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Know Your Watershed: The Hudson Direct Drainage

by Sheila Buff



Everyone on planet Earth lives in a watershed: a geographic area, bounded by a divide, where all the water that falls on the land drains into a single outlet. A small watershed might be just the area that drains into a single small stream. A large watershed would be the entire area that drains into a large body of water, such as the Hudson River. Every large watershed is made up of a mosaic of smaller watersheds.

In the Hudson River valley, many subwatersheds make up the larger watershed that drains into the river. Dutchess County alone has four major Hudson River subwatersheds, including the Wappinger Creek watershed, the Fishkill Creek watershed, the Roeliff Jansen Kill watershed (most of this is in Columbia County), and the Hudson Direct Drainage watershed. The Ten Mile and Croton River watersheds are also in Dutchess County, but they don't drain into the Hudson, at least not directly.

The Hudson Direct

Residents of northwestern Dutchess County live in the Hudson Direct Drainage watershed, stretching the full north-south length of the county along the eastern edge of the Hudson River. The Hudson Direct Drainage Watershed gets its name because all the streams and subwatersheds in it drain directly into the Hudson River. The streams in it are, for the most part, short and individual—they're not tributaries or headwaters of other streams.

The Hudson Direct Drainage Watershed contains 14 separate streams: Stony Creek, Mudder Kill, Crum Elbow Creek, Fall Kill, Maritje Kill, Wades Brook, Saw Kill, Gordons Brook, Landsmankill, Fallsburg Creek, Indian Kill, Bard Rock Creek, Rhinebeck Kill, and Casperkill. The Fall Kill, Landsmankill, and Casperkill are all listed as Class C streams by the NY State DEC, meaning that they are good for fishing but not for anything that involves getting wet,

such as swimming. Crum Elbow Creek is listed as a Class A stream, meaning it's safe for fishing and swimming.

Life in the Watershed

The Hudson Direct Drainage streams support a wide range of animal and plant life, similar to that of other streams in Dutchess County. Fish such as largemouth bass, pumpkinseed sunfish, cutlips minnow, redbfin pickerels, bluegills, and golden shiners are all common. Among amphibians, the watershed is home to painted turtles, wood frogs, and spring peepers. And among mammals, the watershed supports deer, coyotes, foxes, skunks, and muskrats. An unusual aspect of the Hudson Direct Drainage is its crucial importance to the migratory American eel (*Anguilla rostrata*). This common eel depends on the freshwater streams of the watershed to complete its reproductive cycle. The eels are born in the warm, salty Sargasso Sea, more than a thousand miles from the Hudson River. While still very young, the juvenile eels migrate north and unerringly find their way to rivers along the Gulf Coast and eastern seaboard, including the Hudson River. Along the Hudson, the mouths of the freshwater streams of the Hudson Direct Drainage seem to be ideal habitat, with large numbers of juvenile eels arriving every spring. At this stage, the tiny eels are only a couple of inches long and are almost transparent—they're often called "glass eels."

Beyond their return to fresh water, however, much of the lifecycle of the American eel still remains mysterious. Researchers don't really know what happens to the eels between the time they return to the Hudson River vicinity and the time, years later, when the adult eels return to the Sargasso Sea to spawn. To learn more, a major citizen science research project is underway that enlists students and other volunteers in the region to trap, count, weigh, and release the glass eels in local streams. In the Hudson Direct watershed, regular counts take place along the Saw Kill at Bard College and on the Fall Kill and Crum Elbow in Hyde Park. The multi-year data that these long-term studies provide are extremely valuable for assessing the health of the eel population—and by extension, the health of the streams and the watershed.

Threats to the Watershed

The most serious threats facing all streams and watersheds in Dutchess County is a serious lack of water resource protection laws. Watersheds and streams don't stop at town boundaries. Because everyone lives downstream of someone else—and is affected by the actions of everyone upstream. While the town of Rhinebeck put a strong, well-considered water resource protection law into effect in January, the new Town Board in the adjoining community of Hyde Park almost simultaneously repealed a very similar law that had been passed the year before. Environmentally destructive political agendas have derailed watershed protection in other communities, such as Milan.

Other threats:

Trash and Sewage. Careless disposal and deliberate dumping is more than an aesthetic problem. Trash-clogged streams destroy habitat and can cause flooding and contamination. Failed septic systems and leaking sewer pipes can pollute the stream water.

Erosion. Water erosion eats away stream banks, undermines bridges, culverts, and other structures, and causes flooding. Stream buffers—unmowed areas up to 50 feet wide along stream banks—prevent erosion, but buffers in our area are rare. Buffers can help, but reduced use of fertilizers, pesticides, and road salt is the best way to keep these pollutants from washing into our stream water.

Fortunately, the streams of the Hudson Direct Drainage watershed have many friends. In addition to the excellent work done by town volunteer conservation advisory councils (CACs), stream protection organizations in the area bring together caring residents who volunteer to organize cleanups, monitor water quality, arrange tree plantings to prevent erosion, and help residents learn to appreciate and enjoy their local water resources. The newly formed Stream Alliance of Northern Dutchess (SAND) works to protect the smaller streams in our immediate area, such as the Crum Elbow Creek in Hyde Park and the Landsmankill in Rhinebeck.

In July, these local watershed protection groups will join with others throughout Dutchess County to celebrate Watershed Awareness Month, a countywide event that features a month-long roster of family friendly events, including free movies and performances, stream cleanups, and educational activities.

Enjoying Your Watershed

The streams in northern Dutchess meander mostly through farm fields and private property. Even so, there's a fair amount of public access to them for fishing, wildlife watching, and general enjoyment:

- In Red Hook, the Saw Kill can be accessed at the Red Hook Recreational Park and also at the Bard College Campus. The Greenway Trail through Bard follows the course of the stream. The Mudder Kill runs through Poet's Walk.
- In Rhinebeck, the Landsmankill runs through the American Legion Park, the Lions Mini Park, and at the far end of Thompson-Mazzarella Park (where it joins with the Rhinebeck Kill in a wetlands area).
- In Hyde Park, the Crum Elbow Creek runs through Greenwood Park, the Vanderbilt Mansion National Historic Site, Pinewoods Park, and the Winnakee Nature Preserve. The Fallkill runs through Greenfields Park and the Eleanor

Roosevelt National Historic Site. In the city of Poughkeepsie, access to the Fallkill is at Fallkill County Park, Malcolm X Park and Morse Elementary School, and Waryas Park.

To Learn More

Dutchess County Watersheds: dutchesswatersheds.org

Watershed Awareness Month: dutchesswam.com

Stream Alliance of Northern Dutchess (SAND):
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