SVCA Water Quality Program

Town of Saugeen Shores
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Saugeen Valley Conservation Authority
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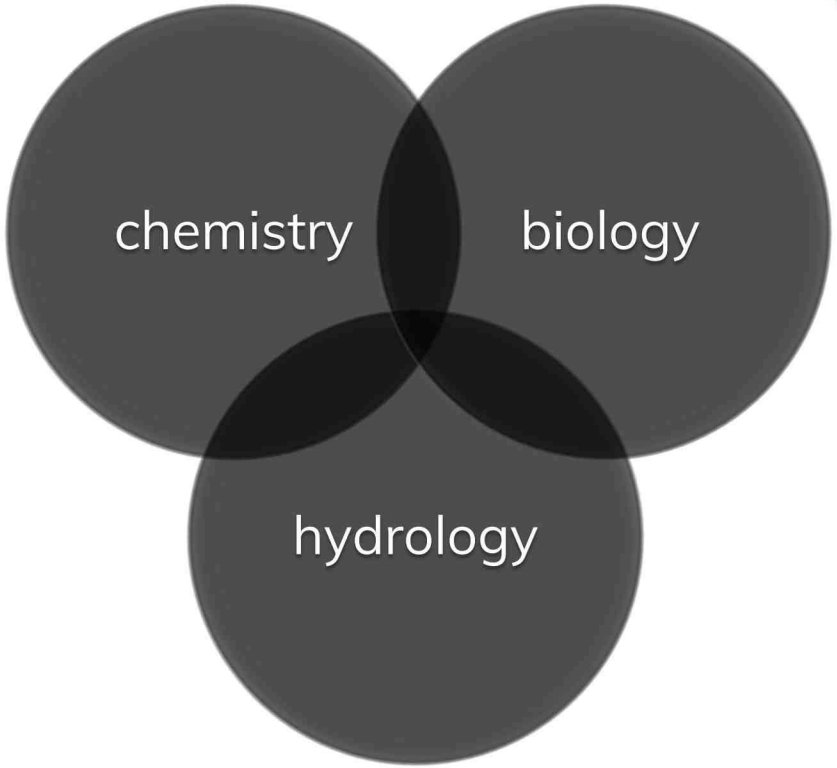
Saugeen CONSERVATION

