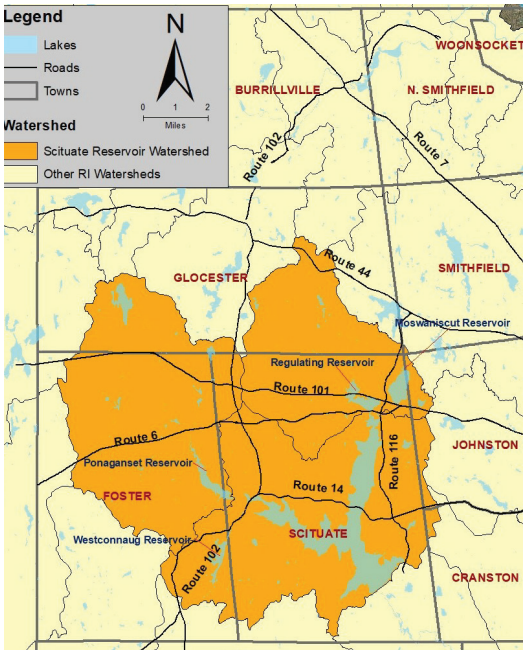
THE 28TH ANNUAL SCITUATE RESERVOIR WATERSHED EDUCATION PROGRAM POSTER CONTEST

Flowing through the Forest

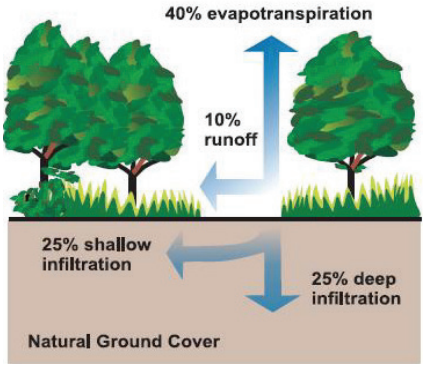
HOW HEALTHY WOODS KEEP WATER CLEAN

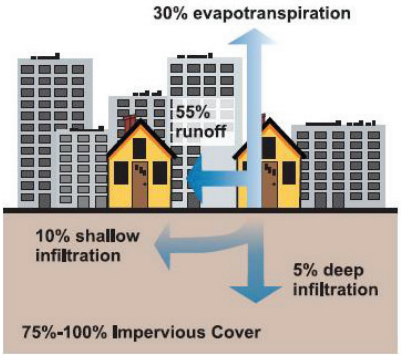
POSTER CONTEST BACKGROUND INFORMATION



The Scituate Reservoir is Rhode Island's largest surface water waterbody, and also its largest drinking water supply. A **watershed**, which can also be called a drainage basin, is the entire area of land that drains to a given body of water. For example, all of the water that falls in the Scituate Reservoir watershed, which includes parts of Scituate, Foster, Glocester, and Johnston, RI, will eventually either drain to the Scituate Reservoir or replenish the groundwater that area residents drink from their private wells. Although Providence Water owns some of the land surrounding the Reservoir, most land in the watershed is privately owned. This means that residents have a large role to play in protecting the drinking water in the Reservoir, as well as their own groundwater. Residents can help by being careful about what they allow to fall on the ground; pesticides, chemicals, road salt, pet and animal waste, and erosion from construction can all pollute drinking water if they are washed into the Reservoir during a storm.

These contaminants are washed into the Reservoir via **stormwater,** which is rain water and/or snow melt that runs off of streets, lawns, and other surfaces. As the water flows, it is possible for it to pick up pollution. **Nonpoint source pollution** is a type of pollution that does not originate from a single source but instead is accumulated over a large area as it is carried along by some fluid. **Point source pollution**, on the other hand, is a type of pollution that is discharged at a specific point such as a pipe or smokestack. Concentrations of nonpoint source pollution is often higher in areas with more **impervious surfaces**, such as pavement or asphalt, that do not absorb water and keep stormwater above ground. The diagrams below illustrate the difference in **groundwater infiltration**, or the absorption of water into soil, between pervious and impervious surfaces.





