



# SVCA Water Quality Program

**Municipality of Brockton**

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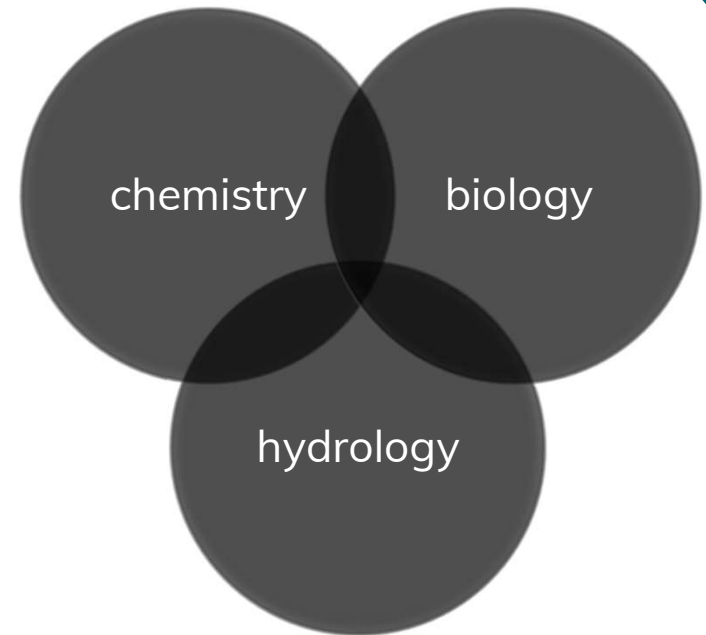


# Water quality program objectives

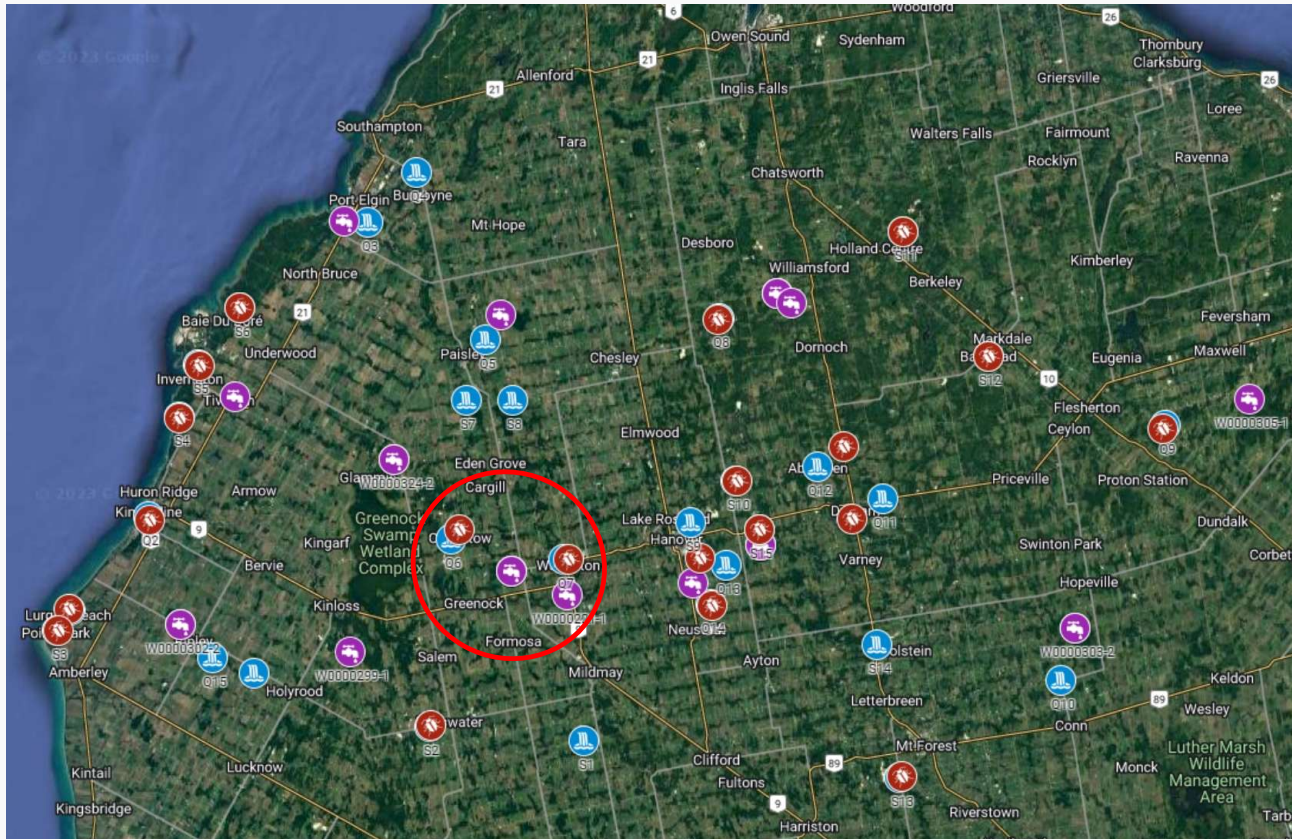
- To establish baseline water quality data
- To observe trends
- To assess the effectiveness of watershed programs

