

**Duffin Creek Water Pollution Control Plant
2020 Final Effluent Phosphorus
Monthly Average Performance**

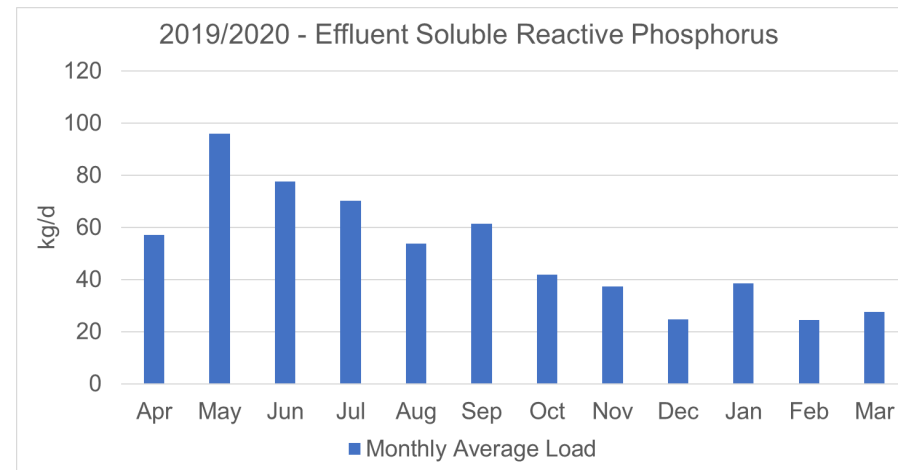
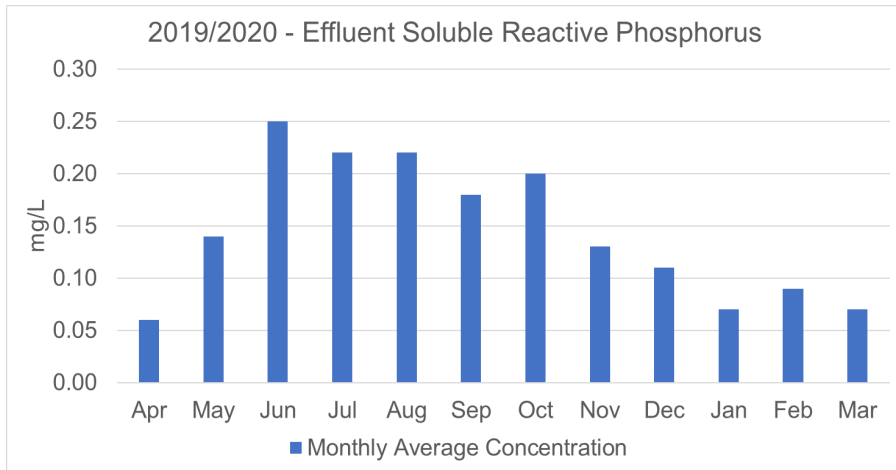
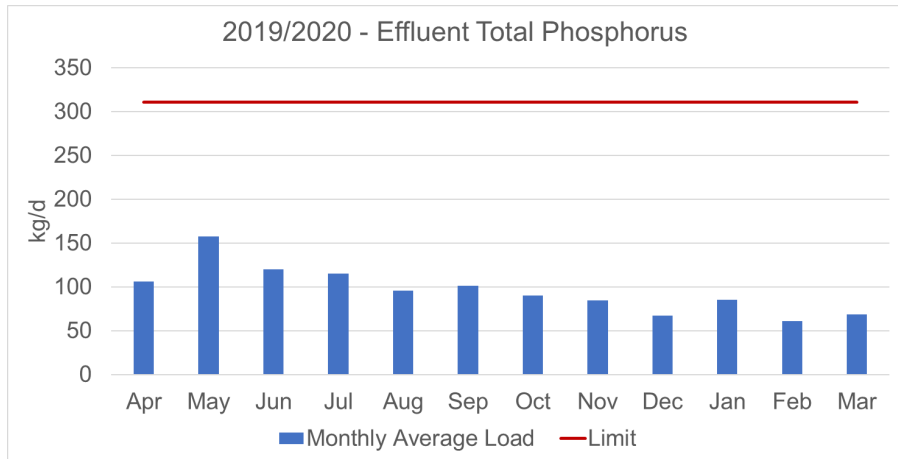
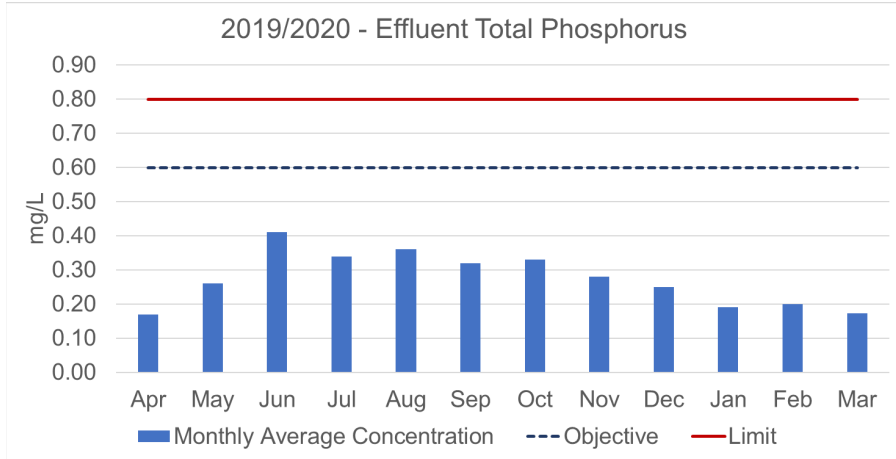


