



SOUTH NATION
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Water Quality Monitoring

South Nation Conservation actively monitors water quality of municipal drains, streams and rivers throughout the watershed. SNC is involved in a number of different programs which measure different water quality parameters through surface water collection and benthic organisms. Clean water is critical to both human and ecological well-being. The quality of water in local rivers affects the quality of life within local communities. Healthy ecosystems, including healthy aquatic communities, provide significant socio-economic benefits, as well as opportunities for recreation.

Water Chemistry

The Provincial Water Quality Monitoring Network (PWQMN) and Watershed Characterization Network (WCN) enables the routine sampling of chemical parameters that may have a potential impact on aquatic life, recreational activities, and agricultural practices. These monitoring programs aid in establishing baseline conditions (i.e., baseflow and stormflow), and detecting spatial and temporal changes in river systems. Changes may be a result of changing environmental (i.e., climatic, etc.) and/or human factors.

There are 13 PWQMN and WCN stations located throughout the South Nation River. Samples are collected from the river at these locations 8 times a year and sent to a Ministry of Environment laboratory for analysis. To account for variance, samples were collected under a variety of stream-flow conditions to estimate the range of chemical conditions during the ice-free season.



Collecting water quality data

Bioassessment of Benthic Invertebrates

Bioassessment enables the assessment of aquatic ecosystem condition using biological effect-based measures of biotic response to stress. We use benthic macroinvertebrate community composition as our biological indicator. These animals have many traits that make them useful as indicator organisms and have been widely used throughout the World as indicators of ecological health. Benthic invertebrates are assessed in order to determine stream condition using a reference condition approach. In this way, streams are compared to ecologically similar streams to determine status.

The benthic invertebrates, or benthos, are large bottom dwelling insects, snails, or worms. They are important as biological indicators because they are easy to sample and identify, are not considered a recreational or economic resource, and most importantly they are responsive to changes in sediment and water quality.



Collecting invertebrates ("bugs")