In response to the Walkerton Water Event 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

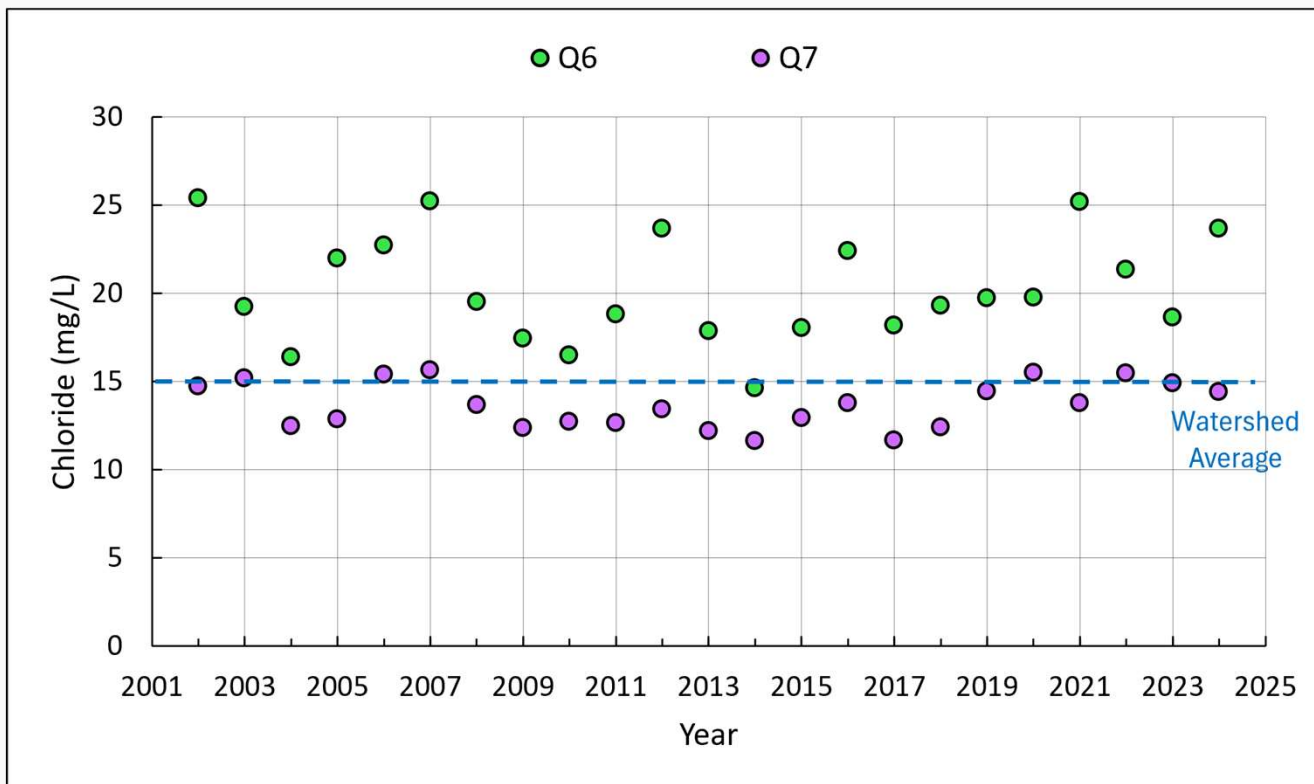
- **Chloride:** can be naturally occurring, generally in low concentrations. Can be introduced through human activities such as road salting and industrial production. **Federal objective:** 120 mg/L
- **Total Suspended Solids:** Measure of number of suspended particles in water, exists naturally from 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



