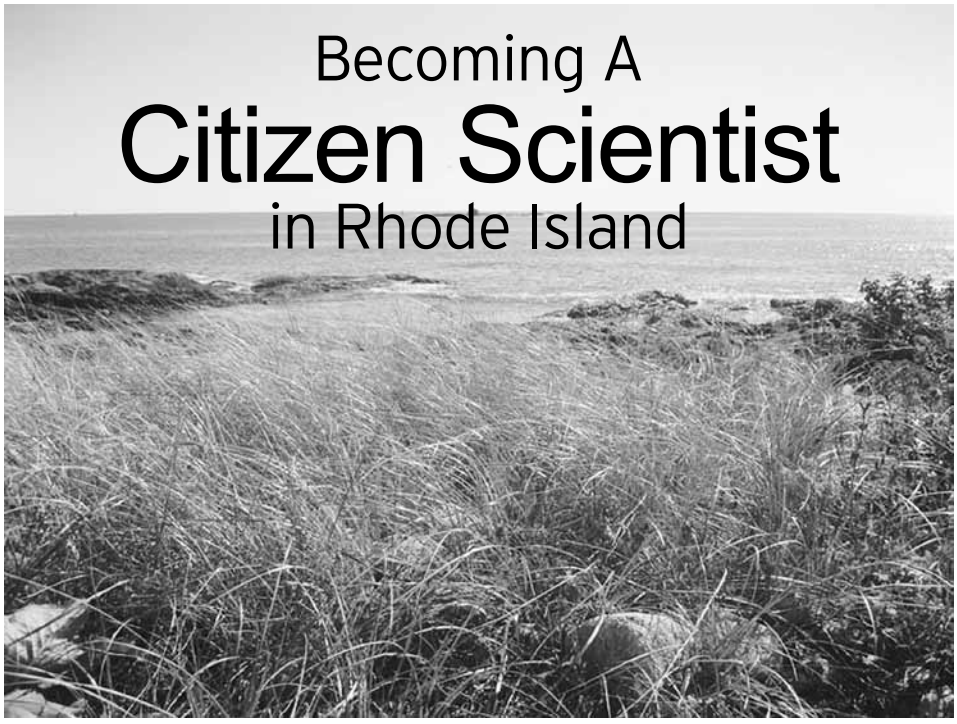
Becoming A Citizen Scientist in Rhode Island



by Wendy Fachon

Volunteers are working together to monitor watershed quality in an unusual way; they are zapping fish using electro-backpacks. A 200-volt charge electrifies the water within a one-foot diameter. Fish swimming within the electrified field become stunned and float to the top, where they are easily netted. The fish are then placed in five-gallon buckets filled with water. After a predetermined section of river is monitored, the captured fish are identified, measured and returned to the river. This opportunity is one example of many citizen scientist programs that have emerged around Rhode Island, empowering people and showing them how to have a positive impact on their local environment.

Watershed Projects

The watershed project was established by Woonasquatucket River Watershed Council (WRWC), Wood-Pawcatuck Watershed Association (WPWA) and Friends of the Moshassuck, and made possible by a U.S. Environmental Protection Agency (EPA) Small Urban Waters grant. The two-year grant enabled the WPWA to design a quality assurance plan, purchase equipment, develop safety protocols, create the training program and produce fish identification materials. Monitoring sites on three urban rivers—Woonasquatucket, Moshassuck and Ten-Mile River—volunteers can help compare fish in more pristine upstream locations to those in urbanized downstream locations. Volunteers monitor fish populations on an annual basis to help determine if overall water and habitat quality is changing. Learn more at *EcoRI.org/natural-resources/2013/8/24/environmental-groups-electrocute-fish-for-science.html*.

University of Rhode Island Watershed Watch (URIWW) is another volunteer opportunity that helps communities monitor water quality. URIWW also helps identify sources of pollution in water and provides information leading to more effective management of critical water resources such as lakes, ponds, streams and coastal waters. University scientists help local organizations recruit and train citizen scientists to gather detailed data. URI also provides equipment, supplies and analytical services tailored to organizational needs, while meeting strict quality assurance and quality control guidelines in the field and in their state-certified water testing laboratory. Learn more at *URI.edu/ce/wq/ww/*.

Bird and Butterfly Watching

Norman Bird Sanctuary's citizen science program, Project Feederwatch, is coordinated by Cornell's Lab of Ornithology. On November 14, NBS is launching a new season of data collection with an educational program for citizen scientists interested in setting up backyard birdfeeders and contributing observational data. Participants will learn how to build birdfeeders out of recycled materials. Learn more at *NormanBirdSanctuary.org*.

