

HIGHLIGHTS

EXECUTIVE SUMMARY

THE BEST PRACTICES HIGHLIGHTS SERIES

EXECUTIVE SUMMARY OF THE REPORT

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Introduction

For the past several years, Ontario has pursued the goal of providing its residents with the safest drinking water in the world. To improve the province's drinking water program, the Drinking Water Management Division of the Ministry of the Environment launched a new benchmarking initiative and commissioned the *2007 Jurisdictional Review of Best Practices Related to Drinking Water*.

The objectives of the review were two-fold:

- To provide a comparison of the ministry's methods regarding its source-to-tap safety net approach to protecting drinking water
- To uncover innovative practices which may exist or be in development in other jurisdictions.

Methodology

The organizational framework used in the research provided a context in which to map other jurisdictions against Ontario's drinking water program. It also enabled the researchers to identify gaps and opportunities for improvement.

Data was collected at the federal, state, provincial/territorial and regional levels in Canada, the United States, European Union, Australia and New Zealand. Research methods included Internet and library research and telephone interviews.

Criteria were established for each element of the drinking water program and ratings of high, medium and low were assigned to other similar elements from other jurisdictions.

The report comes with a related database of 249 electronic reference resources.

One of the ways for the province of Ontario to remain a leader is to strive for continual improvement and understand how we do things compared to other jurisdictions. With this in mind, the Project Planning and Reporting Section of the Drinking Water Programs Branch launched a new initiative focused on benchmarking the Drinking Water Management Division's activities. The first report jurisdictional review information was produced in 2007. The *Highlight* series provides a snapshot of the report's key findings.

AN OVERVIEW OF KEY FINDINGS

Approach to evaluation of drinking water treatment chemicals	<ul style="list-style-type: none"> • United Kingdom: expert committee evaluation • United States: individual states responsible for enforcement
Efforts to maintain quality	<ul style="list-style-type: none"> • United States and United Kingdom: standards • Canada, Australia and New Zealand¹: guidelines
Addressing protozoa and viruses	<ul style="list-style-type: none"> • United States: filtration required in all public systems • Canada: Only five provinces require filtration of surface water • European Union and Australia: filtration only recommended
Treatment requirements for drinking water	<ul style="list-style-type: none"> • Variation by jurisdiction with chlorination most prevalent • European Union: ozonation gaining wider implementation (e.g., France and Holland) • Canada and United States: resistance to ozonation due to concern over disinfection by-products.
Information management	<ul style="list-style-type: none"> • European Union: wide variety of available web-based information
Total quality management approaches	<ul style="list-style-type: none"> • Trend to risk-based approaches, e.g., Ontario's pending Drinking Water Quality Management Standard²
Multi-barrier approach	<ul style="list-style-type: none"> • This is the general approach in all jurisdictions
Emerging threats	<ul style="list-style-type: none"> • European Union and United States increasing focus on potential threats posed by global warming, e.g., increase in extreme weather events = disease outbreaks
Watershed management approach	<ul style="list-style-type: none"> • General acceptance of the benefits of integrating watershed and source water protection planning into land use planning/water management

¹ New Zealand's guidelines have become enforceable standards since the report was completed.

² Ontario's Drinking Water Quality Standard which was pending at the time this report was completed is now in place.

Proactive vs. reactive	<ul style="list-style-type: none"> • Approaches to infrastructure/asset management a strong theme across drinking water associations in all jurisdictions
Rural/small community water supplies	<ul style="list-style-type: none"> • Big challenge for all jurisdictions • Australia: developed and uses an electronic decision support tool called a community water planner
Monitoring programs	<ul style="list-style-type: none"> • Limitations to literature review in monitoring programs – often poorly understood • Difficulty of regular monitoring programs in picking up infrequent, episodic events
Growing trend across jurisdictions	<ul style="list-style-type: none"> • Use of water-consumer-as-customer satisfaction surveys to both maintain contact with the public and to measure trends in issues of concern and in perceived performance of drinking water suppliers.

Best-in-Class

The report indicates that Ontario is clearly the strongest in Canada and is on par with the strongest United States and Australian states and European United member states.