Water quality program objectives

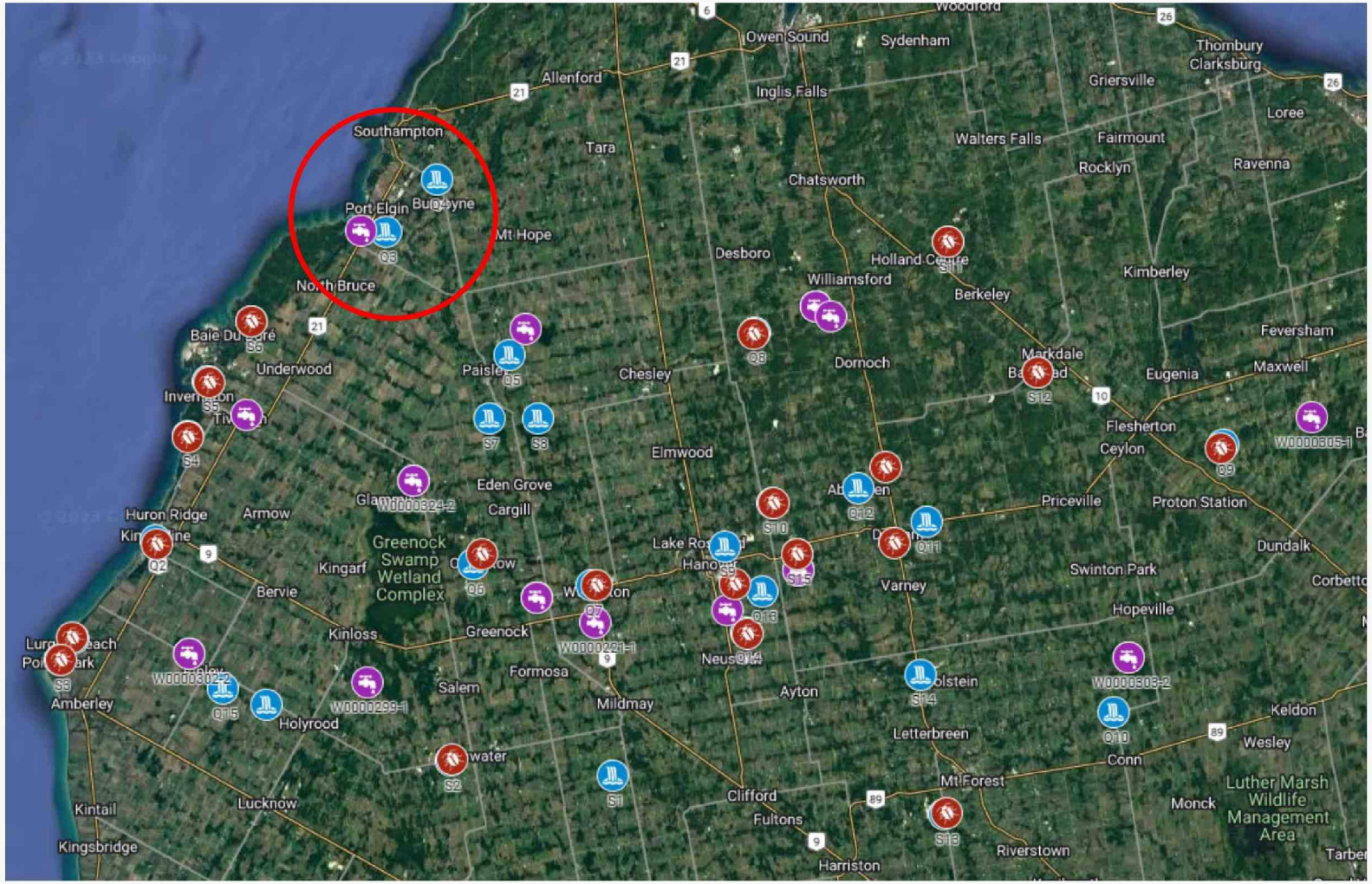
- To establish baseline water quality data
- To observe trends
- To assess the effectiveness of watershed programs



In response to the Walkerton Water Crisis of 2000, the Province re-established water quality monitoring.

The program was tasked with the critical mandate to monitor, protect and enhance water quality in our jurisdiction.

Water quality sites



Total sampling sites:

- 29 surface water
- 23 groundwater
- 20 biomonitoring

Surface water monitoring parameters: total phosphorus, nitrogen: nitrate-nitrite

- **Total Phosphorus:** Naturally occurring and essential for aquatic life. Naturally found in weathering rocks. Provincial objective: 0.03 mg/L
- **Nitrogen; Nitrate-Nitrite:** Naturally occurring and essential nutrient for aquatic life. Federal objective: 2.93 mg/L
- Both can be introduced in excess levels from fertilizers, manure, industrial emissions, and wastewater/septic discharges

