

# Stream Monitoring/Research Study Design Workshop

The Ontario Stream Assessment Protocol (OSAP) is a series of standardized methodologies that evaluate a number of attributes of Wadeable streams including: benthos, fish, flows, physical habitat and geomorphology, temperatures, stressors and restoration opportunities. A core component of OSAP is to maximize linkages across methods that provide both flexibility in terms of how much effort is applied but also the ability to conduct integrated analysis. The annual OSAP, OBBN<sup>1</sup> and other courses that are offered emphasize collection techniques, **not** how to summarize and use the data. So, after over 20 years of data collection and certification courses it is time to bring data collectors, managers and users together for a two day workshop to hear about how the data is being used to answer management and scientific questions, what tools are available to assist with this and how best to ensure questions can be answered with available resources.

This workshop will provide participants with an understanding of:

- the pros and cons of using rapid-standard and detailed methods in study design
- limitations to common modules and how these influence study design
- ways to routinely summarize data and interpret results
- experience in accessing and extracting both raw and summarized data from within the Flowing Waters Information System and the Ontario Benthic Biomonitoring Network Database
- the study design process applied to various projects to answer pertinent questions about trends, states, and differences between sites.
- How temporal and spatial scale and resource limitations influence study designs
- information about how well indicators perform at differentiating states and what analysis is available to help with determining sample size for various studies (e.g., coefficients of variation)
- an introduction to a new approach to data/information management that offers an opportunity for discovering and utilizing large datasets that traditionally have not been readily accessible. For example, OSAP, OBBN, groundwater, weather, flow and benthic data
- how to determine what datasets are available, how to extract them, and how to synchronize external datasets that are both OSAP and non-OSAP compatible.

The second day will expand on these themes to provide real examples of ways in which summary data have been incorporated into several studies and how researchers have nested OSAP indicators with “other” metrics to provide integrated answers to questions that include: baseline inventory; watershed reporting; stream restoration effectiveness; and both spatial and temporal trend analysis.

## Recommended Participants:

Biologists, ecologists, technicians, resource managers and data managers who are involved in stream surveys and those involved in making management decisions. In relation to streams and headwater systems. Completion of an OSAP and OBBN field course is desirable, but not essential.

**Workshop Sponsors include:** SOSMART<sup>2</sup>, SMARTER<sup>3</sup> and the OSAP Steering Committee

## Logistics

**The workshop will be held at the Toronto and Region Conservation Authority (TRCA) Head Office (101 Exchange Avenue) on March 21<sup>st</sup>-22<sup>nd</sup>. Participation is limited, so to reserve a spot contact Jeff Vandenberg at [vandenberg@trca.on.ca](mailto:vandenberg@trca.on.ca). To register go to <https://trca.ca/conservation/environmental-monitoring/technical-training/>. Cost for the workshop will be \$300 and includes lunch. To ensure a place in the workshop, please register by March 15<sup>th</sup>.**

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<sup>1</sup> Note: Members of OBBN apply OSAP module S2.M3 within a specific study design.

<sup>2</sup> Southern Ontario Stream Monitoring and Research Team

<sup>3</sup> Stream Monitoring and Research Team Eastern Region