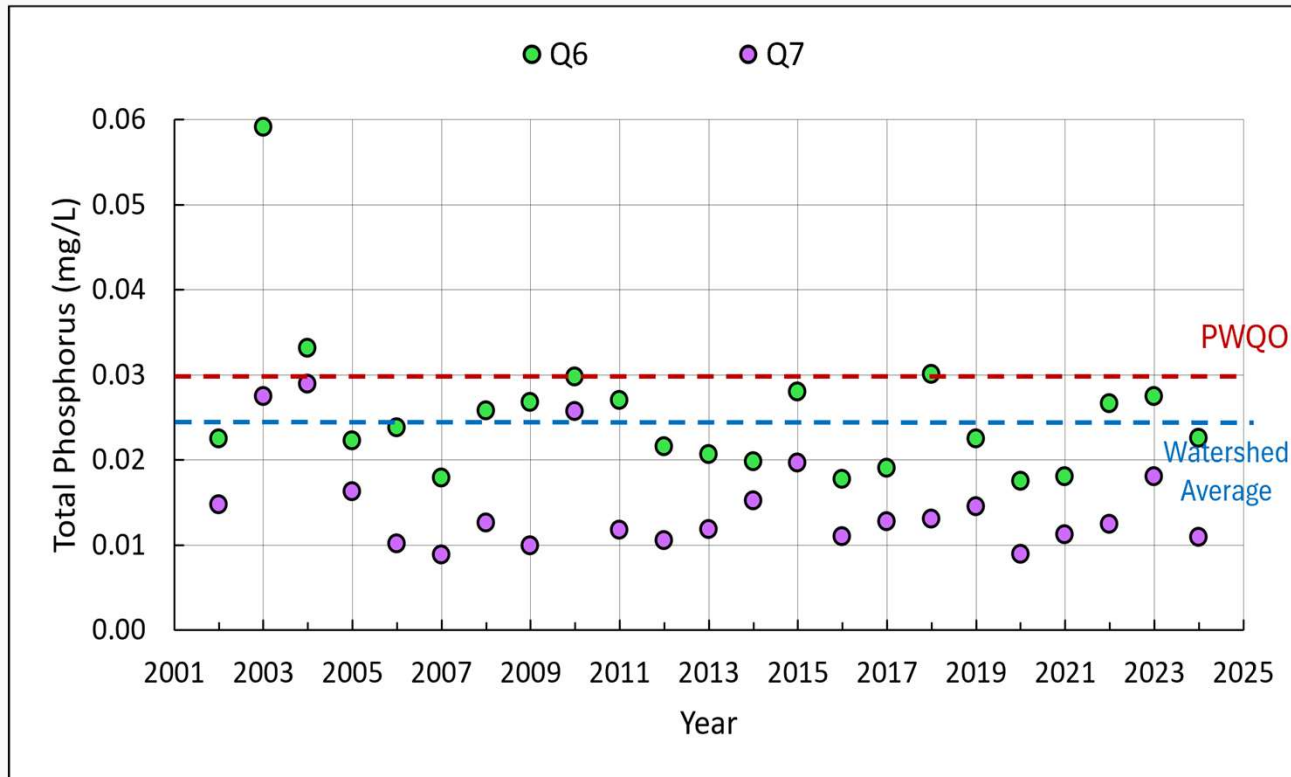
**Q6: Teeswater River**

**Q7: Saugeen River**

**Federal Objective: 120 mg/L**

While all sites are well below the federal average, they are usually above the watershed average at Q6.