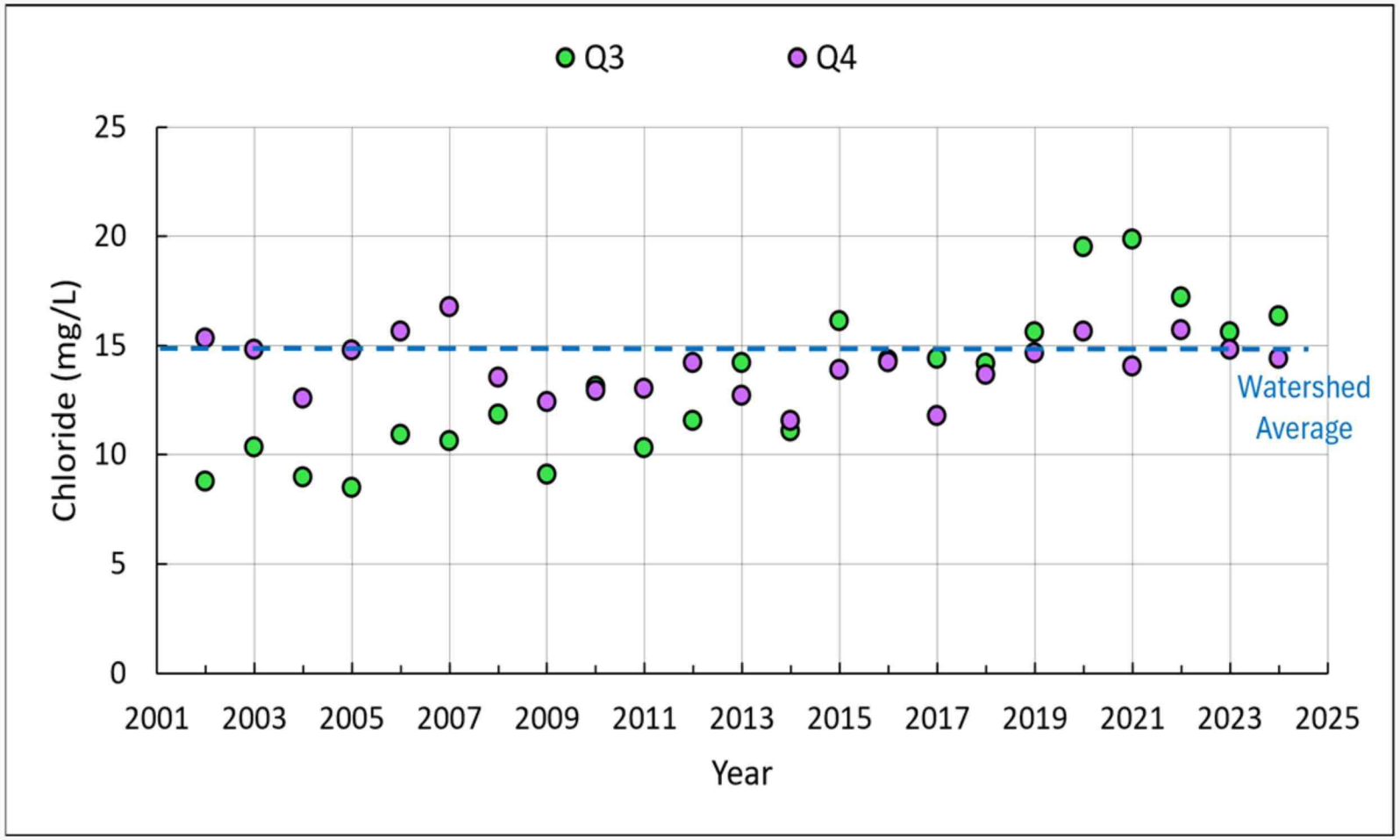
Surface water monitoring parameters: chloride, suspended solids

- **Chloride:** can be naturally occurring, generally in low concentrations. Can be introduced through human activities such as road salting and industrial production.
  Federal objective: 120 mg/L
- **Total Suspended Solids:** Measure of number of suspended particles in water, exists naturally from a variety of sources. Excess sources include erosion and high flows, stormwater runoff, development, and agricultural processes.
  Federal objective: 30 mg/L

Surface water monitoring parameters: E.coli

- ***E. coli:*** are a group of bacteria found in the digestive systems of warm-blooded animals. It is used to measure fecal contamination in water and is not naturally occurring in aquatic ecosystems
- **Provincial objective:** 100 cfu/100 mL for swimming and recreation

