

Since 1947, Rhode Island has coordinated its water-protection efforts with neighboring states through its membership in the New England Interstate Water Pollution Control Commission. Congress chartered NEIWPCC in that year. Since then, the Commission has added member states, professional staff, workgroups for state and EPA officials, and support for place-based programs such as the Narragansett Bay Estuary Program.

In the Northeast, where watersheds cross many political borders, cooperation on water issues is a necessity. NEIWPCC has long been the means by which its member states pull together to protect their water resources. NEIWPCC convenes water quality professionals to collaborate and share knowledge, conducts or funds research and water-resource-protection projects, and coordinates training for wastewater and other water professionals. NEIWPCC supports place-based education and outreach programs, and represents the interests of member states to federal agencies and other organizations.

The Commission is led by its seven member states—the six New England states and New York. Many of NEIWPCC’s activities span several states, or address problems and needs that all the states share.

As a member state, Rhode Island appropriates funds to support NEIWPCC’s work. Every five years the Commission sets state dues. In fiscal 2019 (October 2018 through September 2019), the combined contributions from its states was \$160,053, or 0.4 percent of the total monies directed to NEIWPCC during the fiscal year (\$37,181,846). While the majority of the Commission’s funding, therefore, comes from other sources—primarily federal grants, state contracts, and fees generated by its training and certification programs—the dues paid by states are indispensable to NEIWPCC’s ability to serve Rhode Island and its other member states.

The following are just a few highlights from fiscal 2019 that illustrate the significant return on Rhode Island’s contribution to NEIWPCC.

2019 Selected Highlights: Rhode Island

A A team of eight scientists waded into Round Top Brook in Burrillville last August to sample macroinvertebrates and assess the health of the stream habitat. In total, scientists surveyed fifty-four non-tidal streams and rivers in Rhode Island and southeastern Massachusetts.



By comparing the health of different species of such animals as mayflies, dragonflies, and slugs with the observed health of each habitat, this project will create an index of biotic integrity for the region. This index will allow state agencies and others to infer stream health by sampling macroinvertebrates alone.

With sampling completed in fiscal 2019, this project has entered its analysis phase. It is being managed by NEIWPCC with technical support from RIDEM and funding from the EPA’s Southeast New England Program.

B A NEIWPCC environmental analyst this past summer revived Rhode Island’s water quality monitoring program that had been dormant since 2017. The analyst coordinated a team of interns and RIDEM employees to collect water samples from more than fifty sites in the Blackstone River watershed. The samples were tested at the Department of Health’s laboratory for nutrients, dissolved oxygen, bacteria, and other indicators.

At some sites, the team collected macroinvertebrate data. Insects and insect larvae might live in water for anywhere from one to five years. Assessing their habitat and population numbers can sometimes provide a more useful gauge of stream health than the snapshot-type data collected by water-chemistry sampling. There are hundreds of different bugs the team might find and NEIWPCC’s analyst is helping to update the database that stores

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information on each species.

The monitoring work done by the environmental analyst and her team informs a report to the EPA on the status of Rhode Island's waters. The report, Rhode Island's Integrated Water Quality Monitoring and Assessment Report, is required under the Clean Water Act. The data collected also help RIDEM to prioritize areas for water quality improvements.

C Providence was the site of a one-time gathering of state environmental-agency staff members in May 2019, to support state responses to the emerging threat from per- and polyfluoroalkyl substances, or PFAS.

The health implications of these substances are not well understood. Interstate sharing of science and experience helps state agencies respond rapidly and appropriately.

NEIWPCC convened the May meeting, where staff members from five states heard presentations from a staff biologist from the Michigan Department of Environmental Quality and an oceanographer who co-directs the University of Rhode Island's PFAS research program, STEEP (Sources, Transport, Exposure and Effects of PFAS). These presentations laid a foundation for discussion of common issues and concerns, such as appropriate and effective risk communication, the kinds of data collection efforts needed to understand how PFAS spreads, and the level of effort needed to support decision making.

