

## **Managing stormwater to protect water quality**

**By Rebecca Hanson and Andrew Veilleux, Newfound Lake Region Association**

After nearly five inches of rain fell in Groton on July 12, 2019, the Cockermouth River flowed muddy and brown with sediment from erosion of the surrounding landscapes and roadways. In turn, this murky water flowed into Newfound Lake, impacting the lake's water clarity through the rest of the summer. High intensity storms, like the one we experienced on July 12 last year, cause a surge of water to pass over land areas. In the process, water gathers sediment, fertilizer, pet waste, and other pollutants, which then directly enter our lakes, rivers, and streams. This introduction of toxins is compounded by the presence of impervious surfaces, like roofs, roads, and driveways, near water bodies. Impervious surfaces prevent water absorption into the soil, and concentrate high volumes of sediment-rich stormflow directly into the nearest waterbody. An estimated 90% of water pollution problems in New Hampshire are caused by pollutants that enter surface water by overland flow.

Water clarity is an indication of lake health – a lake with high water clarity has lower levels of pollutants such as phosphorus and sediments. Healthy lakes and rivers are important to New Hampshire and play a vital role in maintaining a healthy ecosystem. Data suggest that a reduction in water clarity in New Hampshire lakes can lead to a reduction of property values, often increasing local property taxes, and negatively impact tourism.

New Hampshire can expect to see these high intensity storms increase in frequency due to climate change, and impacts on our water quality and clarity is imminent. Stormwater management is a vital tool in combating this problem and can be implemented at the individual homeowner level. Whether or not you live in proximity to a lake, river, or stream, your home and driveway can concentrate storm runoff and fast track pollutants into our waterways. Homeowners can lessen their impact by reducing impervious surfaces and increasing the amount of infiltration (the absorption of water into soil) systems on their property.

In the Newfound Watershed, the Newfound Lake Region Association (NLRA) tackles stormwater problems on several scales. Large-scale stormwater mitigation projects involve strong partnerships with watershed towns and state agencies, and often involve federal grants. Smaller scale projects engage individual homeowners and educate the community. All our stormwater programs and initiatives work to build Newfound's resilience to large storms.

There are statewide resources to help property owners manage stormwater on their own property. Soak Up the Rain New Hampshire ([soaknh.org](http://soaknh.org)) is a program offered by New Hampshire Department of Environmental Services that provides information for homeowners on the importance of this effort and methods to increase stormwater infiltration on their properties and in their neighborhoods. NH LAKES, a statewide group that keeps the state's lakes healthy and clean, runs the LakeSmart program ([nhlakes.org/lakesmart/](http://nhlakes.org/lakesmart/)), which empowers homeowners to protect lake health by instituting small changes on their property.

Homeowners in the Newfound Watershed can participate in an NLRA stormwater management program. NLRA performs free stormwater assessments, and, with the Youth Conservation Corps, a landscaping crew made up of area youth, can install attractive solutions such as rain gardens, driveway trenches, and drip edges. Homeowners provide the materials, and NLRA YCC labor is contributed at no

charge. These installations protect personal property but also the natural resources that make it so great to live here.

The impact of these increasingly frequent high intensity summer storms is apparent: erosion, road closures, and effects on water quality. Managing stormwater on our own properties is a realistic goal with a dramatic impact on preserving the integrity of this region's clean water.

Photo caption: Small scale stormwater remediation projects help filter pollutants and protect water quality.