Chloride



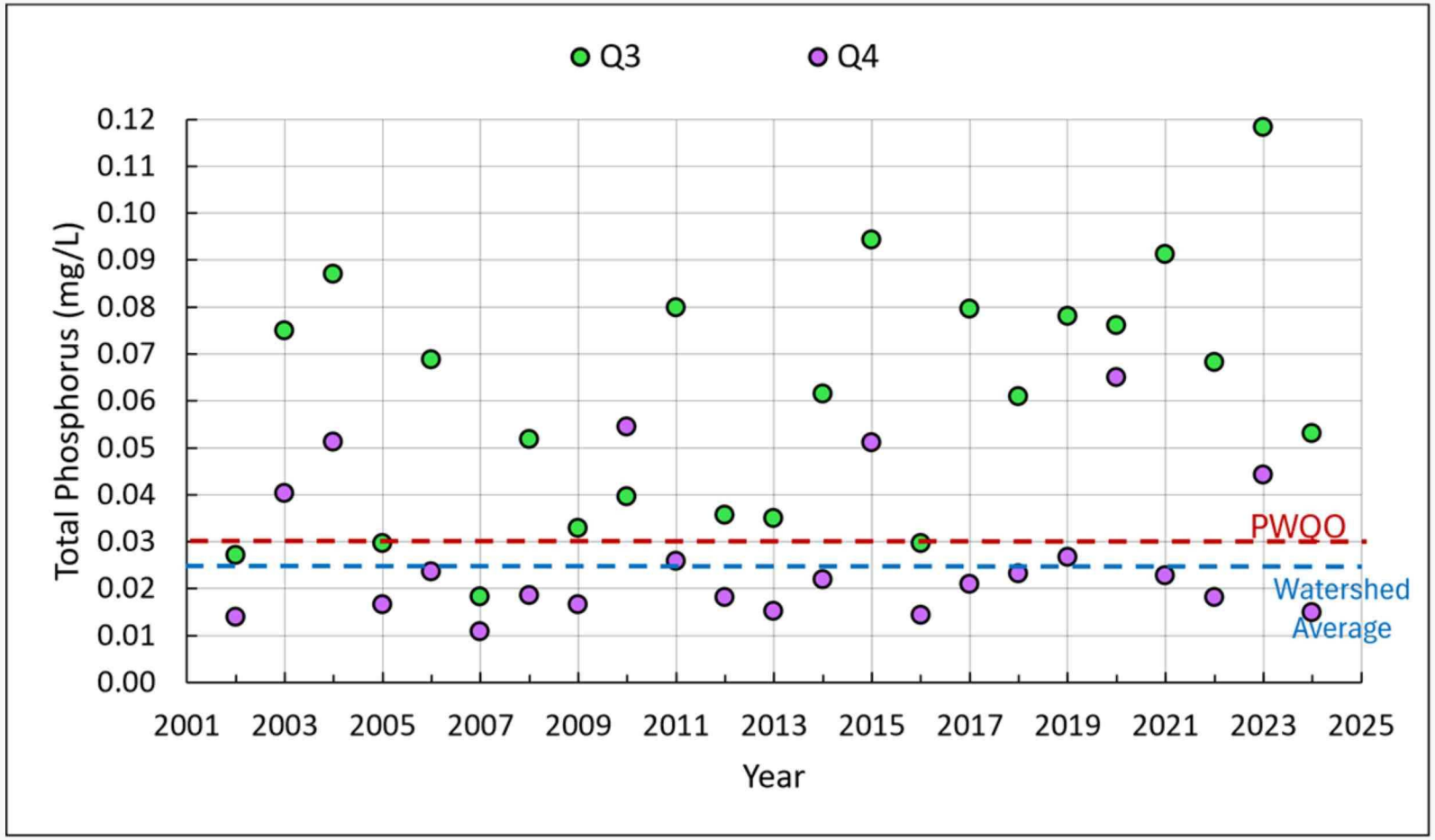
Q3: Mill Creek, Port Elgin

Q4: Saugeen River, Burgoyne

Federal Objective: 120 mg/L

This is well below the federal objective and consistent with the average across the watershed.