Overall, Ontario was found to be best in class in seven out of 25 categories, sharing the top score with the United States and Australia (all states considered in both countries). The European Union (all member states considered) scored best-in-class in four categories.

Another strong observation of the report is that drinking water programs are an extremely dynamic area in all jurisdictions, with pending laws, programs and processes in place. The researchers concluded that with such an active field, significant changes can be expected on a year-to-year basis.

Please refer to the jurisdiction specific fact sheets to see their best-in-class categories.

ONTARIO'S BEST- IN-CLASS FEATURES

Legislation	With source protection plans being a regulated practice in Ontario and not just guidance, the ability to properly fund and ensure completion of plans and implementation measures is greatly enhanced. The program offers better methodology than the United States counterpart, the Source Water Assessment and Protection Program
Planning	The Drinking Water Quality Management Standard ³ is based on an ISO management systems framework, similar to the United States and Australian systems. As a regulated requirement, it offers the promise of enforceability and consistent application across suppliers and it engages them in adopting proactive processes that by their nature guard against the shortcomings of strictly reactive programs.
Implementation: Licensing, Training and Certification	Ontario's drinking water classification system recognizes omissions and facilitates appropriate scale requirements for facility licensing. The drinking water laboratory certification program adds the additional measure of testing standards similar to the United States, Australia and New Zealand. The drinking water system operator competency definitions are the best defined of all those jurisdictions reviewed.
Reporting	Requirements under the <i>Safe Drinking Water Act</i> regulations are comprehensive and mutually reinforcing – the best reviewed of any jurisdiction.
Audit & Corrective Action: Monitoring	Ontario's program is thoroughly defined and on par with the United States but without some of the variability that some US states have shown.
Audit & Corrective Action: Investigation and enforcement	Some weaknesses in investigation and enforcement were seen in jurisdictions with a less comprehensive regulatory framework. Ontario's program was the best reviewed.

³ DWQMS was pending at the time the report was completed, it is now in place.

Opportunities for improvement

Ontario can take pride in its position in the jurisdictional review as being the best in Canada and one of the best of any state or country reviewed. That said, and with a view to continuous improvement, there are some things that Ontario can learn from other jurisdictions. The following highlights a few areas for opportunity from the study:

- **Prevention rather than control**

Programs with longer histories of implementation have a maturity that reveals itself in a trend towards preventive measures rather than measures that react, control and enforce. This change in management strategy takes place once the major areas of concern have the proper controls in place.

- **Hazard identification**

This is another area where mature programs add measures to address new and emerging threats in addition to known threats to the safety of drinking water. This means researching and adopting standards for up-and-coming issues (e.g., Cyanobacteria).

- **Education and outreach**

Transparency and outreach to the public remains an important focus of many jurisdictions related to drinking water. Many jurisdictions are recognizing the importance of educating and reaching out to stakeholders, particularly those who operate small water systems or who use private wells. In Australia, for example the federal Cooperative Research Centre for Water Quality and Treatment has produced guides on the multi-barrier approach as it applies to rural and remote communities.

- **Risk-based prioritization processes**

Ontario can benefit from the experience of other jurisdictions in developing risk-based processes for establishing priorities within inspection and monitoring programs as well as regulatory reform processes.

Conclusions

The report concludes that drinking water programs are an extremely dynamic area in all jurisdictions and it can be anticipated that there will be significant changes in the landscape on a year-to-year basis.

The new benchmarking initiative and the annual jurisdictional review position Ontario to keep up-to-date with the changes, trends and emerging risks and hazards to drinking water posed by a climate that is changing and an economy that is global.

For more information or for a copy of the *2007 Jurisdictional Review of Best Practices Related to Drinking Water Issues*, please contact:

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You can also view the full report on the ministry's intranet site at <http://intranet.ene.gov.on.ca/dwmd/>

This publication has been produced by the Drinking Water Management Division for the employees of the Ontario Ministry of the Environment. Along with its companion pieces, it is intended to give an overview of the findings outlined in the *Jurisdictional Review of Best Practices Related to Drinking Water Issues*, researched and prepared by AMEC Earth & Environmental in 2007.

Protecting our environment.

