

From the Mouths of Rivers

Measuring Water Quality on the A.T.

BY CAROLINE DUFOUR

This fall, participants of World Water Monitoring Day will have an attractive new option: choosing and monitoring a site on the Appalachian Trail. “We’ve been gathering data on water quality along the Trail for several years with the help of our volunteers,” said Matt Stevens, ATC environmental monitoring coordinator, “but this partnership will allow us to get to a whole new level.”

Coordinated by the Water Environment Federation and the International Water Association, World Water Monitoring Day is actually a full month, from September 18 through October 18. Interested people can sign up on the event’s Web site and register their own site. Participants gather specific water quality data and can purchase a kit from the Web site or use their own equipment. After completing their monitoring, they can once again log onto the Web site and submit their data.

“Part of the power of World Water Monitoring Day is that it takes people’s contributions and fits them into a greater meaningful whole” said Laura Belleville, ATC regional director for central and southern Virginia. Although the information collected is fairly basic, the sheer amount of data collected will contribute to a larger picture that can help decision-makers and scientists focus further attention on water quality.

“The same reasoning applies to the A.T.,” said Stevens. “Partnering with World Water Monitoring Day should allow us to get more people out on the Trail gathering data, and even if it’s not the most

rigorous [scientific study], it will still give us a better picture of the situation.” Participants will be able to sign up as A.T. volunteers, which will allow the World Water Monitoring Day analysts to separate the A.T.-focused data and send it to ATC at the close of the event.

Partnering with World Water Monitoring Day and bolstering ATC’s water monitoring efforts are part of the new A.T. MEGA-Transect program, which establishes the Appalachian Trail as an “environmental laboratory” to monitor the health of the Appalachian Mountain region, and brings residents of the eastern United States into closer touch with changes in their environment.

Water Resources on the A.T.

The Appalachian Trail runs over, through and next to many lakes, ponds, streams, rivers, wetlands, seeps, springs and wells, and because it runs mostly along mountains and ridge crests, it often follows watershed divides. From Maine to Georgia, the A.T. passes through 64 major watersheds and most of the nearly 1,800 streams, rivers and lakes found along

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PHOTO BY RYAN COSENS

the Trail are at the headwaters of those watersheds.

“Because the A.T. runs along ridgelines, protecting land to secure the Trail has had the side effect of protecting headwaters as well,” said Don Owen, environmental protection specialist with the Appalachian Trail Park Office. The many water bodies along the Trail not only provide drinking water and scenic views for hikers, but also provide important habitat for wildlife and plants. Further downstream, these same resources contribute to public water supplies, sustain fisheries’ resources, and enable hydro-power generation.

“Monitoring water resources along the A.T. and high in a watershed presents opportunities that may not be available to programs that are designed to measure the quality of water used in public water systems, or to assess the status of water bodies that the public would like to use for recreational purposes like fishing and swimming,” said Fred Diefenbach, A.T. vital signs coordinator for the Na-

tional Park Service Inventory and Monitoring Network. “By monitoring at a headwaters point it may be possible to assess the quality of water before it is naturally altered, as it moves down through the watershed and is impacted by sources of pollution such as erosion . . . power plants and sewage treatment plants. We will be better able to gauge the effects of atmospheric pollution and even climate change on our water resources.”

The burning of fossil fuels for power generation and transportation is one of the widest reaching sources of water pollution. Fossil fuel combustion and industrial emissions produce acid rain and mercury deposition and the sensitive high elevation forests and headwaters along the A.T. are especially subject to these phenomena because of the interception of weather patterns by mountain ranges, commonly referred to as the “rainshadow” effect.

“The waters along the A.T., like the forests and wildlife, are often quite sensitive to the slightest changes of temperature, frequency and amount of rain, snow, and chemical inputs,” said Keith Robinson, director of the United States Geological Survey’s New Hampshire & Vermont Water Science Center. “Acid rain and mercury deposition are already known to have dramatically changed the chemical environment and adversely affected plants and animals in sensitive high altitude communities along the A.T.”

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Stream in Cheshire, Massachusetts; brook trout.

PHOTOS BY DAVE CRANDAL (BELOW) AND MATT STEVENS (RIGHT)



Ultimately, high elevation water bodies may provide a barometer of climatic changes if alterations in precipitation patterns and air temperature start affecting water levels, flow and temperature.

Getting Youth out on the Trail

In addition to partnering with World Water Monitoring Day, ATC has reached out to the Girl Scouts of America. “The Girl Scouts are already involved with World Water Monitoring Day, and they have been looking for additional meaningful outdoor projects, so it’s a natural fit,” said Laura Belleville.

One of the objectives of the A.T. MEGA-Transsect is to offer an avenue for citizens to get out on the Trail and learn firsthand about its lesser known aspects, such as the wildlife it shelters, the wealth of rare, threatened and endangered species it harbors, and the important water resources it encompasses. In the case of water monitoring, the measurements and procedures are especially suited to youth participants, whether it be in a family group, school group, or in the case of young adults, as a completely voluntary and self-motivated activity.

“It’s a great learning activity because it’s simple, do-it-yourself, and fun,” said Jeanne Mahoney, ATC’s volunteer resources coordinator. “It’s a useful and valuable thing to do and it’s one more reason to go spend some time outdoors and get on the Trail.”

It also offers an opportunity to participate for people who can not commit regularly or intensively.

Although part of the value of the event is in the sheer amount of information gathered and in the fact that it is gathered according to the same sampling methodology, it does not require the same individuals to be involved year after year, and does not require individuals to sample the same locations. “It’s a very flexible format; participants can sample as few or as many sites as they wish, they just have to register all of them. They can participate every year or only once in their life. The information they provide is just as valuable,” said Mahoney.

“Our target for this year is to have 800 people participate as A.T. volunteers,” said Belleville, “and we hope that people who haven’t been involved with the Trail, are completely new to it, or new to volunteering on the Trail will see this as an opportunity and get on board.”

Get Involved

For more information on ATC’s water monitoring program visit: www.appalachiantrail.org/watermonitoring or send questions to: waterquality2007@appalachiantrail.org.

Find out more about World Water Monitoring Day at: www.worldwatermonitoringday.org

Great Falls, Connecticut

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