

History of WHITAKER POND



Subwatershed Size 640 acres
Average Depth 1 ft

Since 1996, four grants totaling \$49,700 have been completed from State funding.

Once a forested wetland, then a ditch, then a pipe with a pond, this key drainage area has changed with its surroundings over the years. Increased runoff volumes from development and road work have introduced stormwater contaminants into Lambert Creek, and a need for more water storage. The water quality of the pond varies (see reverse), receiving either clean, cold groundwater seepage or polluted stormwater runoff depending on recent rain events.

Highway 96 Improvement: 1996

Whitaker Pond was formerly a ditch that was undersized for the volume of runoff coming in from the Hwy and the neighborhood. As Highway 96 was redone, drainage was regraded and the pond was created.

Weir #1 Install: 1996

A weir is a low dam built across a waterbody to regulate flow. In this case, the weir regulates flow in Lambert Creek. The weir was also a way to accommodate for the increased storage of Whitaker Pond.

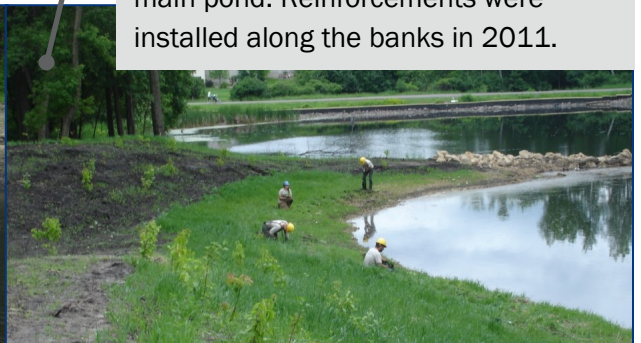
Weir #2 Install: 2010

Bags of sand/iron material were installed within a new weir. With Lambert Creek being impaired for high nutrients, this measure strived to reduce levels.



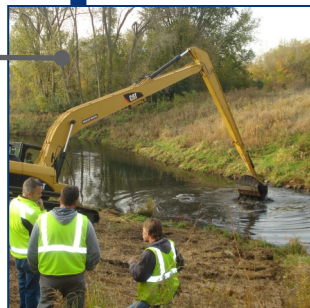
Forebay Construction: 2010

A forebay was built upstream from the main pond to provide a space for sediment to settle out. This reduces sedimentation in Lambert Creek and makes maintenance easier than in the main pond. Reinforcements were installed along the banks in 2011.



Dredging: 2015

Dredging took place in the main pond in 2010, and in the forebay in 2015. In 2015 80 cubic yards were removed, which was enough to fill 7 truck loads! The forebay is monitored each year by taking sediment core samples, and is dredged every few years to keep water storage optimal.



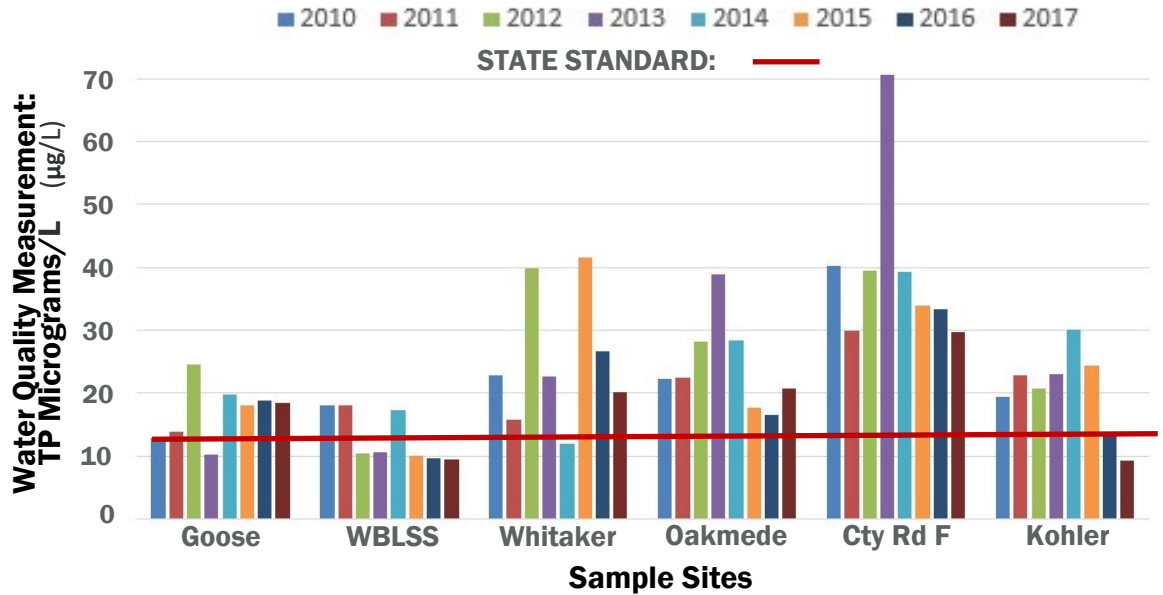
LAMBERT CREEK TP:

Whitaker Pond is the start of Lambert Creek, which is an impaired water body. While TP in Lambert Creek is above State standards, nutrient levels show they're dropping over the last 20 years. The creation of multiple best management practices (BMP's) contribute to this progress. Lower phosphorus levels in Lambert Creek have a direct connection to cost savings for where Lambert Creek ends up; Vadnais Lake and the Saint Paul Regional Water Services (SPRWS).

