

Larkin Creek

Watershed Fact Sheet

Monroe County



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The Watershed

Larkin Creek originates south of the New York State Barge Canal in the Town of Ogden and flows north, emptying into Buck Pond in the Braddock Bay Fish and Wildlife Management Area in the Town of Greece. The watershed (Figure 1) covers an area of 10,974 acres, or just over 17 square miles, with a mapped stream length of 30 miles. Smith Creek is a named tributary that discharges from the west into Larkin Creek north of Latta Road. Land use is nearly evenly split between residential and rural/agricultural with a dense commercial/industrial area in the middle portion of the watershed running along sections of Ridge Road West.

According to the New York State Department of Environmental Conservation's (NYSDEC) "Lake Ontario Basin Waterbody Inventory and Priority Waterbodies List," Larkin Creek and its tributaries have minor impairments and moderately impacted water quality. The primary pollutant source in the Larkin Creek watershed is nonpoint nutrient enrichment from urban runoff.

Pollutant Sources

In 2002, Buck pond was added to the NYSDEC's "Waterbody Inventory/Priority Waterbodies List," referred to as the "303d," list as part of the Federal Clean Waters Act requirements to identify "impaired waters," where specific designated uses are not fully supported. This subsequently required the development of a Total Maximum Daily Load (TMDL) or other restoration strategy. In July 2010, a draft TMDL was developed by the NYSDEC. The report modeled the sources of phosphorus and estimated that 41.7% of the load to Buck Pond came from developed land while a total estimated load

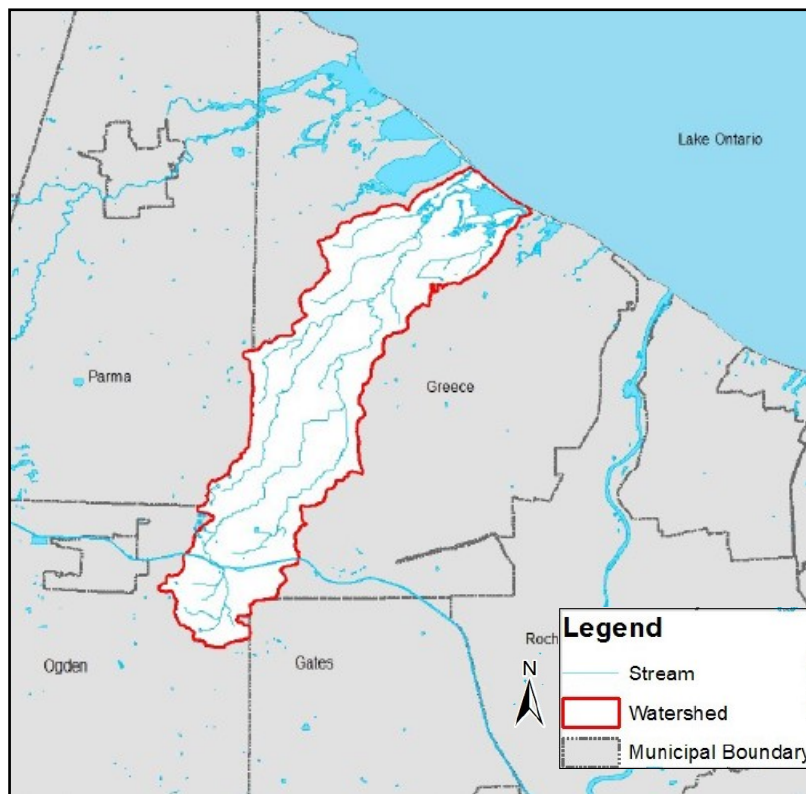
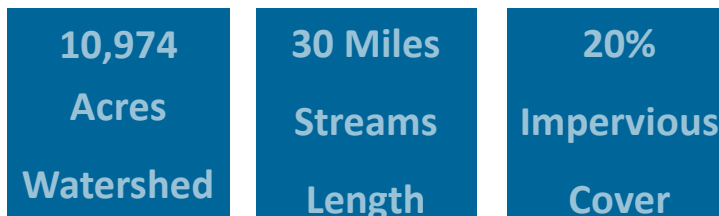


Figure 1: Map of the Larkin Creek Watershed



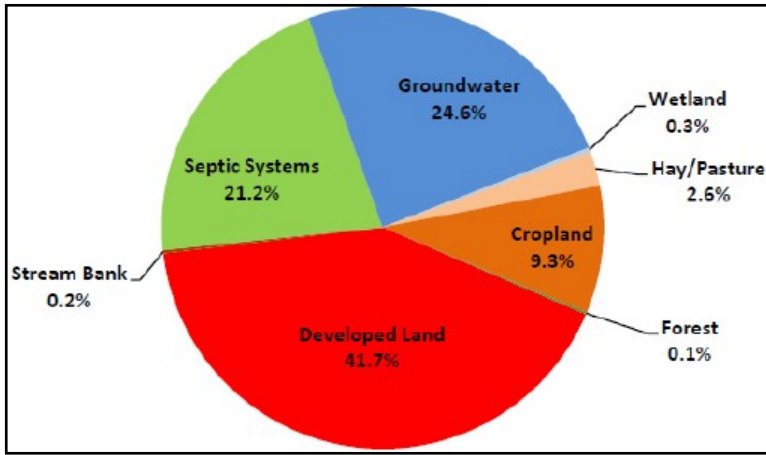


Figure 2: Estimated Sources of Total Phosphorus Loading to Buck Pond

of 72% is estimated to be from anthropogenic sources (Figure 2). TMDL implementation was subsequently placed on hold allowing time for local stakeholders to develop a strategy to reduce loads.