Rhode Island Audubon runs two citizen scientist programs that provide valuable information to scientists along with a historical record—the Osprey monitoring program and the North American Butterfly count. Osprey monitoring engages volunteers to observe nest sites all around the state. They report back regularly if the nest is active or not, the number of eggs laid and the number of chicks hatched.

The Annual Rhode Island Butterfly Count is scheduled for two Saturdays in June and July. Using scientific methods, citizens help count adult butterflies in all five survey circles covering all five counties. Naturalists lead parties of volunteers at select locations and are present to help identify the butterflies. Participants record time, weather, locality and observations on a survey sheet that lists more than one hundred butterfly species. At the end of the event, the numbers are tallied. In the 2013 survey, 66 observers saw 50 different species and counted 3,216 individual butterflies during a total of 85 party hours. Citizen scientists came away from the experience with lots of photographs, new knowledge and a strong sense of accomplishment. Learn more at *ButterflyingWithAudubon.blogspot.com*.

FrogWatch USA Program

The Roger Williams Park Zoo formed a chapter of the Association of Zoos and Aquariums (AZA) FrogWatch USA program that calls for citizen scientists to help monitor local frog and toad populations. In 2013 alone, 67 sites were monitored more than 800 times by Rhode Island FrogWatch volunteers. Participants attend a training session to

learn the importance of amphibians in the environment, how to tell frog and toad species apart by their breeding calls, and how monitoring local populations helps to protect them. Trainees commit to monitoring a local amphibian habitat (such as a pond or lake) and collecting data on what they hear, approximately once a week for about 15 minutes throughout the breeding season (March through August). Learn more at *RWPZoo.org/352/be-frogwatcher.*

Citizens scientists can also act upon a personal passion. Greg Gerritt, the watershed steward for Friends of the Moshassuck, became fascinated with Fowler's Toad tadpoles. He has been taking videos to document the behavior and growth of these tadpoles in a pond in Providence's North Burial Ground. Gerritt explains, "They are an indicator species about the availability of habitat and suitable conditions in modern urban America. The Moshassuck is among the oldest industrial rivers in North America, with mills being built before 1675. The watershed is more than 50 percent hardscaped, so it has all of the problems found in industrial rivers, and very little habitat." Gerritt's shares his videos on YouTube at *YouTube.com/user/Moshassuckcritters?view_as=public*

Citizen Scientist programs offer individuals and families a chance to develop environmental literacy through hands-on involvement. Volunteers receive training from professional researchers and become partners in improving the ecological balance of their home communities. Furthermore, these are ideal opportunities for children to learn about environmental careers, engage in fun activities that bring relevance to their academic learning and earn volunteer hours.

Wendy Nadherny Fachon is an afterschool educator offering environmental learning programs to elementary schools around Rhode Island. She is also an active member of Rhode Island Environmental Education Association (RIEEA). Visit her website at Netwalking.com to learn more.

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StillMadeInUSA.com provides examples of domestically made products in many categories, including personal apparel, handcrafts, household goods, green products, appliances, sporting goods and tools.

About 95 percent of our clothing is now made in other countries, according to the Ecology Global Network (*Ecology.com*), mostly in China, where sweatshops and human rights abuses are prevalent. Polyester and nylon are derived from petroleum and processed and dyed using synthetic, often toxic substances such as copper, nickel and cobalt. The nonprofit Center for Urban Education about Sustainable Agriculture's Fibershed and Grow Your Jeans programs (*Tinyurl.com/GreenJeansEtc*) and the Sustainable Cotton Project's Cleaner Cotton program (*Tinyurl.com/CleanerCotton*) increase domestic production by assisting and connecting domestic growers and textile makers.

In addition to spotlighting locally made products in its stores with special shelf tags, Whole Foods Market has made more than $10 million in low-interest loans to independent farmers and food artisans via its Local Producer Loan Program. Canyon Bakehouse, a gluten-free bakery in Boulder, Colorado; Buchi Kombucha, brewers of sustainably crafted, Earth-bermed tea in Asheville, North Carolina; and Fancypants Baking Company, makers of 100 percent natural and nut-free cookies in East Walpole, Massachusetts, are examples (*Tinyurl.com/WholeFoodsLocalLoans*).

Iconoclastic ice cream maker Ben & Jerry's (*BenJerry.com*), headquartered in Waterbury, Vermont, conducts a Caring Dairy program that assists farmers to apply more sustainable practices; buys eggs from hens in certified humane cage-free farms; and plans to transform all of its 50 flavors to non-GMO ingredients and earn fair trade certification by the end of this year.