

*Protecting the Saw Kill watershed and its ecological, recreational,
and historic resources through hands-on science, education, and advocacy.*



Claire Dickson

UPDATES FROM: SKWC LEADERSHIP TEAM

Esopus Creek and Ashokan Reservoir: To reduce the impact of muddy water on the NY City water supply from Ashokan Reservoir, the City releases highly turbid water from the Reservoir into Esopus Creek and ultimately the Hudson River. This turbidity is severely affecting water quality, stream ecosystems and wildlife habitat, and recreation. Take action, submit written comments to the New York State Department of Environmental Conservation by 5 p.m. June 16, 2021 (Kristen Cady-Poulin, Environmental Analyst, 625 Broadway, Albany, NY 12233, Phone: 518-402-9167, E-mail: DEPPermitting@dec.ny.gov.) See [Riverkeeper](#) for more information.

Danskammer Power Plant, Newburgh NY: Air pollution affects water quality. NY State has committed to reducing greenhouse gas emissions by enacting the Climate Leadership and Community Protection Act. This includes generating 70% of the state's electricity from renewable resources by 2030. The Danskammer power plant is proposing installation of new generators powered by fracked gas or diesel fuel, disregarding the state's ambitious energy goals. The state's Board of Electric Generation Siting and the Environment is holding two public hearings on this proposal on March 31. Comments can also be submitted online or mailed to the NYS Board on Electric Generation Siting and the Environment, Three Empire State Plaza, Albany NY 12223-1350. See the [Riverkeeper](#) site for more details and information.

RIPARIAN BUFFERS AND HOW TO PROTECT THEM

Julia Solomon, Town of Red Hook CAC

Riparian buffers, or the areas of land adjacent to streams and rivers, serve many purposes. They function best when covered by a healthy mix of native vegetation, including trees. Riparian buffers protect water quality by filtering out sediment and pollutants before they reach the water, stabilizing streambanks to prevent erosion, absorbing floodwaters, and keeping water cool by providing shade. Buffers also provide valuable habitat for a variety of species.

Many land uses, from agriculture to development to forestry, can have a negative effect on riparian buffers. We have all seen lawns that are manicured all the way down to the edge of a river or stream, or livestock grazing along a watercourse. Although these images may seem picturesque, they can have serious negative impacts on water quality. There is nuanced science behind how riparian buffers should be designed to provide the greatest water quality benefits, based on the size of the stream or river and characteristics of the land such as slope, soil type and surrounding land use. In general, though, it is a good rule of thumb that a one-hundred foot buffer should be left undisturbed on both sides of a stream, and that this land should have as healthy a mix of native vegetation as possible.

While it is possible for governments to regulate the land use within riparian buffers, it is not always easy to protect them through regulation. In places like New York, the vast majority of streams run through private property, and the kinds of activities that cause harm to riparian buffers – such as cutting of trees, landscaping, and agriculture – are not always subject to permitting and oversight by towns or the state. Municipalities can and should adopt laws that are protective of healthy riparian buffers, but regulation must be accompanied by education so that riparian landowners are motivated and knowledgeable.

We are fortunate that here in the Hudson Valley, there are a number of resources available for landowners who are interested in learning more about riparian buffer protection or taking action to protect the riparian buffers on their land.



Resources for property owners:

[NYS DEC Riparian Buffer Information](#) – general overview of riparian buffer purpose & function, with funding sources for buffer restoration projects

[NYC DEC Trees for Tribes](#) – provides free native trees and shrubs to landowners for riparian planting

[Dutchess County Soil & Water Conservation District](#) – provides info for landowners and sells low-cost native seedlings in early spring

[Columbia County Soil & Water Conservation District](#) – provides info for landowners and sells low-cost native seedlings in early spring

[NY Natural Heritage Program Riparian Opportunity Assessment Project](#) – statewide mapping initiative to prioritize riparian buffers for protection and restoration

