

MANITOBA'S CLEAN WATER TECHNOLOGY STRATEGY

Lake-friendly Technology for Now and for the Future

Poised For the Future

Manitoba's Clean Water Technology Strategy will help identify new and emerging technological solutions for water quality improvement, waste-stream management, drinking water safety, water conservation and water efficiency. By partnering with

the growing water technology industry sector in Manitoba, and by attracting partnerships with international leaders in water technology, Manitoba will be able to position itself as a leader in lake-friendly solutions for the benefit of all Manitobans.



WHAT IS **CLEAN WATER TECHNOLOGY?**

Clean water technology is any technology-based product or process that achieves water use efficiency, water reuse or water quality benefits. Clean water technology supports the goal of sustainable development, providing both environmental and economic benefits. It may be used in many different sectors, including residential, industrial, commercial, institutional, municipal and agricultural.

Clean water technology falls roughly into three categories:

- Mechanical devices that are either self-contained, modular systems or the various components of those systems
- Treatment additives to drinking water, wastewater or other processes
- Landscape design interventions or managed natural systems and materials

Some of these technologies are already being used. For example, in the Village of Dunnottar, on the south-western shore of Lake Winnipeg, a field-scale passive filter has been constructed to treat its municipal lagoon effluent. This filter removes harmful nutrients from the wastewater. This system provides a cost-effective method that addresses water quality problems facing Lake Winnipeg. Similarly, in the City of Winnipeg, constructed wetlands have become a feature of many storm water retention ponds. These carefully designed, man-made wetlands create multiple benefits including cost savings, reduced maintenance, natural aesthetics and improved water quality.

WHAT'S IN IT FOR MANITOBANS?

The potential benefits of clean water technology include:

- help clean up Lake Winnipeg
- increased security for future water supply
- cost-savings in water infrastructure costs
- stronger local economy
- robust clean water technology sector
- new government/industry partnerships
- building on key international agreements

OUR CONTINUING WATER CHALLENGE

Innovative solutions are required to help Manitoba manage water quality and quantity challenges now and in the future. The introduction of the Clean Water Technology Strategy will provide Manitoba with an additional tool to achieve success in our ongoing stewardship of water.

The Province of Manitoba has already achieved significant success implementing important initiatives such as the Lake Winnipeg Action Plan, the Nutrient Management Strategy, the Integrated Watershed Management Planning Initiative, and the Manitoba WaterSmart program among others. The next step is to bring the focus to the Clean Water Technology industry sector to develop new “lake-friendly” technologies.

For instance, water use efficiency and water conservation measures using innovative technologies that make better use of water or allow for water reuse should be more fully explored and implemented.

In agriculture, opportunities exist to better manage nutrients applied during crop production and improve nutrient recovery from livestock operations. This would reduce nutrient runoff to waterways. In addition, innovative technologies to better recycle nutrients and reduce dependence on mined, inorganic phosphorus fertilizers are required.

Wastewater management for municipalities and industries could also benefit from innovative solutions that would allow recycling of water to address supply issues, better use of nutrients in waste treatment, and subsequent reductions in direct discharge to waterways.

In addition to water quality issues related to nutrients, the impact of pharmaceuticals, endocrine disruptors and other emerging contaminants being discharged into water is of concern. While some nutrient and contaminant removal occurs during existing conventional wastewater treatment, more research is required on innovative technologies that could enhance removal and reduce the discharge of contaminants to waterways.



SHIFTING INTO ACTION

Some key activities in developing the Clean Water Technology Strategy include:

Hosting of Clean Water Technology Workshop connecting government, academia and industry that:

- highlights clean water technology as an emerging area of importance for the province
- develops links between applied research and commercialization of clean water technology
- begins to identify an inventory of clean water sector innovation supports and resources

The development of an Access Guide for the Clean Water Technology Sector, in collaboration with our industry partner, Manitoba Environmental Industries Association that:

- helps navigate the permit and licensing processes
- provides a full inventory and directory of innovation supports and resources