Participants also used the meeting to explore possibilities for interstate cooperation. Since May, the states of Vermont and New Hampshire have been working together to collect scientific data, supported in part by NEIWPCC. The Commission staff is also planning a regional meeting of state toxicologists and in September held a joint meeting of its Residuals and its Emerging Contaminants workgroups, to discuss shared concerns and hear a presentation about ways to model the spread of contaminants such as PFAS in soils.

D Twenty-four wastewater operators entered the Warwick Wastewater Treatment Facility on May 15 for a new class, "Pretreatment and Pollution Prevention of Brewery Discharges." The course began with an overview of the brewing process, the different levels of pollutant loadings generated, and how the industry is expected to grow. The class then shifted to pollution prevention, including disposal options and best management practices to reduce the volume of pollutants. Other topics were pretreatment permitting, sampling guidance, and a case study featuring the Warwick Sewer Authority and a local brewery. The training class ended with a tour of the brewery to see solutions in action.

Other NEIWPCC classes held in Rhode Island in fiscal 2019 focused on developing basic skills in wastewater, including two multi-week beginner classes ("Principles and Practices of Wastewater for Grades I & II") and specific skillset training ("What You Need to Know about FOG—Fats, Oils, and Grease" and "Extreme Weather in the Forecast: Is Your Facility Prepared?").

For more than fifty years, NEIWPCC has offered wastewater training to environmental professionals in the Northeast. This past fiscal year, NEIWPCC offered 110 classes, many over multiple days. Overall, class enrollments totaled 2,443, with 29,910 total

Rhode Island Commissioners

The governors of the seven member states each appoint five of the Commission's thirty-five members. The heads of the states' environmental agencies or their representatives comprise NEIWPCC's executive committee. Four other highly experienced individuals make up the rest of Rhode Island's delegation on the Commission, including a representative for the head of the state's health department.

The Commission thanks Alicia Good for her nineteen years representing the director of RIDEM on NEIWPCC's board. Good, the assistant director in charge of the state's Office of Water Resources, announced her retirement at the end of 2019.

Rhode Island Commissioners at the start of 2020:

Alicia Good, representing Janet Coit • June Swallow, representing Nicole Alexander-Scott • Janine Burke-Wells • Russell Chateaufneuf • one vacancy

training contact hours (TCHs) awarded. Five of the those trainings were held in Rhode Island, totaling twenty-six training days, 84 participants, and 1,507 TCHs.

E Early in fiscal 2019, researchers flew drones over Prudence Island, capturing detailed aerial views they used to map the island's coastal marshes. The goal of this pilot project was to explore how drones could be used to map salt marshes frequently and widely. Researchers produced "Guidelines and Methods for the Use of Small Unmanned Aircraft Systems for Mapping and Monitoring" as a result of their work.

This was one of two research projects completed in the fiscal year with funding from the Narragansett Bay Estuary Program (NBEP). These projects help fill knowledge gaps identified by the Estuary Program's 2018 *State of the Narragansett Bay and Its Watershed* technical report.

The NBEP administers funding for research, monitoring, planning, education, and restoration to protect the Narragansett Bay and its watershed. In fiscal 2019 the Estuary Program awarded a total of \$163,224 for six new projects. NEIWPCC is the institutional host of the NBEP, providing managerial and other support to the Estuary Program's staff and projects.

F In another NBEP-funded research project done in 2019, scientists used a digital sediment-profiling camera to survey the Narragansett Bay's benthic zones, the bay floors that are home to many fish and shellfish. The NBEP's *State of the Bay* report cited studies suggesting that healthy benthic zones could serve as an indicator of water quality improvements in the estuary. Nutrient pollution, which suffocates this valuable habitat, has been declining in the watershed over the last three decades.

Researchers analyzed data from sixty-three locations and compared their findings to surveys from 1988 and 2008. While they identified a few areas where nutrient loading is still high and benthic habitat is suffering, like Allen Harbor in North Kingston, their findings suggest that benthic habitat quality has improved across most of the Narragansett Bay.