



Sunrise on a lake near Parry Sound, Ontario.

The Long and Winding Road

Integrated watershed management is a journey, not a destination.

BY ANDREW MCCAMMON

THE PROVINCIAL IMPLEMENTATION of integrated watershed management (IWM), championed over the last few years by Conservation Ontario, got a big boost in 2010 when environmental commissioner Gord Miller's annual report included a recommendation that Ontario amend the Provincial Policy Statement "to require integrated watershed management planning."

The report, entitled *Refining Conservation*, was issued in September 2010, about five weeks before the deadline for comments to the Ministry of Municipal Affairs and Housing on the mandatory five-year review of the provincial policy statement (PPS).

As one might imagine, comments on the review of the PPS included submissions supporting the environmental commissioner's recommendation on IWM from numerous sources, including Conservation Ontario, an informal collaborative of 33 natural heritage organizations, and others.

While it is far too early to tell what might happen next, the storyline to date is intriguing.

IWM is defined as the management of natural resources and human activities in an area delineated by watershed

boundaries. It expands conventional watershed management frameworks, often restricted to the management of stormwater, watercourses, and their ravines, into a systems-based approach that integrates hydrologic, natural heritage and, most importantly, land-use planning.

Obviously, such a transition is not easy. To paraphrase former University of Guelph professor Isobel Heathcote, whose authoritative *Integrated Watershed Management: Principles and Practice* serves as a textbook around the world, IWM provides a framework that addresses emerging challenges, technologies, management thinking, agency responsibilities, and societal values. It also requires increased transparency and engagement between governments and the public. As a result, Heathcote describes IWM as a journey, and not a destination.

The position of Conservation Ontario, the network of the province's 36 conservation authorities, reflects this philosophical outlook. *Integrated Watershed Management: Navigating Ontario's Future*, a series of three reports and an executive summary released by Conservation Ontario in 2010, describes the underlying principle behind IWM as Adaptive Environmental Management,

a "continuous and cyclical process [...] that is then implemented, monitored, reported on and updated as required in order to adapt to changing or new emerging stressors."

Navigating Ontario's Future also benchmarks the need for shared vision and inter-agency coordination, increased research and training, expanded mapping and data management, and collaboration amongst all stakeholders.

Don Pearson, Conservation Ontario's general manager, exemplifies the holistic approach needed to shift Ontario from watershed management to integrated watershed management.

Noting that conservation authorities implement watershed management at the local level, Pearson suggests that this allows them to see emerging conflicts, locally and provincially, especially with respect to an increasing population, climate change and biodiversity. He sees IWM as a way to shift from features-based planning, based on protecting locally significant woodlots or the permitting of stormwater ponds, to systems-based planning that can address several issues without causing further issues, and notes that "it is better to address system problems in a planning

mode than as a reaction to a problem.”

In championing the shift to systems planning, Conservation Ontario does not see IWM as its exclusive domain but rather a prescription to evolve to a systems planning approach that requires discussion on a broad suite of issues. Navigating Ontario's Future suggests studies, collaboration, symposia, the creation of working groups, and even quarterly meetings of all stakeholders to discuss enabling factors and institutional arrangements.

In the meantime, IWM is becoming a normative approach in many conservation authorities. While Pearson and Conservation Ontario seek a clear signal for change from the Province, with buy-in from municipalities, individual conservation authorities are building expertise, best practices, and converts. Matching the principles of IWM to its

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practice, Pearson notes, “We shouldn't be worried about getting it right the first time. It's do, learn, adapt. IWM is a suite of approaches that build trust, expertise, and share power.”

While Conservation Ontario focuses on the benefits of IWM, Gord Miller sees it as also rounding off a few rough edges in Ontario's water management and land-use planning regimes.

Although providing a concentrated analysis of the Lake Simcoe Protection Plan, the commissioner's annual report notes how various watershed plans now contain differing elements, while Ontario's land-use planning system is still “failing to protect ecosystem features and functions [...]rather than implementing measures to fix specific environmental degradation after it has occurred, the government should focus on conserving and protecting all our wildlife, wetlands, forests, lakes, and rivers before they are degraded.” The report recommends that the PPS be amended to require IWM planning.

The new recommendation builds on the commissioner's “long-term pursuit of the use of natural units for planning. Having followed discussions on the Oak

Ridges Moraine, the Greenbelt, and Lake Simcoe for some time, this appeared to be the best opportunity to recommend the shift to IWM.”

In addition to seeing system-based benefits at the provincial and regional levels, Miller sees benefits for municipalities, many of which are currently seized with issues around stormwater, combined sewer overflow, and effluent from sewage treatment plants. Anticipated changes in the intensity, duration, and frequency of precipitation, according to Miller, will force municipalities to take a new look at watershed and sub-watershed management.

While seeking a clear message in the PPS to formally require IWM as part of the planning process, Miller offered an observation of great interest to organizations focused on headwaters and source water protection. Noting that it is hard for people

to grasp whole watersheds, and how the watershed concept applies to them, Miller suggested that IWM

could start at first order streams and move downstream. “By starting upstream, the onus falls on people to keep their water as clean as it arrived, and no individual, organization, or municipality would want to be identified as the place where the water quality took a severe turn for the worse,” he said.

The comment closes a loop in the management of Ontario's watersheds. Not only does IWM offer systems-based planning for hydrologic, natural heritage, and land-use planning, it might also provide the best way to address outstanding recommendations from Justice O'Connor, following the Walkerton episode, on a watershed approach to drinking water protection.

Ontario's government will have a lot to consider in its responses to Conservation Ontario, the recommendations of the Environmental Commissioner, and the broad support for IWM in numerous submissions on the review of the provincial policy statement. WC

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