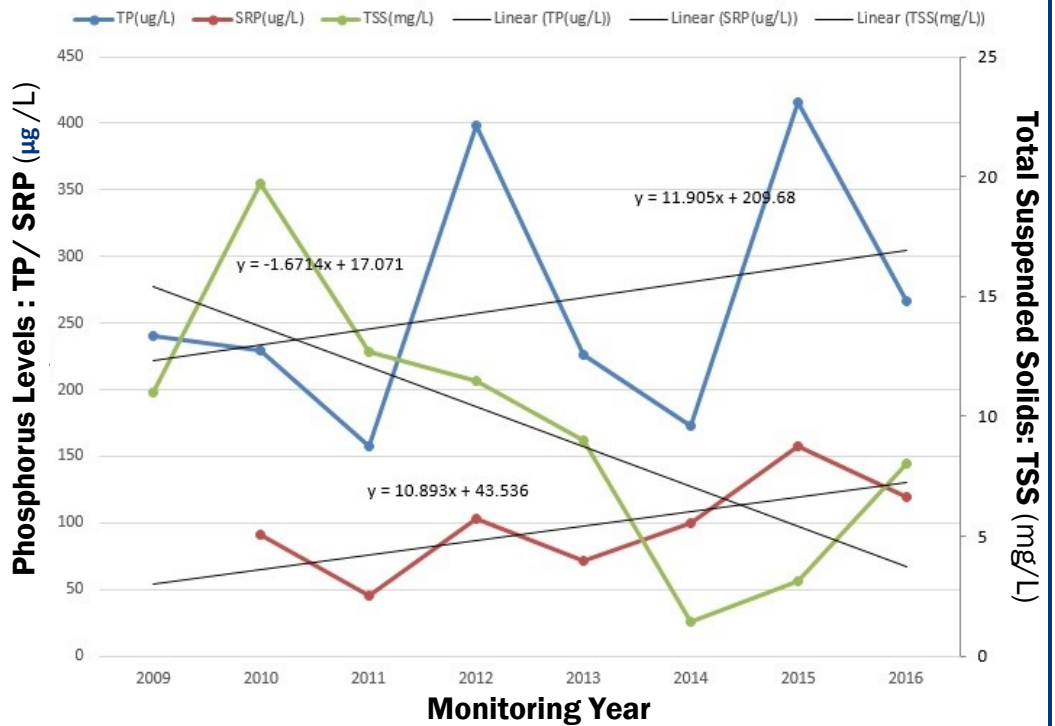
HISTORICAL DATA:

The nature of the pond is dramatic, with high and low flashes depending on rainfall. Total Phosphorus (TP) and Soluble Reactive Phosphorus (SRP) levels show an increase. Sediment levels continually rise but drop when dredging occurs.

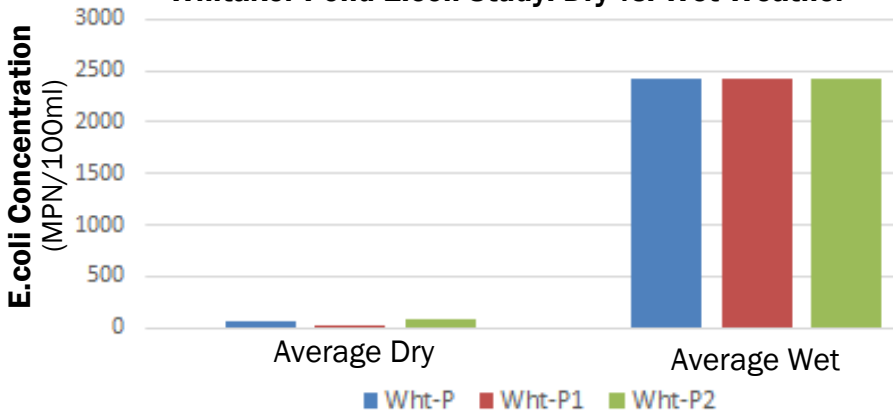
Lambert Creek Total Phosphorus (TP) Averages



Whitaker Pond Historical Water Quality



Whitaker Pond E.coli Study: Dry vs. Wet Weather



BACTERIA STUDY:

E.coli levels in the pond were studied in 2016-2017 comparing before (dry) and after (wet) rainfall. Results indicated from three sample locations that E.coli levels rise when surface runoff washes into Whitaker Pond after a rain event. DNA analysis showed that the E.coli levels are primarily avian and canine, with a small portion being human derived.