Water stays cleaner as it travels through a watershed if it infiltrates quickly and doesn't spend much time running over human-made landscapes such as roads and roofs where it can pick up nonpoint pollutants. Water still flows, albeit very slowly, once it is underground, and the soil it travels through acts as a very effective filter. Big particles like sediment stay in the soil, and the bacteria that live in the soil can break down many chemicals, even some very harmful ones.

Forests are very helpful for maintaining water quality, so over half of the drinking water supply in the United States comes from forested watersheds like the Scituate Reservoir Watershed. Trees help to protect water quality at all points in their lifecycle. Deep tree roots hold soil in place so it can filter groundwater. Soil, when held in place, is an excellent filter. However, when it is not held in place it is more susceptible to **erosion**, or movement caused by wind or water, and can become sediment, a nonpoint source pollutant. Trees help keep soil in the ground where it can perform its filtering functions instead of contributing to sedimentation. The many ways that forests help to preserve clean air and clean water are examples of **ecosystem services**, which are the natural processes of an ecosystem that also benefit humans.

Just as the forest and watershed provide ecosystem services, all Rhode Islanders can do their service to help keep water clean too. Many of the ways that families can keep their water clean also involve keeping forests healthy. Keeping the water in the Scituate Reservoir watershed clean also helps to protect Narragansett Bay. Some water from the watershed is allowed to leave the Reservoir and enter the Pawtuxet River, which flows to the ocean where many Rhode Islanders enjoy swimming, fishing, and fun at the beach.

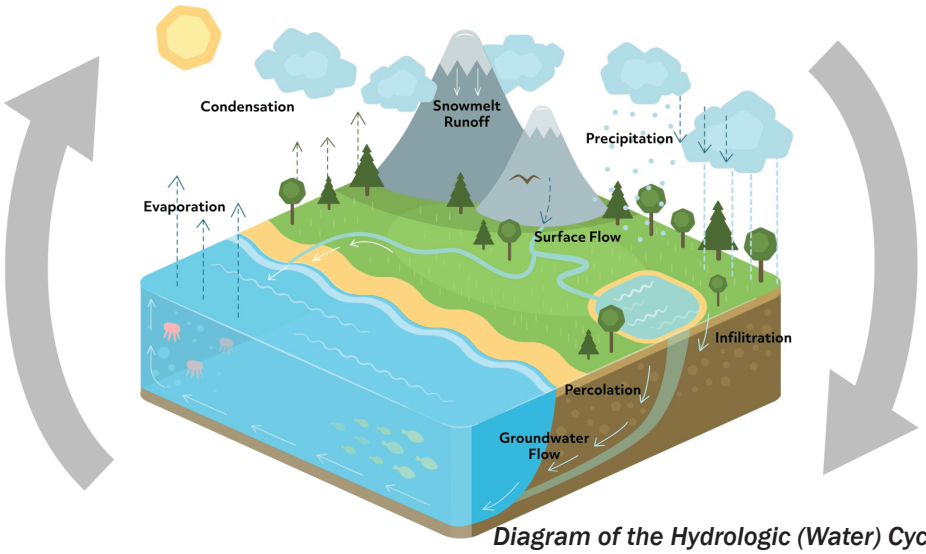


Diagram of the Hydrologic (Water) Cycle
Courtesy of Mometrix

SCITUATE RESERVOIR WATERSHED EDUCATION PROGRAM POSTER CONTEST INSTRUCTIONS

- Create a poster using markers, crayons, colored pencils, or paint that illustrates the important role that healthy forests play in keeping water clean and/or the importance of the Scituate Reservoir and water.
- Use paper no larger than 12" by 18." Do not use any copyrighted characters.
- Visit landwaterconnection.org for more background information and inspiration.
- Follow your teacher's instructions for turning in your poster. We will collect posters from each school on Friday, April 12, 2024. If you homeschool, contact tle.nricd@gmail.com to arrange pickup.
- Each School Winner will receive a pizza party kit for their family, a certificate, and be featured in our 2025 calendar. One Grand Prize winner will receive additional prizes!
- Additional entries may be awarded Honorable Mention prizes and be featured in our 2025 calendar.
- One winner will be featured on our annual billboard. Only horizontal posters will be considered for this award.
- Contact Todd Le at tle.nricd@gmail.com with any questions. We can't wait to see your beautiful posters!