Total Phosphorus



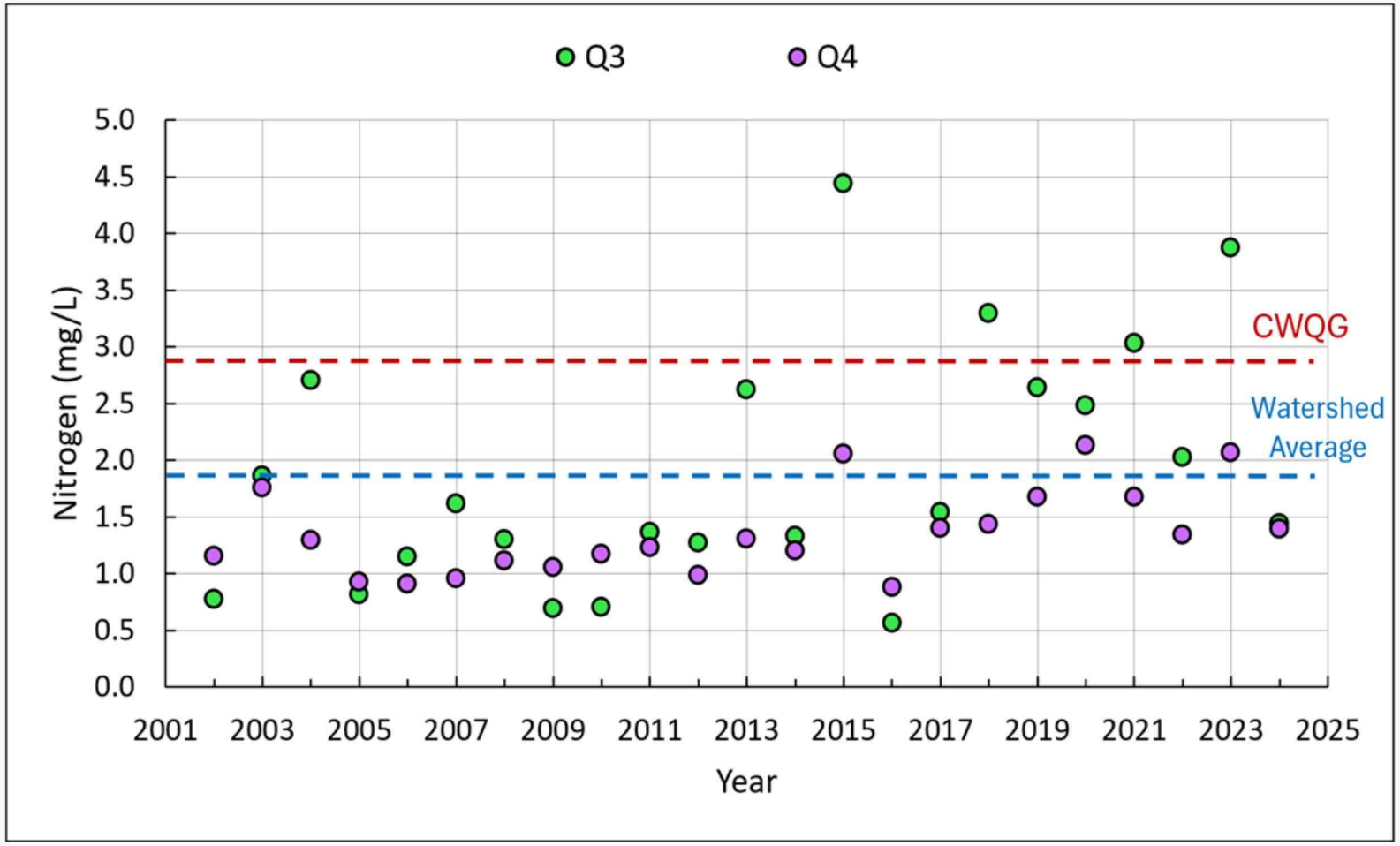
Q3: Mill Creek, Port Elgin

Q4: Saugeen River, Burgoyne

Provincial Objective: 0.03 mg/L

Phosphorus is a parameter of concern in Saugeen Shores and is frequently above the objective at Q3.

