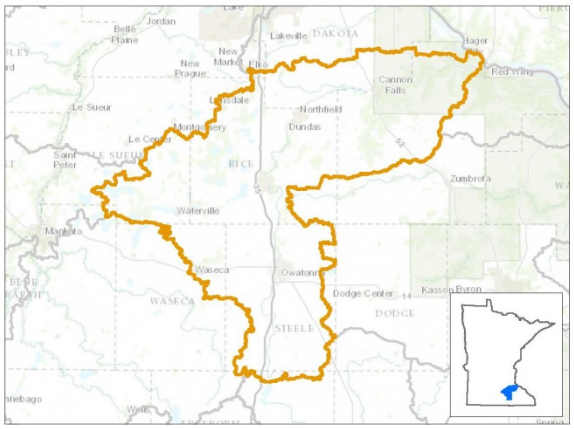
Cannon River Watershed

Clean Water Accountability Progress Report



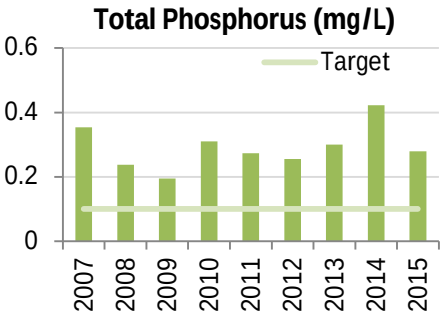
The Cannon River Watershed drains 946,440 acres; most of it used for agriculture, and consists of two river systems, the Cannon and the Straight. These rivers pass through scenic landscapes of variable terrain, from the flat wooded floodplains along the Straight River to blufflands in the lower reaches of the Cannon River.

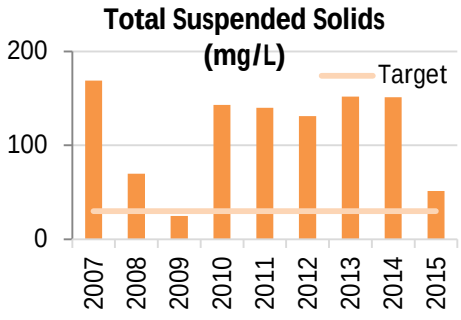
For the lakes and streams in the watershed to meet water quality standards, the reductions in pollutants need to come from both point sources, such as wastewater from a city, and nonpoint sources such as sediment that washes from the landscape during storms. The Watershed Restoration and Protection Strategy (WRAPS) report outlines strategies to reduce pollutants, such as agricultural practices to reduce runoff and erosion, manure runoff controls, sewer system upgrades, limits on wastewater discharges, and urban stormwater controls.

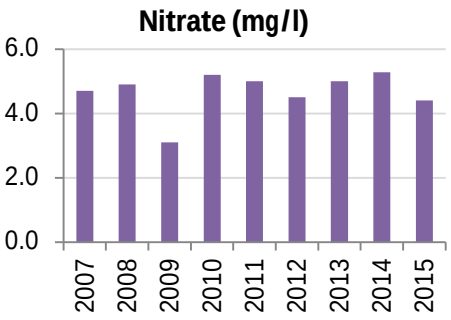
Many areas in the Cannon River Watershed provide high-quality habitat for fish and other aquatic life, and need protection. Strategies that would both help protect and restore streams throughout the watershed include planting cover crops, installing buffers along streams, installing grassed waterways, using contour farming, and implementing water and sediment storage.

Water quality measurements

The graphs below show the annual flow weighted mean concentration (FWMC) of total phosphorus, total suspended solids, (TSS) and nitrate. FWMCs help to normalize pollutant loads across years with varying precipitation. The target identified for phosphorus and TSS is the water quality standard. There is no surface water quality standard for nitrate.