# Total Phosphorus



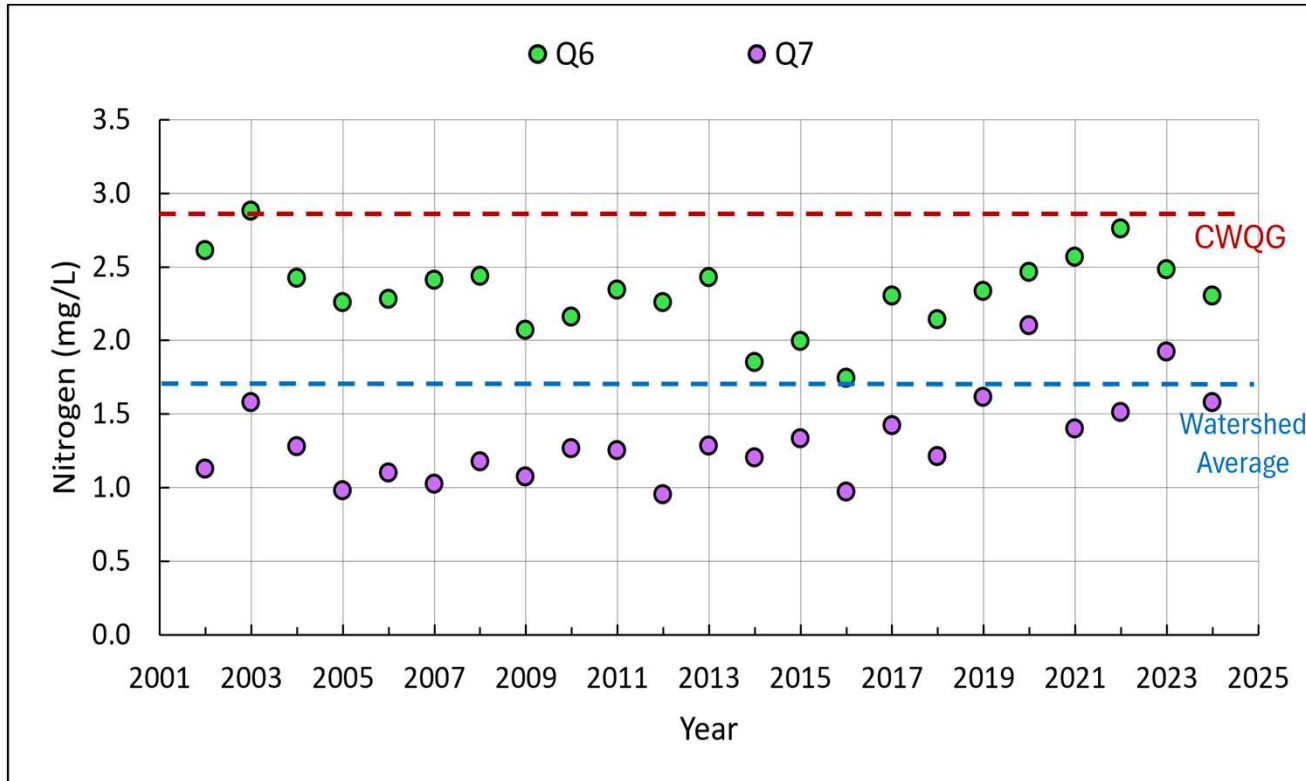
**Q6:** Teeswater River

**Q7:** Saugeen River

**Provincial Objective:** 0.03 mg/L

Values are often below the watershed average with occasional exceedances.

