

URI Watershed Watch Goals

- To educate the public about water quality issues
- To assess current water quality conditions and detect trends in Rhode Island waters
- To promote active citizen participation in water quality protection
- To encourage sound management programs based upon water quality information

Watershed scale monitoring is emphasized because the water quality of a given water body is a reflection of the activities in the lands and waters that surround it and lie upstream.

What is URI Watershed Watch?

The University of Rhode Island Watershed Watch Program (URIWW), founded in 1987, is a statewide volunteer monitoring program sponsored by URI Cooperative Extension (CE) as well as many Rhode Island organizations. The heart of the program consists of on-site monitoring throughout the growing season by numerous trained volunteer monitors, citizen scientists. URI Watershed Watch is a resource for current information on the water quality of many Rhode Island waterways, including lakes, ponds, reservoirs, rivers, streams and coastal ponds. The program is intended to provide detailed environmental data and information to encourage communities and shoreline residents to cooperatively protect, manage and improve the water quality of all water bodies within a watershed. In this way, we can ensure that Rhode Island's bays, estuaries, lakes, ponds and streams remain the state's greatest assets.



URI Watershed Watch Partnerships

Watershed Watch relies upon a variety of partnerships to achieve its goals. URI CE, the College of the Environment and Life Science and its Department of Natural Resources Science, provides much of the professional staff support, laboratory facilities, and technical expertise for the program. However, the program also relies on the time and financial support of organizations throughout the state. These organizations currently include the New England Water Program, the Rhode Island Department of Environmental Management, lake and watershed associations, local environmental groups, municipal conservation commissions, the Narragansett Indian Tribe and others. Each organization, known as a "local sponsor," decides which water bodies to monitor, and helps recruit volunteers to conduct monitoring. Each local sponsor pays an annual registration fee. URI Watershed Watch provides all monitoring equipment, supplies and training, as well as water quality data collection, analysis and reports. URI Watershed Watch is active regionally and nationally through the New England Regional Monitoring Collaborative (NERMC), the Cooperative State Research, Education, and Extension Service (CSREES) National Facilitation Project, the National Water Quality Monitoring Council, the North American Lake Management Society and other organizations.

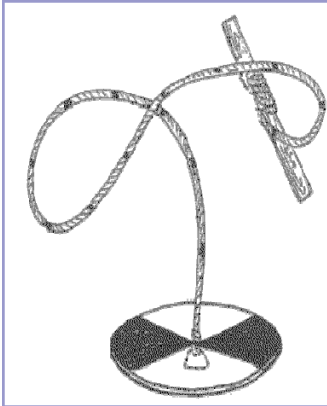
What URI Watershed Watch Monitors

The water quality analyses performed by URI Watershed Watch primarily provide information on:

- Nutrient enrichment (eutrophication)
- Lake and stream acidification
- Bacterial contamination

The water quality indicators monitored are listed in Table 1. Watershed Watch incorporates procedures and protocols recommended by national organizations to ensure that monitoring results accurately reflect the conditions of the sampled water bodies. High quality field kits and measurements by volunteers are combined with state-of-the-art research grade instruments in the laboratory. These instruments allow for high resolution and excellent detection limits. Specific methods of analyses are available upon request.

Watershed Watch volunteers lower Secchi disks into water bodies to assess water clarity and overall water quality.



Ensuring Data Quality

To ensure data quality, URI Watershed Watch:

- Requires duplicate field measurements by volunteer monitors
- Encourages volunteers to participate in quality assurance tests
- Routinely analyzes replicate and duplicate samples
- Routinely analyzes quality assurance samples from outside labs
- Participates in Environmental Protection Agency (EPA) water pollution quality control studies (WP studies)
- Consults with local and national experts
- Actively participates in state, regional, and national conferences to keep up-to-date on monitoring and analytical techniques

Table 1: Water Quality Indicators Measured by URI Watershed Watch

Indicator	How Often	How Monitored	Purpose
Water clarity	Weekly	Secchi disks and view tubes by volunteer monitors	To assess long term trends in water clarity and overall water quality
Temperature	Weekly	Thermometers by volunteer monitors	To gauge overall condition of water bodies; relates to dissolved oxygen concentration and affects aquatic organisms
Algal Density	Biweekly	Water samples collected, processed and frozen by volunteer monitors; later analyzed in URIWW lab	To determine how much algae are in the water; complements water clarity measurements
Dissolved Oxygen	Biweekly	Field kits by volunteer monitors	To indicate the overall health of water bodies and suitability for fish habitat
Salinity	Biweekly	Field kits by volunteer monitors	To indicate fresh water inputs in estuarine systems
pH and Alkalinity	Tri-Seasonally or Monthly	Water samples collected and analyzed in URIWW lab	To monitor the acidification and buffering capacity of water bodies
Nutrient Levels	Tri-Seasonally or Monthly	Water samples collected and analyzed in URIWW lab	To assess how much phosphorus and nitrogen is in the water; complements water clarity and algal density measurements
Chloride	Tri-Seasonally or Monthly	Water samples collected and analyzed in URIWW lab	To evaluate water hardness and possible impacts from roads or salt storage piles
Bacteria	Tri-Seasonally or Monthly	Water samples collected in sterile bottles	To screen for suitability for recreational water use and for possible sewage contamination

