

How to develop and report on performance measures in the

GREAT LAKES

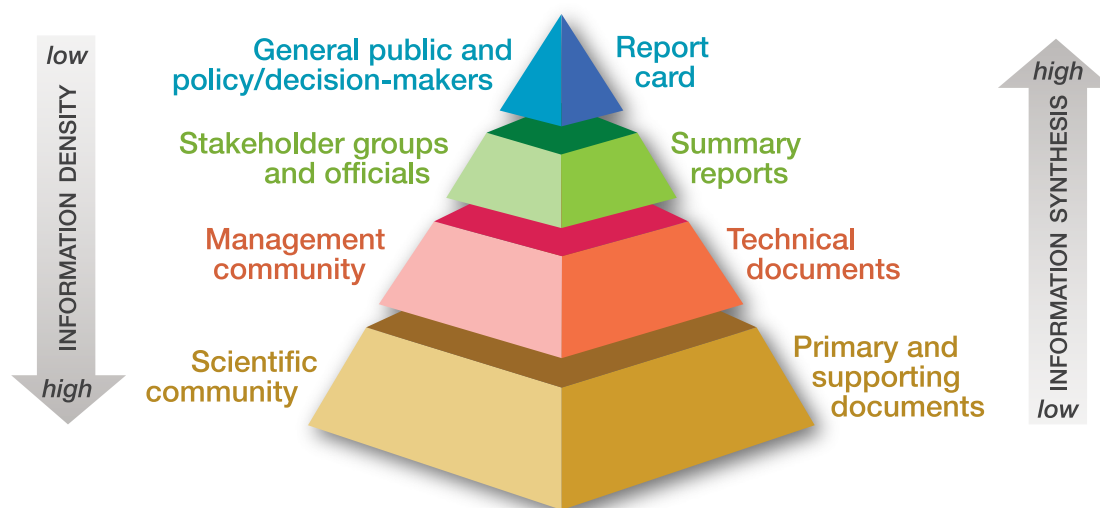
Ontario workshop newsletter
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The Great Lakes are vital to Ontario. They provide communities fresh drinking water, food and recreational opportunities, and energy. They support manufacturing, agriculture and the transportation of Ontario's goods. To some they also have intrinsic or spiritual value. Ontario has worked collaboratively with Canadian and U.S. partners for half a century to monitor, protect, and restore Great Lakes water quality and ecosystem health. Ontario's vision for the Great Lakes is one of healthy Great Lakes for a strong Ontario – Great Lakes that are drinkable, swimmable, and fishable.

Although the Great Lakes have responded well to past protection efforts, current science indicates that they are once again exhibiting symptoms of stress. For example, the harmful algal bloom in the western basin of Lake Erie in 2015 was the most severe ever recorded.

The Ontario Minister of the Environment and Climate Change is required to undertake a review of Ontario's Great Lakes Strategy by December 17, 2018, in consultation with the other Great Lakes ministers and other sectors, under the Great Lakes Protection Act, 2015. The act also requires the Minister, in consultation with the other Great Lakes ministers, to prepare progress reports that include performance measurements every three years. Ontario's roles have evolved over the years as pressures on the Lakes have changed and as partnership opportunities have been developed. To evaluate Ontario's contributions within the overall Great Lakes basin community, and to meet the requirements of the act, the Province requires additional measurement and reporting tools. Ecosystem health report cards are being considered by the Minister to fulfill this need.

Report cards: synthetic tools for communication



Ecosystem health report cards are tools used around the world to catalyze social and environmental change in ecosystems and local communities. They are designed to be high-level assessments that communicate with audiences with diverse backgrounds. The report card process includes a variety of stakeholders in the ecosystem health assessment, which increases engagement and collaboration across sectors.

Phase II: Step 2. Choosing indicators

Conceptualizing the system helps us prioritize the things that we value. This, in turn, helps us select ways to measure how we're doing in protecting those things. For example, many hundreds of parameters are monitored in Great Lakes waters, but which of these are the most important things to consider in measuring Ontario's impact on water quality and aquatic ecosystem health? Additionally, ecosystem health assessments also include measures of social, economic and cultural values. We need to select indicators to reflect all of these perspectives. We try to select indicators based on the "SMART" principle: Is the indicator Sensitive, Measureable, Available, Relevant and are there Thresholds for each indicator?



Phase II: Step 3. Determining thresholds

Measurements of indicators like dissolved oxygen, PBDE concentration, or wetland coverage have little meaning without reference values or context. Thresholds are specific values that act as goals, limits, or standards to give context to indicator measurements. Values for thresholds can be set by regulatory and management values (standards), biological limits, historical references, socio-economic requirements, or even professional judgement. Thresholds change due to improving measurement techniques and regulatory standards, so it is important to be clear about threshold definitions, with links to technical documents when available.



Phase II: Step 4. Calculate scores and determine grades

Grades are subjective, but they're useful tools for reaching broader audiences. Grading can be based on a number of thresholds, pass/fail scores across a region, or they can be scaled to correlate with a range of values. Indicator scores are averaged to produce grades for indicator categories (e.g., water quality), that are then averaged together for an overall grade for a region. Weighting the influence of an indicator is tough so it is typically avoided, though weighting the contribution of a regional grade to an overall grade can be done based on area. Another topic discussed was the importance of understanding/agreeing on geographic scale/scope. Workshop participants explored the complexities of indicator selection, threshold determination, and grading by assigning Lake Ontario a preliminary grade based simply on group knowledge.



Phase II: Step 5. Communicate

While often under-considered, the final step in the report card process – communicating results – is crucial. The report card communications strategy should consider not only the final report card document, but also the website and the press release or launch event. To begin to address these elements of communications, first the team must distill their main message and determine how they want to present that information to their target audience. Workshop groups worked together to storyboard the “Lake Ontario Report Card” in concise, but visually-rich, 6-page documents.

Phase III: Raise the Grade!

The final phase of the report card process is to define ways in which conditions can be improved. How can we use the information presented in the report card, and leverage the new collaborations formed during its development to create positive social and environmental change? This step is often overlooked, but is critical to creating a pathway to real, lasting improvements. There is no perfect method, but we reviewed several approaches, including consensus-based processes, complex modeling, and the potential for social network analysis.

Workshop participants

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