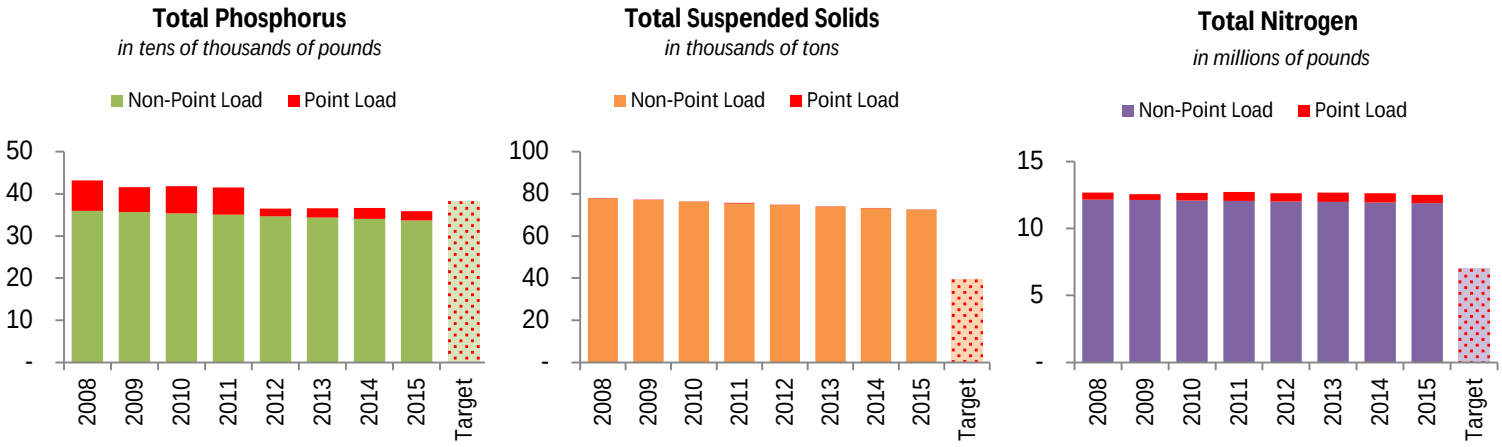




Compared to other watersheds in the state, the Cannon exhibits higher than average total water runoff. Much of this can probably be attributed to the combination of steep topography and porous limestone geology in the lower portion of the watershed; and higher precipitation. For water quality, there are no clear trends for phosphorus, TSS, and nitrate near the mouth of the Cannon River. Phosphorus and TSS are highly variable from year to year, but generally well above target levels.

Progress toward load reduction targets, 2008-2015

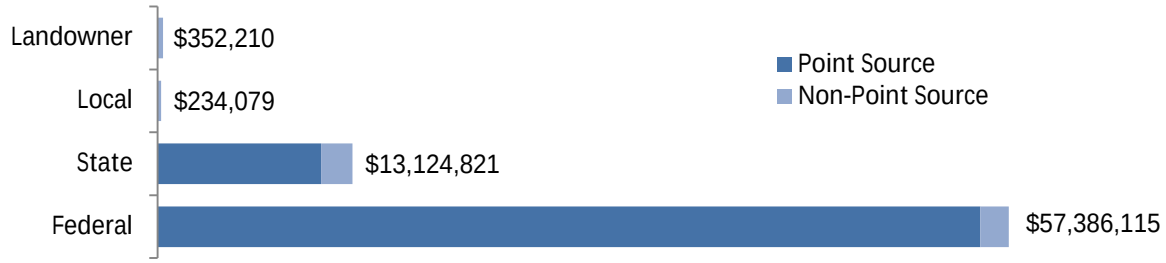
The Cannon River Watershed Restoration and Protection Strategy calls for a minimum 12% reduction in TP, a 50% reduction in sediment, and a 45%reduction in nitrogen in order to achieve water quality goals. These charts display the annual load reductions for nitrogen, TP and TSS estimated as a result of best management practices (BMPs) reported to U.S. Natural Resources Conservation Service and to the Minnesota Board of Soil and Water Resources, for the period of 2008-2015. These charts do not take into account factors such as land use changes, climate change, or privately funded BMPs. The modeled load for 2008 serves as the baseline load, with the estimated reductions shown relative to that baseline.



Top non-point source BMP activities in the Cannon River Watershed, 2008-2015

BMP Type	Projects	Acres	N reduced (lbs)	P reduced (lbs)	TSS reduced (tons)
Residue & Tillage Management	872	32,065	58,425	12,174	3,447
Water & Sediment Control Basins	844	8,450	29,503	2,992	761
Nutrient Management	545	23,974	56,110	1,178	0
Permanent Vegetative Cover	239	663	5,290	159	34
Diversions and Waterways	208	977	0	236	100

Water quality improvement spending in the Cannon River Watershed, 2008-2015



The figures in this report are based on data from several agencies. For details, see: www.pca.state.mn.us/water/clean-water-fund.