the samples and keeps track of the results in a database for each lake or pond. The annual monitoring costs cover the expenses for this sample analysis and database management. AWI staff periodically take lake bottom samples to provide further information, if funding allows.

At the end of each sampling season, interpretive reports for each enrolled lake are sent to each lake's monitor and sponsor. If monitoring has been conducted for at least five years on a specific lake, then it is possible to conduct trends analyses by comparing data collected during the most recent sampling year with data from previous years. This ability to compare data from one year to the next over a period of years (long-term monitoring) is essential for understanding what is happening to the lake water quality and for determining which management measures, if any, to undertake.



*The Residents' Committee to Protect the Adirondacks is a grassroots organization dedicated to the protection and stewardship of the natural environment and human communities of the Adirondack Park for current and future generations.*

## ALAP Measurements

ALAP measures the leading parameters that provide information about the health and aging process of a lake or pond. Parameters measured include transparency, pH, alkalinity, conductivity, concentrations of chlorophyll-a, calcium, phosphorus, nitrate, and dissolved oxygen, among others. The most important measurements are:

**transparency** - the measure of water clarity of a lake; determined by lowering a black and white disk (Secchi disk) to a depth where it is no longer visible. Water clarity, especially when measured over time, provides information on suspended particulate matter.

**phosphorus** - one of three essential nutrients necessary for life and directly related to the water quality of lake; excessive amounts lead to algae blooms and loss of dissolved oxygen in the lake.

**dissolved oxygen** - necessary for aquatic life; if dissolved oxygen decreases with depth due to too much nutrient accumulation, such as phosphorus, this decreases the available habitat for fish species. Cold-water fish need 6.0 part per million (ppm) and warm-water fish need 4.0 ppm dissolved oxygen to thrive and reproduce.

**chlorophyll-a** - one of the green pigment plants use for photosynthesis; measurements provide information on amount of lake algal populations and, along with phosphorus and transparency levels, for classifying lakes into the three main categories of oligotrophic, mesotrophic, and eutrophic.

**pH** - measure of acidity that is determined from hydrogen ion concentration of water.

## What is the RCPA?

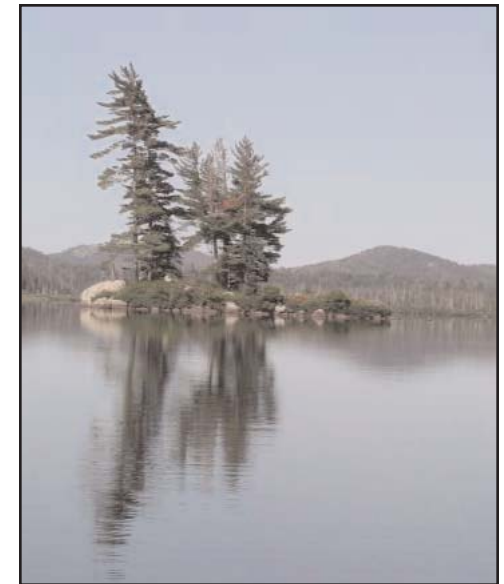
The Residents' Committee to Protect the Adirondacks is a membership organization dedicated to the stewardship and protection of the environment and human communities of the Adirondack Park. In addition to water quality protection efforts the RCPA works on a number of other issues:

- **Sustainable Forestry Certification:** The RCPA provides FSC sustainable forestry certification to qualified landowners across the Park.
- **Monitoring Park Management:** RCPA monitors and impacts management policies and decisions for the public Forest Preserve and major issues facing private lands.
- **Publishing Reports:** The RCPA undertakes research to track development and planning trends across the Adirondacks.
- **Organizing Park Residents:** RCPA organizes Park residents around issues facing the Adirondacks that impact the Park's natural resources and communities.
- **Join us!** Send the most generous gift you can to the Residents' Committee to Protect the Adirondacks - your voice for beautiful waters, wildlands, and protected forests.



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# The Adirondack Lake Assessment Program



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