Nitrogen



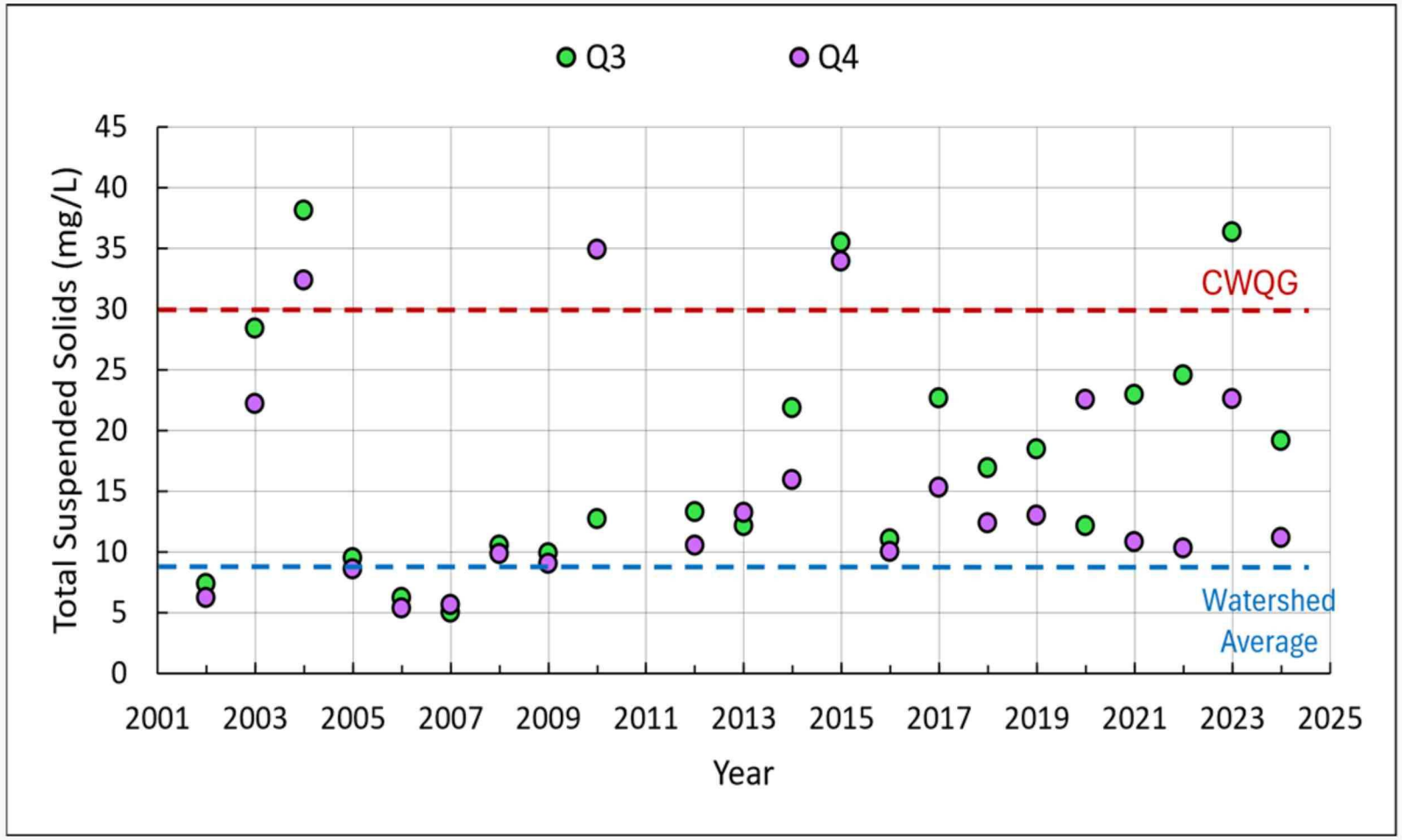
Q3: Mill Creek, Port Elgin

Q4: Saugeen River, Burgoyne

Federal Objective: 2.93 mg/L

Nitrogen levels are increasing gradually, particularly at the Q3 site.