# Nitrogen



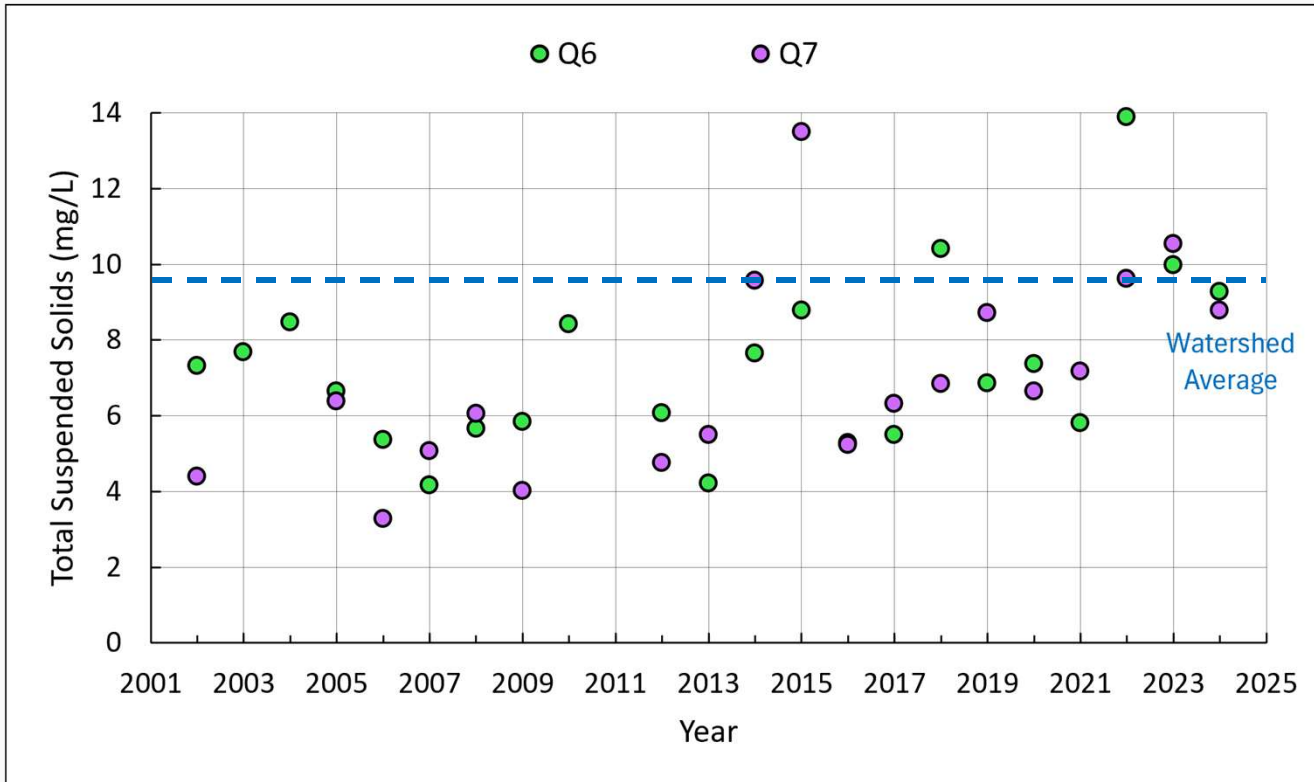
**Q6:** Teeswater River

**Q7:** Saugeen River

**Federal Objective:** 2.93 mg/L

Nitrogen levels are higher at Q6, but with only one annual exceedance of the objective since 2002.