Month	Average Flow Cubic Metres per Day (m³/d)	Total Phosphorus Average Concentration Milligram per Litre (mg/L)	Soluble Reactive Phosphorus Average Concentration Milligram per Litre (mg/L)	Total Phosphorus Average Load Kilograms per Day (kg/d)	Soluble Reactive Phosphorus Average Load Kilograms per Day (kg/d)
April 2019	408,435	0.17	0.06	69	25
May 2019	384,156	0.26	0.14	100	54
June 2019	352,564	0.41	0.25	145	88
July 2019	319,178	0.34	0.22	109	70
August 2019	298,740	0.36	0.22	108	66
September 2019	307,575	0.32	0.18	98	55
October 2019	321,714	0.33	0.20	106	64
November 2019	338,886	0.28	0.13	95	44
December 2019	353,554	0.25	0.11	88	39
January 2020	427,437	0.19	0.07	81	30
February 2020	350,329	0.20	0.09	70	32
March 2020	394,773	0.17	0.07	68	28
Rolling Annual Average	354,778	0.27	0.15	95	50

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Concentrations:

Loads:



Notes:

Phosphorus is a nutrient found in every living organism. Phosphorus in wastewater comes from human waste, food waste, fertilizer, dishwashing and laundry detergents, household cleaners, and numerous commercial and industrial products released into the sewer system. It is also found in soils and sediments, plants, and animals. The Duffin Creek Water Pollution Control Plant removes on average up to 94 percent of phosphorus from wastewater and provides disinfection before releasing clear, treated water into the open waters of Lake Ontario.

A lake requires many nutrients in proper amounts to stay healthy. In the Great Lakes, phosphorus is a nutrient that has a great influence on the health of lake ecosystems. Invasive mussels, temperature, light sources, and high phosphorus levels are just some of the factors leading to algae growth and affecting the balance of the ecosystem of the Great Lakes.

Since 2008, the Duffin Creek Water Pollution Control Plant's upgraded treatment processes use iron salts to remove phosphorus from wastewater, greatly reducing the amount of phosphorus in the treated effluent. The concentration of total phosphorous and soluble reactive phosphorus in the treated effluent is routinely monitored. Soluble reactive phosphorus is the fraction of phosphorus that is dissolved in the water. The total phosphorus measurement includes the dissolved fraction as well as phosphorus in particulate form.

The effluent phosphorus limits and objective are stated in the Plant's Environmental Compliance Approval number 5531-9FJJT5. Monthly average concentrations for total phosphorus and soluble reactive phosphorus are submitted to the Ministry of the Environment, Conservation and Parks as part of the Municipal Utility Monitoring Program on a quarterly basis.