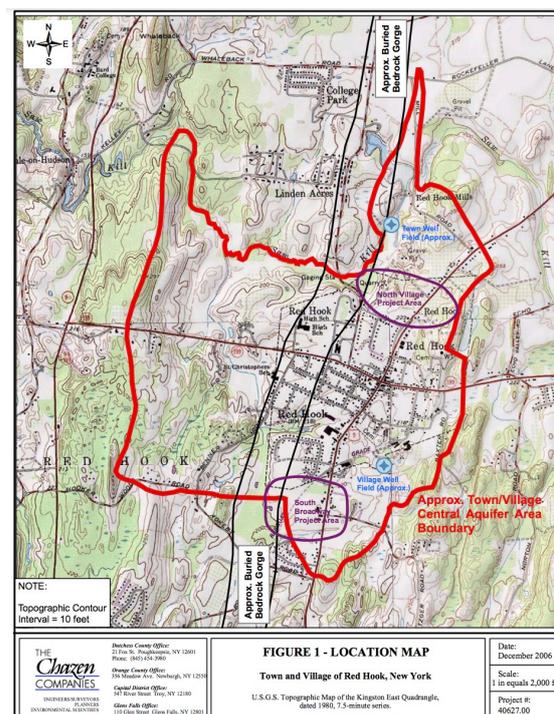
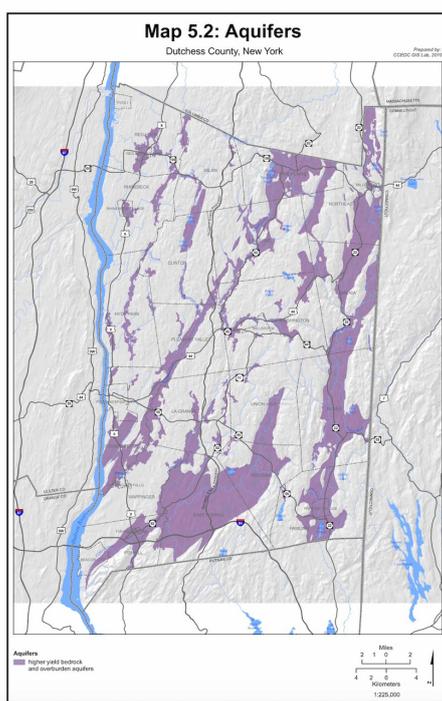
[Stroud Water Research Center \(PA\)](#) – conducts research on riparian buffers, particularly in agricultural landscapes

CONNECTING THE SAW KILL AND RED HOOK'S DRINKING WATER AQUIFER

Claire Dickson, Saw Kill Watershed Community Intern Bard College '22

The Saw Kill watershed covers about 22 square miles of land, including the Town and Village of Red Hook, Milan, Rhinebeck, and Town and Village of Tivoli. The waters above and below ground are connected throughout the watershed. Watershed features such as groundwater, aquifers, and the Saw Kill itself are drinking water sources for Red Hook's Town and Village residents.

The Village of Red Hook is located above an underground aquifer, which is a geological formation composed of rock, sand, or gravel capable of storing or transmitting a significant amount of water. This small sand and gravel aquifer is what supplies drinkable water to every business and resident of the Village, as well as some additional residents and businesses in the Town of Red Hook. Originally established in the 1930s, the Village of Red Hook's municipal drinking water system serves 2,730 people through over 800 service connections and eight bedrock and gravel wells. In addition to these, there are three extra wells located east of the Village, that have the potential to supply water to any new developments within sections of the Village.



How much the aquifer contributes to the base flow of the Saw Kill is unclear. In general, a significant exchange of water between watershed streams and the aquifer happens when water seeps through the soil to become groundwater, a process called infiltration. Along with precipitation, infiltration contributes to aquifer recharge. This same process is what happens between the Saw Kill and Red Hook aquifer.

Unlike Bard College, with a water supply intake from the mouth of the river, residents of the Village and Town of Red Hook get their drinking water from two separate wellfields. The wells are drilled into the aquifer, and the wellfields are the lands that surround them.

Although zoning regulations and land use policy help to prevent drinking water contamination, recharge areas such as the Bard College surface water intake location and the Town of Red Hook wellfield, are within predetermined floodplains and regulated floodways. In other words, these drinking water sources are at risk for flood-related impacts, such as pollutants carried in from the surrounding land by stormwater runoff and floodwaters. Runoff from impervious surfaces such as roads and parking lots can carry pollutants, which can then enter surface water sources. From there, some pollutants can then infiltrate into groundwater.

The quality of the community's water resources is determined largely by land use, stormwater runoff, and the way we treat our waste. Around 89 percent of Red Hook Town residents rely on individual wells for their drinking water, so it is of the utmost importance to protect groundwater and aquifer resources. Beyond proper wastewater treatment, it is crucial to promote proper land use practices that work to reduce impervious surfaces and increase buffer zones in order to further protect the water from any contaminants. Wetlands, which cover about 12 percent of the watershed's area, can counteract flooding and excessive runoff by absorbing floodwaters and releasing them slowly. To protect and maintain the health of the community and its drinking water, the land around these sources must be preserved as well.