# Total Suspended Solids



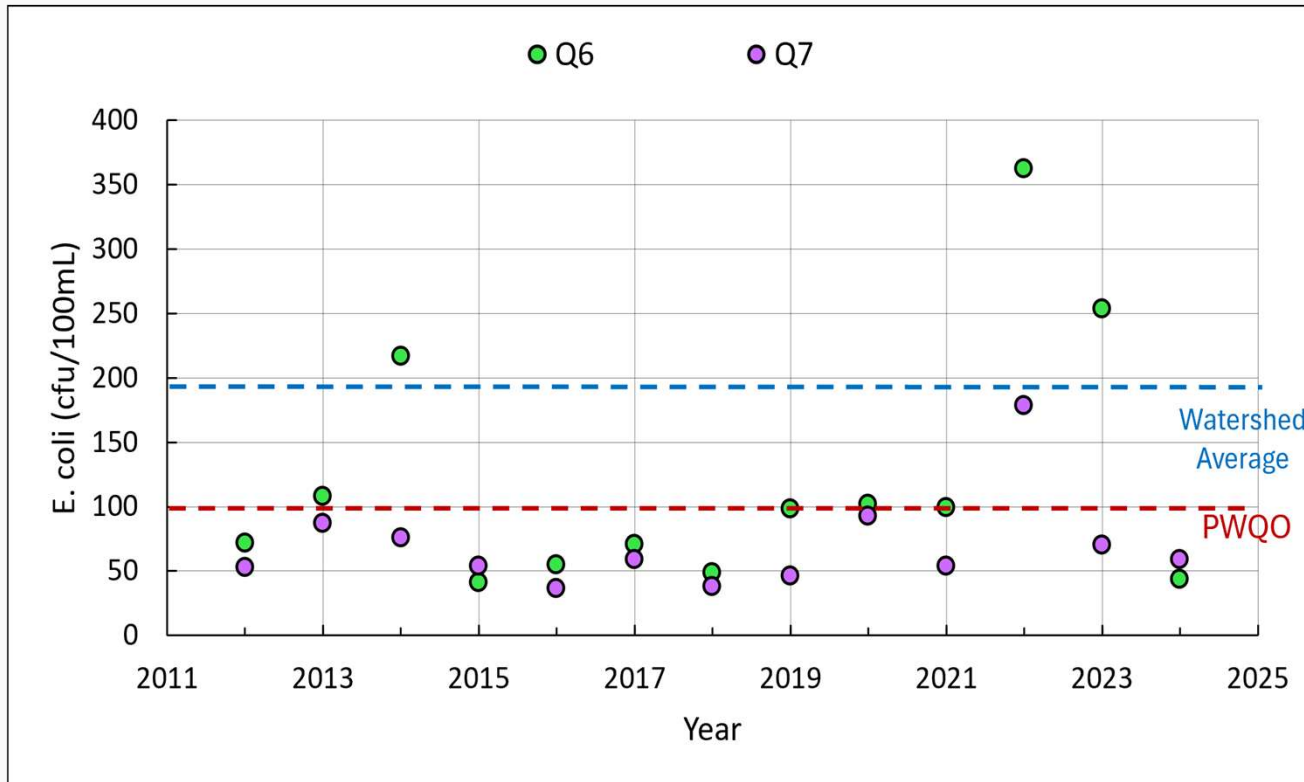
**Q6:** Teeswater River

**Q7:** Saugeen River

**Federal Objective:** 30 mg/L

Values for TSS are typically below the watershed average and well below the federal objective, there is a slight increasing trend at both sites.

# E.Coli



**Q6:** Teeswater River

**Q7:** Saugeen River

**Provincial Objective:** 100 cfu/100mL

E.Coli levels are typically below the watershed average, exceedances of the provincial objective are not uncommon.



## Water Quality Trends in Brockton

- Long term trends in Brockton show that results are often below the federal and provincial guidelines.
- There is no one area of Brockton that is an area of particular concern, both sites show relatively consistent results and that are more often than not, below the objectives. There is a minor increase in TSS values occurring over time, but these results are still well below the objective.



## Benthic Trends

- There are two benthic monitoring sites in Brockton. One benthic site within the Lower Main Saugeen subwatershed, which includes Brockton, recorded a decrease in species abundance from 318 to 273 between 2015 and 2021. One site in the Teeswater subwatershed, which includes Brockton, recorded an increase in species abundance from 249 to 296 between 2015 and 2021
- Over the same period, species richness in the Lower Main increased from 11 to 17, and decreased in the Teeswater from 17 to 15



## What can the Municipality of Brockton 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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