



## SURFACE WATER QUALITY STEWARDSHIP TOOLBOX

# Stewardship Metrics

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Returns on stewardship investments can take time to show (e.g., improved water quality after restoration or changes in human behaviour due to education), and measurements or metrics for stewardship successes at times can be difficult to define and quantify. Water quality stewardship metrics can be of varying complexity to calculate, many involving more than just water quality data. For example, some metrics involve incorporation of spatial data, land use data, habitat data, water quantity, water supply, water management, etc. This document lists some water quality stewardship metrics for potential use in proposal writing, project planning or project updates. When used properly, metrics can help protect the long-term sustainability of stewardship partnerships and ensure support for future projects. In water quality stewardship, well-informed and meaningful metrics specific to water quality can include:

### **Participation:**

- Number of complaints received regarding water quality
- Number of community watershed partnerships and collaboration agreements
- Number of watershed assessments associated with partnership agreements
- Number of water quality restoration actions by stewards
- Number of directed education efforts by partners
- Number of returning stewards
- Number of volunteers assisting in local stewardship projects
- Number of sites included in stewardship sampling programs
- Proportion of streams monitored by stewards
- Number of resources available to stewards by stewardship group (e.g., seed funding, tool lending library, personnel with technical expertise)
- Increase of interregional growth of similar work (modelling after exemplary stewardship initiatives)
- Number of other partners involved (e.g., involvement dependent on specific partners being at the table)

### **Data and Decision Making:**

- Years of data collected to provincial standards or best practices
- Percent of data generated that meet data collection and reporting standards to be entered into provincial databases (e.g., EMS, Ecocat)
- Amount of reporting and communication (helps retain stewards)
- Number of groups distributing their data

- Percent of data shared and distributed (wider sharing of data)
- Percent of data collected used in decision-making processes
- Percent of data fully utilized both internally and externally (e.g., to inform municipal development decisions, provincial licencing or discharge authorizations, regional growth strategy)
- Number of research projects to which data are contributing
- Percent of data collected used for adaptive management under changing conditions
- Number of groups using data for grant applications and/or to inform restoration projects
- Percent of population supporting (or opposing) environmental measures and regulation
- Percent of population acknowledging they feel a responsibility to protect or improve the environment (increasing can lead to improved environmental outcomes)
- Established baseline of indicators (can be water quality data or understanding, attitudes, and behaviours)
- Percent of data collected that are accessible, consistent, accurate and outcome focussed

#### **Project Deliverables:**

- Number of conservation and restoration projects by stewards
- Area of preservation of natural, riparian, and aquatic habitats in response to monitoring or to inform monitoring (e.g., covenants, land acquisitions, identification of sensitive habitat)
- Number of completed outcomes of specific projects
- Number of monitored locations identified for targeted education, restoration or referred for compliance

#### **Watershed Health:**

- Quantity of non-point source pollutants ending up in a watershed (e.g., nutrients, sediment)
- Percent of impervious surfaces
- Abundance of key native species
- Overall stream condition
- Canadian Aquatic Biomonitoring Network (CABIN) benthic invertebrate metrics
- Whether or not Water Quality Objectives, Water Quality Guidelines or Drinking Water Guidelines are met
- Established trends over time

When choosing specific metrics, one needs to consider the scale of reporting. Reporting can either be on a large spatial scale or on a watershed-specific scale, and each can be used in support of the other. For community-based watershed monitoring, the local scale often yields the most influential results, which allows groups to address site-specific issues using data and metrics to support local and provincial government initiatives. The utility of data expands manyfold when collected using standardized methods. For example, data can be brought into modern digital technology solutions that offer large spatial coverage and incorporation of other data to have decision-making impacts on a grander scale. In this way, surface water quality data and associated metrics often have implications far beyond a community stewardship level.