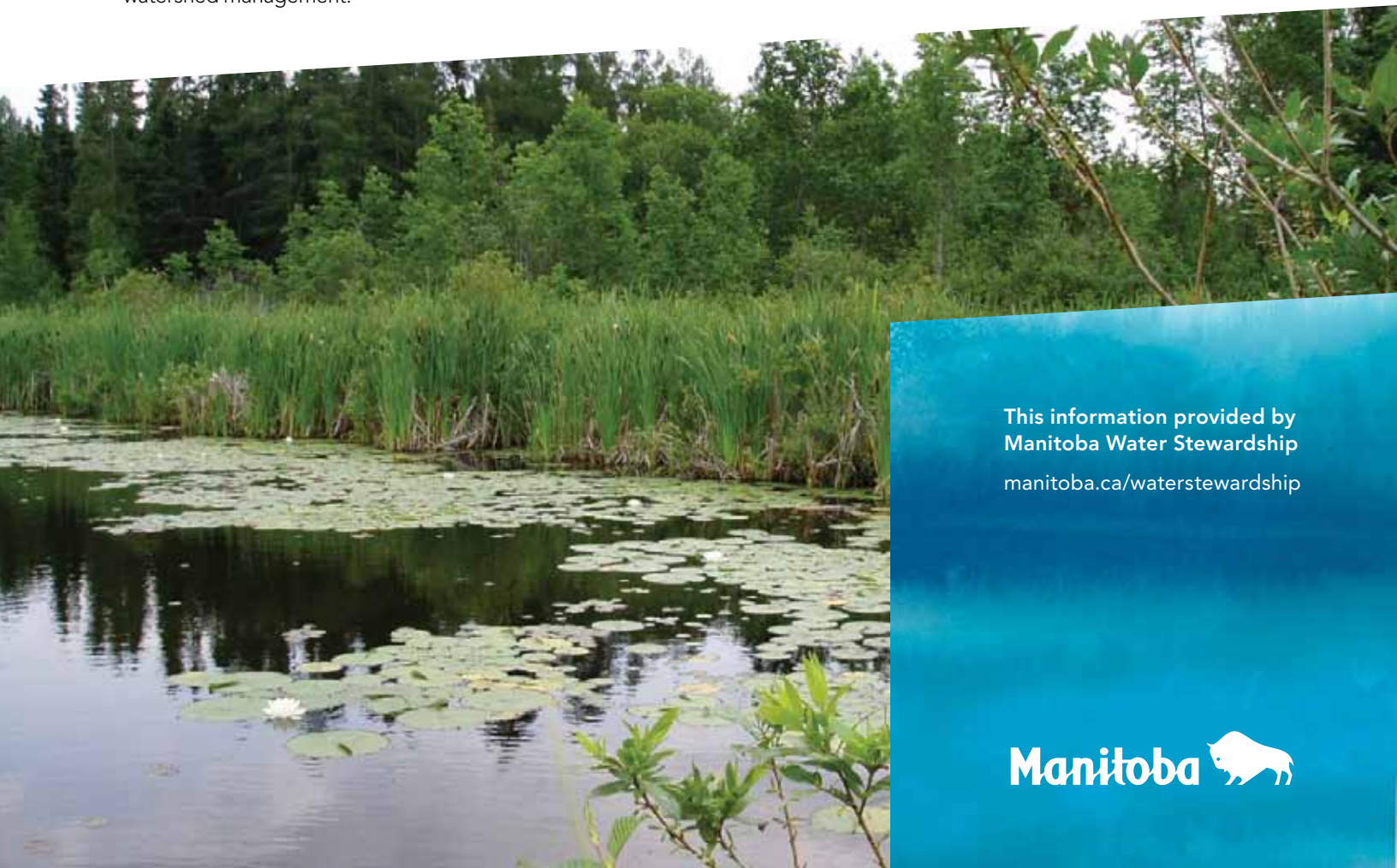
Bilateral workshops between Manitoba and other jurisdictions on clean water technology.

- Manitoba has partnered with a number of international jurisdictions with mutual interests in water. A series of focused workshops will help highlight clean water technology innovation and its potential to generate tools and solutions for watershed management.

WATER SOLUTIONS ARE GROWING

Manitoba continues to lead by example in growing our collective capacity to conserve and protect our valuable water resources. The province is about to take another important step toward this goal by highlighting the clean water technology industry. The expertise of these Manitoba businesses can create real benefits for our water. Working in co-operation with the Manitoba Environmental Industries Association, the province will help strengthen the climate for innovation that will benefit our environment, our economy, and our society. In this way, clean water technologies will find their way into industry, agriculture, municipalities and your own backyard — helping us use water in ways that keep it healthy and abundant.

The growth of the clean water technology sector, and its potential to address Manitoba's current water issues, will create environmental and economic benefits. There is potential to export made-in-Manitoba technologies to other countries. Due to a strong global demand and competition in clean water technology, Manitoba's ability to drive innovations that can be exported will contribute to a robust local economy and a higher standard of living for Manitobans.



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