URI Watershed Watch Commitment

- Help recruit volunteers
- Help groups fulfill their monitoring needs
- Conduct classroom and field training
- Provide detailed monitoring procedures manual
- Provide monitoring equipment and supplies
- Maintain open lines of communication between volunteers and Watershed Watch staff
- Perform laboratory and data analyses
- Ensure data quality
- Report monitoring results

Volunteer Commitment

- No prior experience monitoring needed
- One to two hours per week (on the day that is most convenient) for a whole monitoring season (generally early May to mid-October),
- Many sites require access to a canoe, kayak, or boat to get to monitoring locations, which are typically the deepest part of the lake, or mid-stream for rivers
- Participation in classroom and field training sessions, held in March and April
- Mail pre-stamped monitoring postcards weekly
- Deliver water samples to URI, typically three to six times per season
- Participate in quality assurance sessions
- Enjoy being on the water!



For those who love the water, becoming a URI Watershed Watch volunteer is a great excuse to spend time on a favorite lake, pond, stream, in the bay or on the ocean.

URI Watershed Watch Monitoring Schedules

A monitoring schedule is distributed prior to the start of each season. There are separate schedules for lake, coastal and river monitoring. Schedules may be adjusted to meet organizational needs. The schedule indicates three levels of water quality monitoring in which most volunteers participate:

- Weekly: measurements of water clarity and surface temperature. These measurements take about 15 minutes to perform, not including travel time to monitoring location, and must be done between 10 am and 2 pm. These measurements are not typically monitored on rivers and streams.
- Biweekly: sample collection and processing for algal density (at most locations), water temperature at 1 meter depth, dissolved oxygen (at select water bodies), and salinity (at select water bodies).
- Water sample collection: Generally, volunteers on lakes, ponds and reservoirs collect a set of water samples tri-seasonally while volunteers on rivers and marine ecosystems collect water samples monthly. On these specified dates, volunteers immediately bring their samples to the Watershed Watch laboratories in Kingston, RI. For each water collection, volunteers select their specific collection date within a designated time period. While at URI on these water collection days, volunteers may perform additional quality assurance tests on water samples provided by URI.
- Experienced volunteer monitors have the option of monitoring incoming tributaries to their monitoring location on the water collection days. Information on the quality of inflowing water is valuable for tracking potential sources of contaminants.

Weekly and biweekly on-site monitoring results are mailed to URI on pre-stamped postcards provided to the volunteers by Watershed Watch, or data can be entered on-line at the URI Watershed Watch website.

Reporting the Results

URI Watershed Watch details water quality results of monitoring locations on-line in pdf formats that can be viewed or printed. Site specific reports or spreadsheet data are available upon request. The data is also provided to the State of Rhode Island for inclusion in its Consolidated Assessment and Listing Methodology report, also known as the "State of the State's Waters" report to the US EPA and Congress [305(b) Report]. Through the US EPA's Water Quality Exchange (WQX) the volunteer generated data is also available to users on-line locally, regionally and nationally.

WE'RE ON THE WEB:
www.uri.edu/ce/wq/ww/

Annual Registration Fee

\$600 per lake or pond site and \$300 per river site, generally paid by the sponsoring organization, not the volunteer monitor.

Companion Programs in Community Outreach

URI Watershed Watch is part of the Cooperative Extension Water Quality Program. It is one of a suite of outreach programs that can be easily tailored to specific audiences. These programs include the Non-point Education of Municipal Officials Program, the On-site Wastewater Training Center, Home*A*Syst residential pollution prevention education, Healthy Landscapes, the Greenshare pesticide and nutrient education program, Geographic Information Systems training through the URI Environmental Data Center, and Experiential Learning for graduate and undergraduate students.



To Become a URI Watershed Watch Volunteer.....

1. Please Contact:

Linda Green, Program Director
 Phone: 401-874-2905
 Email: lgreen@uri.edu

Elizabeth Herron, Program Coordinator
 Phone: 401-874-4552
 Email: emh@uri.edu

2. We will add you to our "potential volunteer" list for the next spring training (volunteers need to start at the beginning of a monitoring season) and will contact you when training will take place.
3. We will help you determine if your desired monitoring location is already part of URI Watershed Watch and if so, determine if additional volunteers are needed. If it isn't, we can help you find a local sponsor or steer you toward another monitoring location
4. Attend spring training and begin water quality monitoring!!

Linda Green, M.S., Elizabeth Herron, M.A., Arthur Gold, Ph.D., and Kelly Addy, M.S., are members of the Dept. of Natural Resources Science, College of the Environment and Life Sciences, University of Rhode Island. Contribution #3962 of the RI Agricultural Experiment Station, with support from RI Cooperative Extension, New England Water Quality Program and RI Department of Environmental Management. Illustrations from the University of Wisconsin Cooperative Extension. Cooperative Extension in Rhode Island provides equal opportunities without regard to race, age, religion, color, national origin, sex or preference, creed or handicap.

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