

WATER RESOURCES

Rivers and streams

Hardwick is fortunate to have abundant riparian resources. Nearly all of the rivers and streams in Hardwick contribute to the Lamoille Drainage Basin. A very small portion of land on the Wolcott line near Greensboro drains into the Black River (see Natural Resource Constraints Map).

Riparian Habitats

Plant life such as trees, shrubs, grasses and herbs along stream banks and river corridors serve to provide both food and shelter for a great many wildlife species. Several of Vermont's wildlife groups, including deer and moose, are highly dependent on riparian areas for their habitat needs. Maintaining riparian habitats is very important to both water quality and wildlife habitat.

Lakes and ponds

The Vermont Department of Environmental Conservation has identified two lakes or ponds greater than 20 acres and two smaller ponds of at least ten acres in Hardwick. These bodies of water fall under the jurisdiction of the State's Shoreland regulations.

Hardwick Lake is an artificial lake created by an impoundment behind the Hardwick Lake Dam. The lake is at an elevation of 797 feet, has a surface area of 145 acres, and a watershed area of 6,876 acres. According to a state watershed assessment report (2008), aquatic life is not fully supported due to the extreme water level fluctuations. The lake is drained each winter to reduce ice dams and flooding potential in the village. Residents in Hardwick recognize Hardwick Lake as a scenic and recreational resource.

*"I love the wild places, Hardwick Trails, all the Lamoille River, Hardwick Lake. What a treasure – I see so much wildlife there! – loons, great blue herons, osprey, green herons, bald eagles, mink, red fox, deer, migrating ducks and Canada geese, snapping turtles, yellow perch, catfish, crayfish – it is alive with animals and plants, many wildflowers along the edge." –
Hardwick Resident from the 2018 What Places Do You Love? Survey*

Tuttle Pond is a small secluded pond with a rich biological community. According to the watershed assessment report, there are indications that the pond may be impacted by nearby pastureland. As a result the state classifies Tuttle Pond as threatened. Tuttle Pond is a 20.65 acre natural pond, has a maximum depth estimated at only 5 feet, and is supported by a 342 acre drainage area. The two smaller ponds in town include Little Eligo Pond (14 acres) and Mackville Pond (12 acres).

Wetlands

Wetlands serve a number of important functions, including storm water retention, erosion control, ground water recharge and wildlife habitat. Vermont's wetland regulations are based upon the National Wetlands Inventory. They designate all of the wetlands identified by the inventory in Hardwick as Class II, and require a 50-foot vegetated buffer between the wetland and any adjacent land development (see Water Resources Map). Any wetland that is found on

the ground but is not on the map will generally be classified as class III and require a 25 foot buffer.

Groundwater resources

Groundwater is the source for over 90% of the drinking water for rural communities in Vermont. It is replenished through rain and surface waters which percolate through the soil. Any activity which introduces contaminants directly into the ground (such as underground storage tanks, septic disposal fields, and agricultural activities) can affect groundwater quality.

Public groundwater sources in Vermont have Source Protection Areas (SPA). There are three source protection areas in Hardwick; the Hardwick Village SPA, the East Hardwick Fire District SPA, and the Greensboro Bend SPA. Additionally, the Town owns a spring off of Renaud Road.

Water quality

In Hardwick, two of the main issues that impact water are agricultural runoff and storm water runoff from impervious surfaces. Vermont's Agency of Natural Resources regulates water quality for the entire state.

The Agency of Agriculture has produced "Required Agricultural Practices" (RAPs) for farms and similar standards for silvicultural operations. The Required Agricultural Practices improve the quality of Vermont's waters by reducing and eliminating cropland erosion, sediment losses, and nutrient losses through improved farm management techniques, technical and compliance assistance, and enforcement. The RAPs establish nutrient, manure and waste storage standards, make recommendations for soil health and establish requirements for vegetated buffer zones and livestock exclusion from surface water.

Goals, Policies, & Recommendations

GOAL

- Hardwick's water resources, including its lakes, ponds, streams, rivers, wetlands, groundwater, and associated habitats, should be preserved and, where degraded, improved in order to ensure water quality for drinking, recreation, and the environment.

POLICIES

- All class 2 wetlands are required to have a 50-foot buffer. All class 3 wetlands are required to have a 25 foot buffer. No filling or draining of wetlands is permitted.
- All construction where soil is to be disturbed should provide adequate erosion control so that no soil moves off site or into surface waters or wetlands.
- Total impervious surfaces on developed sites should be less than 10% of the site. Where appropriate, stormwater technologies or techniques should be used to prevent runoff from directly entering any surface water.

ACTIONS & RECOMMENDATIONS FOR IMPLEMENTATION

- Public education and signage should be placed at all boat accesses and public accesses to notify the public of Eurasian Milfoil and other invasive species and how to protect the lake.
- A wetland inventory of the town should be conducted.
- The Select Board should examine the feasibility of creating a new Source Protection Area which surrounds the Renaud Road spring.