How land is used within the watershed (Figure 3) affects the volume and quality of stormwater runoff entering streams.

Similar to many developing areas, growth in Monroe County has caused some unfortunate impairments to water quality. The Center for Watershed Protection created the “Impervious Cover Model,” (ICM) to predict a typical stream’s health using the relationship between sub-watershed impervious cover and stream quality indicators. The ICM shows stream quality decline becomes evident when the watershed’s impervious cover exceeds 10%. Larkin Creek currently has an average of 20% impervious cover, identifying the stream quality to be somewhere between poor and good with impacted aquatic life. Based on current zoning it is predicted that watershed impervious cover will increase to 25% in the next 20 years.

Potential for Improvement

An inventory of potential retrofit sites was generated using GIS mapping tools to locate public properties, existing stormwater practices like ponds, old urban areas (those predating stormwater management requirements), and pervious soils (Figure 4). Two broad categories of retrofit projects were considered: 1) New stormwater ponds, upgrades to existing stormwater ponds, and new stormwater storage for existing drainage channels; and 2) Green infrastructure projects which can be installed in public right of ways, older residential neighborhoods, and areas with large impervious areas (ie. Shopping malls/plazas). Of these practices, retrofitting existing stormwater ponds is the most cost-effective. These projects rank well and are highly recommended. Other watershed retrofitting that would help meet water quality goals include the investigation and remediation of any stormwater pollution hotspots and de-channelization and restoration of straightened and degraded stream corridors.

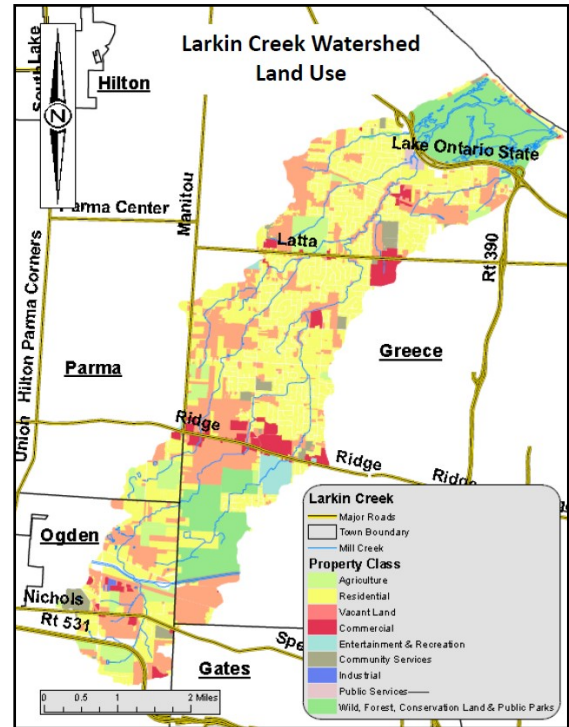


Figure 3: Land Use in the Larkin Creek Watershed

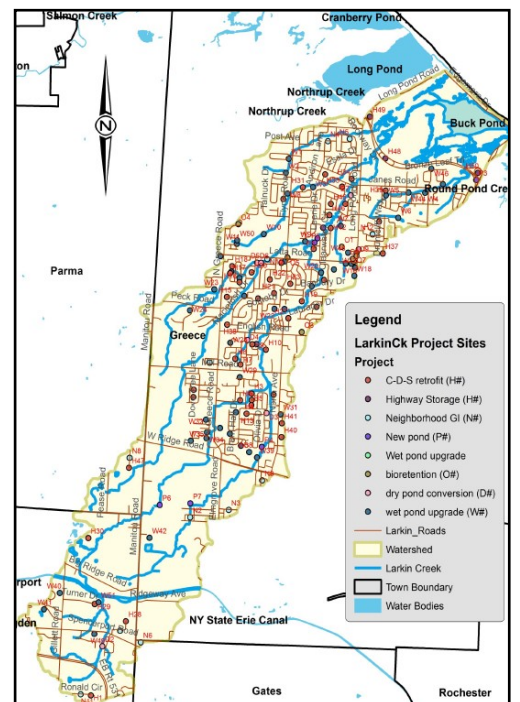


Figure 4: Potential Retrofit Projects