Total Suspended Solids



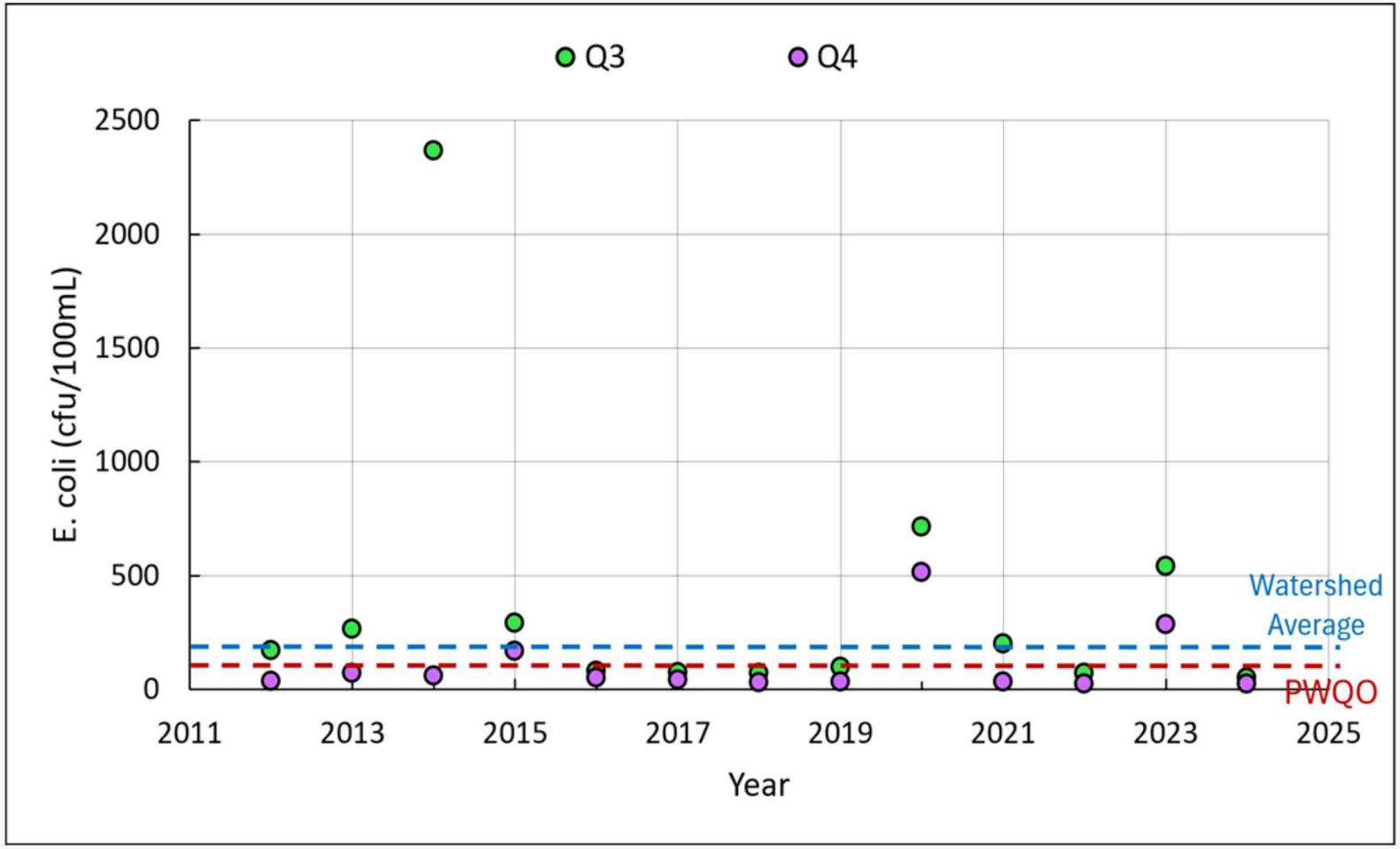
Q3: Mill Creek, Port Elgin

Q4: Saugeen River, Burgoyne

Federal Objective: 30 mg/L

Values for TSS have been above the watershed average every year since 2010; exceedances of the guideline occur occasionally at both sites.

E.Coli



Q3: Mill Creek, Port Elgin

Q4: Saugeen River, Burgoyne

Provincial Objective: 100 cfu/100mL

E.Coli levels are below the objective more often than they are in exceedance.

Water Quality Trends in Saugeen Shores

- Trends in Saugeen Shores show that exceedances of the federal and provincial guidelines are not uncommon.
- Site Q3 on Mill Creek in Port Elgin is an area of concern; the Water Quality Index here often shows that quality is marginal to fair
- Phosphorus, nitrogen, and chloride levels are showing a trend of increasing over time

Benthic Trends

- One benthic site within the Lower Main Saugeen subwatershed, which includes Saugeen Shores, recorded a decrease in species abundance from 318 to 273 between 2015 and 2021
- Over the same period, species richness increased from 11 to 17
- An increase in richness means that the variety of species has increased, this is a positive indicator of water quality

What can the Town of Saugeen Shores do to improve Water Quality?

- Support Saugeen Conservation's Category 3 Water Quality Monitoring Program
- Consider land use planning tools that protect natural featured and limit nutrient loading
- Play a direct role in promoting or funding stewardship work
- Advocate for coordinated funding from Provincial and Federal funding sources
- Collaborate with SVCA on public communication tools

Thank you

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